

PLAINTIFF'S EXHIBIT

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Red Topics



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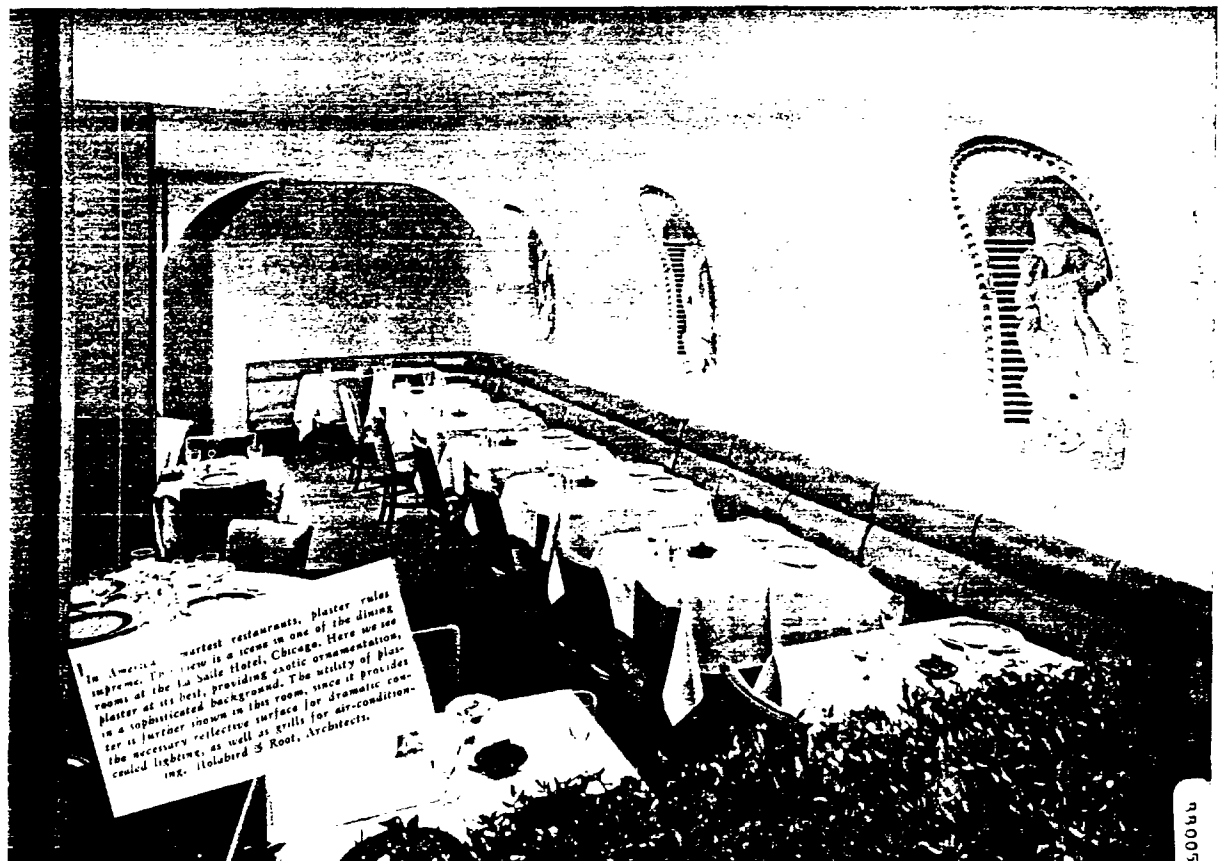
Chicago, Monday, December 1, 1941

Circulation 53,000

"ALL-OUT" FOR PLASTERING,

And How You Can Help To Achieve It

Modern Decoration Features Ornamental Plaster





Fireplaces are the center of interest in rooms; offer exceptional opportunity to modern designers — if they use plaster.



Another exciting fireplace in which plaster adds a dramatic climax to a modern room. Note plaster cornice.



In this fireplace the architect, Ralph Henshaw, has achieved notable results with patterned details in relief.

THERE IS NO SUBSTITUTE
for
GOOD PLASTERING

CONSULT YOUR CONTRACTOR

— and HERE'S WHY ...

On this page are a number of pictures that show why "there is no substitute for good plaster".

Plaster removes all restrictions from the creative imagination. Whether it is plain walls, simple panels, dramatic curves, intricate patterns or exciting ornaments, insulation, acoustics or sound deadening, it can be done quickly and economically with plaster.

What Does This Mean To You?

It means that if architects, builders and the public are told—repeatedly—of the many advantages of plaster, the demand for it will be so great that there will be enough work to keep all tradesmen constantly at work.

If everyone who is interested in plaster puts his shoulder to the wheel, plaster will continue as the popular choice for interior surfaces.

How? Make every plaster job good. Use the best materials. That will eliminate criticism. In addition, tell everyone you know all about plaster.

What USG Is Doing

USG will furnish plasterers all the stickers they can use for letters, for bids, for car windows or other use. In addition, publicity stories are constantly being prepared and furnished to tell architects and the public of the advantages of plaster. This publicity is supported with advertising, with research, and with the resources of the oldest and largest manufacturer in the business.



Plastered walls provide an effective background for wrought iron bolsters and stair rail in this smart, modern apartment.

LOCAL UNION NO. 152
OPERATIVE PLASTERERS AND CEMENT FINISHERS
INTERNATIONAL ASSOCIATION

BLOOMINGTON, ILLINOIS

Mr. John Maynard, Editor
Red Topics
300 West Adams Street,
Chicago, Illinois.

Dear Mr. Maynard:

Plaster is one of our oldest and best building materials. But various groups are trying to substitute other types of materials which eliminate the use of plaster.

I think everyone who is interested in the plaster business should sell the idea that "there is no substitute for good plastering." Tell architects; tell your friends; tell everyone that this is true and explain the reason why.

If you agree, I would like to see you print an editorial in Red Topics, urging everyone to put their shoulder to the wheel. Let's get some steam behind our story. Let's all work to improve the plaster business.

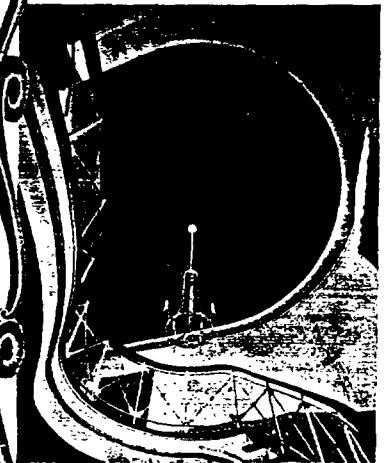
If that happens, plasterers won't have to worry about substitute materials. Everyone who builds will insist on plaster.

Let's make a real crusade.

Cordially yours,

C. A. Popko
410 Grant Street
Normal, Illinois

C. A. Popko



Practical, imaginative architects are finding new ways to obtain exciting details in their design with plaster.

FACTS

(Continued)

speed in building, together with its other superior qualities, account for the fact that it has become the most popular of all other forms of plaster in the United States and in many foreign countries.

Scratch Coat

Plaster is applied in not more than three coats, which are designated as "scratch", "brown", and "finish".

The "scratch" coat is applied first. Its primary function is to act as a bonding coat to attach the body of the plaster securely to the lath or masonry. Gypsum mortar for "scratch" coat must have sufficient plasticity and cohesion so that it can be worked well over the base. The "scratch" coat should be applied thick enough to cover entirely the plaster-base. After it has been applied and before it has set, it should be thoroughly cross-raked to receive the second or "brown" coat.

Brown Coat

The "brown" or second coat forms the main body of plaster on the plastering base. It is the function of this coat on a given type of lath to fill within 1/16" to 1/4" of the grounds. The "brown" coat governs the resistance of plaster to the transmission of heat, fire and sound. The "brown" coat must necessarily be sufficiently hard to form the wearing base of the wall and the proper base for the "finish" coat. The "brown" coat should be raked and darbed to a straight, even and uniform surface, ready to receive the "finish" coat.

Finish Coat

The "finish" or third coat used depends upon the finish desired. There are three principal types of "finish" coats:

1. White coat finish, consisting of the admixture of lime putty and gauging plaster troweled to a smooth, glossy finish.

2. Prepared white gypsum finish, requiring the addition of water only and troweled to a smooth, white finish.

3. Sand float finish, obtained by either using prepared or job mixed gypsum and sand to give a rougher texture, if desired.

It is imperative on the "finish" coat that it be free from cracks; it must be hard enough to withstand abuse, and above all, it must present a pleasing appearance.

Plasticity

Since the "finish" coat is applied in a thickness of from 1/16" to 1/4" over a "brown" coat, the plasticity of the material is exceedingly important. If the material is not sufficiently plastic, it is physically impossible to use it at all for "finish" coat work.

The choice between the various finishing plasters depends on the job and its requirements.

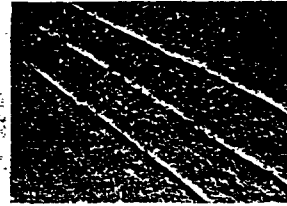
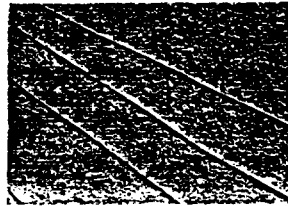
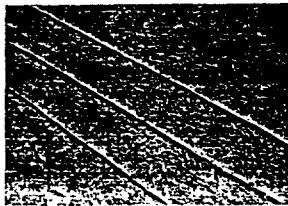
Where low cost and quick decoration are the primary considerations, Red Top White Trowel finish and Red Top Grey Trowel finish should be considered. These are ready-mixed gypsum finished plasters which may be decorated as soon as they are dry. They need only the addition



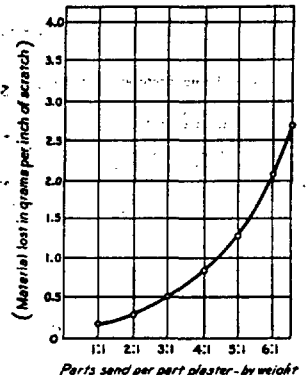
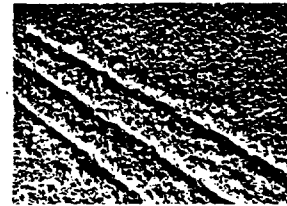
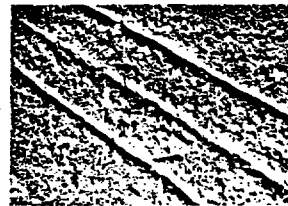
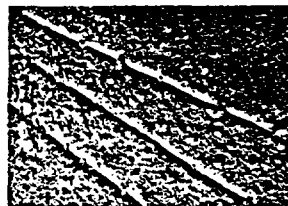
American Minton of Lepers, Inc. Ages ago plaster was recognized as a sanitary material. One of the first recorded laws that evidence this fact is found in the Old Testament. At that time it was required that houses occupied by lepers must be plastered before they could be lived in by others. Modern science has thrown new light on this plague which, through colonies such as the one shown above, is gradually being brought under control throughout the world.

tion of water to be made ready for use and should be applied over a fairly dry basecoat. Where fine, hard, white finishes are required, a good finishing lime is sometimes preferred.

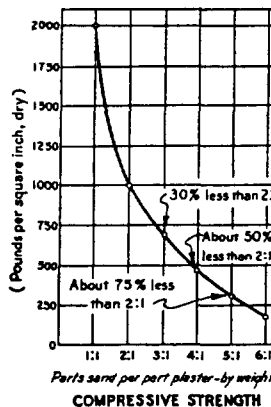
EFFECT OF SAND ON STRENGTH OF PLASTER



To make the scratch test, plaster was applied 1/4-inch thick on gypsum lath and permitted to dry in the room. When dry, a steel point was drawn across the surface of the panel at a uniform rate of speed, the point being loaded with a 21-pound weight. The point was made of tool steel, 3/16"x 1/4"x 5", ground to a V point. The material "plowed up" by the point was collected and weighed, and the results were given as weight of material lost per inch of length of the scratch. The chart at the right shows these results. The effect of this test on mixes of various proportions is shown by this series of photographs. The illustration at the extreme left above was made one-to-one; top center, two-to-one; upper right, three-to-one; at left below, four-to-one; at lower center, five-to-one; and lower right, six-to-one.

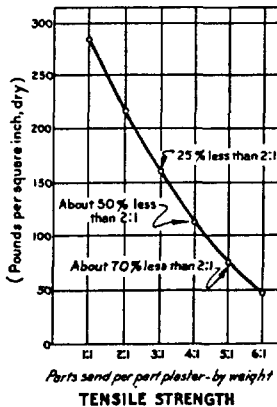


To determine the quality of a plaster wall, scratch it with a sharp point. A laboratory test to compare qualities of plaster showed the depth and width of the scratch, or material "plowed up" was much greater with high sand content. This chart shows comparison of different proportions. Photographs at left show test specimens.

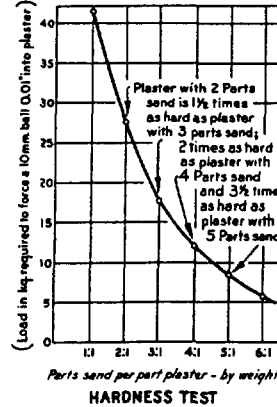


The higher the compressive strength, the better the plaster. This chart shows that increasing the sand content from two to three parts, by weight, decreases compressive strength approximately 50%. Increasing sand content to four parts decreases compressive strength approximately 50%.

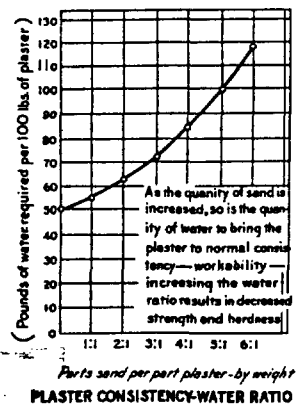
Illustration Courtesy Gypsum Association



High tensile strength is another requirement of good plaster. Overloading cuts tensile strength, as the above chart shows. Tensile strength of plaster decreases 25% by increasing sand content from two to three parts; 10% by increasing sand to four parts, and 70% increasing to five.



If plaster is to continue as first choice for walls, it must be hard to withstand abuse. The Moseley hardness test shows that plaster with two parts of sand is 1 1/2 times as hard as plaster with three parts of sand; twice as hard as with four parts; and 3 1/2 times as hard as with five parts.



As the sand content of plaster is increased, the amount of water per 100 pounds of plaster must also be increased to get workability. This chart, prepared from laboratory tests, shows that as the water ratio to gypsum is increased, the strength and hardness of the plaster are decreased.

5000 50088

A USG PLASTER for Every Purpose



If gypsum basecoats had no other advantage, the fact that they speed construction to meet modern demands for quick completion of jobs would explain why they are the favorite plaster today. USG brands described above have been recognized leaders in the progress

plaster has made in meeting the demands of modern construction. A large staff of research engineers are constantly searching for still greater improvement in plaster. As in the past, new discoveries will be incorporated in Red Top whenever they are thoroughly proved.



In this age of Rocklath and Red Top plasters, base coat troubles have been greatly reduced. Notable progress has also been made in improving finish coat materials. The demand for new decorative treatments has resulted in an increased number of finish plasters. Each has certain features and advantages, and plasterers who would keep their material in the lead as the favorite wall finish, will study each finish to be able to recommend the one most advantageous for each job.



Special brands of Red Top are Big Four, Niagara Pearl, Kings Windsor, Eborado (Gypite), Granite, Hardwall, Overland and Ivory.

In addition to Red Top Wood Fiber, special brands of Red Top are Big Four, Ivory, Overland, Kings Windsor, Niagara Pearl, and Eborado.



Special brands of Red Top include Brown Mortar, Lath Mortar, Niagara Pearl, Ivory, Kings Windsor and Big Four; also U.S.G. Niagara Pearl.

Bondcrete is a highly cementitious, low volume change material designed to adhere to clean, dry roughened concrete.



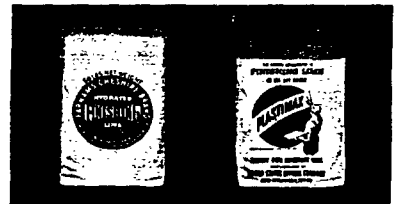
Red Top Hydrated is an excellent white finishing lime that is extremely popular.

USG Hydrated is a superior lime meeting latest Federal specifications.



Ivory is a favorite with those who appreciate a quality brand of hydrated finishing lime.

Grand Prize is a widely accepted U.S.G. brand of hydrated finishing lime, used for many years.



A widely-used, low-cost quick-setting lime having large putty production and high strength.

A popular high calcium hydrated lime because of its exceptional drying qualities.



Prepared gypsum trowel finishes are economical. Well-known special brands of Red Top include Universal White Trowel, Adamant White Trowel, Adamant 1000 Trowel and Bedger; also Gray Trowel.

Float-finishes are suitable when walls are painted. Favorite Red Top brands are Sand Float, White Silice Sand, Gray Silice Sand, Adamant White Sand, and Adamant Gray Sand.

Factory-colored plaster is used to eliminate painting of walls and ceilings. Oriental Interior Colored Finish was developed to supply this need. It is made in white and twelve standard shades.

Widely used brands of Red Top gauging plasters are Champion, Star, Slow Setting, Quick Setting and Superior; also Nephel, Slow Set and King's Diamond.

Where hard, water-resistant finishes are required, Red Top Keweenaw cement meets the requirement. It is easily mixed "on the job" with fine white finishing lime.

8005 0006

3 steps TO FINER FINISH COATS!

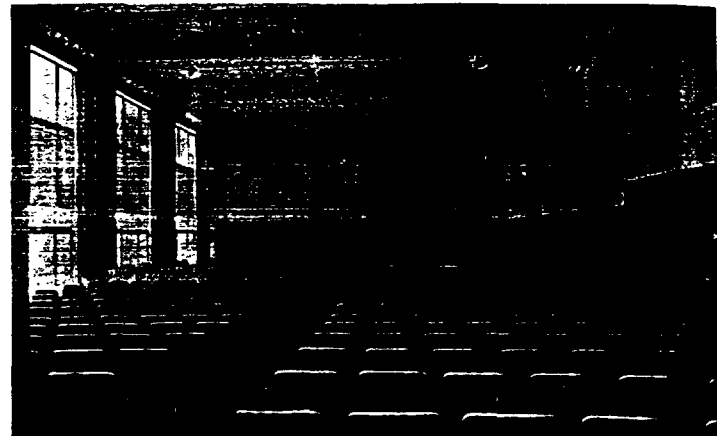


For a hard, smooth finish coat on your next job, try Red Top Trowel Finish. It's used as a plaster finish coat instead of lime and gauging plaster.

Red Top Trowel Finish forms a "lifetime" bond with any gypsum base coat plaster — results in a superior quality wall finish. It is ready for use after water has been added and the batch has been thoroughly mixed. Decorating may begin once the finish is dry!

See your local building materials dealer for detailed information about Red Top Trowel Finish and the complete line of Red Top Plasters. Or, write the United States Gypsum Company, 300 West Adams Street, Chicago, Illinois.

... where research builds better, safer building materials.



In the Lauderdale County Court House at Meridian, Mississippi, Sabinite on walls and ceiling of the Court Room has contributed to the increased comfort that has resulted from modernization of this building. The view of the Court House shown here, illustrates how Sabinite meets the requirements of modern decoration. With other acoustical materials, the plaster may be omitted on the areas treated. With Sabinite, the plasterer gets more work, and profit, than would be had in any other way.

Promote Sabinite for Profits, Plasterer Urges

That old timers in the plastering business are alert to changing conditions is demonstrated by the case of Jim McManus, prominent plastering contractor of Meridian, Mississippi.

When modernization of the Lauderdale County Court House was proposed, Mr. McManus immediately realized that acoustical treatment would be required. Mr. McManus went to the architect and explained the advantages of Sabinite. He made the sale.

The results obtained with this treatment have been most satisfactory and the appearance of the rooms has produced much favorable comment. Is it any wonder, then, that Mr. McManus urges all plasterers to take advantage of the opportunity this material provides them to increase the volume of their business.

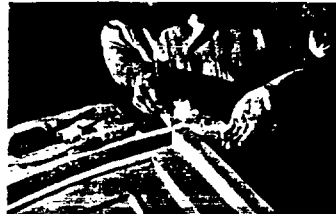


Jim McManus says, "If plasterers realized the advantages Sabinite has over other acoustical treatments, they would let everyone know about it."



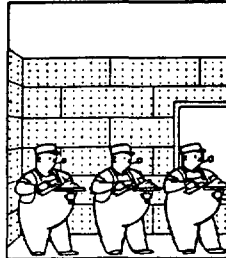
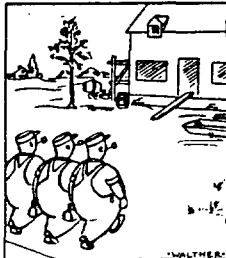
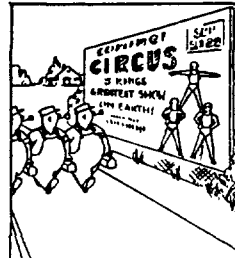
These illustrations show the change that was produced by modernizing the exterior of the Lauderdale County House at Meridian, Mississippi. In addition to Sabinite, where acoustical treatment was required, Red Top Gypsum Plaster, Red Top Star Gauging, No. 1 Moulding and Grand Prize Finishing Lime were used. Krause & Bransfield, Meridian, were architects; Newton and Schmoll, Hattiesburg, general contractor; Jim McManus, Meridian, plastering contractor.

Craftsmen of Tomorrow at McKinley Vocational High School



Good workmanship is essential if plastering is to continue as the favorite interior finish. Vocational schools are playing an important part in assuring good craftsmen in the future. At McKinley Vocational High in Buffalo, New York, plastering is one of the courses taught. The course was started in 1923 with the co-operation of Local No. 9 Operating Plasterers and Cement Finishers Association. Above, the finishing of a mould and the final shellacking are shown.

TRIPLE THREAT



Suggestions on Mixing Plaster

While the proper method of mixing plaster is well known to the trade, there are a few fundamental rules that should be observed for best results.

This is particularly true with regard to machine mixing, which is being adopted in some localities to help meet the competition of dry wall construction.

Good results naturally can be obtained by either hand or machine mixing. The only requirement of the finished material is that it be thoroughly mixed, and the procedure suggested is recommended because it produces the most thorough mix in the shortest possible time.

On smaller jobs, with machine mixers there is a tendency to mix too much material ahead, resulting in quick set before the entire batch is used. Over-mixing of plaster or slow and irregular mixer charging must also be avoided.



This is an ideal set-up for efficient work. The mixer or mixing box is directly in front of the door to the house and it is only a few steps from the plaster box to the entrance. Red

Top plaster is on one side of the mixer, the water supply on the other, and the sand directly in front. No wasted steps are required. A. Valenti, Chicago, plastering contractor.



Hand Mixing

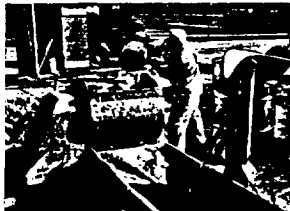
The mortar box for hand mixing should be raised at one end. In the upper end of the box a layer of sand should be placed, then one of plaster. This should be hoed dry from one end of the box to the other; then back again, working dry sand and plaster thoroughly together to a uniform color. Add water as soon as sand and plaster have been dry mixed, and hoe the plaster into the water, mixing thoroughly to bring to the proper consistency for application.



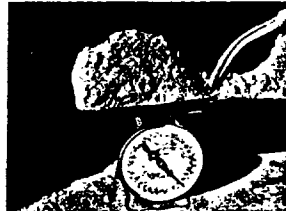
Wood fiber is used without sand as a rule. The plaster should be hoed into the water and allowed to soak at least 10 minutes, after which it is mixed to the correct working consistency. If it is to be sanded, use an equal weight of plaster and clean, sharp sand. The same mixing procedure should be followed as when mixing cement plaster in this case.

Machine Mixing

Many plasterers say machine mixing makes their job easier. Contractors also know it helps them to meet the competition of substitute materials. This is particularly important in defense housing construction where many new methods and types of materials are being used.



First, add most of the water required to bring the batch to working consistency. If retarder is required, the solution should be added to the water at this point.



Next, add half of the sand required. Each No. 2 shovel should hold between 15 and 16 lbs. of sand. This weight obtained by deducting weight of the shovel.



Next add the Red Top Plaster. If machine idles with sand and water for some time before plaster is added, it will accelerate setting time of plaster.



Add the balance of sand. Goggles work is eliminated if a No. 2 shovel is always used, and reasonable care taken to get a uniform shovel full. Care requires no more time.



Add enough water to obtain required consistency. Batch should be mixed until uniform in color and no dry sand or plaster can be seen. Dump batch when in this condition.



While batch is mixing, plaster may be pulled back in box with hoe or shovel. Do not mix more material than can be used within one hour to avoid quick setting.



With continuous use of mixer, wet plaster may accumulate on blades, shaft and sides, gradually accelerating setting time. In such cases, the mixer should be cleaned at intervals.



Flush mixer thoroughly with water to remove set plaster. This always should be done at noon and night. If water does not remove all plaster, break it loose with shovel.

STRANGE AS IT SEEMS.....

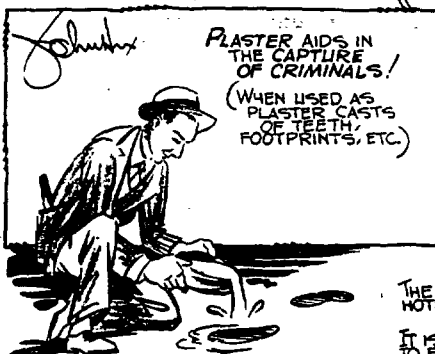
by John Hix



THE OLDEST FRAME HOUSE IN THE U.S., BUILT IN 1630, HAS WALLS PLASTERED WITH HAIR AND GROUND-UP SEA SHELLS!
Hingham, Mass.



MOULD USED BY THE ANCIENT EGYPTIANS FOR STAMPING DESIGNS IN WET PLASTER!
—Now in British Museum—



PLASTER AIDS IN THE CAPTURE OF CRIMINALS!
(WHEN USED AS PLASTER CASTS OF TEETH, FOOTPRINTS, ETC.)



CASTLE IN THE AIR!
THE WALDORF-ASTORIA, N.Y.C., TALLEST HOTEL IN THE WORLD, IS BUILT 2 INCHES ABOVE THE GROUND!
IT IS SUPPORTED BY CUSHIONED "STILTS" TO ELIMINATE VIBRATIONS FROM TRAFFIC... NO PART OF THE BUILDING TOUCHES THE SIDEWALK!



Where your Trade
is one of the Arts
**USE RED TOP
MOLDING PLASTER**

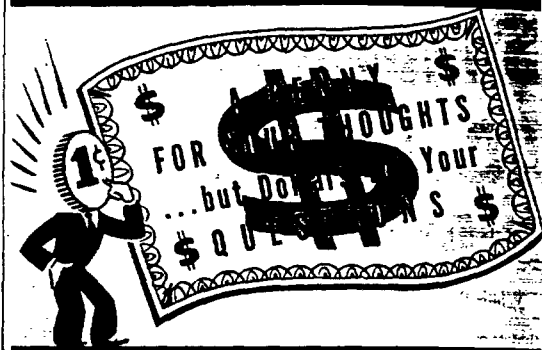
Interiors of dignity and beauty—these are monuments to the skilled hands of the workmen who executed them.

These cornices, coves and soffits and plaster ornaments must be perfect in detail. This perfection, in turn, requires a quick-setting, finely-ground plaster.

Red Top Moulding Plasters are manufactured with extreme care. They are characterized by uniformity of grind, dependability as to setting time and mixing qualities, and freedom from excessive heating and expansion during setting. Red Top Moulding Plaster is made by a special aridize process from selected white gypsum rock. It produces hard, dense castings, free from bubbles and pin holes. Let your local building material dealer tell you about it or write the

United States Gypsum Company, 300 W. Adams St., Chicago, Ill.

... where research develops better, safer building materials.



Question: Do you recommend the use of moulding plaster for patching finishing coats?

George W. Kreger
404 North Elm Street
Pittsburg, Kansas

Answer: We recommend Red Top Patching Plaster for small cracks, etc. However, Moulding Plaster may be substituted satisfactorily. For repairs, including large areas, USG Lime may be gauged with Moulding Plaster, provided the set is not too quick for completion of the patch. Otherwise, we recommend Slow Set Gauging Plaster mixed with USG Lime.

Question: I expect to remodel an attached garage into a dining room. It now has cement plaster on metal lath. Should I use white lime finish, Keene's cement or Oriental stucco to get a nice finish over the old cement?

Olin A. Warren
255-24 Walden Place
Great Neck, N. Y.

Answer: The material depends on the finish desired. Assuming by cement plaster you mean gypsum cement plaster, care should be taken to be sure it is free from all dirt, dust, grease, paint and any other foreign matter that will prevent the finish from properly bonding. If a smooth finish is desired, lime putty finish or Keene's Cement Finish may be used. A colored texture or sand float finish may be had by using Oriental Interior Stucco.

Question: Will you please explain why Keene's cement check-cracks?

Charles Buck
641 Duss Avenue
Ambridge, Penna.

Answer: Keene's Cement may checkcrack for one or a combination of the following reasons: First, insufficient troweling; second, too little Keene's Cement in the finish. Keene's Cement finish requires more troweling than ordinary finish because of its slower setting nature. Until the set takes place shrinkage cracks are likely to occur unless the finish is properly troweled. Keene's Finish should contain not less than 100 lb. Red Top Keene's Cement and 80 lb. lime putty.

Question: I have been using hard plaster on concrete walls for several years and had no trouble. In recent specifications on jobs I have figured, it says not to use hard plaster on concrete walls. What is the right way to do such work?

V. E. Figg
Ekalaka, Montana

Answer: You are fortunate if you have been using hard plaster on concrete walls with no trouble. For best results we recommend concrete walls to be furred and lathed wherever possible, otherwise Red Top Bondcrete could be used. Bondcrete is a product formulated to correspond in volume changes the same as Portland Cement. The concrete should always be dry, free from dirt, grease or efflorescence and thoroughly roughened before application of Bondcrete.

Question: I frequently have requests for a skim finish on plaster to paper or paint over, instead of white or lime putty finish. What do you recommend for such a job?

W. B. Nicholson
Chapman, Kansas

Answer: We recommend Red Top White Trowel Finish or Red Top Gray Trowel Finish. These are ready-mixed gypsum finish plasters, which may be decorated as soon as they are dry. They need only the addition of water to be made ready for use. We do know, however, from the general section of the country from which this question comes that Red Top Skim Coat is also suitable for such jobs, and is trade practice. Not more than 25% lime should be added with this material, and complete directions are printed on the bag.

Question: What causes white coat to "tear" sometimes when troweling with water?

A. F. C.
101 Park Avenue
Summit, New Jersey

Answer: Tearing of the white coat indicates that suction of the base coat is too great.

Question: When a job is to be tinted, we find it always more successful to dry mix lime and color. Now, by what method would you suggest to add color to new lime when the box already contains water?

John M. E. Shultz
1052 Berg St.
Johnstown, Penna.

Answer: We recommend that if lime putty is to be colored the color first be completely and thoroughly dispersed in water to eliminate any tendency for lumps, which eventually could cause streaking. There is always the possibility when dry mixing lime and color that complete dispersion is not made.

Correction—In the chart on plaster bases published in the October issue of Red Topics, the amount of sand required with Weatherwood Lath should have been shown as 1 cubic yard per 100 square yards of wall surface, instead of 1.6. Those who have kept this chart will want to make this correction.

What are your questions on lathing and plastering? You will receive a dollar for each one published. Send them to the editor, Red Topics, 300 W. Adams Street, Chicago, Ill.

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**USG RED**

A NATIONAL JOURNAL OF

**TOPICS**

LATHING AND PLASTERING



Vol. 1, No. 1

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Published by United States Gypsum Co.

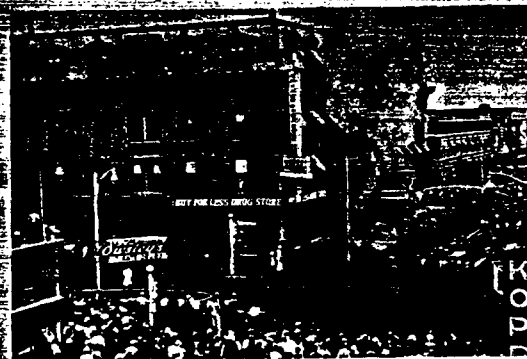
Circulation 45,000

INSULATING LATH THAT WON'T BURN FILLS MODERN NEED

Story on Page 3

Causes of Plaster Cracks Revealed...

Story on Page 2



(Billings Gazette Photo)
Half an hour after fire was discovered in the basement, smoke was pouring from the building. Spreading was helped by wood partitions between basement storage spaces.



(Billings Gazette Photo)
The result of the worst fire in the history of Billings, Montana. Notice that in spite of the terrific heat and smoke, the plaster showed little discoloration.



(Billings Gazette Photo)
Flames roared through the tinder-like structure and soon produced a sight such as this. Flames and falling walls threatened fire fighters. The elevator shaft is visible through the smoke and fire.

\$750,000 Fire Proves Value of Metal Lath and Plaster Construction

The \$750,000 fire which roared its way through the old Northern Hotel of Billings, Montana, last September proved one fact conclusively to residents of this western city. Metal lath and plaster construction resists fire.

For when the smoke from the worst fire in Billings' history had cleared away, only the elevator shaft, protected by metal lath and plaster, was left intact. The rest of the 200-room hotel was a pile of debris.

The Billings, Montana, *Gazette* said: "Fire-fighting forces worked throughout the night, wetting down timbers and furnishings which still were smoldering Thursday afternoon. Sections of walls and the hotel elevator shaft stood

as grim reminders of the city's most expensive blaze." Residents commented on the unusual fact that in spite of the tremendous heat and the volume of smoke generated by the fire, the plaster showed very little discoloration.

B805 0010

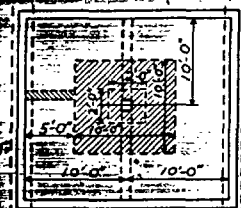
Faulty Foundations a Major Cause of Crack Complaints

Poorly designed or poorly built foundations frequently are to blame for marred ceilings and ruined decorations. They cause buildings to settle unevenly with the result that unusual strain is placed on the plaster, an inert material which will not crack of itself.

It should be remembered that soil is a yielding material which is compressed by a building load; therefore, every building will settle to some degree. To assure an even and equal settlement throughout the building structure, the areas of the foundations should be in proportion to the load carried by them.

Over-size Wall Footings May Cause Unequal Settling

Frequently the foundation placed under concrete or brick exterior walls is over-designed. For instance, the 2x2-foot square foundation in figure 1 under an interior column may carry a load produced by 100 square feet of floor surface, while a running foot of wall may only carry the load produced by 5 square feet of surface.



The wall footing is oversized, and this case, if the column footing is well able to carry its load.

The interior column footing carries a greater load and exerts more pressure on the soil than does the wall footing; therefore it will settle faster. Unequal settling produces frame distortion and ultimate plaster cracks.

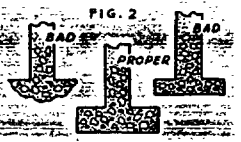
How to Tell a Good Footing and a Bad One

The trench for a wall footing should be perfectly flat and level. The trench for footing shown at right in the diagram, was improperly dug; it is deeper in the center than at the sides. It forms a wedge which will settle faster than a perfectly flat footing.

The footing at left is too shallow, even though that portion of it which comes in contact with the ground is sufficiently large and properly proportioned. A heavy load on it may punch through the footing. If for any reason it is necessary to make a shallow footing for a column or a wall, it should be properly designed and tested.

The footing in the center is a good one. Its base is wide and deep enough to hold a load.

Plaster cracks! What causes them? In the following issues of Red Topics we'll take up some of the other reasons why cracks appear on plastered walls.



LOOK TO RESEARCH FOR CONTINUED IMPROVEMENTS IN PLASTER

Ever since the latter part of the 19th century when plaster research produced a retarder which made gypsum plaster suitable for commercial use, the part research has played in the improvement of plaster has been one of increasing importance.

Invention of Retarder Opens Up New Use for Gypsum Plaster

Before suitable retarders were produced, gypsum plaster was seldom used as a wall plaster because on an average, it "set" in 25 minutes—much too fast for a workman to mix and apply it. But a gypsum-wall plaster was needed. It would set much faster than lime plaster which became "hard" only after six or seven years.

Lime plaster sets by absorbing carbon dioxide from the air and, as air contains only 1% carbon dioxide, the lime plaster hardens slowly. The surface always hardens first and as the carbon dioxide is unable to reach the core or inner surface, that part of the wall remains

soft for a longer time than it would if the plaster sets from the inside to the outside.

Plastering in Europe Was A Slow and Laborious Job

As a result, many European plasterers applied lime plaster in 1/4-inch layers at six-month intervals; a layer hardened sufficiently by that time. Fine plastering jobs were such a slow process that they frequently lasted six years.

Lime plaster is highly alkaline. Unless decorating is postponed until the lime has carbonated, the free lime in it may burn the paint or discolor the wallpaper. Lime plaster also requires a large amount of sand so that shrinkage cracks may be prevented as mortar dries.

For these reasons a slower setting gypsum plaster was needed, so research developed one. USG research men were not satisfied, however. They discovered that if plastering conditions were unusual, the normal setting time was often retarded or accelerated. Weather conditions, mixing, amount and grade of sand, water impurities, age of plaster—all these affected the set of retarded plaster.

1938 Sees Development of USG Set Stabilized Plaster

Then, in 1935, after years of testing and retesting, the USG Research Department announced Set Stabilized Plaster—the biggest improvement in plaster since the invention of retarder. Set Stabilized Plaster has ingredients added which serve to counteract fluctuations in setting time brought about by abnormal conditions, such as described above. A plasterer using it has almost positive assurance that plaster which is supposed to set in the required time will do just that, regardless of the circumstances which he does not control.

Improved Plaster Provides Insurance for Plasterers

Set Stabilized Plaster minimizes plaster "dryouts," often encountered when the weather is hot and dry or when too much air is allowed to circulate in the room.

Plasterers know that most sands act as an accelerator in the plaster mix. Under normal conditions a "scratch" coat containing two parts of sand by weight will set more slowly than a "brown" coat containing three to four parts of sand by weight. When Set Stabilized Plaster is used, however, both coats will have approximately the same setting time regardless of the above amounts of sand used in each mix.

Improvements like these have proved to plasterers the importance of the men in research who work quietly, and unassumingly, day after day, making plaster a better and safer building material. Next issue there'll be another story on developments and improvements in the plastering field.

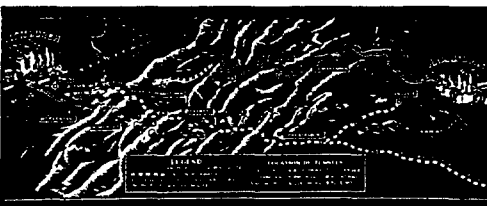


A USG research man testing samples of Red Top Plaster.

New Super Highway Cuts Travel Time Between Pittsburgh and Harrisburg

Stretching out across 160 miles of Pennsylvania is America's new superhighway—the Pennsylvania Turnpike. This newest example of the road-building skill of American engineers cuts hours off travel time between Pittsburgh and Harrisburg, by going through the Allegheny Mountains instead of around or over them.

The \$60,000,000 Pennsylvania Turnpike will permit smooth, uninterrupted travel at speeds once considered unsafe for public highways. It will not be crossed by a railroad or highway throughout its entire length. Dangerous grades and curves common on other highways have been eliminated. The maximum ascending grade is 3%; curves are no greater than 6 degrees. Ramps are constructed so as to permit entrances and departures with a maximum of safety.



Map shows route of 160 mile super-highway which connects Pittsburgh and Harrisburg.

Should Prove Vital Military Artery

By providing a speedier and safer means of transporting men, equipment and munitions, the Pennsylvania Turnpike promises to be a vital link in our scheme of national defense.

The Pennsylvania Turnpike is a concrete highway with four 12-foot lanes except in the tunnels, where space permits only two 11 1/2-foot lanes. East and west traffic is separated by a 10-foot center parkway.

(Continued on page 4)

TIME FAILS TO MAR BEAUTY OF 14-YEAR-OLD CUBAN STUCCO JOB

Time had done little to mar the stuccoed beauty of José A. de Ajuria's Havana home. After 14 years, the beautiful USG Oriental stucco still looked like new.

But where time had failed, electricity triumphed. In order to get at the wires for needed electrical repairs, the stucco had to be removed in several places.

In response to José A. de Ajuria's urgent request, the USG Export Department explained how he could obtain matching color of USG Oriental Stucco which would restore his home to its original handsome appearance.



A 64-PAGE POCKET SIZE HANDBOOK

THAT TELLS YOU
How to Get Best Results from
Plaster Products

All information in this handbook is based on more than 30 years of experience by USG with plaster usage and trouble-correction in every section of the country. Gives causes of most plaster troubles, with remedies, in handy charts form. Write for your copy today.



UNITED STATES GYPSUM COMPANY

300 West Adams Street, Chicago, Ill.

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FHA INDICATES CONTINUED INCREASE IN SMALL HOME CONSTRUCTION

Over 50% of New Single Family Homes Valued Below \$5000

The mortgage insurance operation of the Federal Housing Administration show an unbroken trend year after year towards lower priced homes, Administrator Abner H. Ferguson announced recently.

More than half of the new single family homes constructed under the FHA Plan in 1940 were valued at less than \$5000. If the trend continues, and all indications are that it will, an even greater part of 1941 construction will be on homes in this lower price bracket.

Small Homes Are Big Business

Everyone in the building industry should recognize the importance of the growing preference for low-cost homes among medium income families. And there are sound reasons for this preference. Families know that present-day \$4000 to \$5000 homes are comparable in quality to those costing considerably more a number of years ago. No longer do they expect a low-cost home to be "cheap" in appearance or construction. In addition, families are wary of "over building"—that is, spending more for a home than one's income justifies.

Soundly built, low-cost homes are possible today mainly because of streamlined methods of building and because of the many better, safer building materials available which are not only efficient, but economical, too. This combination results in homes which are modern, convenient and fire and weather resistant.

Where Do Lath and Plaster Fit into This Picture?

Builders and buyers of every price home know of the advantages of lath and plaster construction. Plaster provides the smooth, unbroken, easy-to-redecorate surface which homeowners find so desirable. Over plaster, you can paint, put on texture, wallpaper or fabrics. It's the universal wall surface! It will not harbor vermin and, if properly applied over a Rocklath or Metal Lath plaster base, will resist fire up to one hour.

Home owners choose lath and plaster construction for these reasons! Yet, now for almost no extra cost they can have insulation and a vapor barrier, too!

Insulating Rocklath Provides Efficient Insulation and a Barrier Against Vapor

Home owners—and many builders—are surprised to discover that when plasterers use Insulating Rocklath, they can have insulation and an effective vapor barrier for a very moderate additional cost over that of standard Rocklath. Think what this means to the builder, the contractor, and the home owner, all of whom want a finished house to possess as many of the modern conveniences as it can. Authorities agree that insulation and a vapor barrier are highly desirable. And now a plaster base, Insulating Rocklath, provides them for a very small extra cost.

Why Use an Insulating Plaster Base?

What are the advantages of selling builders and home owners on this inexpensive

kind of insulation? Just these: If a more expensive type of insulation is used, sacrifices must be made somewhere in order to keep the price of the house within reasonable limits. Maybe it will be reflected in the quality of the bathroom fixtures, the woodwork, or the heating system. Maybe a substitute will be found for lath and plaster!

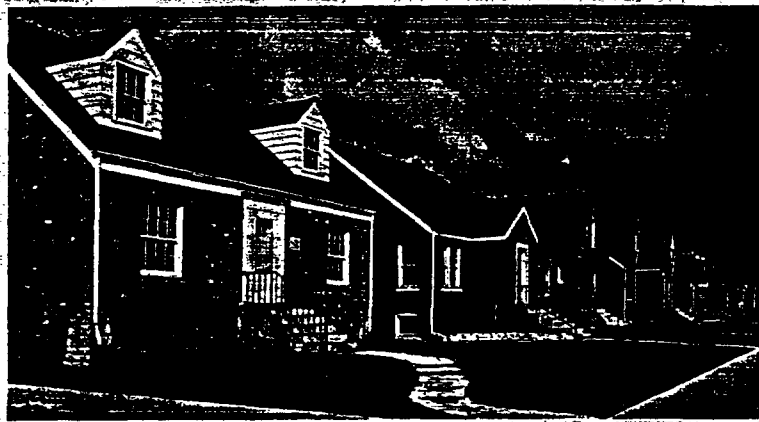
And if no insulation is used, the home owner suffers. Chilly rooms, unusually high fuel bills—maybe unlooked for and unnecessary doctor bills. Any of

these may result from a lack of insulation.

Is a Vapor Barrier Needed?

In a modern insulated house a vapor barrier is advisable. Moisture in the house is under pressure—vapor pressure, not air pressure. This pressure will cause vapor to pass through ordinary interior wall construction. When this vapor reaches the colder air inside the wall, the vapor condenses in the form of dew, just as it does on the surface of a cold water glass or window. Vapor bar-

(Continued on Page 4)



A row of trim, well-built, well-insulated houses erected by Builder Ehrhart in his new subdivision.

Aluminum Foil Proves Value as Insulating Material in Many Fields

Aluminum foil insulates against heat and cold. That fact has been proved over and over again by its continued use on both large and small products of industry.

Everyone knows that the glass container of a thermos bottle is silver shiny to keep the contents either hot or cold for long periods of time. Aluminum protects chocolate from heat, light and moisture—keeps it fresh and crisp. Aluminum foil is used, too, in modern streamlined trains, and ocean vessels such as the Burlington Zephyr train and many battleships in our Navy.

Used by Admiral Byrd and Professor Piccard

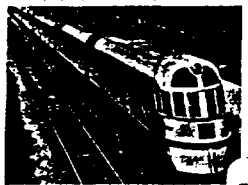
In the fields of exploration and science, aluminum foil has proven its value as insulating material. Professor Piccard, the famous Belgian scientist, lined his balloon with it so as to be able to resist the extreme cold of the stratosphere. Admiral Byrd, the noted explorer, used it at the South Pole.



Thermos bottle and streamlined train insulated with aluminum foil.

Try This Simple Test

Take the aluminum foil paper from a package of cigarettes or from a candy bar. Cup your hand and lay the foil over it. Notice how warm your hand gets. That's because your body heat is retained by the foil and returns to your hand. This is exactly what happens in a home. Furnace heat is retained in winter—the sun's heat is reflected in the summer.



Fireproof Insulating Lath Fills Needs of Today's Home Builders

Builders of low- and medium-priced homes find that fireproof Insulating Rocklath fills the modern need for a superior plaster base with high insulation efficiency—all at low cost.

Take the case of Mr. A. W. Ehrhart, well-known Chicago Builder. He used Insulating Rocklath in every one of 40 medium-priced homes erected in a Chicago suburb.

"I wish to maintain good lathing and plastering in my homes," said builder Ehrhart when asked why he used Insulating Rocklath. "And I have had very good reports on fuel bills—so there's another reason why I'm sold on Insulating Rocklath: it assures low heating costs."

"I am going to build quite a few new homes this spring and summer," Mr. Ehrhart went on to say, "and will use Insulating Rocklath in all of them."

Low Fuel Bills Reported by Residents

Families living in Builder Ehrhart's homes have proof of

the insulating qualities of aluminum foil back gypsum lath. One occupant of a two-story, five-room house tells of using only six tons of coal costing \$52.00 during the heating season. Another used only seven tons of coal the first year in a five-room, one-story house. The latter case is all the more remarkable when one considers that fuel bills in new buildings are usually higher because of the moisture which is in the building.

Insulating Rocklath Approved by FHA

The insulation which is provided by Insulating Rocklath for only a moderate additional cost per square foot more than standard Rocklath passes right up to the FHA minimum requirements. In addition, the aluminum foil back acts as a vapor barrier which helps to prevent condensation. It offers builders a real solution to the problem of how to insulate the low-cost home. It shows plastering contractors how to make more money on the job.

Mr. David Davidson is the plastering contractor on homes in this subdivision.

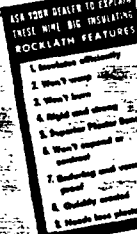
Thanks to

Mr. R. D. Stowe!

We are indebted to Mr. Stowe of Billings, Montana, for the tip on the front page "fire" story!



For You A Price Advantage over other Insulations with INSULATING ROCKLATH



Insulating Rocklath is a "natural" for homes of low cost because it provides insulation, fire protection, and a strong plaster base. It does all this, often for as little as a penny or two a square foot over standard Rocklath.

Aluminum foil is also used in homes, streamlined trains and ocean liners. It was used by Admiral Byrd, during his recent explorations in the Antarctic. It has to be efficient! Insulating Rocklath is equal to the best.

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UNITED STATES GYPSUM COMPANY

300 West Adams Street, Chicago, Illinois

where research develops better, safer building materials



"No, no, you fools! Plaster!"

Research Proves that Temperatures Affect Set of Gauged Lime Putty

Figures recently released by the USG Research Department prove that a drop in temperature prolongs the setting time of gauged lime putty. Sets at 35° are approximately three times as long as at 80°; most of this difference coming between 35° and 50°.

The age of lime, however, affects the set of gauged putty only slightly, the tendency being for it to quicken with increasing age of lime.

The more quick set gauging used, the quicker the set. When slow set gauging is increased, the set also lengthens.

It must be remembered that if putty temperature and walls are at 40° in one instance and at 50° or 55° in a second instance when another lime is used, the results will be very different and might be wrongly attributed to the lime or gauging plaster. This is true of any lime and is a condition that should always be considered.

New Super Highway Cuts Travel Time Between Pittsburgh and Harrisburg

(Continued from Page 2)



(Acme Photo) Aerial view of Pennsylvania Turnpike showing world's deepest highway cut (150 ft.)

America's Greatest Highway Project

This is the greatest single highway project ever attempted in the United States. Seven tunnels, six of which were partially bored in 1883 by the builders of the long-abandoned South Penn. Railway, are responsible for the elimination of many perilous grades and curves. To further reduce accidents, the super-highway is located, wherever possible, on a south and western slopes hills in order to receive the maximum benefit of sunshine during icy and snowy weather.

Ten Modern Service Stations Erected on Turnpike

The Pennsylvania Turnpike

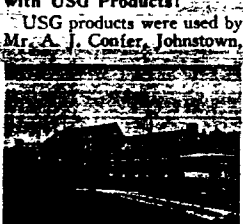
is expected to bear heavy traffic in every season of the year. In order to provide travelers with convenient stopping-off places, ten modern service stations have been erected along the way. They are of Pennsylvania Colonial architecture, with stone masonry walls, slate roofs and wood trim. The principal, or midway station, is situated near Bedford, Penn.



(Acme Photo) Pennsylvania National Guard tests value of "Turnpike" as vital military artery.

Service Station Plastered with USG Products!

USG products were used by Mr. A. J. Confer, Johnstown,



Midway Station on the Pennsylvania Turnpike.

Book Review and Trade Accessories

"ABC's of Plastering," a new book recently published by the Gypsum Association of Chicago, Illinois, gives plastering information to architects, building commissioners, etc. It has been received with considerable enthusiasm by them, by faculty and student of architectural schools and by others in the building business.

In non-technical language it explains plaster and the proper mixing and application of it. With this information it is hoped that the layman will be able to recognize good plaster when seen in any of its stages.

Discussed are main requisites of a satisfactory plastering job. They are (1) thickness, (2) quality of sand, (3) quantity of sand, (4) workmanship, and (5) ventilation.

The Gypsum Association, 211-W Wacker Drive, Chicago, Illinois, has also released a booklet containing a suggested plastering ordinance which it hopes all cities will soon write into their building codes. Comparatively few cities now mention plaster or plastering in their building codes.

If you wish either or both of these books, write to the Gypsum Association, 20 North Wacker Drive, Chicago, Ill.

FHA INDICATES INCREASE IN SMALL HOME

(Continued from Page 3)

Insulating Rocklath is placed there, on the room side of the framing. (Insulating Rocklath is placed that way with the moisture barrier foil facing the framework and at least a 3/4 in. air space.) Since the framework space is not a vacuum, circulation of air will absorb the small amount of moisture which may seep through—thus reducing condensation which usually shows itself in damp walls, musty rooms and ruined decorations.

Insulating Rocklath Ideal for Use in Small Home Field

Insulating Rocklath is as efficient because of an aluminum foil back—it actually increases the resistance of the wall to fire. Aluminum foil is known to builders as a reflective type of insulation. It reflects heat. Thus, room heat is retained in cold weather, and summer heat is prevented from entering during hot weather. No extra labor is required to install Insulating Rocklath. It "rides" along on the job giving extra benefits for the home owner and plasterer.

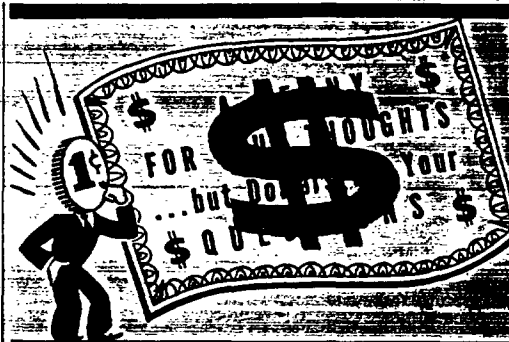
(Continued from Column 2) Pa., plastering contractor on the "Turnpike's" 10 modern service stations.

"I used a large car of Red Top Neat Plaster, another of Rocklath, Corner Beads, Metal Lath and a minimum car of USG Lime," said Mr. Confer

when asked about the job. "All the materials were of high grade quality and the men stated it was a pleasure to work with Red Top materials."



A. J. Confer



QUESTION 1—We have had reports in a few cases of metal lath reinforcing causing rust spots to appear in the plastered surfaces. These apparently are only where the lath was cut. In other buildings in this village no rust spots have been reported, in which we definitely know that metal lath was used to reinforce ceiling corners and inside wall corners. We would greatly appreciate it if you could give assurance whether painted lath would usually cause spots at points where it is cut. It might be damaged or if galvanized lath will ever cause such spots. Some information relative to nails used with Rocklath will also be appreciated. We are particularly anxious for this information since the FHA specifies corner reinforcement, but certain competitors have slipped it and away with the commission on FHA financed homes by claiming rust disfiguration.

E. J. T.

ANSWER—It is true that there is a certain amount of corrosive action caused by the wet plaster acting on spots where paint has been chipped off reinforcing metal lath and on the uncoated or ungalvanized edges. Doubling back too quickly may possibly cause a temporary corrosive stain to be floated to the surface. In our experience, however, we find that in only the most unusual cases will rust stains come out on finish coat surfaces where uniform 3/4" thickness of plaster is applied. This also applies to rust marks occurring over Rocklath nailheads. Always remember that a full 3/4" thickness of a plaster

should be applied over Rocklath with 3/4" grounds. It has been our experience that when such specifications are followed, there has been no complaint on rust spots showing through the finish coat.

QUESTION 2—When Rocklath is used to lath an outside porch ceiling, would plastic Portland cement stick successfully to the Rocklath when a more moisture-proof material is desired rather than Hardwall? When plastering on Rocklath on ceilings, I have noticed that the lath and plaster have buckled, leaving a wavy effect. What causes this?

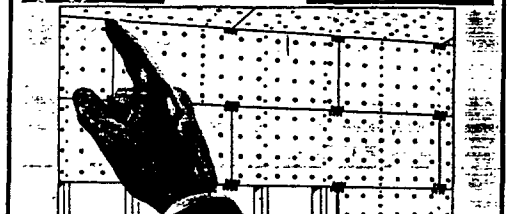
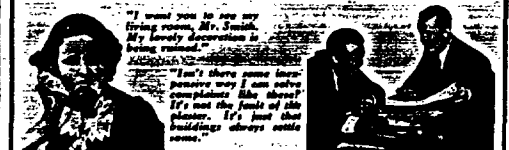
C. M. P.

ANSWER—Under no conditions do we recommend the application of Portland cement to Rocklath, as there is no bond between the two. If a moisture-resistant material is desired, we recommend Portland cement plaster over metal lath.

The wavy effect of a ceiling can be attributed to one or more causes or a combination of several. It can be due to poor workmanship, sagging of the studs over 16' span centers, plastering in one-coat operation for the base coat, or insufficient nailing. In the instance of 3/4" Rocklath, the base coat plaster should be applied in a two-coat operation for the best results.

What are your questions on lathing and plastering? You will receive a dollar for each one published. Send them to the Editor, Red Topics, 300 W. Adams St.

WHY PLASTERING CONTRACTOR SMITH HAS SATISFIED CUSTOMERS NOW!



"I want you to see my living room, Mr. Smith. My lovely decoration is complete!"

"Isn't there some inexpensive way I can save some money?"

"It's not the fault of the plaster. It's just that buildings always come some."

"But, USG has found a way to help you. They have a system called Bridjoint. It is very easy and simple to use. They have metal clips to help you. Here's how it works. All in all, it's a low-cost system to greatly increase plaster quality."

The other points complete the Bridjoint story. Here they are:

1. Rocklath is not nailed at corners.
2. Each corner is reinforced.
3. There's 25% less waste.
4. 30% less cost for corner application.
5. No corners necessary.
6. Applicable to irregular stud spacing.

The USG Bridjoint Plastering

UNITED STATES GYPSUM COMPANY

300 W. Adams St., Chicago, Ill.

where research develops better, safer building materials



PLASTER FINISH PROTECTED AGAINST FRAMING MOVEMENTS

Story on Page 3

Stains in Lime Plaster Finish Explained...

Story on Page 2

A Trend Back to Ornamental Plaster?

Are we seeing a revival of the art of ornamental plastering? Evidence seems to indicate a definite trend! Architects and builders find ornamental plaster as much of an aid to room beauty in today's homes, as it was in pre-Revolutionary mansions.

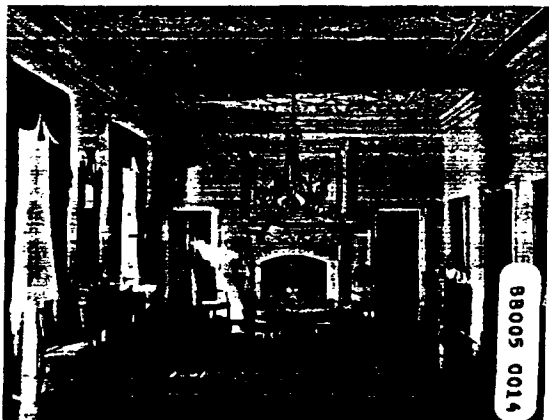


The modern girl finds this modern setting in the gay Michigan Room of Chicago's famous Edgewater Beach Hotel. Notice how the gracefully molded plaster draperies help to bring out her cool beauty! Is this splendid bit of craftsmanship an indication of a new trend, a new appreciation of the fine art of ornamental plaster work?

So natural in appearance, they tempt one to feel the fabric, these modern ornamental plaster draperies represent a superb achievement in the art of ornamental plastering.



A Fredericksburg, Virginia dining room of 1750—one of Mrs. James Ward Thorne's famous collection of American Rooms in miniature—one-twelfth actual size. Notice the unusually rich ornamental plaster ceiling, the painstaking craftsmanship exhibited in the delicate designs in the overmantels. This new series of American rooms, the first time ever exhibited, can be seen at the Art Institute, Chicago, through December 1941.



88005 0014

Plaster Cracks Caused by Poor Framing

Cracks around window and door openings are very often due to faulty construction. Usually, no provision is made for the load formerly carried by the studs cut away for the opening. The burden frequently is shouldered by only a single "header" and single studs at the sides of the opening.

Double Header and Extra Studs Help Support Weight

To help carry this extra load the single "header" or lintel should be doubled and braced, and the studs at the

arch opening should be framed as in Figure 3.

Headers have been doubled and set on edge, as have the plates and door studs. 2"x4" truss members and

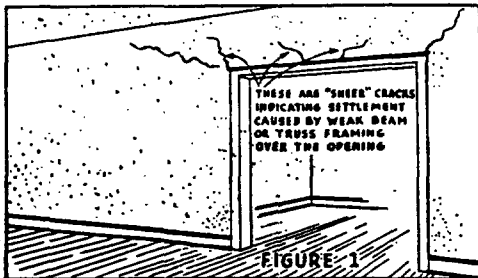


FIGURE 1

sides of the openings should be doubled or tripled so that their load-carrying ability is equivalent to the number of studs which have been

blocking gives additional strength and rigidity to the frame work. The truss construction evenly distributes the load which comes upon



ways. Unless this is done the overloaded "header" and studs may sag under the strain of carrying the load. The stress will be transmitted to the plaster and plaster base. Eventually this strain will result in plaster cracks.

Truss Framing Needed for Wider Openings

When openings are wide, such as in the archway shown in Figure 2, the framing problem is a more dif-

ferent one. The single plate and header, as explained above, furnishes insufficient framing. Plaster may crack between the top of the opening and ceilings. Because the frame will be unable to support the weight of the building adequately, this

the arch, to a properly increased number of studs on either side of the opening.

For smaller openings the truss arrangement shown in Figure 4, will provide sufficient strength.

Another cause of plaster cracks allied with those already discussed, is the poorly built door frame. If it holds a heavy door, frequent slamming of that door may soon produce cracks around the opening.

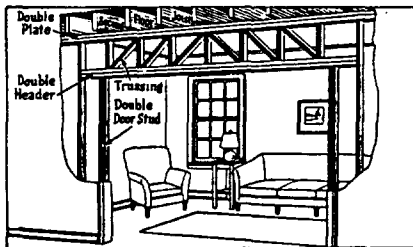


Fig 3

icult one. The single plate and header, as explained above, furnishes insufficient framing. Plaster may crack between the top of the opening and ceilings. Because the frame will be unable to support the weight of the building adequately, this

Why to Correct Structural Defects

Cracks caused by structural weakness will not disappear when covered up by new plaster. If structural defects or weaknesses are allowed to go into a building to begin with, plaster

WHAT CAUSES STAINS IN LIME PLASTER FINISHES?

As long as lime putty wall finishes have been used, there have been cases of undesirable staining and discoloration. Discoloration may vary both as to color and the way it comes out on the surface of the wall. Color may vary from a light yellow or ivory to a buff or brown, and in some instances, it may be brownish red.

Generally and technically the intensity of discoloration is dependent on the moisture conditions of the wall and the atmospheric conditions with respect to humidity. Slow drying walls, walls that are continuously damp, and walls that are subjected to alternate dampness and drying conditions are most likely to stain when the causes are present. Stains usually appear first in the brush marks left in the white coat when the wall is water-brushed after finish troweling. Patched areas will usually show stains soonest. As far as is known now, this may occur over any type of lathing base and is not confined to any one type of lime or plaster.

The exact chemical composition of stains has never been satisfactorily determined. But much more is known about the causes of staining. And that is what we shall know. Here are the causes:

coloration. Use a fuel with little or no sulphur in it.

5. Open Fireplaces. Certain woods, oak and pine particularly, give off fumes which will sometimes discolor white coats. Usually the ceiling will discolor first and the stain will gradually come down the side walls. Recommend fireplace fuel other than pine or oak.

6. Pine Mixing Boxes and Mortar Boards. Fresh pine

surface of the materials in the wall or in the plaster backing. Stains are only a film but when scraped, they return like weeds.

It is important that the causes of stains be generally recognized. Let's all make an effort to prevent them.

The benefits and advantages of good lathing and plastering will sell themselves to the public. People have never complained about



Figure 4: Typical lime plaster finish stain which might be traced to any one of the causes described in this article.

lumber gives off a secretion of pine oil. Use old but clean mixing boxes and mortar boards wherever possible.

7. Sugar or Molasses as retarders for gauging plaster. Don't ever use! These materials may come to the surface and cause discoloration.

8. Dirty Tools. Don't ever use! Even dusty tools may cause discoloration.

Plaster Won't Cause Stains

In considering stains, both from the standpoint of prevention and cure, remember there is nothing in lime, base coat plaster or gauging plaster that might cause discoloration. Stains come as a result of a chemical reaction between lime and fumes, or by bleeding through to the

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good jobs. It's only the bad ones that give the plastering industry a black eye.

No plasterer can afford to skimp or short-cut any job. The small saving just isn't worth it.

Follow this interesting and illuminating series of articles which show the value of USG Research in the next issue of Red Topics. Watch for it.

First Man: "Why did you have a winding stairway put in your house?"

Second Man: "To give me something to do — I wind it up every night and unwind it in the morning."

cracks are bound to show up.

Plastering contractors understand these construction essentials. They know why plaster cracks. It is to the best interest of the plastering industry to promote sound construction. Every serious plaster crack is a black-eye to plastering itself. Superior, beautiful and enduring walls and ceilings are so easily obtainable with plaster over a good plaster base. That's why it's so important that a job be structurally correct. When it isn't, your best work is wasted.

Follow this interesting series on the real causes of plaster cracks. The next is-

sue of Red Topics will discuss still more of them. Watch for it.

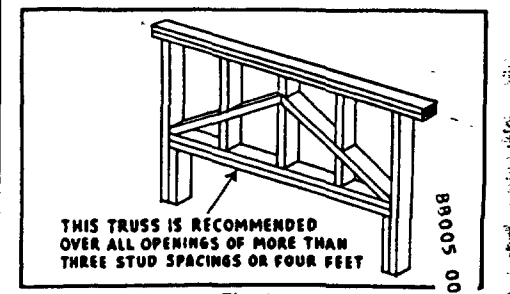


Fig. 4

Plaster Finish Protected Against Structural Movements

A wall of gypsum lath and plaster will not crack of itself. Cracks which do appear can usually be traced to some hidden force behind the wall.

For reasonable assurance against cracks on walls and ceilings, USG research has developed several plastering "systems". Specially designed, field-tested clips are the keys upon which these

systems function. They "suspend" walls and ceilings; minimize danger of cracks caused by faulty foundations, green lumber, poorly braced framing, vibrations, and structural movements.

How to Apply the Resilient Rocklath System (Sidewall and Ceiling).

A No. 2 Clip is nailed to each stud at the angle of wall and ceiling. Butt clips to the underside of joints where joints run at right angles to wall, and line clips on other two sides to same level.

Run ceiling courses at

right angles to joists. Start ceiling construction in a corner of the room by engaging the edge of the Rocklath in the No. 2 Clips. Place No. 1 Clips at free edge of Rocklath and nail clips to side of joists. Work from opposite sides of the room so that by bending the clip prongs the last course can be swung

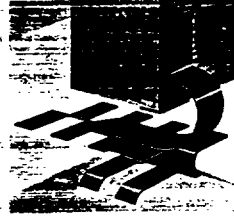
into place and the prongs bent back.

Install top course of Rocklath on walls by placing top edge into the prongs of the No. 2 Clips and then securing Rocklath at all studs with (No. 1 or No. 4*) clips nailed to each end. No. 1 Clips are nailed to the side of stud. Where the stud spaces are filled with wool insulating material a face nailed No. 4 Clip should be used.

Apply No. 2 courses of Rocklath from ceiling downward. Then nail a No. 2 Clip to each stud butting clip to the base ground. Place (No. 1 or No. 4) clips at the upper edge of the course of Rocklath and nail clips to each stud.

Continue with successive courses upward in similar manner, breaking all end joints. Bend prongs of the clips outward for last wall course; swing Rocklath into place and bend clips back.

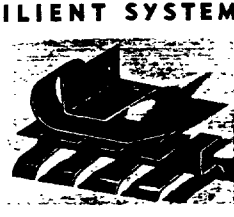
ROCKLATH RESILIENT SYSTEM



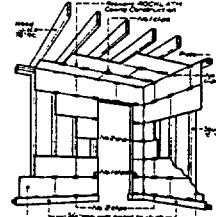
No. 1 Clip—Resilient System



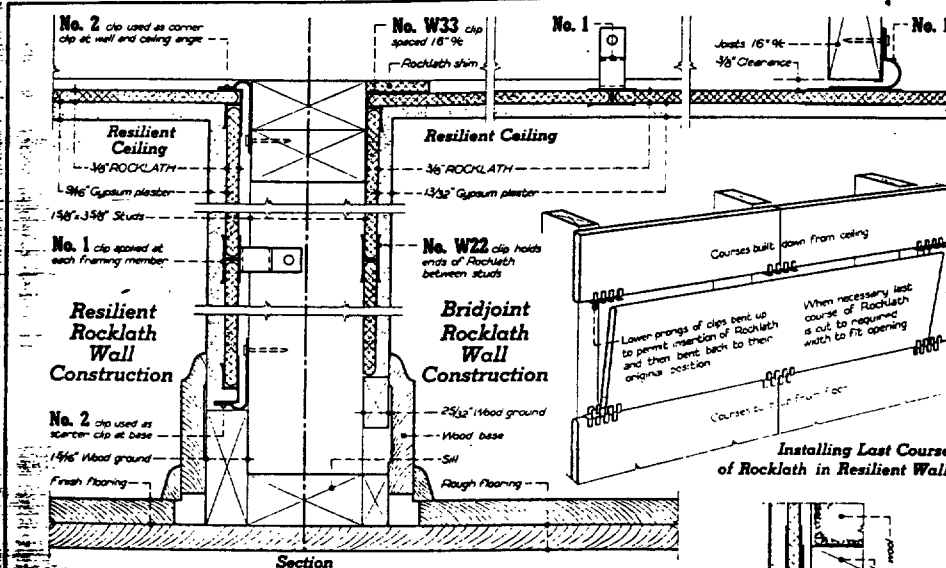
No. 2 Clip—Resilient System



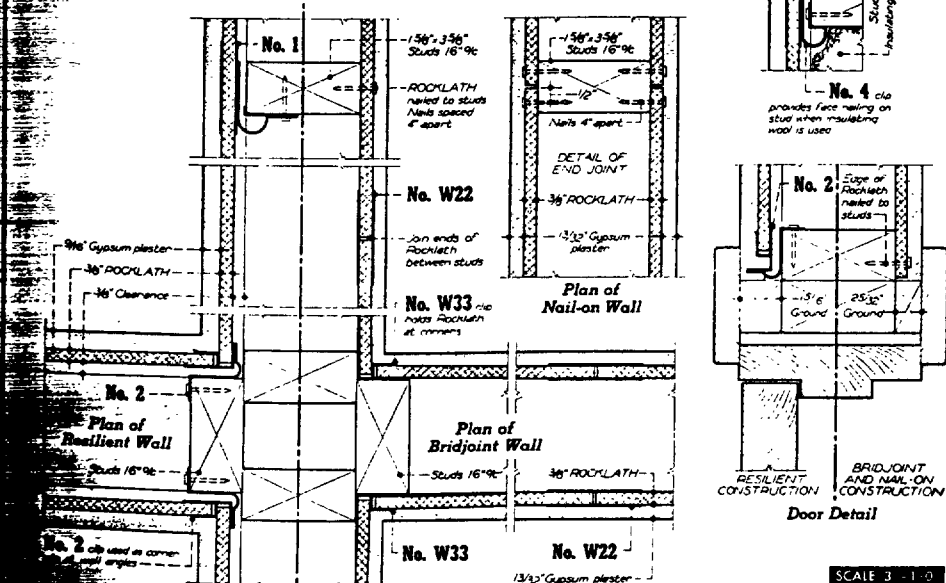
No. 4 Clip—Resilient System



How Resilient Walls and Ceiling look



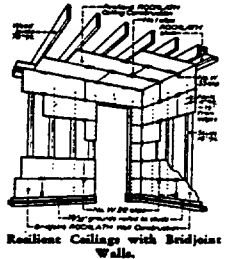
Section



USG PLASTERING SYSTEM ROCKLATH ON WOOD FRAMING

The Bridjoint System Works This Way

Apply Rocklath so ends fall between studs as near to center as possible. Work down from the ceiling toward the floor, breaking end joints in successive courses. Nail Rocklath 4" o.c. vertically at every stud bearing. Every intersection of a vertical and horizontal joint will be supported by a W22 Bridjoint Clip.



Resilient Ceilings with Bridjoint Walls



W-22 Clip—Bridjoint System

Run ceiling courses at right angles to joists. Start ceiling construction in corner. Rocklath in clips at the ceiling wall angles. No. 1 Clip is nailed to joist at free edge. Work from opposite sides of room so that by bending clip prongs the last course can be swung into place.

New Rocklath Stagger System

Score a panel of Rocklath vertically and break in two.



"Stagger" system as applied by Mr. Burke Miller, Kansas City Builder.

Then you have two panels 8 in. wide and 48 in. long.

(Continued on Page 6, Col. 4)

Life House Builder Enjoys "Astounding" Results with USG Plastering Systems!

Mr. Thomas J. Crowe, well-known Chicago builder, has every reason to be enthusiastic over USG Resilient Rocklath & Bridjoint Plastering Systems. He has been "astounding" for him. He finds that 16 residences in which he has installed these systems in the past 30 months are "99.9% crack free."

Last fall, Mr. Crowe built out Mr. Crowe's aggressive one of the popular LIFE houses in Lincolnwood, Illinois, and used Resilient and Bridjoint Systems throughout. Despite the fact that I



An "army" of 65,000 people has tramped through the living room of the Life House. Yet notice the smooth, unmarred walls and ceilings.



The smartly furnished modern bedroom of the Life House has already seen more traffic than the average house ever does. Its plastered surfaces are still fresh and unmarred, though.



knew it would be visited by thousands of people," he said, "no structural provision was made to care for this traffic. The house was built according to the original plans and specifications, but I used your Resilient Rocklath and Bridjoint Systems throughout. Over 65,000 people tramped through the house last winter and in the next several months we will probably show it to twice that many. So far not a crack has shown and I'll wager none appear."

Resilient and Bridjoint Systems rate highly with architects, Mr. Crowe has discovered. Although his bid in a large residence, several months ago, was higher than some others, he got the job by offering to install a Resilient Rocklath System instead of the lathing specified. "The architect was delighted," said Mr. Crowe. "Most important, in my opinion, the owner is getting



BONDCRETE

for a real clutch on Concrete!

Bondcrete is a plaster especially tailored for the tough requirements of plastering over concrete. It permits free evaporation! It is not affected by the drying out of concrete!

Add only water! Bondcrete is ready to apply! It's easy to work and provides the hard, dense, fireproof base coat that will take any trowel and sandfloat finish. Find out more about this pre-conditioned plaster today. Drop in at your USG building material dealer or write us direct.

Bondcrete is made by United States Gypsum Company... where research develops better, safer building materials.

the best job that money can buy."

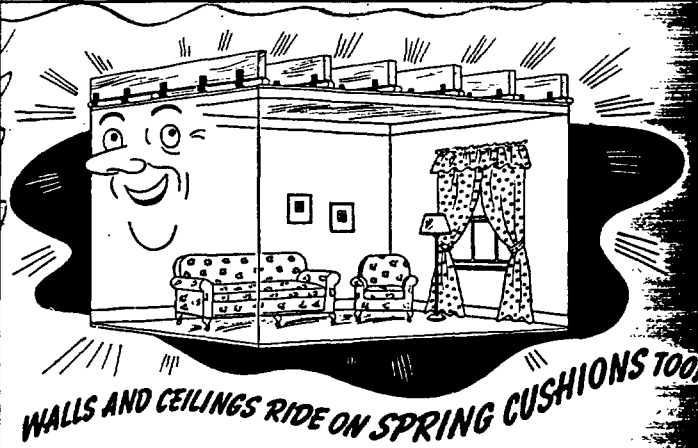
Enthusiastic approval of builders and home owners, too, is almost a certainty when plastering is done over USG's Resilient Rocklath and Bridjoint Systems. It's the smart way of minimizing the effect of cracks caused by structural movements.

First Farmer: "I don't know. We ain't got a hog in 15 years."

Second Farmer: "We don't know. We ain't got a hog in 15 years."

Builder (proudly): "There is a house with no cracks."

Woman: "My goodness, do you walk on it?"



TAKE a ride in any new car. Its makers brag about the "ride"—smooth, gentle, easy!

Walls and ceilings can "ride" easily, too. When they do, it means far fewer plaster cracks, reduction of sound transmission from room to room and the elimination of lath streaks!

ISN'T ALL THAT WORTH SELLING?

You can offer that kind of job to your customers! Just recommend the USG Resilient Rocklath Plastering System. First, you get the safety of Rocklath, the fireproof lath. Then, the cost of the entire system is low. It's an outstanding USG development. You can make your full profit on it. There's no need to cut corners because this system gives you extras to sell—extras every architect, builder and owner can appreciate and is willing to pay for! United States Gypsum Co., 100 W. Adams St., Chicago, Ill.

Let us give you complete details
Ask your material dealer or write today

HERE'S HOW IT'S USED



This drawing tells you part of the story of how the USG Resilient Rocklath Plastering System is used. You can see it in action from a master's construction.

THOMAS J. CROWE
General Contractor
111 WEST WASHINGTON STREET
CHICAGO, ILLINOIS

April 22, 1941

United States Gypsum Company
300 West Adams Street
Chicago, Illinois

Questions:

Concerning to you should be some of my experience in using your Resilient Rocklath System.

In the collage I find very little, if any, additional cost in the application and plastering compared to metal lath and plastering. The time consumed in plastering is just about off-set by the material and perhaps half more time using plain rock lath, and the cost is about 10 more than plain rock lath where the bridjoint system is used.

The results of my use of these products are really astounding, which I have used the Resilient system and find that the job was 99.9% crack free, I have reason to be enthusiastic.

Outstanding, I believe, is the LATH BOND that I built last year, no structural provision was made to care for this traffic. The house was built according to the original plans and specifications but I used your Resilient Rocklath System throughout. Over 65,000 people tramped through the house last winter and in the next several months we will probably show it to twice that many. So far, not a crack has shown and I'll wager none appear.

It is high on a \$80,000 home several months ago, I was offered the job if I would meet the price. Instead of meeting the price as specified, The architect was delighted and ordered the work to me. I hardly dared my estimated profit, and I avoided cutting my price. Most important, in my opinion, the owner is getting the best job that money can buy.

All believe that the numerous reasons of plaster cracking. Impossible to guarantee any job without cracks. But, with your Resilient Rocklath System, no help me, I'm tempted to put up with it and tell me once he'll never have a crack. And sometimes, that's the million.

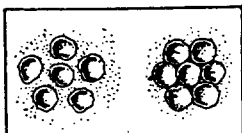
Very truly,
Thomas J. Crowe

8005 0017

The Importance of Sand to Good Plastering

Don't underestimate the importance of sand to a good strong plastered wall. For basically a plastered wall is simply sand held together by gypsum. Two-thirds to three-quarters of the base coat is sand!

The strength and durability of a wall are dependent upon the amount and the grade of sand used. Over-sanded plaster results in a decrease in strength, a decrease in bond, and a decrease in fire resistance. Each grain of sand in the wall should be cemented by the gypsum plaster to the grains on all sides of it. (Fig. 1)



Each grain of sand should be cemented to grains on all sides of it.

When the proportion of sand to plaster is too great, the sand grains are not properly cemented and a weak wall results.

Use of extremely fine sand inadvisable

It is not advisable to use extremely fine sand, even though it be proportioned correctly by weight. Fine sand makes a smooth-looking mortar which works well under the trowel, but it results in a soft wall. The American Society for Testing Materials permits 5% of properly graded plaster sand to pass a 100-mesh screen, but no more! Well graded, coarse sand is best—it makes a good, hard wall.

Fine sand covers too much area

Investigation of the surface area covered by fine and coarse sands gives us a clearer picture of this. Sand which will pass through a 48-mesh screen has a surface area of 5,460 square inches per pound. That is approximately one-half the surface area covered by a fine grade of sand such as will pass through a 100-mesh screen.

From this you can see why fine sands require an additional amount of plaster to cement the large number of grains together; or, why the amount of sand you use may be decreased when it is fine. A well-graded sand complying with A. S. T. M. specifications has a surface area of approximately 4,000 square inches per pound.

If gypsum plaster is sanded 2 to 1 by weight, one pound of gypsum will properly cement 8,000 square inches of sand as recommended for use by the A. S. T. M., and make a good, hard wall. If a pound of gypsum, however, is required to cement 15,000 or 24,000 square inches of fine sand, you can see what will happen.

Sand Must Be Clean

Use sand that is clean. It should be free from clay, loam or other foreign matter. To determine whether the latter is present, rub a handful of damp sand between your fingers. If your hands feel dirty, you know the sand is also dirty. Another method of determining this is to fill a bottle with an equal amount of sand and water. Any loam sediment, if any, will come to the surface in a short while.

The weight of sand varies according to the grade and the amount of moisture each contains. Different grades have been known to vary in weight as much as 25 lbs. per cubic foot; and in moisture content as much as 3 to 6%. This makes it practically impossible to proportion sand and plaster by weight with minute accuracy. The following method is recommended as being accurate and practical under most conditions.

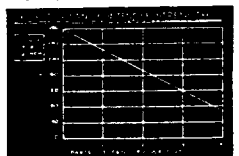
Shovel is Convenient Unit of Measurement

The simplest way of seeing that you get the correct proportions is to measure the amount of sand to be used with a shovel. Just remember that a new No. 2 shovel holds about 15 pounds of sand; a No. 3 shovel holds about 18 pounds of sand; and a No. 4 shovel holds about 20 pounds of sand.

To get correct proportions of two parts of sand to one part of plaster, you can use thirteen No. 2 shovels or ten No. 4 shovels of proper grade sand to a 100 pound bag of plaster. Occasionally, plasterers misinterpret these specifications, believing them to mean two shovels of sand to one shovel of plaster. Understand, this is a proportion of 2 to 1 by weight.

Be Wary of Excess Sand

For your own protection, stay away from the use of excess amounts of sand. Sometimes a wall which is slightly over-sanded will



Tensile strength of plaster decreases with addition of sand.

stand up reasonably well, but if the same wall were subjected to slow-drying conditions it would probably be a complete failure.

Chart Proves Effect of Sand on Tensile Strength

The chart shows that hard wall plaster sanded 2 to 1 by weight has a tensile strength of approximately 175 pounds per square inch. That is, one square inch of plaster will support 175 lbs., the weight of a good sized man, without breaking. The same material sanded 4 to 1 has a tensile strength of only 70 pounds per square inch. The weight of a small boy will tear it apart. We recommend that you choose a good quality of sand; see that it is properly graded; and use it in the recommended proportions.

Scratch Test Proves Value of Correct Sanding

This interesting series of photographs developed by the Gypsum Association of



1 part gypsum plaster to 1 part sand.

1 part gypsum plaster to 2 parts sand.

1 part gypsum plaster to 3 parts sand.

Chicago, Illinois, for their book, "The ABC's of Plastering," shows what happens to the strength of a wall when plaster is mixed with sand in various proportions.

were subjected to the scratch test. A steel point loaded with a 22 lb. weight was drawn across the surface of each panel at a uniform rate of speed.



1 part gypsum plaster to 4 parts sand.

1 part gypsum plaster to 5 parts sand.

1 part gypsum plaster to 6 parts sand.

It is common practice to scratch a plastered wall with a sharp point, such as a nail or key, to determine the quality of the plaster. The Gypsum Association used somewhat the same method. Six mixes of plaster,

The depth and width of each scratch panel were influenced by the amount of sand present in the plaster. The greater the sand content, the greater the depth and the width of the scratch—and the weaker the wall!

Its Easy to Choose The RIGHT Plaster Base When You Know All Three Types of Rocklath!

Rocklath is an ideal plaster base! Just look at its features. Only this type of plaster base provides all of them. 1. Fire protection—made of gypsum rock. 2. Strong—more rigid walls. 3. Excellent plaster bond—six pounds per square inch. 4. More crack resistant—no expansion or contraction of lath. 5. Permanent—not affected by time, decay, vermin or moisture. 6. Quickly erected—can be scored and broken—requires fewer nails. 7. Fewer plaster droppings—more suction in Rocklath.



All the advantages of Plain Rocklath—plus insulating Rocklath is the only type of fireproof insulating plaster base available at low cost.

Use it on outside walls. It provides effective resistance to summer heat and winter cold. Insulating Rocklath, properly applied, has insulating efficiency equal to that of 1/2 inch of board form insulation in use.

A moisture barrier, too! Insulating Rocklath has been proved by tests to be a better moisture barrier than glossy asphalt paper.

Know all three kinds of Rocklath—where they fit—where they'll do you and your customers the most good. See your local USG building dealer for information or write direct to the United States Gypsum Company—where research builds better, safer building materials.

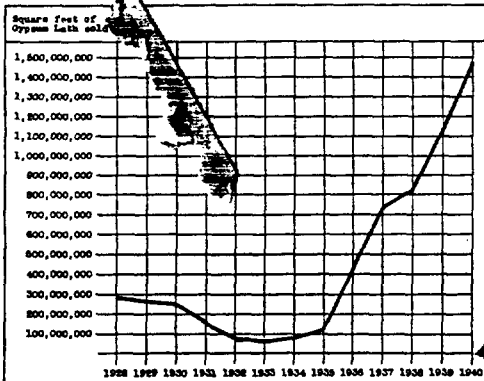


Look to Perforated Rocklath for these extra INCREASED PLASTER BOND! The perforations provide a mechanical plaster key which holds plaster in a double grip. INCREASED FIRE PROTECTION! 1/2 inch of plaster over 1/2 inch Perforated Rocklath gives the wall a better than 1 hour fire rating. INCREASED OVERALL WALL STRENGTH! Large 18x32" or 48" panels provide extra rigid supports for frames. Perforations increase strength.



414% INCREASE IN USE OF GYPSUM LATH IN 13 YEARS

Each year the swing to gypsum lath increases. In 1940 U. S. Government figures indicate that 1,461,439,000 sq. ft. of gypsum lath were sold. This amounts to a 414% increase since 1928 when 284,440,741 sq. ft. were sold. Even the latter is quite a sizable figure, you'll admit.



Graph Shows swing to gypsum lath.

During almost the same period — 1930 to 1939 — there was a 52% decrease in wood lath. In 1930 wood lath covering 916,309,000 square feet of wall and ceiling area was used. By 1939 this figure had dropped to 443,134,000 square feet. The use of gypsum lath during that same period 1930-39, increased 340%.

Here is convincing proof that lathers want the speed of erection and the personal satisfaction of providing protection against fire and freedom from cracks that fire-proof Rocklath makes possible.

(Continued from Page 3)

Plaster Finish Protected Against Structural Movements

Apply one in one corner of room. Follow with full panels of Rocklath until you reach the far end of the wall. Then apply the other half.



How Stagger System compares with Standard method of application.

The second course is applied with full size sheets of Rocklath as shown. The joints fall halfway between the joints of the course on either side. Follow this procedure, breaking end joints for each successive course. Continuous vertical joints are covered with metal lath.

WHAT I LIKE ABOUT FINISHING LIMES



1

Clean, White Color

It puts a swell-looking finish coat on a wall—the kind that makes you want to point with pride.

2

Smooth, Easy Working

I get a tick out of troweling fat, rich, USG lime putty. It goes on smooth and easy — like soft butter on bread.

3

Excellent Coverage

Boy, does it spread out! I sure get plenty "miles to the gallon" with USG lime.

These features and more are always found in Finishing Lime made by USG.

USG Finishing Lime is made by

USG from carefully selected, uniformly burned rock. The entire manufacturing process is under the supervision of men thoroughly experienced in Lime production. It's just another example of the thoroughness of USG research which for over 40 years has been making better, safer building materials.

Made by UNITED STATES GYPSUM COMPANY — where research makes better, safer building materials.

QUIZ FOR PLASTERERS

- How can holes make a wall stronger?
Answer: The holes in Perforated Rocklath provide a mechanical key which holds plaster in a sure-like double grip able to resist cracks.
- Do the holes in Rocklath help in other ways?
Answer: They literally slice plaster from the trowel. Plaster goes on quick and easy with fewer droppings, and better able to resist cracks.
- Why does Perforated Rocklath help to build a strong, fire resistant wall?
Answer: It's made of gypsum rock, a material that will not burn. The face of Red Top Plaster properly applied over 1/2 in. Perforated Rocklath results in a strong wall with a 1 hour fire rating.
- Why is Perforated Rocklath economical to use?
Answer: It comes in standard framing, is broken to fit. Perforated Rocklath increases plaster in a strong wall with a 1 hour fire rating.
- Is Perforated Rocklath the economical choice for every job?
Answer: Certainly. It's the sure economy to use a plaster substance on the important building operation. Perforated Rocklath provides smooth, easy to decorate walls and ceilings—helps keep and adds greatly to the rigidity and strength of framing.

For information on Perforated Rocklath, see your local USG Building Materials Dealer or write to the United States Gypsum Company, 100 West Adams Street, Chicago, Illinois — where research builds better, safer buildings.



BR005 0019

Lather Demonstrates Flexibility . . . Quick Application of NEW CORNER BEAD

"Job" Pictures Prove Adaptability of Red Top No. 4-A Flexible Corner Bead

Expert "bead" men like the flexibility and all-around features of the Red Top No. 4-A Flexible Corner Bead. This dual purpose bead can be formed to fit any degree of curvature or can be used on straight corner or bead work.

Follow Mr. Fred Davies, one of the ace "bead" men on the crew of Lathing Contractor Herman C. Frey, through this interesting series of actual job pictures. They were taken in a charming home built by Mr. A. W. Ehrhart on Chicago's far south side. David Davidson is the plastering contractor.

1st Little Boy: "We're putting rubber ceilings in our house."

2nd Little Boy: "What's the idea?"

1st Little Boy: "So when mama gets mad and hits the ceiling, all she'll do is bounce around."

(Editor's Note: Someone ought to tell them about USG Resilient Plastering Systems.)



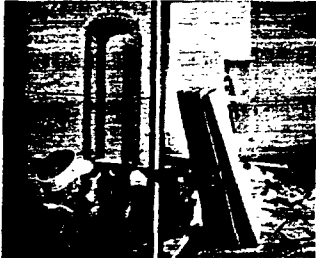
This arch or any other can be "beaded" quickly with Red Top No. 4-A Flexible Corner Bead. The Bead is formed to curvature desired by snipping one side of flange—only $\frac{3}{8}$ " of metal—and bending to fit.



It goes up quickly! One continuous piece of Red Top No. 4-A Flexible Corner Bead was used to form the right side of the arch. Left half of arch is ready for nailing and splicing to right side of arch.



A splice joint is made by inserting a nail with the head cut off between the two sections of Corner Bead. Edges are then crimped together, thus "welding" the two sections into one secure unit. An 8 penny finishing nail is just right for this purpose.



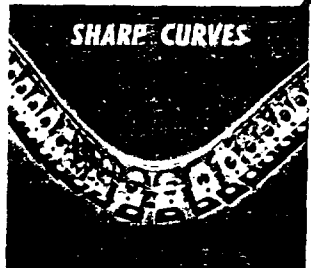
Here's Real Flexibility! Flexible Corner Beads take both the sharp curve of a telephone niche and the every day straight corner and bead work in stride. See how carefully Bead is leveled before nailing.



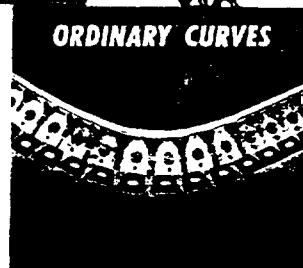
Plasterers have just applied the scratch coat to the arch. The 70° angle of Flexible Corner Beads provide ample plaster grounds — helps plasterers to give home owners the beautifully plastered modern arches they want.

Red Top No. 4A Flexible Corner Bead

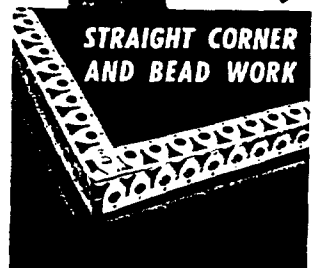
FOR



SHARP CURVES



ORDINARY CURVES



STRAIGHT CORNER
AND BEAD WORK

Want a flexible corner bead that fits any curve—one that can also be used for straight corner and bead work?

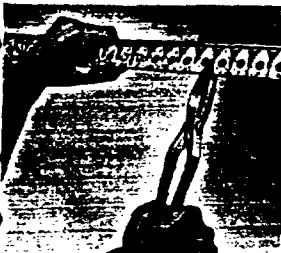
Check these features against the corner bead you are now using!

1. Dual Purpose Bead. Can be bent to curvature desired or can be used on straight corner and bead work.
2. Only one side of flange need be cut. Faster operation because lather's snips cut only $\frac{3}{8}$ " of metal.
3. Definite designed bending points to assure a smooth even bend without "kinks."
4. Full $1\frac{1}{2}$ " flange. Larger than most

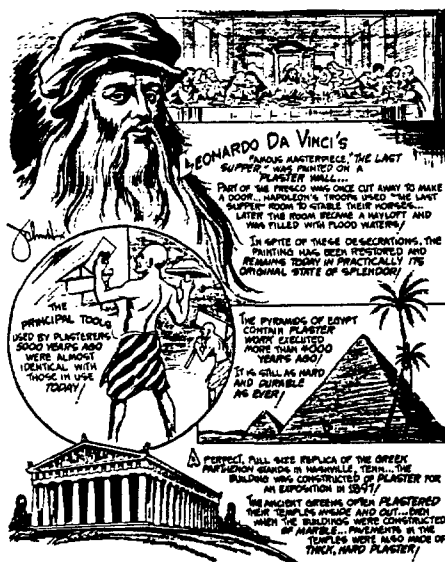
other "beads" of this type for quicker more secure application.

5. $\frac{1}{4}$ " nail holes. Right size for nails generally used on "bead" work. No "loose" nailing or nailing through steel.
6. Made of 26 gauge, soft, annealed, galvanized steel.
7. Available in stock lengths: 6, 7, 8, 9, 10 and 12 ft.
8. Packed 10 pieces to the bundle, in crates containing approximately 500 lineal feet.

Ask to see the new Red Top 4-A Flexible Corner Bead! Plasterers everywhere are turning to this latest product of USG Research. It has exclusive features not found in any other corner bead! See your local USG Building material dealer now or write direct to United States Gypsum Company, 300 W. Adams St., Chicago, Ill., — where research builds better, safer building materials.



STRANGE AS IT SEEMS.....by John Hix



Style Note

Madame Wears "Wet Plaster" This Season

There is glamour in plaster after all. Sak's Fifth Avenue with fashionable shops in New York and Chicago think so. They've just introduced "wet plaster" a brand new color to them which is alluringly described as "a completely new gray."

Men's fashions aren't being neglected, however. The Baskin Stores of Chicago have also announced a "new?" color. It's called "wet sand". After this auspicious beginning, it would not surprise us at all to run across "Lime Finish White" or some other such color in our fashionable shops.



You can't make a Profit on plaster droppings

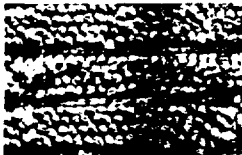
PLASTER droppings are waste! Discourage them! Use USG 4-Mesh Z Rib Lath! Its smaller mesh openings provide excellent plaster keys — greatly reduce plaster droppings!

4-Mesh Z Rib Lath is flexible! It bends around curved surfaces. Yet it has sufficient rigidity to prevent bagging under trowel pressure. Its smooth, tight laps allow easy troweling.

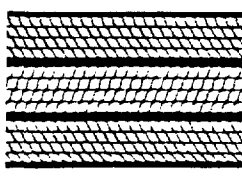
Tie it or nail it! Sheets are 27 inches wide and 96 inches long to facilitate easy handling.

This popular metal lath works wonders on both curved and straight surfaces. Ask your USG building material dealer or write direct to us.

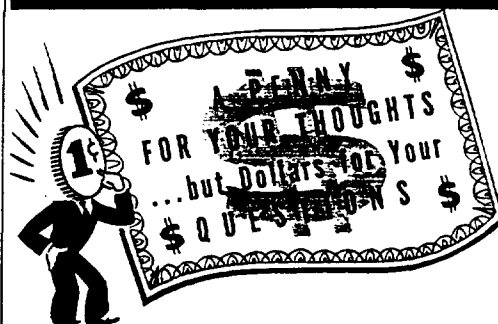
Made by — UNITED STATES GYPSUM COMPANY — where research develops better, safer building materials.



Back side of 4-mesh Z Rib Lath. Note full lapping and coverage.



Plaster side of USG 4-mesh Z Rib Lath.



QUESTION — Why not use screened neat plaster for gauging in lime putty instead of gauging plaster? Why does the brown and white coat pop off Rocklath nail heads occasionally?

C. J. H.
Warren, Ohio.

ANSWER — We do not recommend the use of screened neat plaster for gauging in lime putty instead of gauging plaster. In recent years our Red Top Gypsum Plaster has been greatly improved in many ways, one of the improvements being a much finer ground material. This fine grinding increases plasticity, ease of application and coverage. Naturally, one of the requisites of a gauging plaster when used with lime putty is a coarse grind and quick soak. You can see, therefore, that the base coat plaster made today would be much harder to mix with lime putty. I know that you can obtain the very best results by using our Red Top Gauging Plaster, which can be obtained in either quick set or slow set and which is made especially for use with lime putty.

You are not the only one who is occasionally troubled with plaster popping off Rocklath nail heads. After investigating many such cases, we find that the primary cause of this is the nail heads are not driven home or properly anchored—thus they work loose. We also have found that the best results are obtained by using blued Rocklath nails, 1 1/4" long with a 3/4" head. A thin coat of plaster plus lumber movement also contribute to plaster popping over nail heads.

QUESTION — After a house is lathed, I know a contractor who runs a saw through those sections of Rocklath which are butted together tightly. What is this done for? When using Rocklath should you leave joints open or drive them together? When you plaster a bathroom, what can be done to stop the plaster, after white coat, from cracking or shrinking away from the bathtub?

I. W. D.
Washingtonville, Ohio

ANSWER — The contractor who ran a saw between the Rocklath ends, evidently believes that the mechanical key is necessary for satisfactory bond. There is really no need for leaving a space between the Rocklath ends, as thousands of small pores in the Rocklath surface insure adequate bond with the plaster. However, it is optional with the user whether joints are close butted, or separated up to about 1/4 inch. If a mechanical bond is desired, Perforated Rocklath will answer your purpose much better.

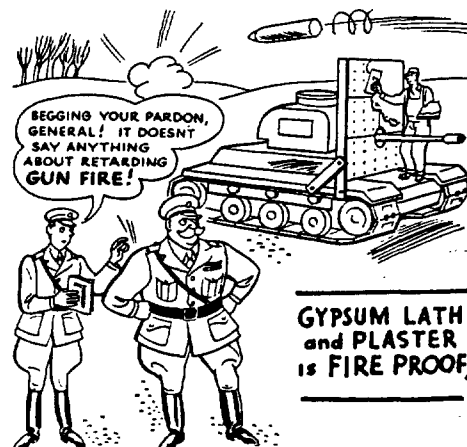
Your last question is particularly interesting as it happens in so many cases. The plaster does not shrink away from the bathtub, but the bathtub settles away from the plaster. It must also be taken into consideration that a bathtub, being made of a material that has a coefficient of expansion and contraction, is greatly affected by use. For instance, a bathtub is quite cold and when someone places hot water into it, the tub expands. Therefore, it either forces the plaster up or the bathtub down. As soon as it is cool again shrinkage occurs, leaving a crack between the tub and the wall area. The main feature in this type of complaint is that the crack allows moisture to get in behind the finish, and if the base coat consists of gypsum, the moisture attacks it and causes a sweat-out or rotting condition. Caulking compound forced into the opening may solve your trouble.

QUESTION — Would you advise putting a hard finish coat on an old hair mortar ceiling, which has been scratched?

J. S.
Providence, R. I.

ANSWER — If the old hair mortar ceiling to which you refer is clean, free from cracks, of good strength, a hard finish coat satisfactorily be applied. However, if any of these conditions are not satisfactory, we recommend that the base coat be removed and replaced.

What are your questions on lathing and plastering? You will receive a dollar for each one published. Send them to the editor, Red Topics, 300 W. Adams St., Chicago, Ill.





USG RED
A NATIONAL JOURNAL OF



TOPICS
LATHING AND PLASTERING



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ANNOUNCING! NEW...IMPROVED...USG HYDRATED FINISH LIME

Story on Page 3

How to Select Lime for New Building Needs

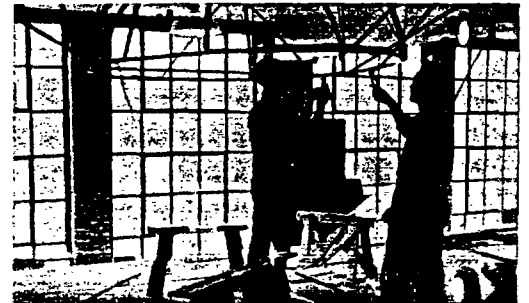
Story on Page 2

HOW THE LATHING AND PLASTERING CRAFTSMEN OF TOMORROW LEARN THEIR TRADES TODAY!

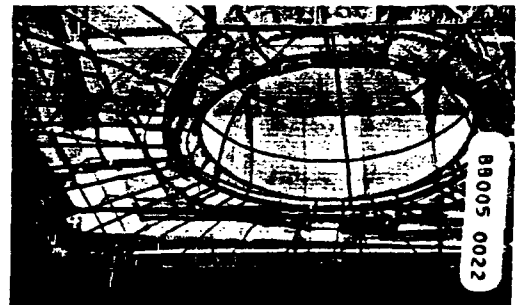


At the Washburne Trade School, Chicago, Illinois, plastering apprentices are thoroughly schooled in uniform proved methods of application. Gradually, as their talents increase, they advance to more difficult ornamental work.

(Turn to page 6 for complete story)



Lathing apprentices at work on a dome ceiling in the shops of the Washburne Trade School. They receive expert instructions in the basic requirements of their craft.



Ceiling completed! Projects are built to scale because of space limitations and the fact that the lathing principles which are involved remain the same regardless of the size of the job.

How to Select the Best Lime for Faster Building Needs

Most of us are familiar with lime as a building product. For centuries it has served as an essential material for walls, both as a plaster and as a mortar for masonry.

As plasterers, it is interesting to know that the use of lime for finishing walls ante-dates its use as a mortar for masonry by many centuries, however. From the

pages of history we learn that some 10,000 years ago the early Egyptians plastered the walls of their monumental pyramids with lime and gypsum. It was not until the middle ages, centuries later, that cathedrals and fortresses were erected with straight lime mortars, and they represent the first sizeable structures erected in which straight lime was used for masonry.

During the long period from the first use of lime until the beginning of the 20th century there was little improvement in limes, except in the methods of calcining, or burning the lime-

Encouraged by the success of hydrated lime, research workers continued their studies and, since then, other improvements have been made in quicklime products, as well as the development of other new materials.

As a result, plasterers now have a choice of a number of types of lime for their work and a thorough understanding of the properties of each is desirable in order to obtain the best results at the lowest possible cost.

Quicklime

While lump quicklime is too well known to old timers

which the younger generation of plasterers readily admit—if the putty is properly prepared. These younger students of the plastering business contend, however, that the extremely high plasticity of quicklime putty is sometimes a disadvantage under present building conditions; that on present plaster bases it is too plastic, making it necessary to add ground stone or sand to reduce suction resistance and, in any case, to use more gauging plaster than is commonly used with hydrated lime.

They also contend that it is impossible to be sure of the quality of the product; that because it deteriorates rapidly in dealers' warehouses they cannot be sure of a uniform, dependable quality.

Other objections they raise to lump lime is that it is more dangerous for workmen to handle; that it may be unsound and cause swelling in masonry walls if slaked an insufficient period or, if used in white coats, it may develop "pops" and "pits" over a period of from a few months up to 20 years; that it may be "burned" on slaking by using too little water, particularly if the material is very active; or that it may be drowned by using too much water.

Newer Quicklimes

Most of these advantages and disadvantages of lump lime apply to the other forms of quicklime, too, except for the finely ground or pulverized quicklimes. While they apply to fine grain limes, crushed limes, pebble limes or granular limes, the more recently developed pulverized limes have all of the advantages of the older quicklimes without their disadvantages. In other words, the danger of pops and pits is eliminated; soaking time is reduced to a maximum of 24 hours; packed in moisture-proof paper bags, they may be stored for comparatively



Early lime kilns were little more than massive chimneys.

stone. Lump lime was slaked and aged for several weeks or months. That was before penalty clauses in building contracts were thought of, and before speed in construction and simplification of the job of building became a universal requirement.

Late in the last century chemists and research workers made the first major improvement in this granddaddy of building materials when they developed hydrated lime. The obvious advantages of this discovery made the new product an immediate favorite and, in the fifty odd years since it was first introduced, it has enjoyed wide usage.

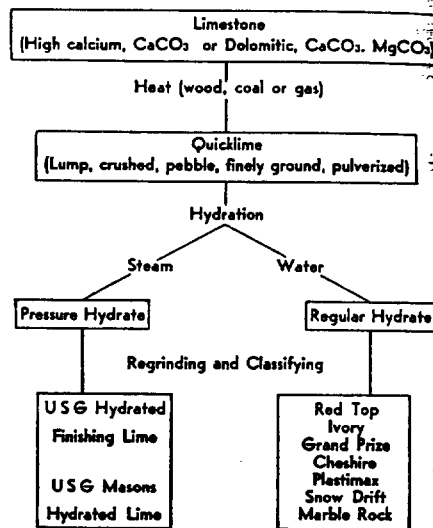
in the plastering business to need description, many of those who have started in the last generation are less familiar with it since they have found the newer lime products most satisfactory for their needs. Those who still use it insist that it is most economical because of its high putty yield. They point to the fact that high calcium quicklime gives a putty yield from 80 to 90 cubic feet per ton and that dolomitic quicklime yields from 55 to 60 cubic feet per ton, while hydrated limes give only from 40 to 45 cubic feet per ton.

These quicklime enthusiasts also boast of the high plasticity of their putty,

View of one unit of kilns at the Genoa, Ohio plant of the U. S. Gypsum Company, home of USG, Red Top, Ivory and Grand Prize limes.



HOW LIME IS MADE



A better lime for every purpose may be selected from this directory of USG products. Check them for your needs today.

long periods without losing any of their quality; and they are easier for laborers to handle.

In using these improved quicklimes it is necessary to remember at all time that in order to get satisfactory results the putty must be prepared properly. By following a few simple rules good results are far more certain than with the older quicklimes having variable activity. The following suggestions explain the best practice:

1. First place the proper amount of water in the slaking box. This amount is usually stated in the directions that come on

but this is not absolutely necessary and should be done with discretion.

2. Add the pulverized quicklime to the water as rapidly as possible. If two men are available one should add the lime and the other should hoe. Whatever system is used it is important that thorough agitation be given the lime and water during the slaking and boiling period.

3. The putty should stand for 24 hours before using, giving it plenty of time to cool thoroughly.
4. Protect the putty box from contamination.



A large laboratory and a skilled staff of chemists check the quality of the lime at every step of the way.

the package. If the laborer is not entirely familiar with the product it is desirable to withhold some water to add during the slaking operation.

Hydrated Lime

Hydrated finishing limes naturally were popular as soon as they were introduced, for they speeded the plastering process and eliminated the long periods previously required on all jobs for slaking. Limes from northwestern Ohio were preferred from the start and have been a standard white coat material since hydrated limes were first introduced.

That is because the plasticity of limes from this area is well adjusted to the universally used gypsum plaster bases. They spread, lay down well, and resist checking without having the tendency to blister that we often find in high calcium lime putties.

(Continued on page 7, col. 1)

SENSATIONAL NEW FINISH LIME DEVELOPED BY JOB AND LABORATORY TESTS

NOW — No Soaking — USG Hydrated Finishing Lime Meets Rigid Government Specifications — Eliminates Expansion of Finish Coat — Reduces Check Cracking!

Here's new and exciting information for plasterers! USG's New Hydrated Finishing Lime is sensationally different from any other hydrated finishing lime ever developed. It's the first finishing lime which has been improved, basically, in 30 years. Here's what you want to know about it.

USG Hydrated Finishing Lime

... requires no soaking! It mixes with water, either cold or warm, much faster than ordinary hydrate. It can be used immediately upon wetting and because of this, it can be applied ... 12 hours or a full working day sooner than other finishing limes. As a result, fewer mixing boxes and other equipment are required.

... requires no special handling! The lime is dumped directly into the water-filled mixing box, shortening preparation time immeasurably. There is also a reduced dust problem in handling.

... doesn't become "soupy" — doesn't "knuck up" after gauging plaster is added. Once ready to apply its consistency remains unchanged.

... meets all proposed or existing Government specifications requiring 92% oxide hydration in dolomitic finishing limes.

... attains its plasticity whether mixed for immediate use or soaked overnight — as preferred.

... requires less trowelings. It gives splendid coverage, makes thinner coats possible. It won't slow up troweling.

... can be tempered! If the mix is too thin, dry lime can be added without additional overnight soaking and without any change in the working qualities of the putty; if too stiff, water can be added easily.

... gives a smooth, satiny surface with less imperfections. The surface is freer from "cat faces."

... reduces check cracking by resisting the suction or shrinkage of bone dry base coats.

... eliminates completely any or all chances for wall or ceiling expansion cracks due to incomplete hydration of the lime. This is the reason for proposed Government specifications requiring 92% hydration.

... insures freedom from pits or "pops."

... never will there be loss of plasterer's time on jobs, as the fear of running out of putty and having to wait for an additional batch to soak overnight is eliminated.

USG Revolutionizes the Procedure for Preparing Finishing Limes

Forget all about your ideas of the time and labor necessary to prepare lime for the finish coat. With USG Hydrated Finishing Lime, it's a 1, 2, 3 proposition.

Fill the mixing box with about six gallons of water for each bag of lime. Empty the con-

tents of the bags by placing the open end on the bottom of the box in the water and withdrawing the bag immediately. When the required amount of lime has been dumped, allow the lime to "wet" for about 15 minutes. Then hoe to the desired consistency. The mix will keep the consistency you desire. When gauged it won't become "soupy" or "buck up."

If, for some reason, overnight soaking is desired, that, too, can be accomplished without all the fuss and bother you are going through now.

When the required amount of lime has been emptied into the mixing box, merely level the top and leave as is! The simplified handling procedure, made possible by using USG Hydrated Finishing Lime, results in fewer boxes, less dust, less muss and a shorter preparation time.

There is no change in gauging procedure or quantities with the new USG Hydrated Finishing Lime. Add one part of dry gauging to three parts of USG Lime putty by volume; or to each 12-quart pail of putty add two quarts of water and take up all of the water with gauging plaster. Blend the gauging with putty to a uniform smooth mix. Apply in the customary manner.

Other Types of Hydrated Finishing Limes Involve Extensive Preparations, Extra Equipment and Extra Labor, as Compared with USG Finishing Hydrate

You know what a job it is to prepare other finishing limes. Lime must always be carefully sifted into the soaking box. If lumpy, screening is necessary. On windy days the lime may blow all over the job, or dust, dirt and sand may find their way into the lime while it is being sifted into the box. With the new USG Hydrated Finishing Lime, you place the bags on the bottom of the box in the water, and empty. No screening into water is necessary.

USG Hydrated "On the Job"

Now let's see how this new finishing lime works out on the job. Suppose you have the plastering contract for a store building. You are going to use a mixer for the plaster. Ordinarily you would haul soaking boxes to the job, find a convenient place for them, and schedule the soaking as closely as possible to the progress of the plasterers.

With the new USG Hydrate, you have it delivered to the job. Then, whenever a supply of finishing putty is needed, you clean out the mixer, dump in water

When a mixer is used, a screen of suitable size openings should be placed on the box before the mixer is dumped. This step is insurance against inadequate mixing.

Hand Mixing

On other jobs where machine mixing is not used, some plasterers find it most satisfactory to distribute the bags of USG Hydrated Finishing Lime at convenient mixing points. A mixing box is then shifted from point to point. This reduces droppings of lime putty around the job, and saves the laborer some work since he does not have to carry water (in the form of putty) as far as on the central mixed job.

Patching

Plasterers have found USG Hydrate exceptionally good for patching. For work of this character, a small mixing box is used. In larger rooms, the mixing may be done right in the room. In hotels, apartments, or jobs where rooms are small, the mixing box may be used in an adjacent room, or in the halls. At most, it is only necessary to carry the putty a few feet, while with other types of finishing limes, exceptional care is necessary to avoid having putty droppings all over the job.

Proud Mother: "Yes, he is a year old now, and he has been walking since he was eight months old."
Bored Visitor: "Really? He must be awfully tired."

HOW TO MIX USG HYDRATED FINISHING LIME

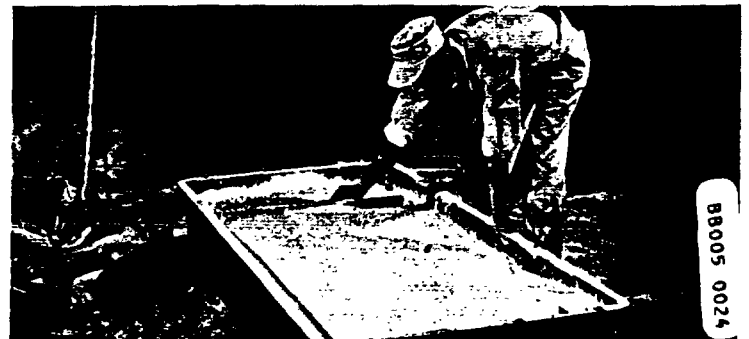
Have you ever mixed finishing lime? Try this simple, three-step method on your next job. See how it compares with old-fashioned overnight soaking. You'll be convinced of its superiority and simplicity.



Empty contents of lime bag by placing the open end in the water on the bottom of the box as in photograph at left. Withdraw bag immediately as shown at right.



To allow lime to get completely wet, wait 15 minutes after last bag is emptied. Then hoe the lime to the desired consistency, add gauging plaster and use. Screening of putty through $\frac{3}{16}$ " to $\frac{1}{4}$ " mesh screen is recommended for best results.



If overnight soaking is desired, hoeing is unnecessary. Merely level off the top when the required amount of lime has been dumped and leave as is.

BB005 0024

Here's What Plastering Contractors Say About USG Hydrated Finishing Lime

Plastering contractors like the new and improved USG Hydrated Finishing Lime. It has features no other finishing lime has ever had. Here's what they say about it:



FROM AKRON OHIO

E. A. Witzberger Plastering Company
Plain & Ornamental Plastering
Builders of Perma Stone
Akron, Ohio

United States Gypsum Company,
300 West Adams Street,
Chicago, Illinois.

Gentlemen:

In the past years we have used all brands of Ohio Hydrated Finishing Limes. We have had trouble of some kind or other with all brands until we started using the new USG Hydrated Finishing Lime. As yet, we have not had one complaint from our foremen or the men on the scaffold.

We have been using USG Hydrated Finishing Lime exclusively for the past 18 months, and we must say that in the past we have not found its equal. As the shrinkages are not so great as other limes we get practically no check cracks, a good free spread and it works cool at all times, even with only a one-hour soak.

We used this lime on Elizabeth Park and Edgewood Park Housing Projects. With the large number of men we had working and the limited amount of space we had on these projects to work in, we do not see how we would have kept enough lime soaked ahead with the old type of lime.

Thanks to USG quick soak Hydrated Lime, these jobs were a cinch.

Very truly yours,

EAW:EMW

(signed) E. A. WITZBERGER



FROM ROCKFORD ILLINOIS

Charles Shugars,
RR #4, Guilford Road,
Rockford, Illinois.

United States Gypsum Company,
300 West Adams Street,
Chicago, Illinois.

Gentlemen:

For the first time in my long plastering experience, I feel that I can place my full confidence in a finishing lime. When I use USG Hydrated Finishing Lime, I know that it goes on the walls to stay. There is no fear of lime hydrating on the walls and ruining the white coat at some later date.

It's swell to know that I can promise high quality jobs to prospects and know that I can fulfill these promises.

I had been wondering when finishing lime would be improved. The last few years have seen improvements in lath and plastering materials. It's about time something was done to improve the finish coat material -- the one part of our product that the customer sees. It's often the only way by which he can judge our work.

I have talked to painters who have painted over some of the walls we finish coated with USG Hydrated Finishing Lime. They tell me that there is no evidence of burned decorations, pitting, or popping. You can see why I'm sold on it.

Yours very truly,

(Signed)

CHARLES SHUGARS



FROM BENTON HARBOR MICHIGAN

B. H. Copeland
Plastering
Contractor,
Benton Harbor,
Michigan

United States Gypsum Company,
300 West Adams Street,
Chicago, Illinois.

Gentlemen:

My experiences with USG products in the past 25 years of continuous contracting have been very interesting. I have noted many improvements in the working qualities of Red Top Plaster and Lime which have worked to the advantage of the owner and the plastering contractor.

New USG Hydrated Finishing Lime has given excellent performance under all conditions -- in hot or cold weather. Generally we soak this lime overnight, but many times we are caught short and must soak up a few bags to use immediately.

Really, I am surprised at its good working qualities under these conditions. We never could do this with old types of lime.

Thanks to USG! They have succeeded in saving us many hours with this improved finishing lime.

(Signed) BURT H. COPELAND

BUILDER COMPARES PLASTERING AND BUILDING PRACTICES IN U.S.A. & ENGLAND

Plastering practices, both as to the methods of application and materials used, do not vary in the slightest, here or in England, states Mr. Wm. M. Noone, Director of Green Park Homes, Inc., home builders in Flushing, New York. The building firm of which he is a member does

business both here and in England.

Building or construction methods in general are much the same, too, he states. However, very little frame or brick veneer construction is used in England. Instead, the majority of single family homes are built with solid brick or brick cavity walls.

Homes in the Green Park estates are proving very popular among home buyers in that area. To provide the smooth, decorable wall finish so many home owners want, the interiors are finished with USG Red Top plaster over Rocklath. For efficient, yet economical insulation, insulating Rocklath is used for the outside walls.



A beautiful interior in one of the homes in the Green Park Estates. Notice the practical wall niche over the arch over the stairway.



No Soaking!

New Finishing Lime Saves You Time

Here's real news for plasterers! The first major improvement in finishing lime in 30 years.

New USG Hydrated Finishing Lime requires no soaking!

It speeds up jobs. You can start work immediately! Mix it as you mix gypsum plaster -- then gauge and apply. If you desire, however, you may still soak it overnight! USG Hydrated Finishing Lime gives you a fat, smooth putty that's easier to apply and finish trowel.

Now . . . More Positive Plaster Control

This new time-saving lime gives better control over finish coats. It doesn't become "stiff" or "soupy" after gauging plaster is added. Re-

mains at consistency wanted -- a tailor made finishing lime! It is mixed and applied in almost "one motion," when used immediately. There's no worry over long "soaking times" during cold weather; sudden overnight frosts; water temperature; moisture and other conditions.

When the surface is dry, it is ready to decorate. USG Hydrated Finishing Lime minimizes the danger of burning or blistering the paint, calimine or wallpaper. And when properly gauged, it reduces the possibility of check cracking -- eliminates the cause of lime pops.

For over 40 years, USG Research has been constantly at work developing better, safer building materials with more exclusive features. USG Hydrated Finishing Lime is a good example. It meets all proposed Federal Specifications requiring 92% oxide hydration. It has features no other finishing lime has ever had.

See your local USG building material dealer today, or write the United States Gypsum Company, 300 West Adams Street, Chicago, Illinois -- where research develops better, safer building materials.

A STATEMENT TO THE PLASTERING INDUSTRY

ON JUNE 26th a strike was called by District 50 of the C. I. O. at 14 plants of the United States Gypsum Company.

We take this opportunity to present the following facts.

The C. I. O. demanded that we agree to system, or centralized bargaining, for all our plants, or at least the plants that organization represents.

We are ready, now as always, to discuss and bargain at any time with the representatives of the employees at any individual plant on matters having to do with that plant. But we believe that system bargaining is unfair to both employees and the company, and that it is also difficult and impractical.

Here are the reasons why we have taken this position:

Our company manufactures the products of eight separate industries in 42 locations over the country. The 14 plants affected by the present strike are located from Boston to California. Obviously, conditions in a plant manufacturing roofing are quite different from those in a plant where gypsum plaster is made; and Philadelphia presents problems for workers and management different from those at Fort Dodge, Iowa or Jacksonville, Florida.

System bargaining contemplates a master contract dealing with hours, wages, vacation schedules, bargaining methods, etc., covering a number of different plants and industries in which we operate, regardless of type or location. There would not be the opportunity to handle special local problems with the speed and individual attention which have contributed to the high wages, excellent working conditions and good will that have characterized our relations with our employees. Our position on the

subject of system bargaining for our company is directly in line with a recent decision of the National Labor Relations Board. In June the Board dismissed, after investigation, a petition presented by District 50, C. I. O. on March 6th in which this union asked the NLRB to designate it as the system bargaining agent for at least all plants and employees of the company which it represents.

The present strike was called after the Labor Board's decision and after the C. I. O. demanded that we grant, without opportunity of further discussion or negotiation, a flat 10c per hour increase, compulsory arbitration and a revised vacation schedule for all of the 14 plants which it claims to represent.

As we view it, this strike was called simply to force the company into system bargaining in spite of the fact that the National Labor Relations Board had already decided against the C. I. O.'s petition.

We regret that this strike will cause inconvenience to the public and to the building trades, especially at a time when our plants have on hand many orders for army camps, naval bases, munitions plants and defense housing projects. However, under the circumstances this situation is an unavoidable one.

We want to emphasize that we have the most cordial good will toward our employees. Their skill and industry have contributed greatly to the high quality and wide public acceptance of the building materials which we manufacture. Therefore, we are seriously concerned that the working conditions of the men at our plants should be the best possible, and for this reason we are ready at all times to negotiate with the representatives of the employees at any plant on its individual problems.



UNITED STATES GYPSUM COMPANY
300 WEST ADAMS STREET, CHICAGO, ILLINOIS

88005 0026

Where is the Plaster Craftsman of Tomorrow?

Today, the plaster craftsman of tomorrow is an apprentice. Maybe he's working on the job right next to you — part of the time. But a few days of every month he spends time deep in thought on the plastering problems which have confronted plasterers of every generation.

Where is he learning all this? Many of these young craftsmen can be found in excellent trade schools located throughout the country. In these schools expert instructors in lathing and plastering guide him through the steps necessary to master his chosen craft.

The splendid results obtained through these courses prove their value to the lathing and plastering trades.

Vocational Schools Perform Valuable Service

Some people may ask, "What is the need for vocational schools? Isn't 'job experience' sufficient?"

Let's see what happens to an apprentice who enters the Washburne Trade School in Chicago, Illinois — one of the largest and most complete vocational schools in the country. What can plastering instructor Owen Hughes, or lathing instructor, Robert Hamilton, teach him that he may not be able to learn on the job?

Apprentice Is Well Grounded in Fundamentals

The plastering apprentice is taught the fine points of his craft from the ground up. First, he is thoroughly schooled in measurements, scale reading and plan reading. When well versed in the fundamentals, he learns to execute simple drawings, such as common types of arches. From there, he gradually proceeds to the more difficult problems. As each step of each problem is completed and approved by the instructor, the student takes it to the shop and constructs it to scale. Fine examples of student work are on exhibition there at all times.

Each plastering apprentice who comes to Washburne is indentured to the local union for a period of six months or 120 eight-hour working days. This time is spent in class. The apprentice is indentured for the remaining three and one-half years of his apprenticeship to a local contractor. During this time, he attends a class one day a week or four days a month, evenly dividing his time between the shop and the drawing room.

Emphasis Placed on Uncommon Plaster Jobs

"Emphasis throughout the course," explained Mr. Hughes, "is placed upon the kind of work which the apprentice seldom encounters on the job." Often these class assignments offer the apprentice his first opportunity to acquaint himself with the more difficult phases of his craft.

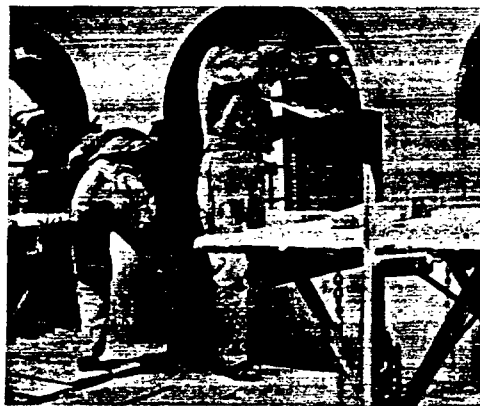
Mr. Hughes gives much credit to the course textbook "Practical Plastering

and Related Subjects," by Dalton & Carlson for the teaching success he has had.

Correct Use of Trowel Taught

The use of the plasterer's tools is not neglected, of course. Apprentices are taught uniform, proved methods of application. At

plastering trade with the steady flow of young, excellent timber it needs. Concurring in this belief are noted Chicago educators like Dr. William H. Johnson, Superintendent of Schools, Mr. Phillip H. McNamee, Assistant Superintendent of Schools and Industrial Coordinator for the Board of



Fine examples of ornamental plastering are always on exhibition at Washburne. Jobs are planned on the drawing boards and carried through to completion in the shops.

the end of six months' training, therefore, each one is at once a decided asset to his contractor.

Lathers Learn Trade Thoroughly

Lathing is taught as the fine art it is at Washburne. Mr. Hamilton's classes plan each job at the drawing board and then assemble it in the shops—to scale. Thus, the many unusual lathing problems presented by our modern architecture can be solved by the apprentice with a minimum of material expense.

"Attracted to the lathing craft are men with varied educational backgrounds," said Mr. Hamilton. "Some of them have completed only the eighth grade, while others are college graduates."

Both Mr. Hughes and Mr. Hamilton are enthusiastic about their students and the future of vocational schools. It is their belief that the vocational schools of this country can do much to provide the

Education, and Mr. Warren E. Hill, Director of Washburne Trade School, who are responsible for the fine work done at Washburne.

1st Man: "Your roof must be leaking. Does the roof always leak?"

2nd Man: "No — only when it rains."

1st Man: "Why do you have your front door leading right into the dining room?"

2nd Man: "So my wife's relatives won't have to waste any time."

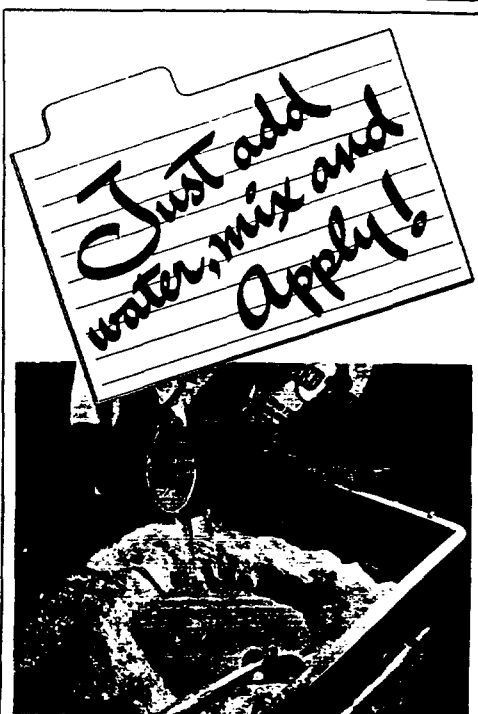
The officer of the day stopped a mess orderly as he was carrying a soup kettle out of the kitchen.

"Here, you," he snapped, "give me a taste of that!"

Obediently he was handed a ladle, and he tasted it.

"Great Scott! do you call that stuff soup?" he roared.

"No, sir," responded the orderly meekly, "That's dish water."



Red Top Wood Fiber Plaster is ideal for patching, remodeling, and repairing. For these purposes, it should, of course, be used neat (without sand). Just add water—and apply!

Red Top Wood Fiber Plaster contains just enough wood pulp fiber to give it cohesiveness and to improve its working control that assures the

superior working qualities of other Red Top plasters.

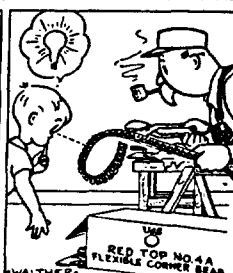
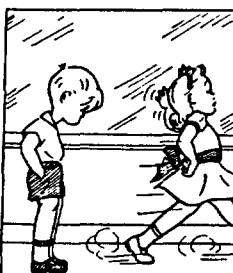
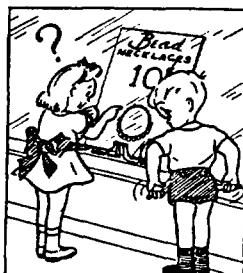
Wood Fiber Plaster may be used as a base coat for plaster over all standard types of lath. For such use, it may be sanded one-to-one by weight. It produces a superior kind of work and satisfies the home owner who is interested in walls above the average in quality.

RED TOP WOOD FIBER PLASTER

Brings to the building the good features of gypsum in even greater degree than cement plaster.

1. It has greater resistance to fire.
2. Greater hardness and wall strength.
3. Eliminates any sand troubles because it requires only water to prepare it for application.
4. It can be troweled to a smooth finish if desired.

See your local building materials dealer or write the United States Gypsum Company, 300 W. Adams Street, Chicago, Illinois — where research develops better, safer building materials.



HOW TO SELECT THE BEST LIME FOR FASTER BUILDING NEEDS

(Continued from page 2)

Preferred Brands

Among the most popular of these limes are Grand Prize, Ivory, and Red Top, the three leading brands manufactured by U. S. Gypsum Company under the closest supervision by the country's leading lime experts. These limes have won wide recognition among the best plasterers for their high quality & exceptional uniformity.

However, these finishing limes with which we have become so familiar for some 30 or more years do have certain disadvantages. For instance, they must be soaked at least 16 hours to give satisfactory results; careless or uneven soaking results in a putty with grainy spots, knots and generally variable and unsatisfactory working qualities; when soaked in hot weather the putty may tighten up and get grainy; and when soaked in extremely cold weather it may fail to set

up, resulting in a thin, soupy putty.

Plasterers who use these materials constantly know, of course, that the old type hydrated limes reach their best working conditions sooner in the summer than in the winter; in other words, the condition of the putty is dependent on the weather. Since contractors cannot control the weather, it is not uncommon to find that the putty is "out of order" when it's time to do the work. As a result, the putty is seldom applied at its best condition.

Another disadvantage of the older hydrated finishing limes is that under damp, humid conditions the bags have a tendency to swell, at the same time developing lumps in the lime that do not come out in the putty.

Research Rolls Up Its Sleeves

Recognizing the fact that further improvements were possible in hydrated limes,

the United States Gypsum Company assigned a staff of research men to the job of finding a lime that would eliminate the delays on the job required for slaking, and that would give the best results at all times, regardless of weather, storing of the material and handling.

This was no small assignment, considering the fact that for over 10,000 years builders and plasterers had gone along without finding an ideal form for lime. But the research staff of USG is used to difficult jobs, and approaches each new task with the firm conviction that a solution can be found. So find it, they have.

Revolutionary Discovery

The new product is hydrated under pressure—a process that tests have shown gives to the resulting material more of the ideal characteristics for a finishing lime with none of the disadvantages of the regular method of hydration, nor the disadvantages of the various kinds of quicklimes.

Among the superior qualities that have been demonstrated by actual job use of this new USG Hydrated Finishing Lime are:

1. Greater plasticity and workability;
2. Soaking is not required (15 minutes after the product is dumped in the mixing box it may be hoed to desired consistency and used);
3. Neither warm nor cool weather affect the quality of putty made from it; (In one case a contractor reported that USG Hydrate frozen under extreme winter conditions, had been thawed out and used with complete satisfaction);
4. Box soaking may be done more rapidly (Best results are obtained when the lime is dumped into the water directly from bag without screening);
5. It may be mixed with sand for float finish, or with colored pigments or aggregates dry, and used immediately after hand or machine mixing with water;
6. Excess amounts of lime do not need to be soaked to insure having enough lime for the job. If the job runs short, the proper amount of USG Hydrate may be mixed and used at once to finish out the job;
7. Small patching jobs are easily handled because small amounts of this putty may be mixed as required; and
8. USG lime putty may be thinned out or thickened as desired without affecting its working qualities. Immediately upon determining the many advantages of this new product the United States Gypsum Company invested a substantial sum of money in a new plant and equipment in order to supply the heavy demand that obviously would develop.

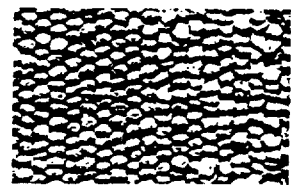


AN OLD FRIEND... plus Something Special

Every plasterer knows Diamond Mesh Lath—it's the general utility lath and represents the bulk of all metal lath produced. Red Top "Junior" Diamond Mesh Lath is the same old friend, plus a special feature that saves about 25% on plaster on the scratch coat.

The important feature of "Junior" Diamond Mesh—is its small mesh openings—about 11,000 to the square yard. These small mesh openings provide an ample plaster key, yet keep plaster from pushing through to cause waste and excessive droppings on the back side.

"Junior" Diamond Mesh Lath sheets are sufficiently rigid for ordinary residential stud spacing, but are also flexible enough to permit their use for all sorts of ornamental work.



Note the keying qualities of "Junior" Diamond Mesh metal lath—no plaster waste, no excessive bumps or droppings.

UNITED STATES GYPSUM COMPANY, 380 W. Adams Street, Chicago, Illinois—where research develops better safer building materials.

UNITED STATES GYPSUM CO. MASONS AND FINISHING LIME

USG Hydrated Finishing Lime (Pressure Hydrated) produced at Genoa, Ohio. Shipped in 50 lb. paper valve bags.



 Red Top Hydrated Finishing Lime Delaware, produced at Genoa, Ohio. High Calcium, produced at Farmington, Mass. Shipped in 50 lb. paper valve bags.	 Chester's Finest Quicklime High Calcium, produced at Farmington, Mass. and New Brunswick, Tex. Shipped in 50 lb. paper bags.	
 Ivory Hydrated Finishing Lime Delaware, produced at Genoa, Ohio. Shipped in 50 lb. paper valve bags.	 USG Superfine Finishing and Mason's Quicklime High Calcium, produced at Farmington, Mass. Shipped in 50 lb. paper bags.	
 Grand Prize Hydrated Finishing Lime Delaware, produced at Genoa, Ohio. Shipped in 50 lb. paper valve bags.	 USG Pulverized and Fine Grain Mason's Quicklime High Calcium, produced at Farmington, Mass. and New Brunswick, Tex. Shipped in 50 lb. bags.	
 Chester's Hydrated Finishing Lime High Calcium, produced at Farmington, Mass. Shipped in 50 lb. paper valve bags.	 USG Fine Grain Mason's Quicklime Delaware, produced at Genoa, Ohio. Shipped in 50 lb. bags.	
 Marble Rock Hydrated Finishing Lime High Calcium, produced at New Brunswick, Texas. Shipped in 50 lb. paper valve bags.	 Marble Rock Pulverized Mason's Quicklime High Calcium, produced at New Brunswick, Texas. Shipped in 50 lb. paper bags.	
 Snowdrift Mason's Hydrated Lime High Calcium, produced at New Brunswick, Texas. Shipped in 50 lb. paper valve bags.	 USG Fine Grain Mason's Quicklime High Calcium, produced at Farmington, Mass. Shipped in 50 lb. paper bags.	
 Red Top Mason's Hydrated Lime Delaware, produced at Genoa, Ohio, and Genoa, Ohio. High Calcium, produced at Farmington, Mass. and New Brunswick, Texas. Shipped in 50 lb. paper valve bags.	 Marble Rock Pulverized Mason's Quicklime High Calcium, produced at New Brunswick, Texas. Shipped in 50 lb. and 100 lb. paper bags.	
 Marble Rock Hydrated Lime High Calcium, produced at Genoa, Ohio. Shipped in 50 lb. and 100 lb. bags.	 Marble Rock Pulverized Mason's Quicklime High Calcium, produced at New Brunswick, Texas. Shipped in 50 lb. and 100 lb. paper bags.	



All USG brands of Quicklime can be shipped in bulk.



USG Lumpy Lime can be shipped in bulk from all mills.

STRANGE AS IT SEEMS

by John Hix



NOT MUCH TROUBLE WITH THAT JOB, JIM... THANKS TO BRIDJOINT!

Good plasterers and good plasters leave little chance for job troubles that are the fault of either. The difficulty is that buildings nearly always have some after movement—the natural movement of framing members. This is often the cause of ugly plaster cracks. The USG Bridjoint system is mighty cheap insurance against such complaints.

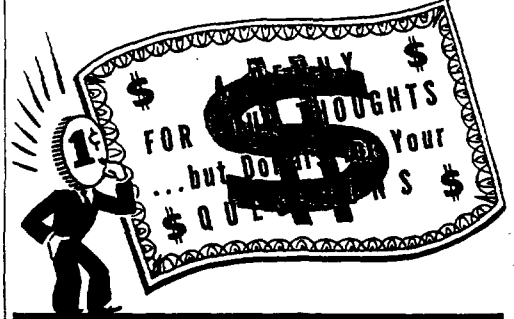
With the Bridjoint system, Rocklath joints occur between studs instead of over studs, thus placing the joint away from the point of greatest strain. These between-stud joints are reinforced by the Bridjoint clips, which have sufficient flexibility to allow the wall to adjust itself to the normal movement of framing members. Bowed framing members, for example, push, not against a joint, but

against an unbroken wall surface that can bend slightly without fracture.

The USG Bridjoint plastering system is simple and low in cost. It reduces waste because all odd lengths of Rocklath can be used. Equally adaptable with irregular stud spacing. Nailing is not necessary at the end of the boards—25% less nails are required. The cost and the labor of applying cornerite is eliminated.

You can use the Bridjoint system on jobs of every size. Get acquainted with it—see your building material dealer, or write direct for full information. United States Gypsum Company, 300 West Adams Street, Chicago, Illinois—where research develops better, safer building materials.

* The Bridjoint system effects a 25% reduction in the number of nails required, permits use of odd lengths of Rocklath, and eliminates the need of Cornerite. Bridjoint clips provide spot grounds over the entire lath area—of special value on ceilings where grounds are not usually provided.



QUESTION—Will you please tell me why plaster cracks over Rocklath? If we should brown coat on a job and let it stand a month or two, and should it crack, would the white coat fill up these cracks so they would not crack any more?

J. E. S.
Marion, Ohio

ANSWER—Plaster cracks over Rocklath are primarily caused by insufficient thickness of plaster, which will not withstand the normal strain and stresses of building movement. Always remember that plaster should be applied one-half inch thick or more over Rocklath to 3/4" grounds. Our Resilient Rocklath System is the best assurance against cracks, if applied according to specifications and assuming the framing and foundation are good.

The answer to your second question is that if the base coat is cracked at the time the white coat is applied, any continued movement in the building will undoubtedly continue to crack through the white coat. It is, therefore, of little use to let the brown coat stand a month or two before applying the white coat.

QUESTION—What is the cause of blisters on hard finished plaster walls? Is there any shrinkage in Plaster of Paris and Hydrated Finish Lime?

J. S. S. Jr.
Wentzler, R. I.

ANSWERS—Blisters on hard finish plaster walls are often caused by the base coat being too green, troweling before set takes place, too much water in troweling, and insufficient gauging used in a lime putty finish. I am sure that if you take care to keep away from these conditions, you will no longer be troubled with blisters.

By shrinkage in Plaster of Paris and finish lime plaster, we assume you mean small chip cracks. This condition can be caused by several reasons, namely insufficient gauging, too slow set gauging and insufficient troweling. We recommend one part of gauging plaster to three parts of lime putty by volume, and if this practice is followed, chip cracking should not occur.

QUESTION—Some time ago we had a plaster job on which the contractor claimed the plaster would not take the proper amount of sand. What could be the cause for this? Does cream of tartar used for ordinary kitchen use serve as a retarder in plaster? I have seen it used and have wondered as to its qualities?

E. F. Z.
Arlington, Minn.

ANSWER—The plaster you refer to that would not take the proper amount of sand would be called "short-working." This is usually encountered in very old stock in a plaster that has been stored in a damp place, either in the warehouse or on the job.

You are right that ordinary cream of tartar is sometimes used as a retarder, although we recommend it for use in emergency cases only. Most plasterers realize that the regular package retarder obtainable from any dealer is much more satisfactory for almost every need.

QUESTION—Are there any different kinds of plaster made for different uses, such as for the base coat and another for the finish coat, etc.? If not, is it okay to use one type of Red Top for all purposes?

R. C. N.
Roundley, Montana

ANSWER—It is not satisfactory to use one type of Red Top for all purposes. For base coat plaster, we manufacture Red Top Cement Plaster, Red Top Sanded Plaster, Red Top Sanded Wood Fibre Plaster, Red Top Wood Fibre Plaster, and Bondcrete. For prepared finish coat, we manufacture Red Top Trowel Finish, Red Top Sand Float Finish, Keene's Cement and Oriental Stucco, either Interior or Exterior.

So that you can become familiar with the specific uses of each of these types of plaster, I am sending you, under separate cover, one of our advertising booklets which illustrates and describes each type of plaster that we manufacture.

What are your questions on lathing and plastering? You will receive a dollar for each one published. Send them to the editor, Red Topics, 300 W. Adams Street, Chicago, Ill.



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FEATURING

in this issue

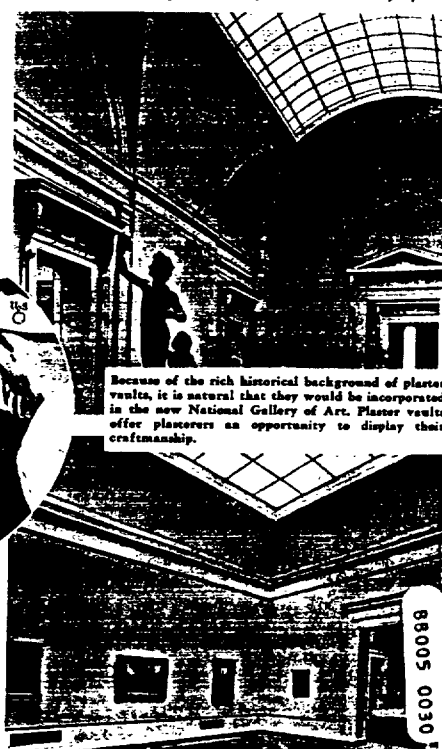
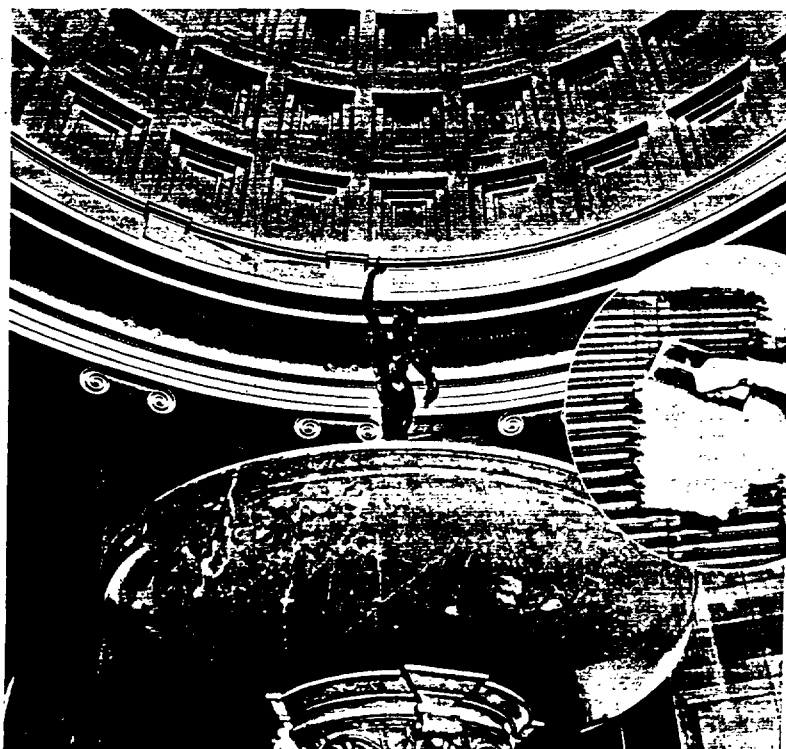
PLASTER BASES

Plaster Distinguishes National Gallery of Art

Eggers & Higgins, Architects

Daugherty & Jennings, Plastering Contractors

Photographs Courtesy National Gallery of Art



Because of the rich historical background of plaster vaults, it is natural that they would be incorporated in the new National Gallery of Art. Plaster vaults offer plasterers an opportunity to display their craftsmanship.

The use of plaster for walls and ceilings of the National Gallery of Art is a tribute to the excellence of this material as a decorative medium. In this distinguished building, which may become the world's greatest art center, plaster serves as a principal decorative medium. The coffered dome carries back to the Pantheon, architectural masterpiece of the Classic Grecian period, the dome of which was ornamented similarly.

Simplicity marks the theme of plastered walls, cornices and cove of the Fifteenth Century Italian Room, reminiscent of the Renaissance period. Those who admire the priceless works of art frequently comment on the artistry of the background-plaster.

? What Plaster Base ?

In choosing plaster bases, plasterers have two principal interests to consider: to give the building owner the best possible job; and to do it at their lowest possible cost.

That sounds simple. Thoughtful plasterers, however, who have followed recent developments in plaster bases and systems of application to increase the usefulness of the plastering job, know that their profits will be determined by their ability to select and deliver the best value. To do this requires a thorough knowledge of the advantages and disadvantages of each product.

Choice of Plaster Bases Is New

It is only in the present generation that plasterers have had much choice in plaster bases and systems. Prior to that there were wood lath, Sackett board and metal lath. These, of course, supplemented masonry, which seems to have been responsible for the idea of plaster walls. Early builders realized the necessity of covering rough masonry surfaces — so developed plaster.

Economy of First Importance

On most jobs in the residential field and in the smaller business buildings, economy dictated the use of wood lath. On fireproof construction, metal lath or masonry were required. Sackett board was used by some who

appreciated the advantages of gypsum plaster and a plaster base that saved the mechanic and eliminated job complaints so common with the quality of wood lath that was available.

New Requirements Bring New Methods

Then things began to happen. The United States Gypsum Company realized that in order to maintain plaster as the public favorite for interior finish, and to enable plasterers to increase profits, improvements must be made. Green lumber, air conditioning and increased construction speeds were resulting in serious structural movement. Plaster cracks became more frequent. The public wanted better plaster jobs. But it wouldn't pay a higher price.

Rocklath Leads the Way

First important development was the introduction of Rocklath. In quick succession came Perforated Rocklath, Insulating Rocklath, insulating plaster bases such as Weatherwood, Resilient Systems, Bridjoint, and various other improvements to help plasterers along the road to greater profits.

In the special chart a wide range of plaster bases and systems of application has been carefully analyzed to give a quick, clear picture of the wide possibilities now

available to the plastering trade.

Add Your Experience To Chart Data.

To get the greatest value from this chart, however, it is necessary for each plasterer to add to these facts his own personal experience in order to accurately evaluate each type of wall.

Plasterers Endorse Rocklath

Most plasterers agree that, when all costs are taken into consideration, such as plaster savings, reduction of complaints, less frequent decoration and buyer satisfaction, Rocklath is the better value. This fact is readily confirmed by noting the extensive use that is being made of Rocklath on the lowest cost jobs.

Insulation Brings Opportunity

The wide demand for insulation was answered by USG with the products, Insulating Rocklath, an exceptionally low cost insulation, and special insulation boards such as Weatherwood. With these products, plasterers are given the opportunity to increase their participation in building, adding to their profit possibilities.

Metal lath, of course, is not new. However, improvements have been made in the product and, by knowing the advantages of the various types, plasterers can



So the plaster cracks! Plasterers know that no plaster base will correct structural faults. In the illustration above, the crack is apparently due to structural movement. In most cases it is possible to point out to an owner where the trouble lies—what actually caused the crack. By explaining to owners who complain of plaster cracks that no interior wall finish will eliminate this trouble, plasterers will increase public appreciation of good plastering.

save themselves important sums of money.

The choice between board type plaster bases or metal lath, in most cases, is based on cost. Whenever possible, most plasterers recommend metal lath because it produces the very highest type of plaster job.

Reducing Cracks

To more closely approach metal lath quality with Rocklath, the Bridjoint System of application was developed. This method eliminates joints at supports, thus minimizing cracking. At corners and ceiling angles the Rocklath is not nailed to the framework, but is held together with clips, preventing transmission of stresses from the frame to the lath and plaster. As a result, for very little more cost than a regular Rocklath application, possibility of cracking is substantially reduced.

Sound Insulation Plus

The Resilient system, as the name implies, produces a flexibility in the plastered surface. Its three principal advantages are that it minimizes cracks, eliminates streaking due to "breathing" that occurs between wood lath and joists and studs; and it reduces sound travel through walls. Because of these superior features, it has many applications and sales minded plasterers have earned themselves attractive profits by pointing out to architects and building owners how inexpensively they can eliminate objectionable sound.

Recreation centers are "naturals" for this type of wall. Often corridor walls and ceilings between floors of multi-story apartments can be sold.

Plaster Bases for Sound Insulation Systems

Either Rocklath or Metal Lath may be used with the Resilient system. The choice usually is dependent upon cost or code requirements.

Masonry walls, such as gypsum or clay tile, have an old and honorable record for quality. Usually their use is dictated by building codes which are based on safety requirements.

Masonry and Improved Partition Types

As a light weight, space-saving substitute for masonry, 2-inch solid Metal Lath partitions were developed. However, neither masonry nor solid Metal Lath partitions provided an economical wall for duct and pipe or conduit installations, so Trussteel studs were produced to meet this requirement.

Since the subject of plaster bases deserves the careful study of every plasterer, detailed information on Rocklath and Metal Lath are given on following pages.

• • •

A stone mason in conversation with a carpenter remarked that his father, ninety years old, was still living and working at his trade as a hod-carrier.

"Ninety years old, eh?" said the carpenter.

"Yes."

"Is his health good?"

"Tain't much now. He's been complaining for a few months back."

"What's the matter with him?"

"I dunno; sometimes I think hod-carrying don't agree with him."



Are you lifting extra weight with the plaster base you use? Few plasterers realize that in covering 100 sq. yds. of wood lath with plaster they are doing just what this picture shows—lifting an extra thousand pounds. This unnecessary tax on your strength is eliminated when Rocklath is used as a plaster base because it requires less plaster. The difference shows up in the profit ledger as well, for the saving in material represents lowered costs. Rocklath is no plaster hog.

COMMONLY USED PLASTER BASES WALL DATA AND MATERIAL REQUIREMENTS

	Wood Lath	Plain Rocklath	Perforated Rocklath	Insulating Rocklath	Junior Diamond Mesh Lath 3.4 Lbs.	Z-Rib Metal Lath 3.4 Lbs.	Rocklath Bridjoint System	Rocklath Resilient System	Z-Rib Metal Lath 3.4 Lbs. Resilient System	Weatherwood Lath	Gypsum Tile (3" Thickness)	Clay Tile (3" Thickness)	2" Solid Metal Lath Partitions	Trusteel Hollow Metal Lath Partition, Z-Rib Metal Lath, 3.4 Lbs.
Normal Partition Thickness (Inches)	3/4"	3/4"	5/8"	Used for Exterior Walls only.	5/8"	5/8"	5/8"	6/8"	5/8"	5/8"	4	4 1/4"	2"	Add 1 1/2" to width of Trusteel Stud used.
Recommended Plaster Ground (Inches) (From face of Stud)	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	1 1/4"	1 1/4"	1	1/2" (Over face of tile)	3/4" (Over face of tile)	5/8" on lath side 1/2" on channel side	3/4"
Approximate Weight per sq. ft. of Wall (Pounds) (Both sides plastered)	11.0	12.0	13.0	13.0	16.0	15.0	13.0	13.0	15.0	11.4	20	31 1/2	22	15.3 (Basic 3" size)
Fire Resistance (Both sides plastered)	30 min.	55 min.	1 hour	55 min.	1 hour	1 hour	No test data	No test data	No test data	30 min.	2 hours	No published test data	1 hour	1 hour
Average Sound Transmission Loss across Frequency Range	35.7	39.0	39.0	39.0	38.1	38.1	No data	51.9	51.9	No data	37.6	36.4	35.7	No data
Materials Recommended in addition to Lath	Cornerite (Horizontal and vertical corners).	Rocklath Nail (13 ga., 1 1/2" long, 3/8" head). Cornerite	Rocklath Nail (13 ga., 1 1/2" long, 3/8" head). Cornerite	Rocklath Nail (13 ga., 1 1/2" long, 3/8" head). Cornerite	6d Common Nail (9" long) or 1 1/2" Roofing Nail, 18 ga. Tie Wire.	6d Common Nail (9" long) or 1 1/2" Roofing Nail, 18 ga. Tie Wire.	Bridjoint W-22 (field) and W-33 (Corner) Clips. Rocklath Nail (13 ga., 1 1/2" long, 3/8" head).	Rocklath No. 1 (field) and No. 2 (Corner) Resilient Clips. Regular R. L. nail for attaching clips.	Metal Lath Resilient Clip No. 200 1/4" Pencil Rods 18 ga. tie wire.	Cornerite 1 1/2" Blued 3/4" Flat Head Nail.	Blockset Cement (Gypsum Plaster). Spikes or Ties for door bucks.	Blockset Cement (Gypsum Plaster).	Channel Studs, Lath and Tie Wire. Floor and Ceiling Stud Shoes or Runner Tracks Recommended.	Trusteel Studs, Runner Track, Lath and Tie Wire. Attachment Shoes. Special Clips also available for attaching R. L. in lieu of Metal Lath.
Quantity Lath required per 100 sq. yds. of wall surface	1450 Pieces (48"x1 1/2"x3/8")	900 sq. ft.	900 sq. ft.	900 sq. ft.	105 sq. yds.	105 sq. yds.	900 sq. ft. Rocklath. 300 Bridjoint Clips.	900 sq. ft. Rocklath. 400 No. 1 R. L. Clips, 200 No. 2 R. L. Clips.	105 sq. yds. Metal Lath. 675 No. 200 Resilient Metal Lath Clips.	900 sq. ft.	855 sq. ft.	900 sq. ft.	105 sq. yds. Metal Lath, Channel and Tie Wire (provides lath for both sides of partition).	105 sq. yds. Metal Lath, Studs, Track and Tie Wire.
Quantity Plastering Materials Per 100 Sq. Yds. of Wall Surface (Lime Putty Finish)														
Red Top Cement Plaster (Pounds)	1900	1000	1000	1000	1900	1600	1000	1000	1600	1000	850	1200	4800 (2" wall thickness)	1600
Sand (Yards)	1	1	1	1	1.8	1.6	1	1	1.6	1.6	1	1.33	4.5	1.6
Finishing Hydrated Lime (Pounds)	300	300	300	300	300	300	300	300	300	300	300	300	300	300
Gauging Plaster (Pounds)	150	150	150	150	150	150	150	150	150	150	150	150	150	150

NOTE: (1) All Rocklath data based on 3/8" lath thickness, wood lath thickness, 1/4". Wood Stud width, 3 1/2".

(2) Confirmed laboratory tests. Materials properly applied and plastered to recommended plaster grounds on walls with gypsum

(3) Figures are decibel reductions as determined by qualified laboratory tests on construction built according to manufacturers' directions. Confirmation by test under other than laboratory conditions is not guaranteed.

(4) In determining these figures one yard of sand was assumed to weigh 2700 lbs. It is recognized that sand weights are subject to considerable variation.



The best practice in applying Rocklath calls for Cornerize on all interior corners, corner bead on all exterior corners. Striplath reinforcement at windows, mantels, and doors; also at end joints of Rocklath on ceilings and lengthwise of the room at the center of ceiling.

Rocklath Fattens the Plasterer's Purse

Rocklath is one of our youngest plaster bases. Yet, in the span of a generation, this type of lath has become the most popular.

During that period this type of lath has displaced wood lath in most markets and its use continues to expand. Today, in addition to its achievement of almost universally replacing wood lath, it is also an important factor as a heat insulating material, as sound insulation and fireproofing.

The reasons why plasterers have turned to Rocklath needs little explanation to most contractors. In the first place Rocklath is easier to handle. No splinters are present. Only half the amount of nailing is required. Rocklath is easier to plaster and it requires less plaster.

Recently a plasterer said, "If there was no other reason for me to use Rocklath, the fact that I handle over 1,000 pounds more material in plastering 100 sq. yd. of woodlath is enough. I like to work, but when I can get a better job with Rocklath and only handle 4,000 pounds of material in a day, why should I use a plaster base that requires me to handle 5,000 lbs. of material in order to get the same results?"

Lower Cost

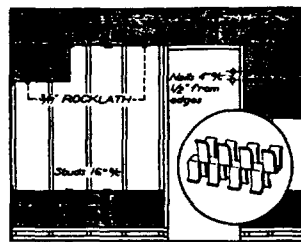
While plasterers quite generally appreciate the labor they are saved by handling Rocklath, shrewd contractors think of this material saving as money in their pocket, and these combined reasons probably are the principal ones which account for rapid increase in

the Rocklath popularity.

Quickly summarized these advantages are that:

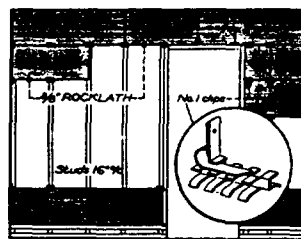
- it makes the plasterer's job easier
- it saves money
- it produces a better job and it eliminated many troubles for plasterers such as lath buckles, staining from pitch, resin or gum, shrinkage and poor bond.

When Rocklath was introduced as a low-cost improvement over Sackett Board it soon earned the reputation of being the most foolproof plaster base ever to be marketed. Only two directions seemed necessary: Break vertical joints, and nail to studs or joists at 4 inch intervals. Later a third rule was added: Use a full half-inch of plaster. This was



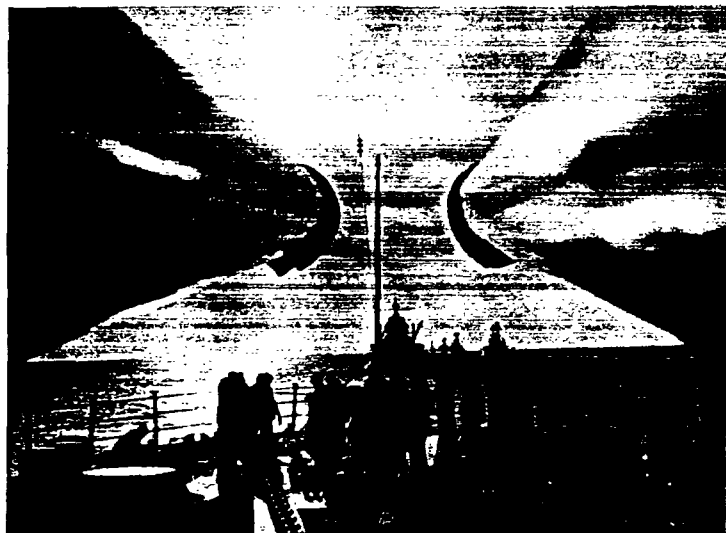
TYPICAL WALL

The Bridjoint system for applying Rocklath over wood studs, joists or furring, was developed to improve the quality of plastering jobs without increasing costs appreciably. Less nailing is required and the point of weakness of the wall (the joint between boards) is moved from the stud, where stress is greatest, to the center of the space, where stress is least. Rocklath is not nailed at corners so that at this critical point the severe strains that result with the original "Nail-On" applications are eliminated.



TYPICAL WALL

Rocklath may be used with the Resilient System over wood joists, studs, and furring, over masonry base, or with special steel partition construction. The Resilient System eliminates lath and joint marks, or cuts plaster cracks to a minimum and reduces sound passage through the wall. With this system, plasterers are able to help builders solve such troublesome problems as objectionable noise between apartments, between offices in larger buildings, or for such special installations as bowling alleys where it is desirable to isolate bars and cafes from the bowling alleys themselves. Many expensive methods have been devised to cut sound transmission. Now, with the USG Resilient System, the plasterer can provide a satisfactory answer to these problems, thereby increasing his revenue and profit opportunities.



On battleships, where space is at a premium, and minimum weight is vital, foil insulation plays an important part in the defense of America. In the home where conservation of fuel is vital to our defense program, it does an equally important job. When plasterers sell Insulating Rocklath, they are delivering exceptional insulation value, and increasing their participation in the building dollar.

0033

Systems to Reduce Cracks

Among the most important of these systems is the Bridjoint method of application in which the ends of the Rocklath units come between the supports and not on them. The end joints are held by Bridjoint W22 clips.

In corners and ceiling angles the Rocklath is not nailed to the framework, but is reinforced with Bridjoint W33 corner clips.

Advantages of this system are that in ordinary construction the displacement of a stud by moisture, settlement or vibration, will stress the weakest point of the lathing, which is the meeting of the end joints over the studs. In the Bridjoint system, the end joints fall between studs—which eliminates vertical joints at the supports and minimizes cracking of finished plaster.

Erection Simple

Placing and alignment of studs need not be so accurate when using this system, a feature which lathers particularly will appreciate. In other words, if the plasterer gets a job where carpenters were careless in erecting studs he is not penalized if he uses the Bridjoint method. (Continued on page 6)

HOW TO GET MAXIMUM VALUE FROM METAL LATH

Metal lath has made fine plastering economical for all types of jobs. It is also the first line of defense against fire, explosions, hurricanes, tornadoes, and earthquakes. And, to obtain this protection, only an infinitesimal amount of steel is required.

Because of these facts, and because metal lath is easy to erect, is adaptable to any requirement, produces results of the highest quality, and its use increases the plasterers dollar volume, it is advantageous for plasterers to know how to use metal lath most economically.

Many plasterers use USG Diamond Mesh for all their metal lath work, because it fulfills practically every requirement. By standardizing on this type of lath, they say that jobs progress more smoothly — mechanics are more efficient — and they get more uniform results.

Junior Diamond a Long Favorite

USG Junior Diamond Mesh seems to be a long favorite over older large-mesh lath, however, because it requires less plaster — about 25% less on the scratch coat. While it may be formed readily around curved surfaces, it is rigid enough to handle well on the job, and forms a tight level plastering

surface with stud spacing of 12 to 16 inches.

Plasterers known for their "sharp pencils" generally favor rib type laths such as USG Z-Rib for large, plane wall and ceiling areas. The advantages of this particular lath are: a lighter lath may be used over standard stud spacings made possible due to the increased rigidity obtained from the ribs. There is less plaster wastage. Plaster droppings are practically eliminated.

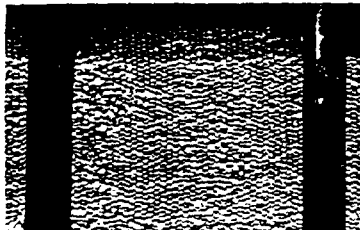
Where Z-Rib Fits

Z-Rib Lath is smooth and rigid under the trowel, takes just the right amount of plaster, insures a thorough reinforcement and is stiff

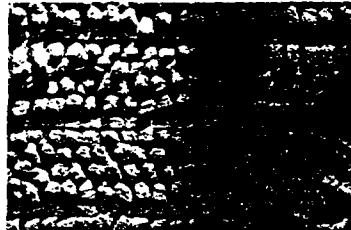


This notable example of a modern interior vividly illustrates why plaster is still the long favorite as an interior finish. Obviously, metal lath is essential as a plaster base for work of this character and its flexibility, together with the reinforcement which it provides to the wall, assures the owner an interior that will have long life. The added cost for the decoration, which includes a formed, suspended ceiling and curved walls with ornamental work, is estimated at about \$75. Far more might have been spent for wood paneling or other special decorations that would have been much less effective. McStay-Jackson, architect.

Courtesy Metal Lath Mfg. Assn.



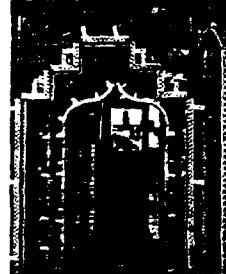
The small mesh of USG Jr. Diamond mesh practically eliminates plaster droppings, cutting plaster requirements accordingly. Its flexibility makes it easy to apply to arches, curves, and other intricate jobs.



Z-Rib Lath requires less plaster wastage (excessive droppings) than any other popular type of metal lath. Ideal for plane surfaces. Permits lighter lath over standard stud spacing.



Metal lath and plaster are vital to obtain notable decorative effects such as this. USG Jr. Diamond mesh is readily shaped to reproduce any architectural design. After the job is completed, it provides reinforcement that gives maximum protection against cracking. Plasterers who encourage architects to include details of this type in their work are strengthening their business foundation. The Strong residence, William Alderman architect.



Adaptability of flexible corner beads to curves is clearly shown by this work at Washburn Trade School.



The job of insulating walls goes to the plasterer when USG Red Top Wool Blanket is used with Red Top Furring Runners and Red Top Lath.

enough to reduce bagging under the trowel pressure.

Plasterers also point out that, since ribs lap, perfect alignment is easily obtained, and nailing is faster because nails are driven home without bending over, as is often necessary with Diamond mesh.

Where wide stud spacings are used, or where great rigidity is needed, USG 3/4 inch Rib Lath is the favorite. The stud spacing for various types and weights of metal lath are shown in the accompanying table. A careful study of this table plus a checkup by each plasterer on his experience as to the amount of plaster required will enable plasterers to select the most economical and practical lath for each job that comes up.

Other Types

In addition to the standard types of metal lath outlined above, various other types have been produced

and marketed. These include older types of punched lath, wire woven in squares and paper backed wire laths. The fact that none of these have won volume acceptance suggests that they may be uneconomical and do not conform to the demands of experienced lathing and plastering contractors.

Most Important Uses

While the initial higher cost of metal lath eliminates it from common use throughout lowest cost houses, there are certain locations where its greater fire resistance makes its use most advantageous and some plasterers have found that by recommending metal lath at these locations they are able to provide better values.

Among these are:

1. All bearing partitions and studs in exterior walls, including a basket to hold incombustible material as a fire stop.

(Cont. on page 7)

MINIMUM WEIGHTS FOR METAL LATH WHEN NAILED TO WOOD STUD PARTITIONS

Type of Lath	Maximum Stud Spacing	Minimum Weight per Square Yard
Expanded Metal (Diamond or Jr. Diamond Mesh)	16-inch	2.5 lbs.
Z-Rib Lath	16-inch	2.75 lbs.
3/4-inch Rib Lath	19-inch	2.8 lbs.
	24-inch	3.0 lbs.
	31 1/2-inch	3.4 lbs.

MINIMUM WEIGHTS WHEN NAILED TO WOOD CEILING JOISTS

Type of Lath	Maximum Stud Spacing	Minimum Weight per Square Yard
Expanded Metal (Diamond or Jr. Diamond Mesh)	19 1/2-inch	3.0 lbs.
Z-Rib Lath	16-inch	3.4 lbs.
3/4-inch Rib Lath	16-inch	2.75 lbs.
	19-inch	2.8 lbs.
	24-inch	3.0 lbs.
	31 1/2-inch	3.4 lbs.

HOW TO BUILD TRUSSTEEL PARTITIONS

There's an easy way to build partitions, even though they're full of pipes, conduits and air ducts. And it gives the plastering contractor the whole job — not just the plastering. It's the Trussteel system.

It is light in weight — 18½ pounds per sq. ft. of partition. It provides a 1-hour fire rating when covered with metal lath and gypsum plaster. Truss design provides maximum strength with minimum weight. Only four parts are required, and they are erected quickly and easily by lathing mechanics with standard tools.

Either Rocklath or metal lath may be used as a plaster base. Special attachment clips are used for Rocklath, which is easily and quickly applied. For regular partitions, metal lath is tied to studs with tie wire. Resilient Clips for Metal Lath are also available to reduce sound transmission.

Trussteel walls may be built 3½, 4½, 4¾, 5½ and 7½ inches thick by using 2,

3, 3¼, 4 or 6 inch studs respectively. The 6-inch walls may be built up to 20 feet in height.

Naturally, cost of construction varies widely, depending on size of job, height and thickness of wall, number of pipes and ducts in the partitions, and scale of lathers, and whether Rocklath, metal lath or the USG Resi-

lient System with metal lath is used.

Contractors are reporting labor costs for erecting Trussteel studs and metal lath at from 64 cents to 80 cents per partition square yard (32 to 40 cents per surface square yard). Labor costs represent from 50 to 60% of the unplastered cost of Trussteel partitions.



After pipes, ducts and conduits are in place, Trussteel runner track is cut to fit. Made of 24 gauge steel, it is easily cut with tin snips.



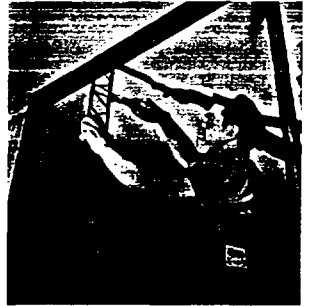
A magnetic punch makes it easy to drive concrete stud nails in floors, columns, or ceiling slabs. The runner track is punched at the factory to facilitate nailing.



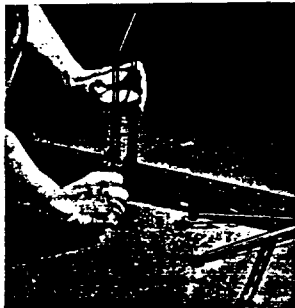
It is not necessary to have a snug fit of the runner track where pipes and ducts pass through. Track is flexible — follows contours of irregular surfaces.



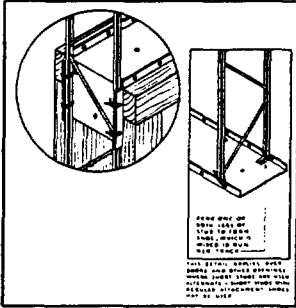
After runner track is in place, studs are tied to ceiling track with attachment shoes, which permit upward adjustment of 4 inches over actual stud length.



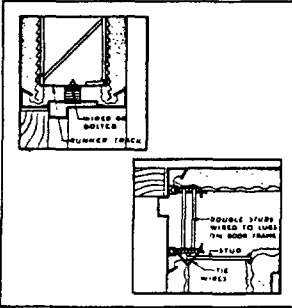
Two wire ties hold attachment shoes securely in place. Do not order studs for exact ceiling height. Studs are made from 8 to 20 ft. long.



After each stud is tied to ceiling runner track, it is secured similarly at floor. Some prefer crimping with pliers instead of with wire ties. Note attachment shoes at right.



To frame around openings, fit runner track to door or window buck as shown. Tie stud to track. Fit and tie short studs above opening to track, as shown at right.



Metal door bucks and trim may be used in Trussteel partitions. Use double studs at each side of opening. Details at bucks will vary with makes of doors.



To fit around pipes, one side of stud and truss members are snipped with bolt cutters. Cutting is done with stud in position, speeding the erection of the studs.



Short cuts in studs may be spliced with attachment shoes, crimped on. With long cuts, splice should be made with pencil rods, tied on with wire.



Air duct inlets and outlets are tied to studs. Truss members are easily cut away for horizontal ducts. Partitions over 12 feet high should be reinforced with horizontal channels.



As soon as studs are in place and all cuts have been spliced, lath is applied. Wire ties are used with metal lath; special attachment clips are made for Rocklath.



For the USG Resilient System, clips are snapped on one face of studs, pencil rods are tied to clips, as shown above, and metal lath is tied to pencil rods.

88005 0035

Rocklath Fattens the Plasterer's Purse

(Continued from page 3)

Since corner intersections and intersections of walls with ceilings are not nailed to studs or joists, a floating condition exists which substantially reduces the possibility of cracking at these points.

Resilient System

While the Bridjoint system is a decided improvement over the standard method of applying Rocklath, the very best results with this plaster base are obtained by using the resilient system which in reality provides a floating wall or ceiling. This may be applied to wood studs or joists, or furring strips, to masonry walls or special steel construction.

The system consists essentially of applying Rocklath and gypsum plaster by means of spring clips. It minimizes plaster cracks, eliminates lath and joist marks, and reduces sound transmission.

Selling Opportunity

These factors are all of major importance to those who want the highest quality in their plaster work and provide the plasterer an opportunity to do a real selling job with his product.

Wherever dry wall materials or other substitutes for plaster are specified or considered, the plasterer may readily point out that if substitutions are being made in order to stop sound travel, to eliminate cracks, or to eliminate disfiguring streaks on the wall, that all these features may be obtained at a very small additional cost, with superior results with plaster.

Product Improved

During the period when improvements were being developed in methods of applying Rocklath, the product itself was likewise being improved. Two of the outstanding improvements are Perforated Rocklath, which provides a mechanical key in addition to the regular suction bond that is obtained with the plain board, and Insulating Rocklath.

There seems to be an evenly divided opinion among plasterers as to the merits of plain Rocklath and Perforated Rocklath as plaster bases. Many mechanics say the smooth surface of plain Rocklath requires a minimum of effort to plaster. Perforated Rocklath enthusiasts contend that the holes cut the plaster from the trowel and that the mechanical key that is obtained makes it especially advantageous for ceilings or where fire resistance is of special importance.

Insulating Rocklath

While there is some difference of opinion about the comparative value of Plain and Perforated Rocklath, plasterers who have investigated Insulating Rocklath seem agreed upon the fact that it has exceptional merit

that deserves more consideration by plasterers.

These plasterers point out that insulation today is accepted as a necessity by many builders. They also say that for a very small additional material cost and no labor cost, the plasterer is able to supply a quality insulation job on walls and ceilings. This story appeals to builders. By using it, these plasterers find they are able to produce an attractive extra in volume of their plastering jobs, which might otherwise go to another trade.

They also report that thorough investigation has shown them that this type of insulation has a long and effective life. Careful checks on jobs of 10 and 12 years old has demonstrated that the insulating value of the reflective foil is not reduced in that period, which offers conclusive proof that this economical insulation probably has as long life as any

other material used for the same purpose.

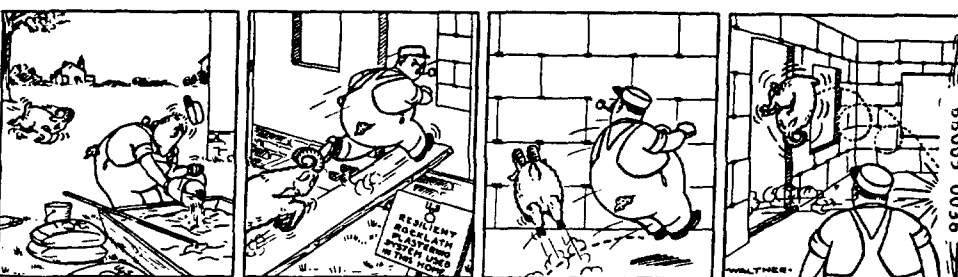
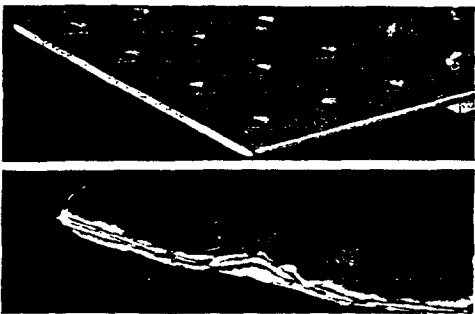
Other Improvement

While the two additional types of Rocklath — Perforated and Insulating — are the most important improvements in Rocklath, it is well to know that constant research by USG on materials and manufacturing process have resulted in developing a better core, as well as a better paper cover. The result is that Plain Rocklath today is a much better plaster base than when it was first introduced.

Considering all of these facts, it is readily apparent, therefore, that today Rocklath and plaster are the key to low-cost quality walls that will compete with any situation with which a plasterer is confronted. In addition, it gives plasterers an opportunity to "sell their wares" and to become more aggressive in their efforts to increase business and profit.



In the Bureau of Standards report BMS71, just released, fire ratings for partitions are given, which show that practical constructions are available that will meet fire resisting requirements. The report covers partition construction representing a wide range of materials and design. In these tests, 3/4" plain gypsum lath partitions with two coats of gypsum plaster were given a 3/4 hour fire rating and 3/4" perforated gypsum lath partitions with gypsum and sand plaster received a one hour fire rating. USG Rocklath meets the specifications of the laths tested.



GET ALL TEN EVERY TIME!



Think what it means to have a base coat plaster that always acts the same! Red Top Cement Plasters are manufactured with the utmost care to give you a uniformly excellent plaster for interior work over all the standard types of lath and masonry surfaces.

Red Top Cement Plasters are made fibored, unfibored, and extra fibored. The most widely used type is fibored, but you get the same consistent performance, no matter which you choose.

HERE THEY ARE... TEN RED TOP CEMENT PLASTER ADVANTAGES THAT ELIMINATE MOST JOB TROUBLES!

1. They set properly, whether sanded one to one or three to one.
2. They set properly with clean or dirty sand.
3. They set properly with fine or coarse sand within the limits of A.S.T.M. specifications for size of sand.
4. They set properly with clean or dirty water.
5. They set from the lath out, instead of from the surface in, giving more time to dab, trowel or float.
6. They set evenly, and once started, set quickly. They do not set up spotted and uneven.
7. They insure minimum possibility of dry-outs.
8. They reduce differences in setting time caused by hot or cold weather.
9. They have an unusual richness and slip that gives easy-mixing, and far-spreading qualities, resulting in maximum coverage with minimum labor.
10. They remain plastic and workable over long storage periods.

UNITED STATES GYPSUM COMPANY, 300 W. Adams St., Chicago, Ill.
— where research develops better, safer building materials.

The forerunner of Rocklath was Sackett board. This earlier board was a rather expensive product to manufacture so that it was not until Rocklath was introduced as a price competitive with wood lath that plaster board became a favorite with plasterers. At left we see a section of Sackett board which was recently removed from a store building in Corpus Christi, Texas, after 30 years in place. This building survived three hurricanes and a flood, yet the sample removed is hard and the applied plaster is still firmly bonded. The upper view shows modern Perforated Rocklath, made far superior to even the tough original as the result of continued and exhausting research in the USG research laboratories.

BR005 0036



Fiber insulating lath is one of the newer materials used for plaster bases. Weatherwood, with its V edge that makes it easier to apply, and the "Fasnap" reinforcement, is a favorite brand. The 18x48 inch boards are light and easy to apply. Furring strips should be used when applying to masonry walls. Lath is applied dry, with beveled surface exposed, and length of board at right angles to studs. Space and joints 3/4 inch apart, at framing members spaced 16" O.C. Long edge should be placed in moderately tight contact, properly fitted together. Use five 1 1/4" blued lath nails with 3/16" head per stud. The "Fasnap" reinforcement is stapled lightly as shown. Cornerite, USG Flexible corner bead and Striplath should be nailed into framing members.

HIGH HAT?



NAW! HE AIN'T GONE HIGH HAT—HE'S JUST BEEN PLASTERING CEILINGS ALL DAY.

HOW TO GET MAXIMUM VALUE FROM METAL LATH

(Continued from page 4)

2. Ceilings under inhabited floors, especially over heating plants and coal bins.
 3. At chimney breasts, around flues and back of kitchen ranges and stairwells and under stairs.
- In addition, the greater resistance of metal lath to cracking makes it advantageous to use on:
1. Ceilings of prominent rooms such as living and dining rooms.
 2. Lap 6 inch on either side of wall and partition angles and around door bucks.
 3. Back of wainscots and tile mantels.
 4. Across plumbing pipes and heating ducts.
- For a typical 6-room house it has been estimated that crack reduction obtained by using metal lath in these four locations costs only \$42.00 which, amortized over a 20 year period, will cost the owner less than 27 cents per month. To get added fire safety by following the suggestions outlined, the total cost has been estimated at \$91.

USHA Approves Metal Lath

The actual economy of metal lath construction is also evidenced by the fact that in a very high percentage of all jobs built by the USHA, 2 inch solid metal lath and plaster partitions have been used.

Short Cuts to Quality Results

This division of the government has made extensive studies of the economics of building materials and wall assemblies so its selections are based on sound analysis.

There are a number of practices that plasterers will find lower their costs and improve the quality of their finished metal lath job. These include the following:

1. The long dimension of the sheet of metal lath should be applied across

the supports.

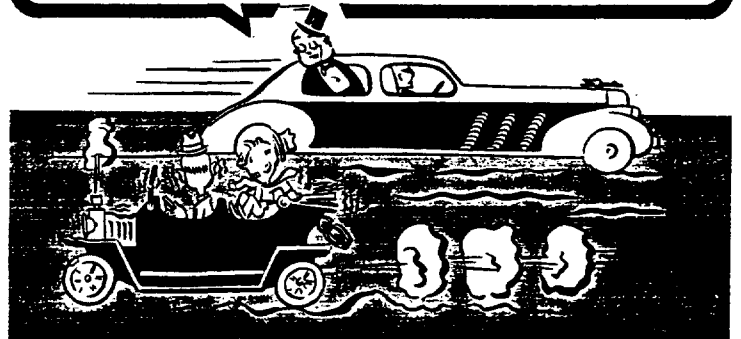
2. Lath should first be applied to the ceiling and the sheets should be carried down 6 inches on to the walls and partition.
3. On walls, all lath should be started one stud away from the corner and be bent into the corner and carried on to the abutting wall to avoid a joint at the juncture.
4. Where rib or sheet lath is used on ceilings or walls, it should be butted into wall joints. Cornerite should be applied over the butting lath in such angles, and securely wired along each edge in all corners.
5. Lathing of walls should start at the top, working down so that the lower sheet will lap over the upper.

The most important type of clips available for the erection of metal lath is that for Resilient Systems. Resilient Systems, as plasterers know, are primarily to reduce transmission of sound through walls and ceilings. In addition, the resilient ceiling, plastered with metal lath, provides the maximum insurance against cracking and plaster breaks. The pattern of wood joists and framing on walls and ceilings is also reduced to a minimum.

Red Top 1/8 inch Z-Rib Lath is best suited for the Resilient system because of its rigidity. Red Top Jr. Diamond Mesh is equally suitable, however, if care is taken to see that the lath is stretched and tied tightly to avoid sagging.

Clips are easily erected on masonry walls, frame or with channels or Trussteel studs. When used on ceilings under flat concrete slabs and concrete joist floors, much less space is required than with suspended ceilings.

Spring Cushioned Walls and Ceilings REDUCE VIBRATION, Too!



Protect walls and ceilings from harmful vibrations with the Rocklath Resilient Plastering System—allow them to "ride" as smoothly as modern automobiles with knee action wheels.

Because it "spring cushions" room surfaces, the Rocklath Resilient System adds these worthwhile advantages to the "taken for granted" strength and fire protection offered by Standard Rocklath application.

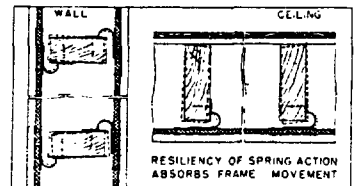
- 1 Protection from cracks caused by ordinary framing movement.
- 2 Reduction of sound transmission from room to room.
- 3 Elimination of the most common cause of lath streaks.

HERE'S WHAT DOES IT!

The resiliency of the spring action absorbs framing movement. In addition it dampens vibrations and reduces sound transmission. Free air circulation is also permitted because Rocklath is kept off the framing members. This eliminates the cause of lath marks.

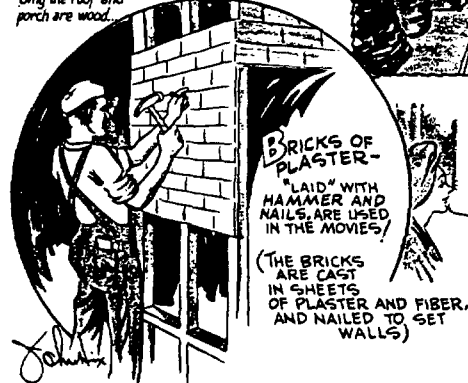
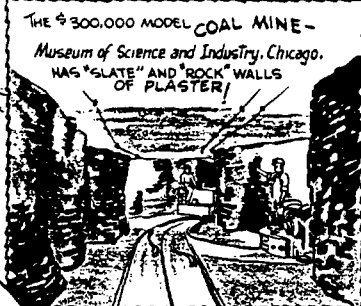
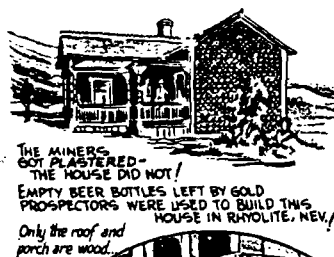
The Resilient Rocklath System is easily erected by lathers. Only additional materials required are clips! Home owners may enjoy its advantages for a reasonable additional cost. The Rocklath Resilient System brings advantages to the contractors too! It means profitable business—a full profit — with assurances against call-backs and trouble.

Ask your building materials dealer for complete details! Or write direct to the United States Gypsum Company, 300 West Adams Street, Chicago, Illinois—where research develops better, safer building materials.



88005 0037

STRANGE AS IT SEEMS.....by John Hix



MEMBERS OF THE SAME FAMILY...

*Yet Different!***PLAIN ROCKLATH**

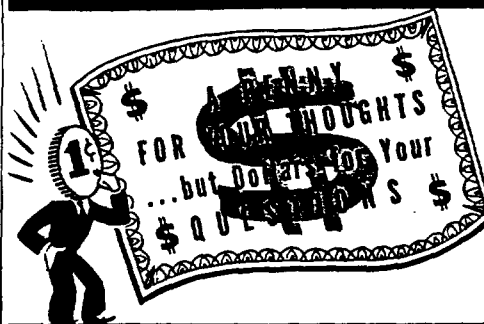
is the oldest of them all. It doesn't burn because it's made of gypsum rock. It is not affected by decay, moisture or vermin. Its uniform suction makes it easy to plaster and less plaster is wasted in drop-pings. It makes strong walls with a bond that tests six pounds per square inch.

PERFORATED ROCKLATH

has the same basic advantages as Plain Rocklath, and then some! The natural bond of Rocklath and plaster is reinforced by the mechanical grip of the plaster keys that form in the perforation. This double grip means stronger walls and increased fire protection. One-half inch of plaster over Perforated Rocklath gives the wall a better than 1-hour fire rating. And plasterers like the way the perforations "slice" the plaster from the trowel.

INSULATING ROCKLATH

is Plain Rocklath with a smooth, bright sheet of aluminum foil mounted on the back of each lath. It's the only type of fireproof insulating plaster base available at low cost. Insulating Rocklath is used on outside walls, with the foil side next to the framing member. The metal must face an air space. Properly applied, it has insulating value equal to 1/2" fiber insulating board in use. It's a real low-cost fireproof insulating plaster base.



QUESTION: — When applying Rocklath, should there be a space between the ends of the boards?

J. S. Jr.,
Westerly, Rhode Island.

ANSWER: — We recommend that Rocklath be nailed with the ends touching. However, a crack of from 1/4 inch to 3/4 inch is satisfactory. In either case, if 1/2 inch of plaster is used over Rocklath, no cracking is likely to occur unless there is considerable movement of the framework behind the lath. We have found that in those cases where poor plastering practices are followed, cracking is likely to occur whether the Rocklath is "batted" or a space is left between the sheets. This not only applies to Rocklath, but to other types of plaster bases. To date, we have not been able to produce a lath which will keep plaster from cracking where poor construction methods are used or where poor plastering methods are followed.

QUESTION: — When repairing plaster cracks, should one cut through the lath, or would it be sufficient to cut through the "brown" coat?

T. F. P.,
Washington, D. C.

ANSWER: — When repairing cracks in plaster the depth and size of the crack govern how much of it should be cut away. If only hair cracks are present, it is necessary, as a general rule, to cut through the finish to the brown coat only before repairing; but if there are very large, deep cracks, it is advisable to cut down to the lath so that the new material can get a good bond.

QUESTION: — What product should be used on burnt brick before putting mortar on to keep the stain from coming through the finish?

E. L.,
Cheviot, Ohio.

ANSWER: — We assume that you refer to plastering over burnt brick. We recommend furring out and applying metal lath or Rocklath over burnt or smoky brick (masonry construction) just for such reasons as you outlined.

QUESTION: — Why do white spots occasionally appear on the surface when plaster dries?

Mrs. A. E. K.,
Froid, Montana.

ANSWER: — If retarder is added to the basecoat on the job and is not thoroughly dissolved and mixed, lumps show up as small spots. This can be avoided by a more careful dissolving and mixing of the retarder. If you have watched plaster "set," you'll note that it turns dark or "browns" in spots. These normally spread until the entire surface "browns out."

Occasionally portions around windows and doors, on which a draft is blowing, dry out before they set. These white spots are usually larger than those mentioned above and, because of their location are easily distinguished. Spraying plain water—or water with a small amount of alum in severe cases—will bring about a set and uniform color to these dry-out spots. In some rare cases small spots may also show up if plaster is not thoroughly mixed with the sand. Again, thorough mixing is the solution. If your question refers to finish coats, it may be that the gauging plaster and the lime putty were not mixed thoroughly or that all the lumps in the lime were not broken down. To prevent these spots, see that the lime is screened before using and that the two are thoroughly mixed.

QUESTION: — Some time back we supplied wood-fibered plaster for a patch or plaster repair job used on wood lath where old plaster had come off. Some time later the writer happened on the premises and discovered that in spots this wood fibered plaster had raised hard, little silver points or blisters. Have you heard of this situation before and have you any suggestions?

K. H. W.,
Mora, Minnesota.

ANSWER: — The question you asked is an unusual one, but is not hard to understand. It is evident that the wood fiber plaster was mixed and applied within so short a time that the shredded wood fiber did not have time to take up moisture and expand to its full extent.

Wood fiber is intended to be used as a base coat plaster only, with a finish coat of lime putty and gauging plaster applied over it. We know that some plasterers, in patch work, do use it for finish and base coat, but usually they do not entirely fill the area to be patched with the wood fiber plaster. They leave a slight space for the finish coat, and if they intend to use wood fiber plaster as a finish, they screen the fiber out before applying it.

QUESTION: — Sometimes contractors use needle point nails when applying metal lath. Wouldn't you think that six penny nails would be more correct?

Thomas P. Poore,
Washington, D. C.

ANSWER: — On walls, a 4 penny common nail driven to a minimum penetration of 3/4" and bent over 2 strands of Metal Lath, or a 3/4" large head roofing nail driven home, is recommended. On ceilings a 6 penny common nail driven at least 1 1/4" in the wood and bent over 3 strands of lath or a 1 1/4" large head galvanized or blued roofing nail driven home is recommended. Whether the nail is needle or diamond point, makes very little difference if the above requirements are met.

What are your questions on lathing and plastering? You will receive a dollar for each one published. Send them to the editor, Red Topics, 300 W. Adams Street, Chicago, Ill.



USG RED TOPICS

A National Plastering Journal



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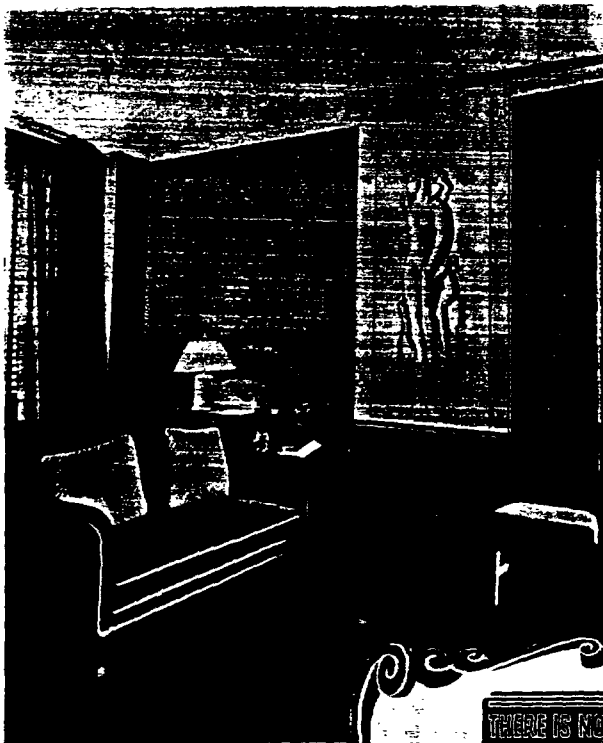
"ALL-OUT" FOR PLASTERING,

And How You Can Help To Achieve It

Modern Decoration Features Ornamental Plaster



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Fireplaces are the center of interest in rooms; offer exceptional opportunity to modern designers — if they use plaster.



Another exciting fireplace in which plaster adds a dramatic climax to a modern room. Note plaster cornice.



In this fireplace the architect, Ralph Hestagh, has achieved notable results with patterned details in relief.

**THERE IS NO SUBSTITUTE
GOOD PLASTERING**

CONSULT YOUR  CONTRACTOR

— and HERE'S WHY ...

On this page are a number of pictures that show why "there is no substitute for good plaster".

Plaster removes all restrictions from the creative imagination. Whether it is plain walls, simple panels, dramatic curves, intricate patterns or exciting ornaments, insulation, acoustics or sound deadening, it can be done quickly and economically with plaster.

What Does This Mean To You?

It means that if architects, builders and the public are told—repeatedly—of the many advantages of plaster, the demand for it will be so great that there will be enough work to keep all tradesmen constantly at work.

If everyone who is interested in plaster puts his shoulder to the wheel, plaster will continue as the popular choice for interior surfaces.

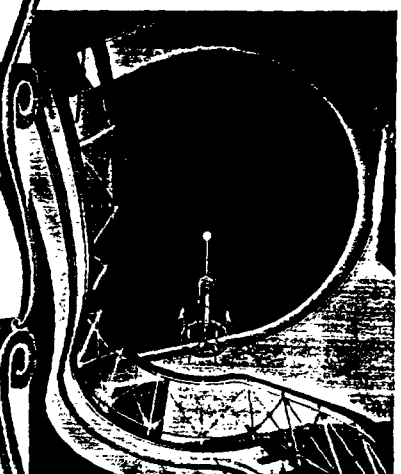
How? Make every plaster job good. Use the best materials. That will eliminate criticism. In addition, tell everyone you know all about plaster.

What USG Is Doing

USG will furnish plasterers all the stickers they can use for letters, for bids, for car windows or other use. In addition, publicity stories are constantly being prepared and furnished to tell architects and the public of the advantages of plaster. This publicity is supported with advertising, with research, and with the resources of the oldest and largest manufacturer in the business.



Plastered walls provide an effective background for wrought iron balusters and stair rail in this smart, modern apartment.



Practical, imaginative architects are finding new ways to obtain exciting details in their design with plaster.

**LOCAL UNION No. 152
OPERATIVE PLASTERERS AND CEMENT FINISHERS
INTERNATIONAL ASSOCIATION**

BLOOMINGTON, ILLINOIS

Mr. John Maynard, Editor
Red Topics
500 West Adams Street,
Chicago, Illinois.

Dear Mr. Maynard:

Plaster is one of our oldest and best building materials. But various groups are trying to substitute other types of materials which eliminate the use of plaster.

I think everyone who is interested in the plaster business should sell the idea that "there is no substitute for good plastering." Tell architects; tell your friends; tell everyone that this is true and explain the reason why.

If you agree, I would like to see you print an editorial in Red Topics, urging everyone to put their shoulder to the wheel. Let's get some steam behind our story. Let's all work to improve the plaster business.

If that happens, plasterers won't have to worry about substitute materials. Everyone who builds will insist on plaster.

Let's make a real crusade.

Cordially yours,

C. A. Poppey
410 Grant Street
Normal, Illinois

C. A. Poppey

FACTS Every One Should Know About Plaster

IF YOU WANT PEOPLE TO BELIEVE "THERE IS NO SUBSTITUTE FOR GOOD PLASTERING," HERE ARE THE THINGS YOU SHOULD TELL THEM

The use of plaster in buildings is so common and so generally accepted that architects and experienced builders are rarely able to tell why it is used, and hence, may fall easy victims to "sales talk" and propaganda in favor of plaster substitutes.

And, because it serves everyday needs so well, many lose sight of the fact that plaster is also one of our most decorative materials, as well.

Naturally, every plasterer wants to see the use of plaster increased, rather than decreased, and the best way to assure this is to know why "there is no substitute for good plaster," and to take advantage of every opportunity to tell why.

To be sure that every tradesman knows the advantages of plaster, we review them here.

Fireproof

Plaster, being fireproof, is the material that gives most homes their fire resistance. The first record of its use for this purpose is during the reign of King George I, when a law was passed that both the interior and exterior of houses must be plastered as a fire preventive measure. It was at this time that half-timbered construction was introduced.

Sets and Dries Quickly

Gypsum plaster sets fast and positively, then dries quickly and fully. It is keyed to modern demands for speedy construction. No curing period is necessary. Gypsum plaster sets within a

predetermined time under widely varying conditions of temperature of weather.

Fast to Apply

Since gypsum plaster sets quickly, one coat follows another without waiting or delay, once the job is ready for this interior finish surface. On normal houses, plasterers spend less time on the job than any other building trade.

Maximum Bond

The bond between gypsum plaster and Rocklath is stronger. That is why it requires so little attention.

No Shrinkage

Gypsum plasters expand slightly when setting to fill the spaces to which they are applied. They do not shrink away at the edges nor craze-crack.

Plastic

Gypsum plaster may be applied to flat or curved surfaces of any types, where only a plastic material can be used. It gives free play to the imagination of architects and designers.

The Final Finish

Plaster readily covers unsightly structural elements of a build-

This dramatic interior achieves its beauty through simplicity. The natural plasticity of gypsum makes it an ideal material for modern decorative effects. In this living room, William Alderman, architect, has achieved notable results with oval pilasters that form soffits at the wall for lighting.



This masterful fresco by Michelangelo on the walls of the famed Sistine Chapel, was executed on gypsum plaster centuries ago. It is one of the world's most treasured works of art. That it has stood through the ages is evidence of the durability and the permanence of gypsum plaster.

ing. It may be used to true up walls which are out of plumb or line, and changes or errors in the structure that must be concealed. It provides a continuous sweep of decorative surface that conceals everything beneath it.

No Joints

Gypsum plaster is applied as one unbroken surface, regardless of the size of the area to be covered. There are no joints.

Sanitary

For centuries, the fact that gypsum plaster is sanitary has been recognized. It is vermin and bacteria-proof. It may be painted and washed repeatedly without harm.

Long Life

Frescoes were the medium with which Michelangelo created his most notable masterpieces. These were done on gypsum plaster and, since Michelangelo was a master builder, it is evidence of the fact that at this early time students of materials recognized gypsum as a

permanent and durable wall surface.

Self-Decorating or Decorable

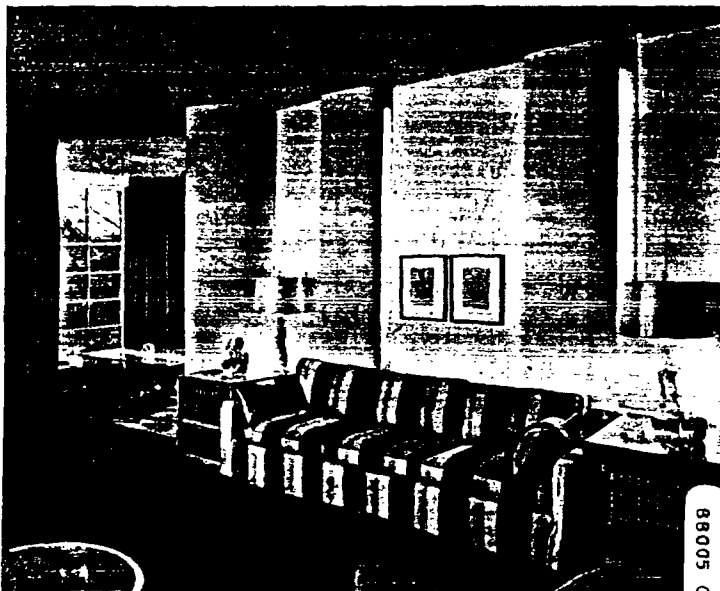
Plaster may be painted, papered, or left exposed so that there is practically no limit to the decorative possibilities with this material.

Function of Various Plaster Coats

Now, let's look at the requirements for good plastering, for which there is no substitute.

Students of plastering history agree that gypsum was man's first cementitious material. Likewise, it was the first "manufactured" material used for plastering.

The introduction of lime, with lower first cost when used with sand, by the Romans, made it the favorite base coat material for almost 2,000 years. With the rediscovery of retarders, gypsum plaster again came into popularity. And gypsum plasters' ability to meet the demand for more



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FACTS

(Continued)

speed in building, together with its other superior qualities, account for the fact that it has become the most popular of all other forms of plaster in the United States and in many foreign countries.

Scratch Coat

Plaster is applied in not more than three coats, which are designated as "scratch", "brown", and "finish."

The "scratch" coat is applied first. Its primary function is to act as a bonding coat to attach the body of the plaster securely to the lath or masonry. Gypsum mortar for "scratch" coat must have sufficient plasticity and cohesion so that it can be worked well over the base. The "scratch" coat should be applied thick enough to cover entirely the plaster base. After it has been applied and before it has set, it should be thoroughly cross-raked to receive the second or "brown" coat.

Brown Coat

The "brown" or second coat forms the main body of plaster on the plastering base. It is the function of this coat on a given type of lath to fill within 1/16" to 1/4" of the grounds. The "brown" coat governs the resistance of plaster to the transmission of heat, fire, and sound. The "brown" coat must necessarily be sufficiently hard to form the wearing base of the wall and the proper base for the "finish" coat. The "brown" coat should be raked and darbed to a straight, even and uniform surface, ready to receive the "finish" coat.

Finish Coat

The "finish" or third coat used depends upon the finish desired. There are three principal types of "finish" coats:

1. White coat finish, consisting of the admixture of lime putty and gauging plaster troweled to a smooth, glossy finish.

2. Prepared white gypsum finish, requiring the addition of water only and troweled to a smooth, white finish.

3. Sand float finish, obtained by either using prepared or job mixed gypsum and sand to give a rougher texture, if desired.

It is imperative on the "finish" coat that it be free from cracks; it must be hard enough to withstand abuse, and above all, it must present a pleasing appearance.

Plasticity

Since the "finish" coat is applied in a thickness of from 1/16" to 1/4" over a dry, "brown" coat, the plasticity of the material is exceedingly important. If the material is not sufficiently plastic, it is physically impossible to use it at all for "finish" coat work.

The choice between the various finishing plasters depends on the job and its requirements.

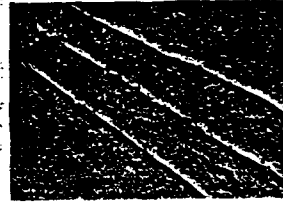
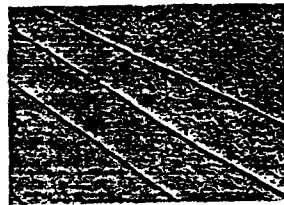
Where low cost and quick decoration are the primary considerations, Red Top White Trowel finish and Red Top Grey Trowel finish should be considered. These are ready-mixed gypsum finished plasters which may be decorated as soon as they are dry. They need only the addition of water to be made ready for use and should be applied over a fairly dry basecoat. Where fine, hard, white finishes are required, a good finishing lime is sometimes preferred.



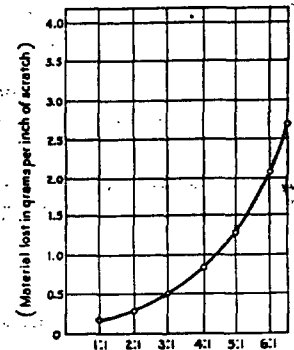
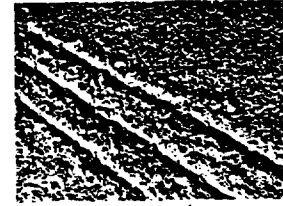
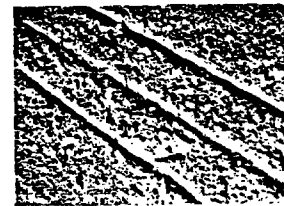
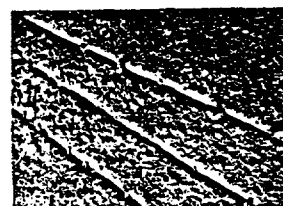
American Mission of Lepers, Inc. Age ago plaster was recognized as a sanitary material. One of the first recorded laws that evidence this fact is found in the Old Testament. At that time it was required that houses occupied by lepers must be plastered before they could be lived in by others. Modern science has thrown new light on this plague which, through colonies such as the one shown above, is gradually being brought under control throughout the world.

tion of water to be made ready for use and should be applied over a fairly dry basecoat. Where fine, hard, white finishes are required, a good finishing lime is sometimes preferred.

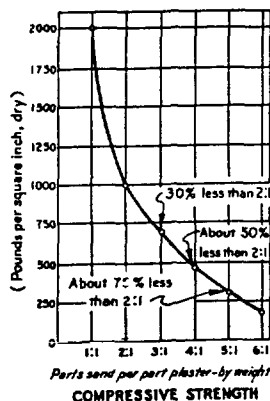
EFFECT OF SAND ON STRENGTH OF PLASTER



To make the scratch test, plaster was applied 3/4-inch thick on gypsum lath and permitted to dry in the room. When dry, a steel point was drawn across the surface of the panel at a uniform rate of speed, the point being loaded with a 22-pound weight. The point was made of tool steel, 3/16"x1/4"x3/8", ground to a V point. The material "plowed up" by the point was collected and weighed, and the results were given as weight of material lost per inch of length of the scratch. The chart at the right shows these results. The effect of this test on mixes of various proportions is shown by this series of photographs. The illustration at the extreme left above was made on one-to-one; top center, two-to-one; upper right, three-to-one; at left below, four-to-one; at lower center, five-to-one; and lower right, six-to-one.

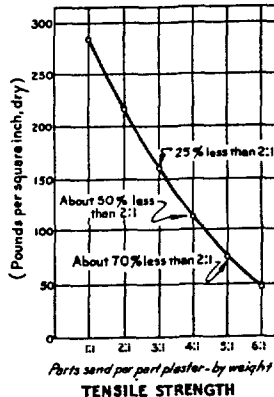


To determine the quality of a plaster wall, scratch it with a sharp point. A laboratory test to compare qualities of plaster showed the depth and width of the scratch, or material "plowed up" was much greater with high sand content. This chart shows comparison of different proportions. Photographs at left show test specimens.

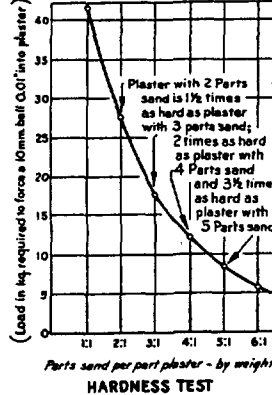


The higher the compressive strength, the better the plaster. This chart shows that increasing the sand content from two to three parts, by weight, decreases compressive strength approximately 30%. Increasing sand content to four parts decreases compressive strength approximately 50%.

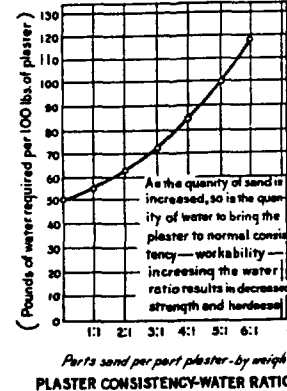
Illustration Courtesy Gypsum Association



High tensile strength is another requirement of good plaster. Overriding cuts tensile strength, as the above chart shows. Tensile strength of plaster decreases 25% by increasing sand content from two to three parts; 50% by increasing sand to four parts, and 70% increasing to five.



If plaster is to continue as first choice for walls, it must be hard to withstand abuse. The Monstren hardness test shows that plaster with two parts of sand is 1 1/2 times as hard as plaster with three parts of sand; twice as hard as with four parts; and 3 1/2 times as hard as with five parts.



As the sand content of plaster is increased, the amount of water per 100 pounds of plaster must also be increased to get workability. This chart, prepared from laboratory tests, shows that as the water ratio to gypsum is increased, the strength and hardness of the plaster are decreased.

A USG PLASTER for Every Purpose



For years Red Top has been among the leading brands of plaster. Today, it continues a favorite. It is made in three types: fibrous, set, and extra fibrous.

If gypsum basecoats had no other advantage, the fact that they speed construction to meet modern demands for quick completion of jobs would explain why they are the favorite plaster today. USG brands described above have been recognized leaders in the progress

plaster has made in meeting the demands of modern construction. A large staff of research engineers are constantly searching for still greater improvement in plaster. As in the past, new discoveries will be incorporated in Red Top whenever they are thoroughly proved.



FINISH COAT

In this age of Rocklath and Red Top plasters, base coat troubles have been greatly reduced. Notable progress has also been made in improving finish coat materials. The demand for new decorative treatments has resulted in an increased number of finish plasters. Each has certain features and advantages, and plasterers who would keep their material in the lead as the favorite wall finish, will study each finish to be able to recommend the one most advantageous for each job.



Special brands of Red Top are Big Four, Niagara Pericles, Kings Windsor, Eldorado (Gypsite), Granite, Hardwell, Overland and Ivory.

In addition to Red Top Wood Fiber special brands of Red Top are Big Four, Ivory, Overland, Kings Windsor, Niagara Pericles, and Eldorado.



Special brands of Red Top include Brown Mortar, Left Mortar, Niagara Pericles, Ivory, Kings Windsor and Big Four; also U.S. Niagara Pericles.

Bondcrete is a highly cementitious, low volume change material designed to adhere to clean, dry roughened concrete.



Red Top Hydrate is a well-known white finishing lime that is extremely popular.

USG Hydrated is a super lime meeting latest Federal specifications.



Ivory is a favorite with those who appreciate a quality brand of hydrated finishing lime.

Grand Primo is a widely accepted USG brand of hydrated finishing lime, used for many years.



A widely-used, low-cost quicklime having large putty production and high strength.

A popular high calcium hydrated lime because of its exceptional storing qualities.



Proper gypsum trowel finishes are economical. Well-known special brands of Red Top include Universal White Trowel, Adamant White Trowel, Adamant XXX Trowel and Badger; also Gray Trowel.

Float-finishes are suitable when walls are painted. Favorite Red Top brands are Sand Float, White Silica Sand, Gray Silica Sand, Adamant White Sand, and Adamant Gray Sand.

Factory-colored plaster is used to eliminate painting of walls and ceilings. Oriental Interior Colored Plaster was developed to supply this need. It is made in white and twelve standard shades.

Widely used brands of Red Top gauging plasters are Champion, Star, Slow Setting, Quick Setting and Superior; also Neptun, Slow Set and King's, Diamond.

Where hard, water-resistant finishes are required, Red Top Keene's cement meets the requirement. It is usually mixed "on the job" with fine white finishing lime.

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3 steps TO FINER FINISH COATS!



For a hard, smooth finish coat on your next job, try Red Top Trowel Finish. It's used as a plaster finish coat instead of lime and gauging plaster.

Red Top Trowel Finish forms a "lifetime" bond with any gypsum base coat plaster — results in a superior quality wall finish. It is ready for use after water has been added and the batch has been thoroughly mixed. Decorating may begin once the finish is dry!

See your local building materials dealer for detailed information about Red Top Trowel Finish and the complete line of Red Top Plasters. Or, write the United States Gypsum Company, 300 West Adams Street, Chicago, Illinois.

... where research builds better, safer building materials.



In the Lauderdale County Court House at Meridian, Mississippi, Sabinite on walls and ceiling of the Court Room has contributed to the increased comfort that has resulted from modernization of this building. The view of the Court House shown here, illustrates how Sabinite meets the requirements of modern decoration. With other acoustical materials, the plaster may be omitted on the areas treated. With Sabinite, the plasterer gets more work, and profit, than would be had in any other way.

Promote Sabinite for Profits, Plasterer Urges

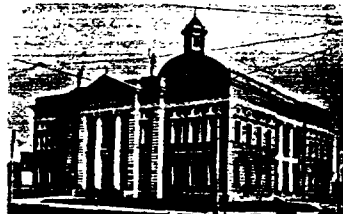
That old timers in the plastering business are alert to changing conditions is demonstrated by the case of Jim McManus, prominent plastering contractor of Meridian, Mississippi.

When modernization of the Lauderdale County Court House was proposed, Mr. McManus immediately realized that acoustical treatment would be required. Mr. McManus went to the architect and explained the advantages of Sabinite. He made the sale.

The results obtained with this treatment have been most satisfactory and the appearance of the rooms has produced much favorable comment. Is it any wonder, then, that Mr. McManus urges all plasterers to take advantage of the opportunity this material provides them to increase the volume of their business.



Jim McManus says, "If plasterers realized the advantages Sabinite has over other acoustical treatments, they would let everyone know about it."



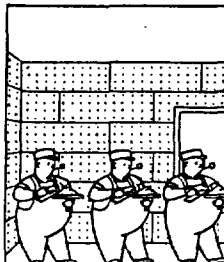
These illustrations show the change that was produced by modernizing the exterior of the Lauderdale County House at Meridian, Mississippi. In addition to Sabinite, where acoustical treatment was required, Red Top Gypsum Plaster, Red Top Star Gauging, No. 1 Moulding and Grand Prize Finishing Line were used. Krons & Brunsfield, Meridian, were architects; Newton and Schmoll, Hattiesburg, general contractor; Jim McManus, Meridian, plastering contractor.

Craftsmen of Tomorrow at McKinley Vocational High School



Good workmanship is essential if plastering is to continue as the favorite interior finish. Vocational schools are playing an important part in assuring good craftsmen in the future. At McKinley Vocational High in Buffalo, New York, plastering is one of the courses taught. The course was started in 1923 with the co-operation of Local No. 9 Operating Plasterers and Cement Finishers Association. Above, the finishing of a mould and the final shellacking are shown.

TRIPLE THREAT



BB005 0044

A USG PLASTER FOR EVERY BUILDING PURPOSE—FOR INTERIOR USE ONLY

BASE COAT PLASTERS

Type	Used For	Sand	Advantages	Plaster Base	Ground Size	Plaster Thickness Over Lath	Coverage Per Ton (Ready for Finish)	Relative Cost	USG Brands Used Locally
Neat Gypsum Plaster (Also called Cement, Hard-wall, Patent, Rock, etc., in various parts of the country)	Fibered with manilla, sisal, goat hair, mixed or straight. Not Fibered. Extra Fibered.	Scratch (1st) and brown (2nd) coats of plastering on any lath or base of open or closed type except concrete. All scratch (1st) coats on closed lath (Rocklath, Pyrobar, Insulation Lath, etc.) and brown (2nd) coats on any gypsum scratch coats. Scratch coats on metal lath. The fiber prevents excessive heavy keys in lath of these types.	Added at job. Good sand in proportion is essential for good plastering. Use sand as specified by American Standards Specifications.	Fireproof. Most widely used. Available anywhere. Stabilized set for all climates and markets. Maximum coverage per ton. Easy to mix and apply. Wall strength and hardness at low cost.	Wood lath Rocklath Metal lath Insulation lath Brick or Tile Pyrobar Gypsum Tile	1/2" 1/2" 1/2" 1/2" 1/2" 1/2"	180-210 sq. yds. 225-240 sq. yds. 105-135 sq. yds. 225-240 sq. yds. 165-200 sq. yds. 235-255 sq. yds.	I Economical. Standard construction on same lath generally shows lower costs than Sanded or Wood Fiber.	Red Top Red Top Big Four Red Top Niagara Peerless Red Top Kings Windsor Red Top Eldorado (Gypsite) Red Top Granite Red Top Hardwall Red Top Overland Red Top Ivory Nephi Hardwall
NOTE: 2 parts of sand, by weight, to one of plaster were used in all of the applications above except those over brick, tile and Pyrobar which require 3 to 1.									
Sanded Gypsum Plaster	Regular. Masonry. Sanded Wood Fiber.	Scratch (1st) and brown (2nd) coats on all bases except masonry. Scratch (1st) and brown (2nd) coats on brick, tile, Pyrobar. Not over concrete. Scratch (1st) and brown (2nd) coats on lath only. See "Wood Fiber" for advantages.	Mill mixed. Add no sand at job. Add water only.	Selected dry sand, thoroughly mixed, with plaster at mill. Recommended for use where good sand is not available. Prevents over-sanding. Avoids winter troubles with frozen sand. Assures correct sanding in grade and quantity.	Wood lath Rocklath Insulation lath Metal lath Brick or tile Pyrobar Gypsum Tile	1/2" 1/2" 1/2" 1/2" 1/2" 1/2"	60-70 sq. yds. 75-80 sq. yds. 75-80 sq. yds. 35-45 sq. yds. 45-55 sq. yds. 65-70 sq. yds.	II Cost slightly more than "Neat" in place on identical lath.	Red Top Red Top Brown Mortar Red Top Lath Mortar Red Top Niagara Peerless Red Top Ivory Red Top Kings Windsor Red Top Big Four USG Niagara Peerless
Wood Fiber Gypsum Plaster	Specialty processed wood fiber added at mill.	Scratch (1st) and brown (2nd) coats on all bases except masonry.	Add water only.	Maximum quantity of gypsum per yard. Hence, superior fireproofing strength, toughness, and insulation. Withstands vibration better. Best plaster for winter use. Ideal for patchwork.	Wood lath Rocklath Metal lath Insulation lath	1/2" 1/2" 1/2" 1/2"	90-100 sq. yds. 115-120 sq. yds. 35-65 sq. yds. 115-120 sq. yds.	III Costs more in place than "Neat" or Sanded on same lath.	Red Top Red Top Big Four Red Top Ivory Red Top Overland Red Top Kings Windsor Red Top Niagara Peerless Red Top Eldorado Ivory
Bondcrete Plaster	Bonds over monolithic concrete.	Add water only.	Highly cementitious, low volume change material designed to stick to clean, rough-sanded concrete. Flown coat of best plaster sanded not over 3 to 1 may be used over Bondcrete on ceilings as well as sidewalls. See directions on bag. Should be troweled to receive finish coat. For interior use only.	For application direct to dry, clean, oil free, rough-sanded concrete surfaces only.	See directions on bag	See directions on bag	90 to 120 sq. yds. depending on roughness of surface.	IV Costs about the same as Wood Fiber on Rocklath.	Bondcrete*

FINISHING PLASTERS

Type	Used For	Sand	Advantages	Coverage Per Ton	Relative Cost	USG Brands
Prepared Gypsum Trowel Finish White Gray (local) Stucco	Hard smooth finish for enamel, paint, wallpaper. May be left undecorated.	Add water only	Can be decorated as soon as dry. Mill mixed—will not streak, contains no lime to "pop" or saponify paint. Positive set. Does not shrink. No alkali to burn workmen. Best bond to gypsum plaster. May be polished—produces dense, hard, almost glasslike finish.	350-400 sq. yds.	I White finishes are slightly higher.	Red Top and Red Top Universal White Trowel Finish Red Top Adamant White Trowel Finish Red Top Adamant XXX Trowel Finish Red Top Badger White Trowel Finish
Prepared Float Finish White Gray	Flashed Sand Finish for paints (Tessolite). Not for wallpaper. Degree of sand texture can be varied by type of float used.	Add water only	Same as above except plaster produces a mottled or sand finish under the plasterer's float. Excellent wall and ceiling treatment where flat paints are to be used.	250-275 sq. yds.	II White finishes are slightly higher.	Red Top Sand Floor Finish Red Top White Silico Sand Floor Finish Red Top Gray Silico Sand Floor Finish Red Top Adamant White Sand Floor Finish Red Top Adamant Gray Sand Floor Finish
Oriental Colored Finish White and Twelve Shades	For textured or flaked finish coats which are self-decorating. Trowel finish made on order only.	Add water only	Carefully graded and sized aggregates plus selected pigments; produces a stone-like flaked job or any variety of texture in white or color. Mill mixing and control of color provides full assurance of color blending and color differences. Exceptionally hard, durable finish. May be washed.	250-300 sq. yds. Varying with depth of texture.	III	Oriental Interior Colored Finish
Sublime Acoustical Plaster Four types, white and four shades	Acoustical perfection.	Add water only	Inexpensive, fireproof, amply sound-absorbent.	100 sq. yds. 1/4 in. thick	IV	Four types.

NOTES
RELATIVE COSTS—Higher figures in this column represent higher probable installed costs, lower figures—lower cost. They represent relative not proportionate differences. Variations in price, wages and local practices make accuracy impossible. Architects should get accurate figures from local contractors before drawing final specifications. The "Relative Costs" given here are offered as an aid for preliminary selection only and should not be used in any calculation or estimate.

900 50088

TROWEL FINISHES—Many plasterers prefer to mix their own finishes "on the job." The smooth stone-like trowel finish, variously known as: White Coat, Skim Coat, Gauged Finish, Lime-Putty Finish and more commonly as Lime-Putty—Plaster-of-Paris Finish is made by gauging lime with gauging plaster in the ratio of 1 part gauging plaster to two

parts hydrated lime by weight. Lower amounts of gauging plaster result in weak, slow-setting finishes that will crack. The practice of sifting the fiber from the neat wall plaster using the plaster to gauge lime for finishing is not recommended. Specially made gauging plaster is available everywhere. USG Lime and Gauging Plaster are listed below.

Job-Mixed Finishing Plasters

FLAT FINISHES—Flat finishes are made on the job by adding sand of selected color and size to unadorned neat plaster. When a white coat is desired, Lime and Keene's Finish is recommended.

KEENE'S CEMENT FINISHES—Several very hard water-resistant finishes may be prepared "on the job" with Red Top Keene's Cement and Fine White Finishing Lime providing maximum physical perfection in plaster finishes. They set slowly; may be scored to resemble ceramic tile or masonry. The more Red Top Keene's in the mixture, the harder and denser the finish.

Limes Brand	Type	Color	Relative Cost	Advantages	Gauging Plaster Brand	Type	Color	Relative Cost	Advantages
Farnam's Chechire	Quick lime	White	I	Large putty production. High strength.	Red Top Slow Setting	Slow	Gray	I	Low cost. High strength. Controlled set. Fast soaking and easy mixing.
Blue Label Chechire	Quick lime	White	I	Large putty production. High strength.	Red Top Quick Setting	Quick	Gray	I	
Phosphamax (High Calcium)	Hydrated	White	II	Stores better.	Red Top Champion	Slow	White	II	
Red Top	Hydrated	White	II	Fine Hydrated Finishing Lime	Red Top Star	Slow	White	II	
Ivory	Hydrated	White	II	Fine Hydrated Finishing Lime	Nephi Slow Set	Slow	Gray	I	
Grand Prime	Hydrated	White	II	Fine Hydrated Finishing Lime	King's Diamond	Quick	White	II	
USG Hydrated Lime	Pressure Hydrated	White	II	Over 95% Hydration. A complete quick mixing, pour or trowel material. Soaking not required.	Red Top Superfine	Slow	White	II	

Coverages per ton, when mixed with proper proportions of gauging plaster:
Quick Lime, 1000 sq. yds.; Hydrated Lime, 500-700 sq. yds.; Pressure Hydrated, 500-700 sq. yds.

Coverage, 1 ton mixed with 2 tons (dry) Hydrated Lime covers from 1000 to 1400 sq. yds.

STRANGE AS IT SEEMS.....by John Hix



THE OLDEST FRAME HOUSE IN THE U.S.,
BUILT IN 1630, HAS WALLS PLASTERED
WITH HAIR AND GROUND-UP SEA SHELLS!
Hingham, Mass.



MOULD USED BY THE
ANCIENT EGYPTIANS
FOR STAMPING DESIGNS
IN WET PLASTER!
—Now in British Museum—



PLASTER AIDS IN
THE CAPTURE OF
CRIMINALS!
(WHEN USED AS
PLASTER CASTS
OF TEETH,
FOOTPRINTS, ETC.)



CASTLE IN THE AIR!

THE WALDORF-ASTORIA, N.Y.C.'S TALLEST
HOTEL IN THE WORLD, IS BUILT 2 INCHES
ABOVE THE GROUND!
IT IS SUPPORTED BY CUSHIONED "STILTS"
TO ELIMINATE VIBRATIONS FROM TRAFFIC...
NO PART OF THE BUILDING TOUCHES
THE SIDEWALK!



Where your Trade
is one of the Arts
**USE RED TOP
MOLDING PLASTER**

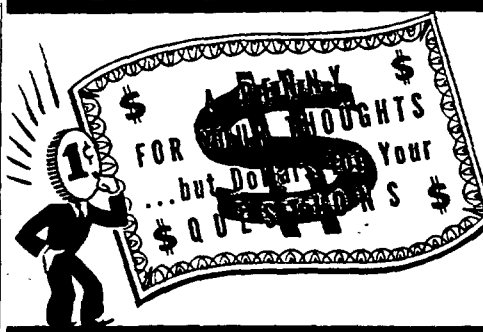
Interiors of dignity and beauty—these are monuments to the skilled hands of the workmen who executed them.

These cornices, coves and soffits and plaster ornaments must be perfect in detail. This perfection, in turn, requires a quick-setting, finely-ground plaster.

Red Top Moulding Plasters are manufactured with extreme care. They are characterized by uniformity of grind, dependability as to setting time and mixing qualities, and freedom from excessive heating and expansion during setting. Red Top Moulding Plaster is made by a special aridize process from selected white gypsum rock. It produces hard, dense castings, free from bubbles and pin holes. Let your local building material dealer tell you about it or write the

United States Gypsum Company, 300 W. Adams St., Chicago, Ill.

... where research develops better, safer building materials.



Question: Do you recommend the use of moulding plaster for patching finishing coats?

George W. Kreger
404 North Elm Street
Pittsburg, Kansas.

Answer: We recommend Red Top Patching Plaster for small cracks, etc. However, Moulding Plaster may be substituted satisfactorily. For repairs, including large areas, U.S.G. Lime may be gauged with Moulding Plaster, provided the set is not too quick for completion of the patch. Otherwise, we recommend Slow Set Gauging Plaster mixed with U.S.G. Lime.

Question: I expect to remodel an attached garage into a dining room. It now has cement plaster on metal lath. Should I use white lime finish, Keene's cement or Oriental stucco to get a nice finish over the old cement?

Olin A. Warren
255-24 Walden Place
Great Neck, N. Y.

Answer: The material depends on the finish desired. Assuming by cement plaster you mean gypsum cement plaster, care should be taken to be sure it is free from all dirt, dust, grease, paint and any other foreign matter that will prevent the finish from properly bonding. If a smooth finish is desired, lime putty finish or Keene's Cement Finish may be used. A colored texture or sand float finish may be had by using Oriental Interior Stucco.

Question: Will you please explain why Keene's cement check-cracks?

Charles Buck
641 Duss Avenue
Ambridge, Penna.

Answer: Keene's Cement may checkcrack for one or a combination of the following reasons: First, insufficient troweling; second, too little Keene's Cement in the finish. Keene's Cement finish requires more troweling than ordinary finish because of its slower setting nature. Until the set takes place shrinkage cracks are likely to occur unless the finish is properly troweled. Keene's Finish should contain not less than 100 lb. Red Top Keene's Cement and 80 lb. lime putty.

Question: I have been using hard plaster on concrete walls for several years and had no trouble. In recent specifications on jobs I have figured, it says not to use hard plaster on concrete walls. What is the right way to do such work?

V. E. Figg,
Ekalaka, Montana.

Answer: You are fortunate if you have been using hard plaster on concrete walls with no trouble. For best results we recommend concrete walls to be furred and lathed wherever possible, otherwise Red Top Bondcrete could be used. Bondcrete is a product formulated to correspond in volume changes the same as Portland Cement. The concrete should always be dry, free from dirt, grease or efflorescence and thoroughly roughened before application of Bondcrete.

Question: I frequently have requests for a skim finish on plaster to paper or paint over, instead of white or lime putty finish. What do you recommend for such a job?

W. B. Nicholson,
Chapman, Kansas.

Answer: We recommend Red Top White Trowel Finish or Red Top Gray Trowel Finish. These are ready-mixed gypsum finish plasters, which may be decorated as soon as they are dry. They need only the addition of water to be made ready for use. We do know, however, from the general section of the country from which this question comes that Red Top Skim Coat is also suitable for such jobs, and is trade practice. Not more than 25% lime should be added with this material, and complete directions are printed on the bag.

Question: What causes white coat to "tear" sometimes when troweling with water?

A. F. C.
101 Park Avenue
Summit, New Jersey

Answer: Tearing of the white coat indicates that suction of the base coat is too great.

Question: When a job is to be tinted, we find it always more successful to dry mix lime and color. Now, by what method would you suggest to add color to new lime when the box already contains water?

John M. E. Shultz,
1052 Berg St.,
Johnstown, Penna.

Answer: We recommend that if lime putty is to be colored the color first be completely and thoroughly dispersed in water to eliminate any tendency for lumps, which eventually could cause streaking. There is always the possibility when dry mixing lime and color that complete dispersion is not made.

Correction—In the chart on plaster bases published in the October issue of Red Topics, the amount of sand required with Weatherwood Lath should have been shown as 1 cubic yard per 100 square yards of wall surface, instead of 1.5. Those who have kept this chart will want to make this correction.

What are your questions on lathing and plastering? You will receive a dollar for each one published. Send them to the editor, Red Topics, 300 W. Adams Street, Chicago Ill.

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USG RED TOPICS

A National Plastering Journal



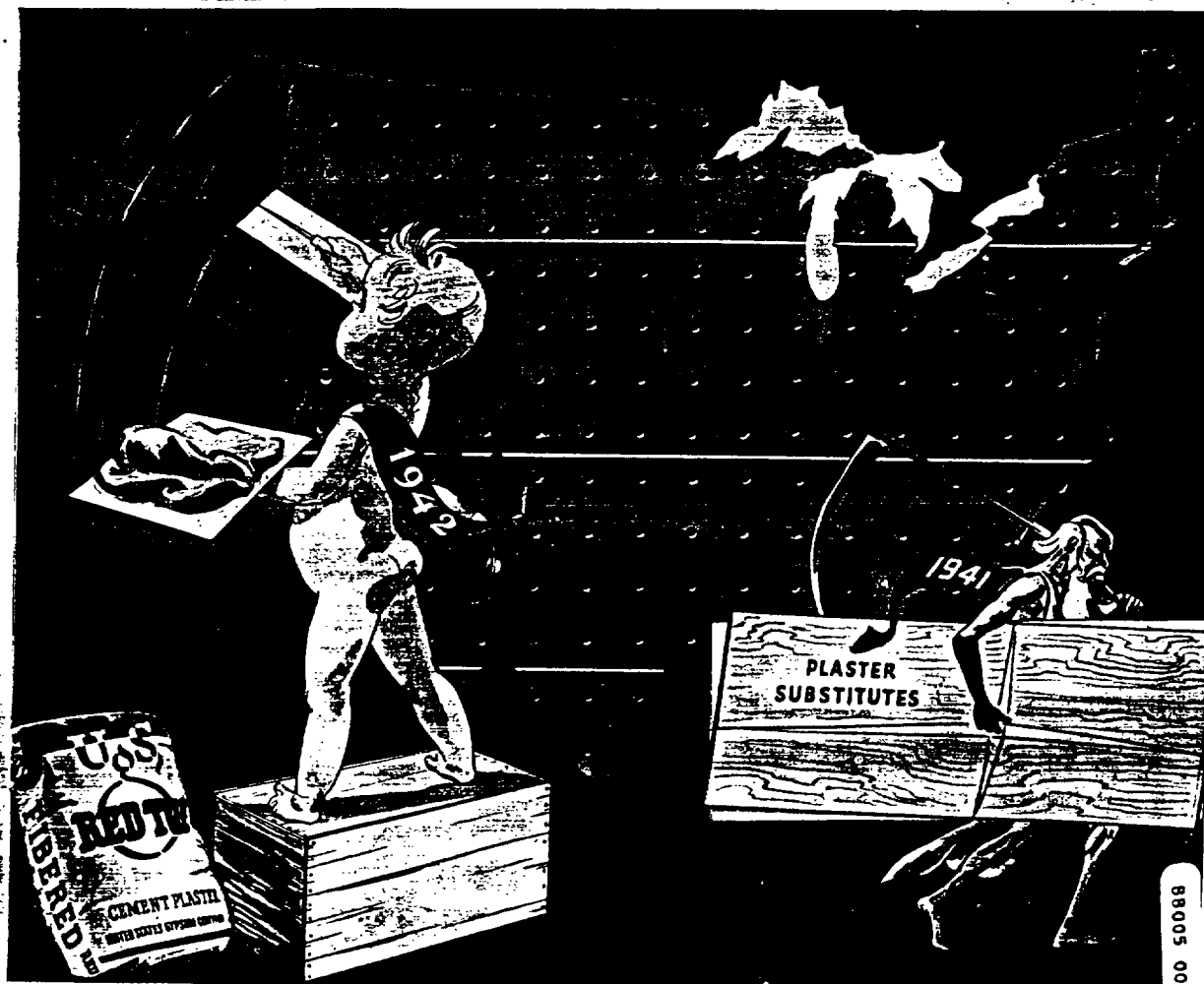
Vol. 3 No. 8

Published by United States Gypsum Co.

Chicago, Wednesday, December 31, 1941

Circulation 53,000

HAPPY NEW YEAR



88005 0049



WILLIAM BALHATCHET COMPANY
PLASTERING CONTRACTORS SINCE 1893
200 N. La Salle Street, Chicago
December 11, 1941

Resolved

Mr. John A. Chandler,
United States Gypsum Company
100 West Adams Street
Chicago, Illinois.

Dear Mr. Chandler:

Congratulations on your campaign -- "There is no substitute for Good Plastering." This is a principle in which I sincerely believe.

Personally, I hope every plasterer in the United States will make our resolution for 1942 -- Let's do a better plastering job -- and "tell the world" how valuable plaster is.

As I see it, that means that every tradesman will do quality work. Also they will try to improve their skill and craftsmanship, and they will help spread the word that "There is no substitute for Good Plastering" in every possible way.

Contractors, too, should do likewise. And they should make a special effort to bring good use of plaster to the attention of architects and builders.

Those who have been active in the plastering business for any length of time are well aware of the strong leadership that the United States Gypsum has taken and the many developments it has given to the plastering industry.

Your recent campaign shows that your leadership of the past is being continued in the same splendid way. Congratulations again.

Cordially yours,

W. Balhatchet

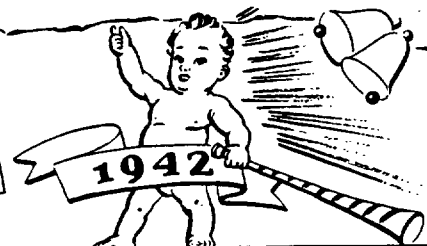
THERE IS NO SUBSTITUTE
for
GOOD PLASTERING
CONSULT YOUR CONTRACTOR

To R. H. Chandler, district manager and sales representatives of USG, should go the industry's sincere thanks in appreciation for their attitude in aiding to secure lath and plaster for the Pendleton Airport Housing job, awarded recently by Hazen and Clark of Spokane to Harold Hiebert.

Faced with a certain order for materials if the job had gone as originally planned for wallboard interior finish, these gentlemen "took their chances" for business, in competition with all other manufacturers of materials, in spending a great amount of time and money to help bring a decision for lath and plaster.

In taking this action these men proved their conviction lath and plaster was the suitable material for the project, but it would have been a great temptation to those of lesser loyalty to the proper method to have taken the easier way out and signed up the waiting wallboard business.

Reprinted from Northwest Plastering Industries



BR005 0050

PLASTERERS RALLY FOR "ALL OUT" CAMPAIGN

From the Atlantic to the Pacific—from Canada to the Guli—a wild burst of enthusiasm has followed Red Topics' "All-Out for Plastering" campaign.

Contractors, lathers and plasterers are all "pitching in" for a great offense to build an impregnable public demand for plaster.

To do its part, Red Topics will supply you with an increasing volume of helpful ammunition. Starting with this issue, we will include in each issue a series of beautiful plaster jobs—jobs that you may proudly exhibit as reasons why "There Is No Substitute for Good Plastering."

Why not start a scrapbook of pictures? And make sure that everyone you know sees it. Let it explain why you take pride in your work—why plaster is THE finish for interior walls.

If you haven't ordered stickers with the "No Substitute" emblem, write the Editor of Red Topics today for 100—free.

You have made a fine start. Now is the time to "turn on the steam."

Raising Plaster Quality



The plastering industry of Los Angeles has been aware of the necessity for adequate apprenticeship training since 1925 when the Los Angeles Board of Education established the Frank Wiggins Trade School. Plastering was among the first trades to be taught. As a result, a high standard of quality has been established and maintained.

The teachers, under the California Plan for Trade and Industrial Training, are first selected for their ability as craftsmen and then trained in educational methods through courses of study at the University of California.

Careful selection of students is made, and training is carried on to assure a complete understanding of all the problems that good tradesmen should know. Training is also offered journeymen, who can come to the school on their days off and keep up in the skills of mitering, mould running, trade problems and information on new materials.

L. G. Stier is principal. The classes are conducted by Wm. Cole. After serving as a teacher for many years, Mr. Cole is now head of the building trades of the school, and the plastering classes are at present taught by Mr. Thomas Moran.



1942 marks the 40th Anniversary of the United States Gypsum Company. This business was founded on the belief that "There Is No Substitute for Good Plastering". For 40 years, the business has continued in that belief. Today, it looks forward to the future, still firm in its original belief. The experience, research facilities, service department, and the will of USG to maintain plaster as a superior interior wall finish will continue to be devoted to this goal, as in the past.



L. R. Solomon, architect, gave plaster the leading role in planning the display rooms for Eisenberg & Sons, exclusive designers of women's apparel serving America's leading shops and stores. In the entrance, Mr. Solomon created an all-over pattern of tiny plaster casts of the Eisenberg "Crimoline Dame" trademark. Highlighting this background are surrealistic plaster lighting fixtures. (See illustration on page 2). In the cosmetic and jewelry display room, a freely-styled plaster moulding spotlights the shadow box display shelves for the cosmetics in the curved rear wall. For this wall, plaster likewise provides the ideal base to execute the smooth, flowing lines of the wall.



In the main show room, plaster is used to obtain a theatrical effect. The excellent light—reflecting surface of plaster, has been utilized in the cove for indirect lighting. Even the recessed light wells in the ceiling are molded of plaster.



A frame of USG Moulding Plaster provides a formal setting for distinctive apparel. The neutral color of the plaster enhances the varied hues of women's wear.

FOR YOUR SCRAP BOOK

For page 1 of your scrapbook, a reproduction of the beautiful wall on the opposite page is available—free—to plasterers who ask for it. The three views above are from the same show room—may be clipped and pasted on page 2 of your book. Send your requests for the picture at left, or for "There Is No Substitute" stickers to Editor, Red Topics, United States Gypsum Company, 300 W. Adams St., Chicago, Illinois.

THE BRIDJOINT SYSTEM AND HOW TO APPLY IT

Bridjoint is one of the most important quality developments for low cost plaster work. It is a better way to apply Rocklath than the straight nail-on method, as it reduces cracks at wall or ceiling angles and tends to eliminate cracking due to stud movement.

Since Rocklath is used as the plaster base, the method naturally provides all of the advantages of a Rocklath wall: free of lath markings; all fireproof materials; normal sound insulation; and low cost. Perforated Rocklath is recommended, although satisfactory results may be obtained with either Insulating Rocklath or Plain Rocklath.

Contractors like Bridjoint because it provides better walls at standard prices; because it solves lath worries and complaints; and because it is simple and easy to install.

It helps the tradesman because it means greater satisfaction with plaster jobs, thereby increasing the demand for plaster in place of substitute materials.

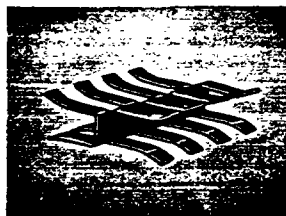


To have pride in your home, walls must be beautiful. The owner of this home wants to be proud for many years — selected Bridjoint to be sure of quality walls.

Experienced contractors report the system costs about the same as a nailed on job. Savings obtained include the elimination of cost and application time for metal lath corner reinforcement; 25% less nails; and practically complete use of odd lengths of Rocklath.



Only two types of clips are required for the Bridjoint system. The corner clip, known as W-33, is used at all interior corners.



The second clip—W-22—is to bind free ends of Rocklath together between studs. The weakest point where stress is lowest.



The first board is placed so ends come midway between studs. W-33 corner clips are applied before board is placed and nailed.



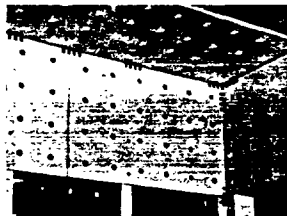
Top course is applied around the room first. The lather measures the board for required broken joint, then cuts to fit.



With clips on the board, it is forced in place to fit snugly. Clips fit tightly against joints. Rocklath clips behind end of other board.



After the top course is applied around the room, ceiling is started. Board is easily slipped into W-33 clips already in place.



Note that no nails are driven at corners. Two nails are driven in side of board away from corner. Corner clips not nailed to frame.



Ends of Rocklath must break between joints on ceiling as well as walls. As application proceeds, a W-22 clip is placed at each joint.



The second course of Rocklath is nailed in the customary way—five nails at each joint, using a standard Rocklath nail.



After ceiling is latched, work is continued on walls. Note W-33 clips at lower right on board being erected and in place at joint.



Wall is latched to floor. Last course is cut about $\frac{3}{4}$ " less than remaining space, then slipped into clip at joints above.



At corners, boards must be clipped into W-33 corner clip, as well as W-22 joint clip above. Extra nailing at joints is saved.

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PUBLISHED BY UNITED STATES GYPSUM COMPANY, 300 W. ADAMS ST., CHICAGO

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Points to Watch on Winter Jobs

By J. H. Boyle, Service Representative
United States Gypsum Company

When winter comes, plaster jobs need more attention. While the fundamental rules of plastering apply to all seasons, we shall point out some of those governed by the winter, with particular respect to metal lath.

First, watch proportioning. Scratch should be mixed 2 to 1 by weight. It should have enough thickness to provide suction for the brown coat, and sufficient strength to hold the lath rigid.

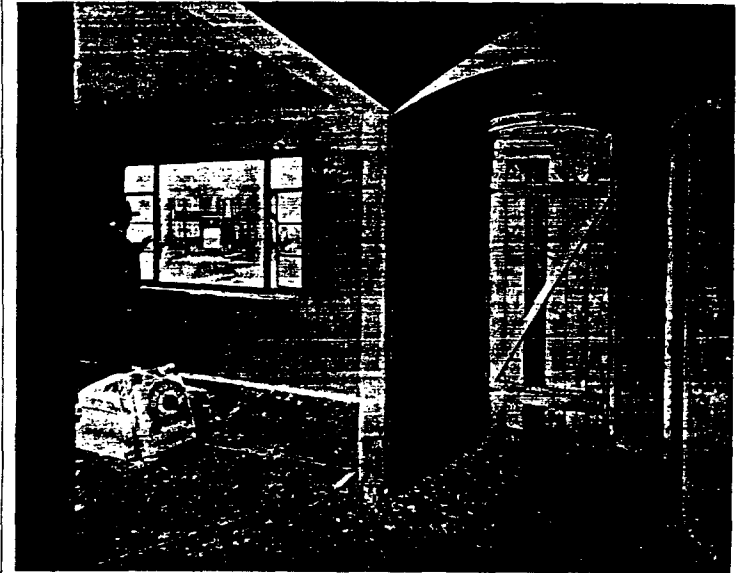
It has been my experience that cracking on metal lath sometimes becomes a problem in the winter. One of the primary reasons for this is the lack of strength in the brown coat. When we specify 3 to 1 mix on tile and gypsum bases, the suction of these materials is taken into consideration. When you sacrifice this suction by plastering on wet scratch, it is necessary to lower your sand content to allow for this difference. That is why it is so important to stick with the 2 to 1 proportion on winter jobs.

Second, the scratch coat should be allowed to dry, so that the excess water has a chance to evaporate in the air. To accomplish this, it is sometimes necessary to let the scratch coat stand much longer in the winter time, because of slow drying conditions, unless artificial heat is provided.

Applying the brown coat to a dry scratch coat insures

a better bond and more strength; better bond because the suction of the scratch coat pulls the minute gypsum crystals firmly into the pores of the scratch mortar binding the two coats more tightly together. By the same action more strength is obtained, as the water is pulled out of the brown coat, producing a denser mass.

Third, it is truly essential to have proper heat and ventilation when plastering in the winter to avoid



Rules governing winter plastering are tightening. Some northern cities now specify the day on which houses under construction must be enclosed and furnace heat turned on before plaster may be applied. On this job by David Davidson, Inc., Chicago plasterer, casement windows are cracked open and door is closed. Furnace is operating to provide necessary heat. Scratch and brown coats are Red Top Cement Plaster. Finish coat will be Grand Prize Lime.

"sweat-outs". Heat is usually provided with salamanders, sufficient to maintain a minimum temperature of 40 degrees F. Higher tem-

peratures are desirable if they can be maintained economically. Where jobs are heated by salamanders, it is necessary to prevent the

direct heat from these burners from striking the plaster surface. A shield should be placed around and over the salamander, so that the heat is evenly distributed and not concentrated in one or two spots. This precaution is essential, as gypsum will slowly start to recalcine at about 120° F; that is, the water necessary to hold the gypsum in its rock-like state, will be driven off, reducing the gypsum to a powder such as it was when it was taken out of the bag.

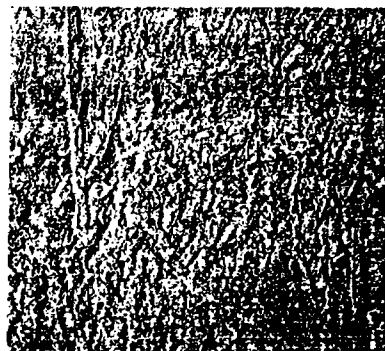
Doors and windows should be covered, but some opening should be provided to supply ventilation to carry away moisture from the rooms.

If these rules are followed on all jobs, plasterers need have no difficulties with winter work.



Good sand is vital for quality plaster. The difference in strength is shown by the three grades of sand illustrated. The best grade of sand is shown at the left, above. Below, left, is shown a wall plastered with Red Top Cement Plaster, using the best grade of sand, and this is so hard a knife won't cut it. In the center, a medium sand is shown. The plastered

wall, below center, is sound and cannot be cut away. But it is not as hard as the wall at the left which resists knife pressure. Quality plaster can't be obtained with the fine sand. At the right is a panel of poor quality plaster. Note how soft it is. The knife readily cuts into it.

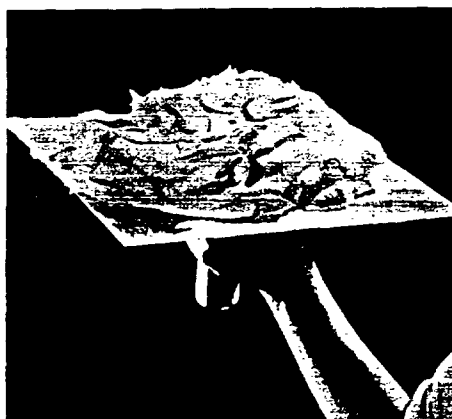




"Don't worry, it'll be a lot stronger when we get the wallpaper on!"
Courtesy
 Successful Plastering



The final result of a sweat-out is a soft, inferior plaster. The illustration at the left shows a wall in a room that was improperly heated and ventilated. Note how easily it cuts away with a knife. The wall at the right, with the same plaster and proportions, but with correct heat and ventilation, is too hard to cut.



- rich
- white
- smooth-working

THAT'S USG FINISHING LIME!

Rich and buttery in "feel," USG Finishing Limes are of clean, white color that makes walls look their best.

USG Finishing Limes are made from selected rock in completely modern mills. Tests to assure a uniform product are constantly made at every phase of manufacture.

You'll like the good-looking finishing jobs you can do with USG Finishing Limes. You'll like the way it spreads out, — one result of finer grind.

USG Finishing Limes are the result of more than 40 years experience in the manufacture of quality plasters and other building materials. Give USG Finishing Lime a try on your next job. You can get information from your local USG building material dealer or write direct to United States Gypsum Company, 300 W. Adams Street, Chicago, Illinois where research develops better, safer building materials.

SWEAT-OUTS

By VIRGIL ESTES,
 Service Representative
 UNITED STATES GYPSUM COMPANY

We are now at the time of year when we often hear on a plaster job, "this plaster has been on the walls several days and is still wet." This occurrence is commonly known as the forerunner to a "sweat-out" condition.

A "sweat-out" condition on a job occurs mainly during the fall, winter and early spring months when the relative humidity is high with very poor natural drying conditions. During this period, any job that has been plastered should be protected by using artificial heat during freezing weather and providing proper ventilation.

It is well known to plasterers that a good plaster job should be dried out as fast as possible after the material has set. Excess heat should not be applied and, unless weather is freezing, natural or forced ventilation will suffice.

Since gypsum is soluble in water, when excess water is left in the plaster it will gradually dissolve the gypsum. The longer this condition is allowed to progress, the greater is the likelihood that the job will be lost.

On any job showing evidence of being soft and saturated with moisture the only possible solution should be used at once: namely, proper drying and ventilation.

Heat alone will not do the job since heat only raises the temperature of the room or building; consequently, some forced ventilation is necessary to drive out the moisture-laden air.

Proper ventilation can best be accomplished by lowering the windows a few inches, or cracking doors, depending on outside temperature. In cases where fans are available and on jobs which have remained damp several days, these should be turned on immediately. The best heat is between 70 & 75° F.

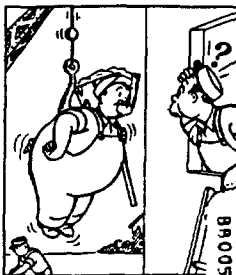


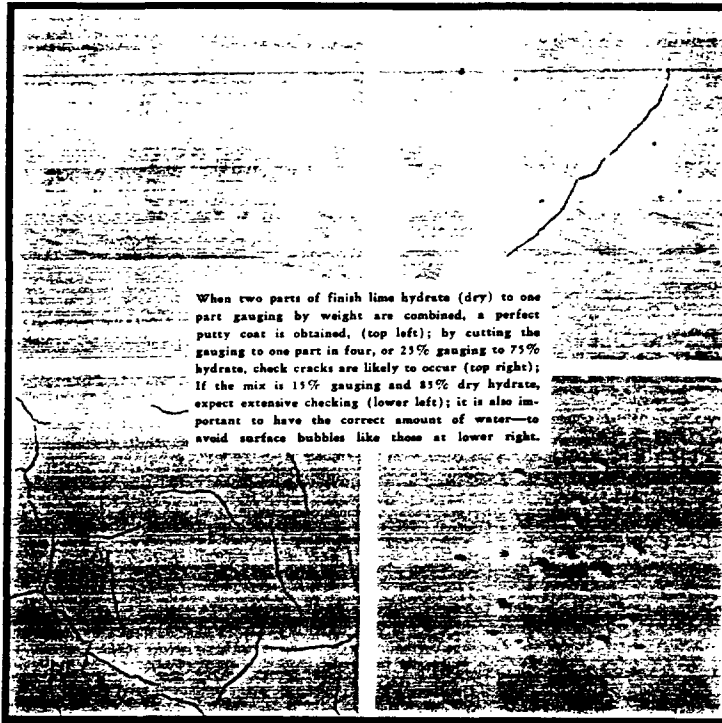
Ventilation and heat are properly provided. There is no fog on the windows. The salamander is throwing off enough heat to maintain the necessary drying conditions. It is placed in the center of the room, so that the plaster will not be exposed to excessive heat. If it is necessary to place a salamander near the wall, insulating Rockslath should be placed between, with the foil side toward the salamander. This will protect the plaster.

Another contributing cause of a sweat-out is an oversanded plaster job. This extra sand necessarily distributes the gypsum over a greater area and the gypsum content is more likely to absorb more moisture.

It must further be remembered the longer a job remains in a sweat-out condition the less the ultimate final strength of the wall will be. The final strength is dependent upon how much time has elapsed since the condition was found, and, for this reason, jobs should be carefully watched and, if they do not dry out in a few days, the above recommendations should be applied.

AN ELEVATING EXPERIENCE





How to Get Best Results with Gauging Plaster

Gauging plaster properly used with lime serves a three-fold purpose. First, it provides a surface that has an early strength, and one which will withstand the wear and tear of time. Second, it provides a smooth surface with a minimum of troweling which will receive nearly all types of decorations. And third, it permits early application of these decorations.

Gauging plaster is an extremely sensitive plaster and is manufactured under most exacting supervision. It is coarse enough to provide rapid soaking at the board, and maximum strength on the wall, yet fine enough for the average cornice work "run" on the job.

As this is a specialized product, it should be treated as such. In storing on the job it should be kept dry, until ready for use. The mouth of the bag should be kept closed between gauges, to prevent contamination. To use, gauging plaster should be sifted into the water in the putty ring until most

of the water is absorbed. Hastening the soak by forcing the gauging under the water knots the plaster which, when applied to ceiling or wall, causes streaks. When the gauging is properly soaked, it blends perfectly and easily with the lime putty, with a minimum of working.

Gauging plaster should be used in the proportion of three (3) parts of finish lime putty to the one (1) part of gauging plaster by volume, which is equal to 2 parts dry lime by weight and one part gauging by weight.

A simple rule to follow in ordering finish is to buy in units of 4 bags (50 lb.) of USG Hydrated Finishing Lime to one bag (100 lb.) of Red Top Gauging Plaster.

The use of the proper amount of gauging insures a perfect job and does much to eliminate the possibility of check cracking, dusting of the finish, (which leads to paint and paper failure), and bond failures.

NEXT SUMMER-DRY-OUTS

"Dry-out" means that the water that has been mixed with the plaster has evaporated from the wall before the plaster has set. By far the greater number of plaster troubles during the hot summer months are "dry-outs." They can be cured, but it is easier to prevent them.

HOW TO PREVENT "DRY-OUTS"

Since the setting of gypsum plaster is a law of nature, plaster will, in time, always set if the necessary moisture is present. Therefore, the following three simple precautions will prevent dry-outs:

First. Before plastering in warm weather, screen the openings so that the hot winds cannot strike the walls.
Second. If wood lath is used, soak thoroughly the day before plastering and wet them again an hour or so before plastering. Besides helping to prevent dry-outs, wetting the lath as directed will reduce the danger of lath buckling.
Third. Apply plaster to proper thickness, because such plaster is less liable to dry out than a too thin coat.



"The boss humors him! He once studied art, so now he insists on signing each wall he works on."



IN DECEMBER OR IN DETROIT



RED TOP PLASTER
SETS THE SAME



It doesn't matter where—it doesn't matter when—you use Red Top Cement Plaster, the setting time is, within very narrow limits, the same!

Standardized manufacturing practices and consistent laboratory and field investigation, plus USG's 40 years experience in the manufacture of quality building materials, have largely eliminated what was once a source of constant trouble.

Variations in setting time still exist, but the range of variation has been so greatly narrowed that, for all practical purposes, it may be said to have ceased to exist.

Uniform setting time is but one of the ten Red Top Cement Plaster advantages that eliminate most job troubles! Read the list of advantages, then give Red Top Cement Plaster a try on your next job!

Red Top Cement Plaster Advantages

- 1 They set properly, whether sanded one to one or three to one.
- 2 They set properly with clean or dirty sand.
- 3 They set properly with fine or coarse sand within the limits of A. S. T. M. specifications for size of sand.
- 4 They set properly with clean or dirty water.
- 5 They set from the lath out, instead of from the surface in, giving more time to dab, red or float.
- 6 They set evenly, and, once started, set uniformly.
- 7 They insure minimum possibility of dry-out.
- 8 They minimize differences in setting time caused by hot or cold weather.
- 9 They have unusual richness and dip that gives easy mixing, for spreading qualities, resulting in maximum coverage with minimum labor.
- 10 They remain plastic and workable for longer period of time.

RB005 0057

UNITED STATES GYPSUM COMPANY, 300 W. Adams St., Chicago, Illinois, where research develops better, safer building materials.

STRANGE AS IT SEEMS.....

by John Hix

A FRESCO, PAINTED ON THE PLASTER WALL OF THE OLDEST THRONE ROOM IN THE WORLD, IS STILL BRILLIANT AND UNDAUNTED AFTER MORE THAN 4000 YEARS!

Palace of Minos, Crete...



THE ANCIENT ASSYRIANS USED PLASTER FOR DECORATING PURPOSES!

(THEIR GREAT CITIES STOOD IN WHAT IS NOW IRAQ, PRESENT OIL CENTER OF THE NEAR EAST)

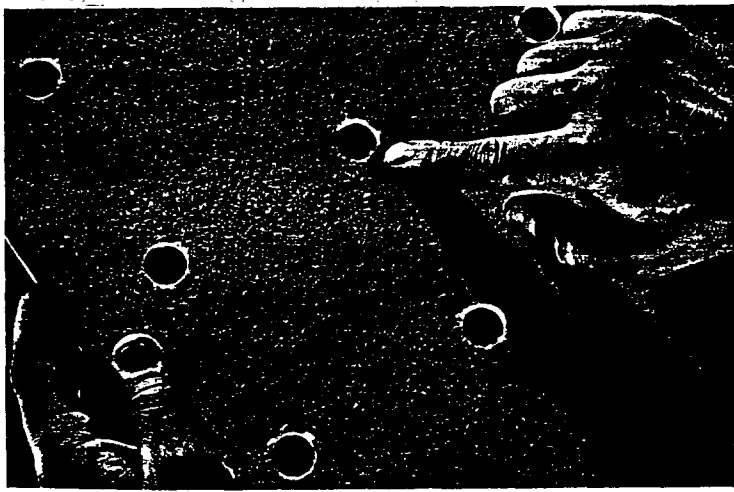


THAT'S NO SNOW—THAT'S PLASTER!

SNOW DRIFTS AND ICICLES FOR THE MOVIES ARE MADE OF PLASTER! FOR LOOSE SNOW GYPSUM IS USED—FALLING SNOW IS OFTEN FEATHERS OR UNTOASTED CORNFLAKES!

MAN OF PLASTER WITH BONES OF STONE!

FIGURES DECORATING AZTEC TEMPLES HAD LIMESTONE SKELETONS, MOLDED PLASTER BODIES... MEXICO...



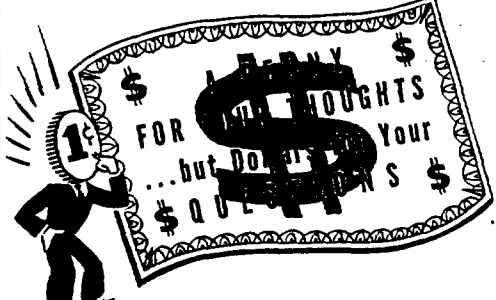
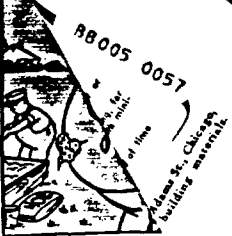
What a Whale of a Difference JUST A FEW HOLES MAKE

It's hard to believe that a lot of holes spaced 4 inches apart can help us to do a better job. But it's true!

The perforations do — mechanical key to the plaster to Rocklath.

Perforated Rocklath—like Plain Rocklath and Insulating Rocklath—is made of gypsum. It is permanent—unaffected by time, decay, or vermin; it is quickly erected—lath can be scored and broken easily. And plasterers like the way the perforations slice the plaster from the trowel.

Your local building material dealer can give you complete information about Perforated Rocklath or we will be glad to send you full details if you write us direct. United States Gypsum Company, 300 W. Adams St., Chicago, Illinois, where research develops better, safer, building materials.



Question: How can I overcome shrinking and cracking of plaster behind wood stoves?

Nick Duran
819 Maple St.
Manistee, Michigan

Answer: The cracks which you describe could be caused by one of the following reasons: First, dry-outs; second, calcination. If the job is of new construction and the defect shows up before completed, the trouble is due to a dry-out. This occurs because the water of crystallization dried out before the plaster had taken its set. If the defect manifests itself after a year or so of exposure to heat, the trouble is due to recalcination or driving the water out of the plaster after the set had taken place. We feel that some protection should be placed behind the stove to prevent the intensive heat being subjected direct to the plaster.

Question: Is there a good bond between tar and plaster?

Thomas P. Poore,
Washington, D. C.

Answer: We do not recommend the application of plaster over tar or asphaltic waterproofing compounds. When plastering direct to such bases, we have known of bond failures and plaster discoloration. We recommend always to apply furring and lath for a plaster base.

Question: What product do you recommend for running an arch? What material is most satisfactory for running molds above kitchen and bathroom wainscots?

George W. Kregor
404 North Elm Street
Pittsburg, Kansas

Answer: Red Top Moulding Plaster mixed one part moulding to one part USG or Red Top Finishing lime (dry weight) is recommended for all run work.

Question: What causes such a terrific suction at times?

A. F. C.
101 Park Avenue
Summit, New Jersey

Answer: Excess suction is caused by one or a combination of the following reasons: First, oversanding of the base coat; second, extremely dry base coat; third, hot weather; fourth, dry-out of the base coat.

Question: In a three coat job, after the brown coat has been applied and darby used, is it proper to use a float when plaster has begun to set and thereby minimize the cracks which often occur when lath are not spaced properly?

J. P. Crouch
Lamar, Mo.

Answer: In any plastering you should not work the plaster after the gypsum at the surface has started to set as this will destroy the strength of the work. The use of Rocklath would, of course, eliminate the difficulty due to spacing.

Question: I have trouble occasionally with small cracks running clear through the ceiling in the same direction as the lath. One carpenter says it's caused by a sagging joist; another says it's caused by putting a narrow strip of Rocklath in the center about 4" wide. Who is right?

John Moren
102-24 St.
Wellsburg, W. Va.

Answer: It is possible that both explanations you offer for the appearance of a crack down the center of plastered ceilings could be correct.

The most common cause is your first suggestion, that the joists sagged. If they are not spaced over 16" on center, and are large enough to prevent sagging, no cracking should occur. However, you mentioned putting a 4" strip of Rocklath down the center. It is evident that the dimensions of the room were such that full pieces of lath could not be used, and that you have had to fill in with a 4" strip. Where this is the case in the future, we would suggest that this strip not be put in the center, but at or near the wall intersection. In addition to this precaution, it would be well to reinforce this narrow strip of lath with a piece of metal lath wide enough to completely cover both sides of the strip.

Question: I have a lot of trouble when plastering over OLD ceilings. The old lath buckles. The only way I can get satisfaction is to use old hair mortar in three coats. First to scratch it and let dry out and then to go back and double up with Red Top. Can you suggest any other way I can do it with Red Top as it is a lot of work to mix hair mortar.

J. McEntee,
240 Geneva Ave.
Dorchester, Mass.

Answer: Of course, Rocklath replacing old wood lath would give a much more satisfactory job, and would be worth more than its cost to your customer. We realize that at all times you cannot secure both a lath and plaster job, so we can only suggest that you thoroughly clean the wood lath and wet them the night before, and again immediately before plastering. With Red Top Double Fibered Plaster and these precautions you should have no further trouble.

What are your questions on lathing and plastering? You will receive a dollar for each one published. Send them to the editor, Red Topics, 300 W. Adams Street, Chicago, Ill.

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**COLOR
STAINS
SURFACE**



USG RED TOPICS

A National Plastering Journal



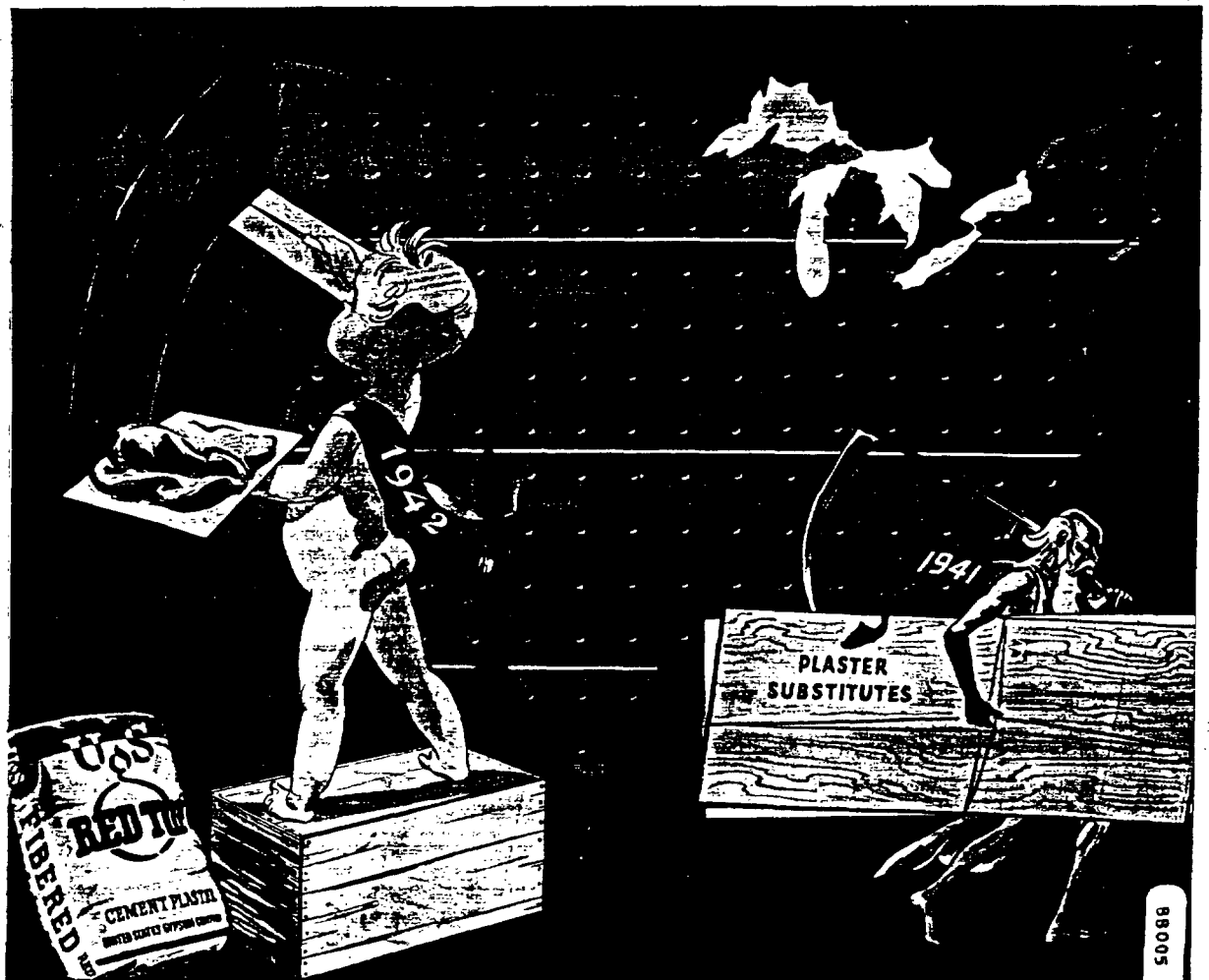
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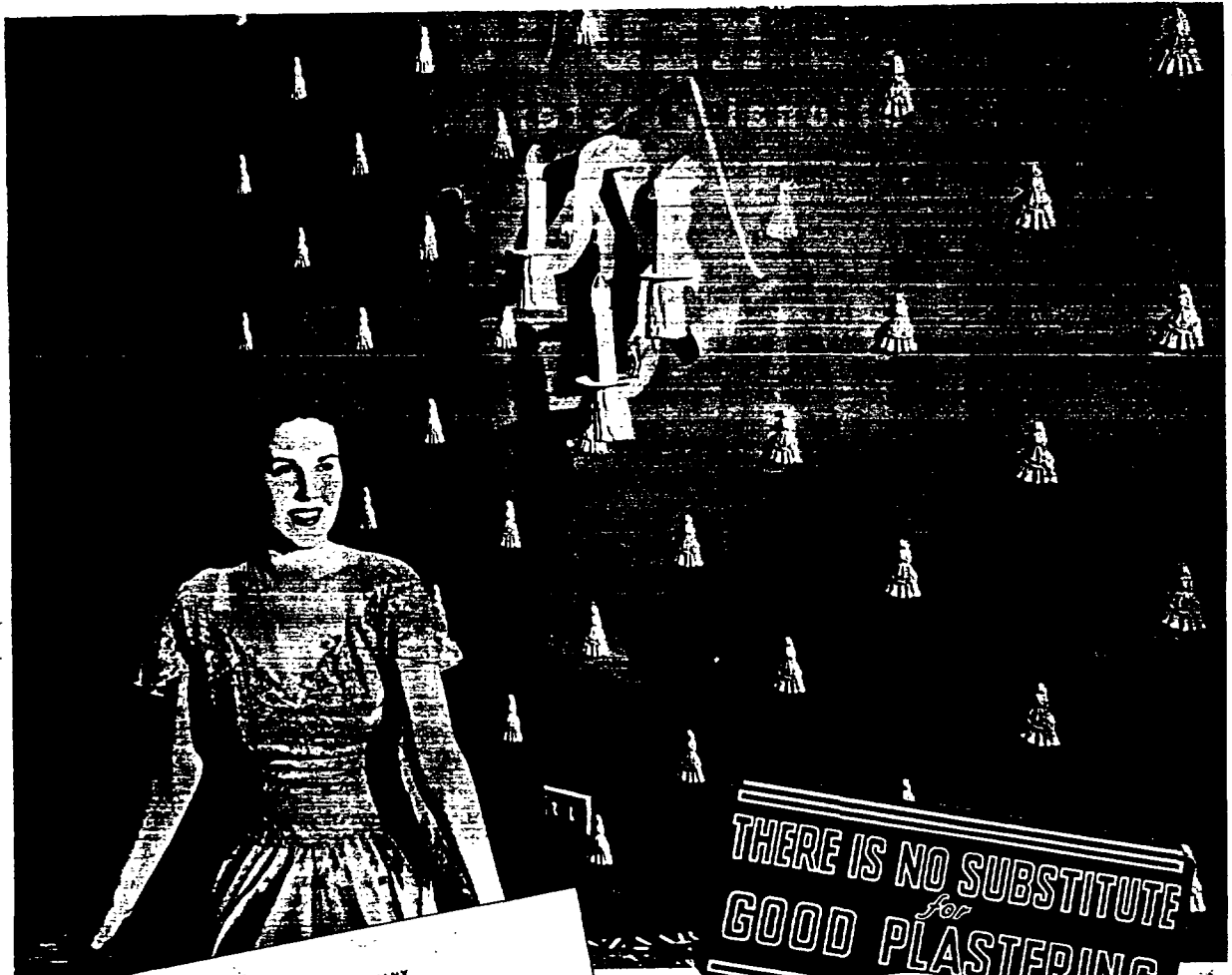
Chicago, Wednesday, December 31, 1941

Circulation 53,000

HAPPY NEW YEAR



98005 0061



WILLIAM BALHATCHET COMPANY
PLASTERING CONTRACTORS SINCE 1891
222 N. La Salle Street, Chicago, Illinois
December 11, 1941

Resolved

Mr. John G. Chandler,
United States Olympic Committee
300 West Adams Street
Chicago, Illinois.

Dear Mr. Chandler:

Congratulations on your campaign -- "There is no substitute for Good Plastering." This is a principle to which I sincerely believe.

Personally, I hope every plasterer in the United States will make one resolution for 1942 -- Let's do a better plastering job -- and "sell the world" our valuable plaster in.

As I see it, that means that every tradesman will do quality work. Also they will try to improve their skill and craftsmanship. And they will help spread the word that "There is no Substitute for Good Plastering" in every possible way.

Contractors, too, should do likewise. And they should make a special effort to bring good use of plaster to the attention of architects and builders.

Those who have been active in the plastering business for any length of time are well aware of the strong leadership that the United States System has taken and the many developments it has given to the plastering industry.

Your present campaign shows that your leadership of the past is being continued in the new splendid way. Congratulations again.

Cordially yours,

W. Balhatchet

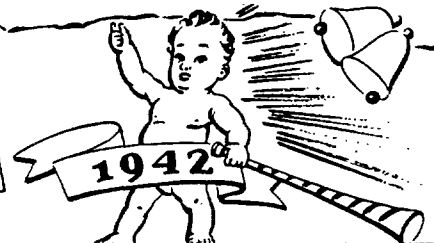
THERE IS NO SUBSTITUTE
for
GOOD PLASTERING
CONSULT YOUR CONTRACTOR

To R. H. Chandler, district manager and sales representative of USG, should go the industry's sincere thanks in appreciation for their attitude in aiding to secure lath and plaster for the Pendleton Airport Housing job, awarded recently by Hazen and Clark of Spokane to Harold Hiebert.

Faced with a certain order for materials if the job had gone as originally planned for wallboard interior finish, these gentlemen "took their chances" for business, in competition with all other manufacturers of materials, in spending a great amount of time and money to help bring a decision for lath and plaster.

In taking this action these men proved their conviction lath and plaster was the suitable material for the project, but it would have been a great temptation to those of lesser loyalty to the proper method to have taken the easier way out and signed up the waiting wallboard business.

Reprinted from Northwest Plastering Industries



BB005 0062

PLASTERERS RALLY FOR "ALL OUT" CAMPAIGN

From the Atlantic to the Pacific—from Canada to the Gulf—a wild burst of enthusiasm has followed Red Topics' "All-Out for Plastering" campaign.

Contractors, lathers and plasterers are all "pitching in" for a great offense to build an impregnable public demand for plaster.

To do its part, Red Topics will supply you with an increasing volume of helpful ammunition. Starting with this issue, we will include in each issue a series of beautiful plaster jobs—jobs that you may proudly exhibit as reasons why "There Is No Substitute for Good Plastering."

Why not start a scrapbook of pictures? And make sure that everyone you know sees it. Let it explain why you take pride in your work—why plaster is THE finish for interior walls.

If you haven't ordered stickers with the "No Substitute" emblem, write the Editor of Red Topics today for 100—free.

You have made a fine start. Now is the time to "turn on the steam."

Raising Plaster Quality



The plastering industry of Los Angeles has been aware of the necessity for adequate apprenticeship training since 1925 when the Los Angeles Board of Education established the Frank Wiggins Trade School. Plastering was among the first trades to be taught. As a result, a high standard of quality has been established and maintained.

The teachers, under the California Plan for Trade and Industrial Training, are first selected for their ability as craftsmen and then trained in educational methods through courses of study at the University of California.

Careful selection of students is made, and training is carried on to assure a complete understanding of all the problems that good tradesmen should know. Training is also offered journeymen, who can come to the school on their days off and keep up in the skills of mitering, mould running, trade problems and information on new materials.

L. G. Stier is principal. The classes are conducted by Wm. Cole. After serving as a teacher for many years, Mr. Cole is now head of the building trades of the school, and the plastering classes are at present taught by Mr. Thomas Moran.



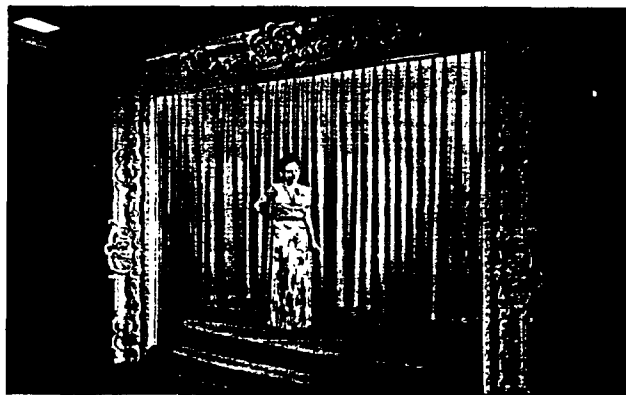
1942 marks the 40th Anniversary of the United States Gypsum Company. This business was founded on the belief that "There Is No Substitute for Good Plastering". For 40 years, the business has continued in that belief. Today, it looks forward to the future, still firm in its original belief. The experience, research facilities, service department, and the will of USG to maintain plaster as a superior interior wall finish will continue to be devoted to this goal, as in the past.



L. R. Solomon, architect, gave plaster the leading role in planning the display rooms for Eisenberg & Sons, exclusive designers of women's apparel serving America's leading shops and stores. In the entrance, Mr. Solomon created an all-over pattern of tiny plaster casts of the Eisenberg "Circelina Dame" trademark. Highlighting this background are surrealistic plaster lighting fixtures. (See illustration on page 2). In the cosmetic and jewelry display room, a freely-styled plaster moulding spotlights the shadow box display shelves for the cosmetics in the curved rear wall. For this wall, plaster likewise provides the ideal base to execute the smooth, flowing lines of the wall.



In the main show room, plaster is used to obtain a theatrical effect. The excellent light — reflecting surface of plaster, has been utilized in the curve for indirect lighting. Even the recessed light wells in the ceiling are molded of plaster.



A frame of USG Moulding Plaster provides a formal setting for distinctive apparel. The neutral color of the plaster enhances the varied hues of women's wear.

FOR YOUR SCRAP BOOK

For page 1 of your scrapbook, a reproduction of the beautiful wall on the opposite page is available—free—to plasterers who ask for it. The three views above are from the same show room—may be clipped and pasted on page 2 of your book. Send your requests for the picture at left, or for "There Is No Substitute" stickers to Editor, Red Topics, United States Gypsum Company, 300 W. Adams St., Chicago, Illinois.

THE BRIDJOINT SYSTEM AND HOW TO APPLY IT

Bridjoint is one of the most important quality developments for low cost plaster work. It is a better way to apply Rocklath than the straight nail-on method, as it reduces cracks at wall or ceiling angles and tends to eliminate cracking due to stud movement.

Since Rocklath is used as the plaster base, the method naturally provides all of the advantages of a Rocklath wall: free of lath markings; all fireproof materials; normal sound insulation; and low cost. Perforated Rocklath is recommended, although satisfactory results may be obtained with either Insulating Rocklath or Plain Rocklath.

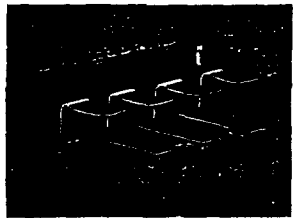
Contractors like Bridjoint because it provides better walls at standard prices; because it solves lath worries and complaints; and because it is simple and easy to install.

It helps the tradesman because it means greater satisfaction with plaster jobs, thereby increasing the demand for plaster in place of substitute materials.

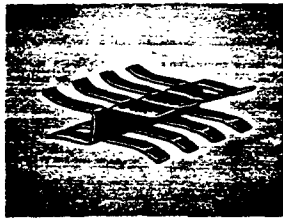


To have pride in your home, walls must be beautiful. The owner of this home wants to be proud for many years — selected Bridjoint to be sure of quality walls.

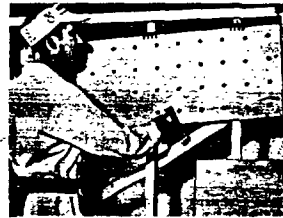
Experienced contractors report the system costs about the same as a nailed on job. Savings obtained include the elimination of cost and application time for metal lath corner reinforcement; 25% less nails; and practically complete use of odd lengths of Rocklath.



Only two types of clips are required for the Bridjoint system. The corner clip, known as W-33, is used at all interior corners.



The second clip—W-22—is to bind free ends of Rocklath together between studs. The weakest point where stress is lowest.



The first board is placed so ends come midway between studs. W-33 corner clips are applied before board is placed and nailed.



Top course is applied around the room first. The lather measures the board for required broken joint, then cuts to fit.



With clips on the board, it is forced in place to fit snugly. Clips fit tightly against joints. Rocklath slips behind end of other board.



After the top course is applied around the room, ceiling is started. Board is easily slipped into W-33 clips already in place.



Note that no nails are driven at corners. Two nails are driven in side of board away from corner. Corner clips not nailed to frame.



Ends of Rocklath must break between joints on ceiling as well as walls. As application proceeds, a W-22 clip is placed at each joint.



The second course of Rocklath is nailed in the customary way—five nails at each joint, using a standard Rocklath nail.



After ceiling is lathed, work is continued on walls. Note W-33 clips at lower right on board being erected and in place at joint.



Wall is lathed to floor. Last course is cut about $\frac{3}{4}$ " less than remaining space, then slipped into clip at joints above.



At corners, boards must be slipped into W-33 corner clip, as well as W-22 joint clip above. Extra nailing at joints is saved.

Points to Watch on Winter Jobs

By J. H. Boyle, Service Representative
United States Gypsum Company

When winter comes, plaster jobs need more attention. While the fundamental rules of plastering apply to all seasons, we shall point out some of those governed by the winter, with particular respect to metal lath.

First, watch proportioning. Scratch should be mixed 2 to 1 by weight. It should have enough thickness to provide suction for the brown coat, and sufficient strength to hold the lath rigid.

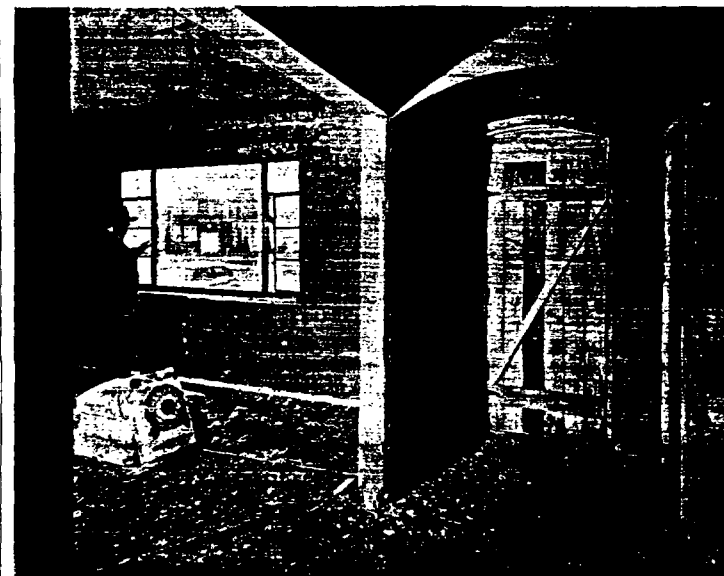
It has been my experience that cracking on metal lath sometimes becomes a problem in the winter. One of the primary reasons for this is the lack of strength in the brown coat. When we specify 3 to 1 mix on tile and gypsum bases, the suction of these materials is taken into consideration. When you sacrifice this suction by plastering on wet scratch, it is necessary to lower your sand content to allow for this difference. That is why it is so important to stick with the 2 to 1 proportion on winter jobs.

Second, the scratch coat should be allowed to dry, so that the excess water has a chance to evaporate in the air. To accomplish this, it is sometimes necessary to let the scratch coat stand much longer in the winter time, because of slow drying conditions, unless artificial heat is provided.

Applying the brown coat to a dry scratch coat insures

a better bond and more strength; better bond because the suction of the scratch coat pulls the minute gypsum crystals firmly into the pores of the scratch mortar binding the two coats more tightly together. By the same action more strength is obtained, as the water is pulled out of the brown coat, producing a denser mass.

Third, it is truly essential to have proper heat and ventilation when plastering in the winter to avoid



Rules governing winter plastering are tightening. Some northern cities now specify the day on which houses under construction must be enclosed and furnace heat turned on before plaster may be applied. On this job by David Davidson, Inc., Chicago plasterer, casement windows are cranked open and door is closed. Furnace is operating to provide necessary heat. Scratch and brown coats are Red Top Cement Plaster. Finish coat will be Grand Prize Lime.

"sweat-outs". Heat is usually provided with salamanders, sufficient to maintain a minimum temperature of 40 degrees F. Higher tem-

peratures are desirable if they can be maintained economically. Where jobs are heated by salamanders, it is necessary to prevent the

direct heat from these burners from striking the plaster surface. A shield should be placed around and over the salamander, so that the heat is evenly distributed and not concentrated in one or two spots. This precaution is essential, as gypsum will slowly start to recalcine at about 120° F; that is, the water necessary to hold the gypsum in its rock-like state, will be driven off, reducing the gypsum to a powder such as it was when it was taken out of the bag.

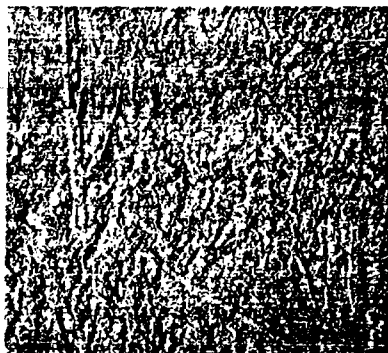
Doors and windows should be covered, but some opening should be provided to supply ventilation to carry away moisture from the rooms.

If these rules are followed on all jobs, plasterers need have no difficulties with winter work.



Good sand is vital for quality plaster. The difference in strength is shown by the three grades of sand illustrated. The best grade of sand is shown at the left, above. Below, left, is shown a wall plastered with Red Top Cement Plaster, using the best grade of sand, and this is so hard a knife won't cut it. In the center, a medium sand is shown. The plastered

wall, below center, is sound and cannot be cut away. But it is not as hard as the wall at the left which resists knife pressure. Quality plaster can't be obtained with the fine sand. At the right is a panel of poor quality plaster. Note how soft it is. The knife readily cuts into it.

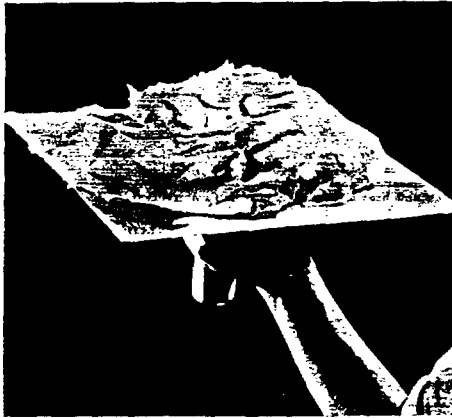
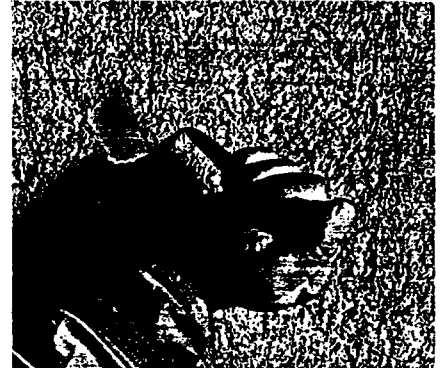




"Don't worry, it'll be a lot stronger when we get the wallpaper on!"



The final result of a sweat-out is a soft, inferior plaster. The illustration at the left shows a wall in a room that was improperly heated and ventilated. Note how easily it cuts away with a knife. The wall at the right, with the same plaster and proportions, but with correct heat and ventilation, is too hard to cut.



- rich
- white
- smooth-working

THAT'S USG FINISHING LIME!

Rich and buttery in "feel," USG Finishing Limes are of clean, white color that makes walls look their best.

USG Finishing Limes are made from selected rock in completely modern mills. Tests to assure a uniform product are constantly made at every phase of manufacture.

You'll like the good-looking finishing jobs you can do with USG Finishing Limes. You'll like the way it spreads out, — one result of finer grind.

USG Finishing Limes are the result of more than 40 years experience in the manufacture of quality plasters and other building materials. Give USG Finishing Lime a try on your next job. You can get information from your local USG building material dealer or write direct to United States Gypsum Company, 300 W. Adams Street, Chicago, Illinois . . . where research develops better, safer building materials.

SWEAT-OUTS

By VIRGIL ESTES,
Service Representative
UNITED STATES GYPSUM COMPANY

We are now at the time of year when we often hear on a plaster job, "this plaster has been on the walls several days and is still wet." This occurrence is commonly known as the forerunner to a "sweat-out" condition.

A "sweat-out" condition on a job occurs mainly during the fall, winter and early spring months when the relative humidity is high with very poor natural drying conditions. During this period, any job that has been plastered should be protected by using artificial heat during freezing weather and providing proper ventilation.

It is well known to plasterers that a good plaster job should be dried out as fast as possible after the material has set. Excess heat should not be applied and, unless weather is freezing, natural or forced ventilation will suffice.

Since gypsum is soluble in water, when excess water is left in the plaster it will gradually dissolve the gypsum. The longer this condition is allowed to progress, the greater is the likelihood that the job will be lost.

On any job showing evidence of being soft and saturated with moisture the only possible solution should be used at once: namely, proper drying and ventilation.

Heat alone will not do the job since heat only raises the temperature of the room or building; consequently, some forced ventilation is necessary to drive out the moisture-laden air.

Proper ventilation can best be accomplished by lowering the windows a few inches, or cracking doors, depending on outside temperature. In cases where fans are available and on jobs which have remained damp several days, these should be turned on immediately. The best heat is between 70 & 75° F.



Ventilation and heat are properly provided. There is no fog on the windows. The salamander is throwing off enough heat to maintain the necessary drying conditions. It is placed in the center of the room, so that the plaster will not be exposed to excessive heat. If it is necessary to place a salamander near the wall, Insulating Rocklath should be placed between, with the foil side toward the salamander. This will protect the plaster.

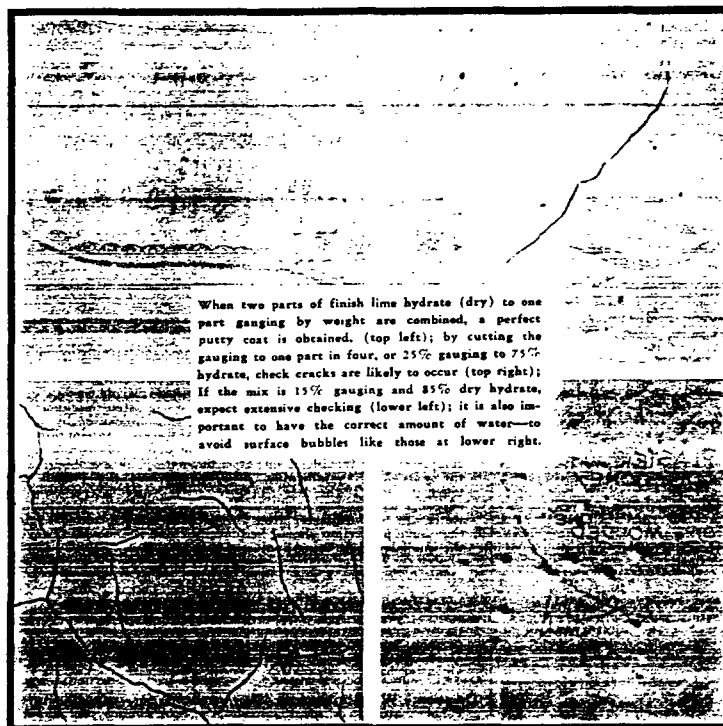
Another contributing cause of a sweat-out is an oversanded plaster job. This extra sand necessarily distributes the gypsum over a greater area and the gypsum content is more likely to absorb more moisture.

It must further be remembered the longer a job remains in a sweat-out condition the less the ultimate final strength of the wall will be. The final strength is dependent upon how much time has elapsed since the condition was found, and, for this reason, jobs should be carefully watched and, if they do not dry out in a few days, the above recommendations should be applied.

AN ELEVATING EXPERIENCE



BR005 0066



When two parts of finish lime hydrate (dry) to one part gauging by weight are combined, a perfect putty coat is obtained. (top left); by cutting the gauging to one part in four, or 25% gauging to 75% hydrate, check cracks are likely to occur (top right); If the mix is 15% gauging and 85% dry hydrate, expect extensive checking (lower left); it is also important to have the correct amount of water—to avoid surface bubbles like those at lower right.

How to Get Best Results with Gauging Plaster

Gauging plaster properly used with lime serves a three-fold purpose. First, it provides a surface that has an early strength, and one which will withstand the wear and tear of time. Second, it provides a smooth surface with a minimum of troweling which will receive nearly all types of decorations. And third, it permits early application of these decorations.

Gauging plaster is an extremely sensitive plaster and is manufactured under most exacting supervision. It is coarse enough to provide rapid soaking at the board, and maximum strength on the wall, yet fine enough for the average cornice work "run" on the job.

As this is a specialized product, it should be treated as such. In storing on the job it should be kept dry, until ready for use. The mouth of the bag should be kept closed between gauges, to prevent contamination. To use, gauging plaster should be sifted into the water in the putty ring until most

of the water is absorbed. Hastening the soak by forcing the gauging under the water knots the plaster which, when applied to ceiling or wall, causes streaks. When the gauging is properly soaked, it blends perfectly and easily with the lime putty, with a minimum of working.

Gauging plaster should be used in the proportion of three (3) parts of finish lime putty to the one (1) part of gauging plaster by volume, which is equal to 2 parts dry lime by weight and one part gauging by weight.

A simple rule to follow in ordering finish is to buy in units of 4 bags (50 lb.) of USG Hydrated Finishing Lime to one bag (100 lb.) of Red Top Gauging Plaster.

The use of the proper amount of gauging insures a perfect job and does much to eliminate the possibility of check cracking, dusting of the finish, (which leads to paint and paper failure), and bond failures.

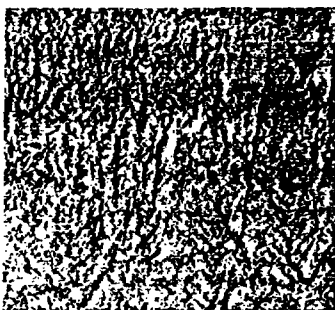
NEXT SUMMER-DRY-OUTS

"Dry-out" means that the water that has been mixed with the plaster has evaporated from the wall before the plaster has set. By far the greater number of plaster troubles during the hot summer months are "dry-outs." They can be cured, but it is easier to prevent them.

HOW TO PREVENT "DRY-OUTS"

Since the setting of gypsum plaster is a law of nature, plaster will, in time, always set if the necessary moisture is present. Therefore, the following three simple precautions will prevent dry-outs:

First. Before plastering in warm weather, screen the openings so that the hot winds cannot strike the walls.
Second. If wood lath is used, soak thoroughly the day before plastering and wet them again an hour or so before plastering. Besides helping to prevent dry-outs, wetting the lath as directed will reduce the danger of lath buckling.
Third. Apply plaster to proper thickness, because such plaster is less liable to dry out than a too thin coat.



A typical plaster surface during dry out.



"The boss humors him! He once studied art, so now he insists on signing each wall he works on."



IN DECEMBER OR IN DETROIT



RED TOP PLASTER
SETS THE SAME



It doesn't matter where—it doesn't matter when—you use Red Top Cement Plaster, the setting time is, within very narrow limits, the same!

Standardized manufacturing practices and consistent laboratory and field investigations, plus USG's 40 years experience in the manufacture of quality building materials, have largely eliminated what was once a source of constant trouble.

Variations in setting time still exist, but the range of variation has been so greatly narrowed that, for all practical purposes, it may be said to have ceased to exist.

Uniform setting time is but one of the ten Red Top Cement Plaster advantages that eliminate most job troubles! Read the list of advantages, then give Red Top Cement Plaster a try on your next job!

Red Top Cement Plaster Advantages

- 1 They set properly, whether sanded one to one or three to one.
- 2 They set properly with clean or dirty sand.
- 3 They set properly with fine or coarse sand within the limits of A. S. T. M. specifications for size of sand.
- 4 They set properly with clean or dirty water.
- 5 They set from the left out, instead of from the surface in, giving more time to dab, red or float.
- 6 They set evenly, and, once started, set uniformly.
- 7 They insure minimum possibility of dry-out.
- 8 They minimize differences in setting time caused by hot or cold weather.
- 9 They have unusual richness and slip that gives easy mixing, for spreading qualities, resulting in maximum coverage with minimum labor.
- 10 They remain plastic and workable for longer period of time.

BB005 0067

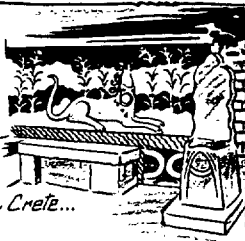
UNITED STATES GYPSUM COMPANY, 300 W. Adams St., Chicago, Illinois, where research develops better, safer building materials.

STRANGE AS IT SEEMS.....

by John Hix

A FRESCO, PAINTED ON THE PLASTER WALL OF THE OLDEST THRONE ROOM IN THE WORLD, IS STILL BRILLIANT AND UNDAMAGED AFTER MORE THAN 4000 YEARS!

Palace of Minos, Crete...



THE ANCIENT ASSYRIANS USED PLASTER FOR DECORATING PURPOSES!

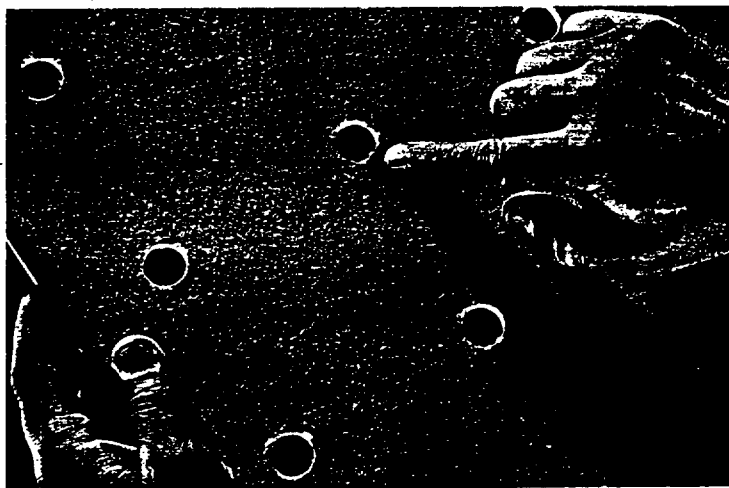
(THEIR GREAT CITIES STOOD IN WHAT IS NOW IRAQ, PRESENT OIL CENTER OF THE NEAR EAST)



MAN OF PLASTER WITH BONES OF STONE! FIGURES DECORATING AZTEC TEMPLES HAD LIMESTONE SKELETONS, MOLDED PLASTER BODIES...

MEXICO...

THAT'S NO SNOW—THAT'S PLASTER! SNOW DRIFTS AND ICICLES FOR THE MOVIES ARE MADE OF PLASTER! FOR LOOSE SNOW GYPSUM IS USED—FALLING SNOW IS OFTEN FEATHERS OR UNTOASTED CORNFLAKES!



What a Whale of a Difference JUST A FEW HOLES MAKE

It's hard to believe that a lot of holes spaced 4 inches apart can help us to do such a better job. But it's true!

Here's what the perforations do —

They add a mechanical key to the strong, natural bond of plaster to Rocklath.

This double grip of plaster to Perforated Rocklath gives a one-hour fire rating to partitions constructed of ½ inch plaster over ¾ inch Perforated Rocklath!

This double grip means increased overall wall strength! This is "plus" strength — added to the rigidity of the large 16 x 48-inch Rocklath panels.

Perforated Rocklath—like Plain Rocklath and Insulating Rocklath — is made of gypsum. It is permanent—unaffected by time, decay, or vermin; it is quickly erected — lath can be scored and broken easily. And plasterers like the way the perforations slice the plaster from the trowel.

Your local building material dealer can give you complete information about Perforated Rocklath or we will be glad to send you full details if you write us direct. United States Gypsum Company, 300 W. Adams St., Chicago, Illinois, where research develops better, safer, building materials.



Question: How can I overcome shrinking and cracking of plaster behind wood stoves?

Nick Duran
819 Maple St.
Manistee, Michigan

Answer: The cracks which you describe could be caused by one of the following reasons: First, dry-outs; second, calcination. If the job is of new construction and the defect shows up before completed, the trouble is due to a dry-out. This occurs because the water of crystallization dried out before the plaster had taken its set. If the defect manifests itself after a year or so of exposure to heat, the trouble is due to recalcination or driving the water out of the plaster after the set had taken place. We feel that some protection should be placed behind the stove to prevent the intensive heat being subjected direct to the plaster.

Question: Is there a good bond between tar and plaster?

Thomas P. Poore,
Washington, D. C.

Answer: We do not recommend the application of plaster over tar or asphaltic waterproofing compounds. When plastering direct to such bases, we have known of bond failures and plaster discoloration. We recommend always to apply furring and lath for a plaster base.

Question: What product do you recommend for running an arch? What material is most satisfactory for running molds above kitchen and bathroom wainscots?

George W. Kregor
404 North Elm Street
Pittsburg, Kansas

Answer: Red Top Moulding Plaster mixed one part moulding to one part USG or Red Top Finishing lime (dry weight) is recommended for all run work.

Question: What causes such a terrific suction at times?

F. C.
101 Park Avenue
Summit, New Jersey

Answer: Excess suction is caused by one or a combination of the following reasons: First, oversanding of the base coat; second, extremely dry base coat; third, hot weather; fourth, dry-out of the base coat.

Question: In a three coat job, after the brown coat has been applied and darby used, is it proper to use a float when plaster has begun to set and thereby minimize the cracks which often occur when lath are not spaced properly?

J. P. Crouch
Lamar, Mo.

Answer: In any plastering you should not work the plaster after the gypsum at the surface has started to set as this will destroy the strength of the work. The use of Rocklath would, of course, eliminate the difficulty due to spacing.

Question: I have trouble occasionally with small cracks running clear through the ceiling in the same direction as the lath. One carpenter says it's caused by a sagging joist; another says it's caused by putting a narrow strip of Rocklath in the center about 4" wide. Who is right?

John Moren
102-24 St.
Wellsburg, W. Va.

Answer: It is possible that both explanations you offer for the appearance of a crack down the center of plastered ceilings could be correct.

The most common cause is your first suggestion, that the joists sagged. If they are not spaced over 16" on center, and are large enough to prevent sagging, no cracking should occur. However, you mentioned putting a 4" strip of Rocklath down the center. It is evident that the dimensions of the room were such that full pieces of lath could not be used, and that you have had to fill in with a 4" strip. Where this is the case in the future, we would suggest that this strip not be put in the center, but at or near the wall intersection. In addition to this precaution, it would be well to reinforce this narrow strip of lath with a piece of metal lath wide enough to completely cover both sides of the strip.

Question: I have a lot of trouble when plastering over OLD ceilings. The old lath buckles. The only way I can get satisfaction is to use old hair mortar in three coats. First to scratch it and let dry out and then to go back and double up with Red Top. Can you suggest any other way I can do it with Red Top as it is a lot of work to mix hair mortar.

J. McEntee,
240 Geneva Ave.
Dorchester, Mass.

Answer: Of course, Rocklath replacing old wood lath would give a much more satisfactory job, and would be worth more than its cost to your customer. We realize that at all times you cannot secure both a lath and plaster job, so we can only suggest that you thoroughly clean the wood lath and wet them the night before, and again immediately before plastering. With Red Top Double Fibered Plaster and these precautions you should have no further trouble.

What are your questions on lathing and plastering? You will receive a dollar for each one published. Send them to the editor, Red Topics, 300 W. Adams Street, Chicago, Ill.