

PLAINTIFF'S EXHIBIT

GP-986

Mechanization . . .

THE NEW ORDER IN LATHING AND PLASTERING

An Age-Old Handcraft Joins the Moderns



**A special report on the Progress of
Machines, Tools and Equipment
in the Industry**

Reprinted from PLASTERING INDUSTRIES, November 1957

SGP 0003028



Mechanization...

A new horizon bids to make the oldest craft the most modern in the construction industry

has revitalized our craft and the public's awareness of it.

Virtually since the dawn of civilization lathing and plastering has been a hand craft. All through the centuries the methods, the tools and even the materials changed but little while many other industries became highly mechanized operations. Some little criticism was leveled at our industry by many who were taken up on the wave of enthusiasm for mass production and mechanization for our continued use of time honored and age old methods and equipment and we lost in the public favor, either justly or unjustly, because of this situation.

However, almost immediately following the conclusion of World War II a total revolution began to make itself felt in the lathing and plastering craft and now this industry can challenge any other in the construction field to equal its transition from hand craft of the centuries to teeming mechanization of the present and future.

Two things gave considerable impetus to the rapid advance of mechanization in lathing and plastering: The first was the realization that lightweight aggregates which had laid for countless centuries virtually untouched in many parts of the world opened new vistas for better buildings for less money; second, the extreme shortage of current manpower within our industry together with the new types of construction opened for the lathers' and plasterers' skill prompted the application of equipment and tools which would do the job faster, more economically and with less backbreaking labor.

So, while mechanization is still looked upon in some parts of our industry as a greedy competitor to the journeyman's hand craft—in most it is accepted as a means for hugely extending the craft's opportunity to build more buildings of every type and size—with a larger percentage of lathing and plastering than ever before in building history. And, the field has still been virtually untouched, for it has already been demonstrated that it is now possible to build entire buildings—walls, floors, roofs and ceilings completely with the materials of our craft and it remains only to develop the simple systems, details and methods for popularizing and extending this knowledge so that lath and plaster can easily become the prime contract on any building.

Nor is the field of opportunity for our equipment and labor now limited to covering up some other craft's rough or unsightly construction on buildings. Machines are employing lathers and plasterers to fire-proof; weatherproof and economize on oil and gas storage tanks by tight and durable skins of light metal lath and plaster—machine applied; foundation walls are being protected against abrasion and later leakage from backfills by plasterers; bridge girders and suspension cables are being fire-protected and more economically maintained by light coverings of lath and plaster; even the storage holds of fishing boats (now cooled by mechanical refrigeration instead of ice) are being lathed and plastered, and the field extends only to our imagination and our willingness to adapt equipment now available to us and that yet to come to new opportunities to extend the age-old unique properties of the abundant product we know as plaster in all of its forms and types.

So, if there be doubters in our craft that mechanization is the future of lathing and plastering and the forerunner of a better and more safely housed civilization, or that it is not possible for more people to enjoy more comfortable and more durable constructions because of its economies, he is in the wrong business and should make way for others whose vision is broader.

In the following pages you will find, so far as we have been able to enlist the cooperation of industry manufacturers—a complete catalog of the fine equipment which is revo-

IT is appropriate, we feel, that this National Convention issue of **PLASTERING INDUSTRIES** should devote its theme to the mechanization of the lathing and plastering craft—along with the many pages devoted to chronicling the accomplishment of the CPIA and the Bureaus and Institutes across the land.

Appropriate principally for two reasons: first, there is no other segment of the building industry that has done so much in so short a time to revolutionize its manner of doing things nor has opened so many stimulating horizons for the future as the lathing and plastering craft; second, the Southern California area, where this important national gathering of the industry is being held, has taken the leadership in this industrial revolution of lathing and plastering and has most completely demonstrated that mechanization is here to stay—that it has bettered lathing and plastering and that it



● **EVEN MATERIALS handling on the modern lathing and plastering job is a highly mechanized operation. Fatigue of workmen is minimized; the accident rate is lower and more work is done in the day's schedule**

lutionizing and broadening the lathing and plastering craft. Each of these pieces of equipment is briefly pictured and described; in many instances its makers suggest its limitations and potentialities; suggestions are made for proper mixes, techniques and methods to get the best results; and the member of the craft may, at his leisure, determine what best fits his present and projected operation. We are the first to admit that perhaps before this copy of **PLASTERING INDUSTRIES** reaches

Mechanization

Joseph D. McNulty, the "father" of mechanized plastering, and past president of the National Bureau for Lathing and Plastering had this to say about mechanization at the annual convention of the National Bureau in St. Louis in June:

"Mechanization is offering to the industry not only an opportunity to provide lathing and plastering at a price that is more closely in line with substitutes, but also to greatly improve the product, as machine plastering does produce a better job than hand-applied work."

"The same mix will achieve greater strength in base coat through machine use than it will achieve by hand application. Using the same mix for finish work, greater strength, a denser finish, and a clearer, better-looking wall can be had by machine than can possibly be achieved by hand troweling."

"The danger that I see in this whole matter is that too many of our people may become too impatient and expect too much in too short a time. Those who are impatient should consider that we have been a good many years losing ground, and it may take some few years longer to re-establish ourselves in our traditional fields and in the new fields that are open to us."



• JOSEPH D. McNULTY

Plaster Mixers

Anchor

Anchor Manufacturing Company,
2900 W. 26th, Chicago 23, Illinois

Big Chief (formerly Rex)

Big Chief Division, Douglas Motors
Corporation, 2025 W. Clybourn
Street, Milwaukee, Wisconsin

C H & E

C H & E Manufacturing Company,
3849 N. Palmer, Milwaukee,
Wisconsin

CMC Hoeboy

Construction Machinery Company,
Waterloo, Iowa

Essick

Essick Manufacturing Company, 1950
S. Santa Fe, Los Angeles, California

Jeffery

Jeffery Manufacturing Company, 956
North 4, Columbus, Ohio

Knickerbocker

Knickerbocker Manufacturing Company,
630 Liberty, Jackson,
Michigan

Kwik Mix Dandie

Kwik Mix Division, The Koehring
Company, Port Washington, Wisconsin

Little Giant

Little Giant Products, Inc., Peoria,
Illinois

Handy

Master Vibrator Company, 1752
Stanley, Dayton, Ohio

Muller

Muller Machinery Company, Metuchen 6,
New Jersey

Multiplex

Multiplex Concrete Machine Company,
1430 Fremont, Elmore, Ohio

T. L. Smith

T. L. Smith Company, 2835 North
32nd, Milwaukee 10, Wisconsin

Speed King

Speed King Division, Jaeger Manufacturing,
612 W. Spring, Columbus 16, Ohio

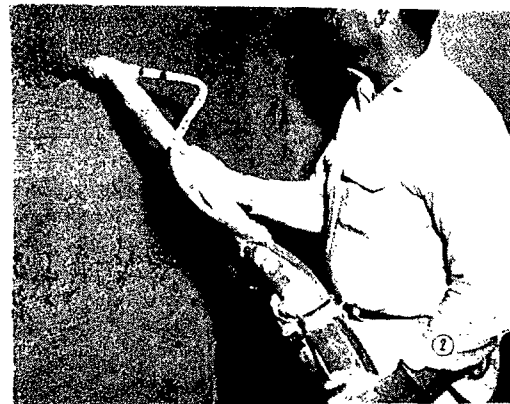
Gilson

Gilson Brothers Manufacturing Company,
Fredonia, Wisconsin

Worthington

Worthington Manufacturing Corporation,
Plainfield, New Jersey

you there will be innovations, changes and developments in some of this equipment—so fast-moving is this mechanization of our industry and so spontaneous its nation-wide acceptance. Yet, we are sure that you are here seeing and reading for the first time anywhere, the results of a serious and painstaking effort to serve you and the industry's future—and lathing and plastering's potential customers better—through mechanization of the age-old craft of lathing and plastering.



PLASTER MIXERS

First, and surely by no means stagnant, on the list of the tools and equipment which are bringing about the mechanization of lathing and plastering—is the plaster mixer.

This hard-working, dependable partner of our craft has not always been with us—in fact it is a comparatively recent adjunct to lathing and plastering, though its application is now so universal it is easy to feel there has never been another way.

There is a long jump from the first crude, faltering and sometimes inefficient plaster mixer to the trouble-free, streamlined helper we take so much for granted on the job today.

The manufacturers of plaster mixers have devoted their talents and energies to important objectives—dependability—mobility—long service. And, in all these particulars the

We're Sorry

...that despite almost a year of hard work on the part of **PLASTERING INDUSTRIES'** staff in assembling what we believe to be the most comprehensive section ever published on the machines of the lathing and plastering craft that the section does not contain detailed information about **all** makers' products.

...this is not entirely our fault, for we have invited every known manufacturer of a piece of equipment contributing to the mechanization of our industry to submit pictures and data concerning his products for this section and have repeatedly reminded the slow ones that we had a deadline to meet. Most have done so with great completeness—others have ignored our invitation completely, and some have furnished but sketchy information.

...we do feel, however, that the listing of products under each division is reasonably complete and if you do not find the product in which you are interested described in this section, write the manufacturer of your choice for literature, mentioning, of course, that you saw it in **PLASTERING INDUSTRIES**.

Your Mixer

THE life of even the best engineered and quality built equipment is governed by the care and maintenance it receives. Take care of your mixer, and especially the engine that drives it. See that the oil is changed regularly, only good clean gasoline is used and that regular gasoline cans are used for handling this liquid. Old paint and varnish cans have cost many hours of down time when they have been used as gasoline containers. Keep your mixer clean, especially the inside of the drum. It should be washed down between batches and thoroughly every night in order to keep plaster from setting up around mixing blades, packing arrangements, etc. A clean mixer drum will assure you of better uniform mixed material from every batch.

Protect your investment by good maintenance.

plaster mixer of today represents a long step from its first concept. Models of all types are now available to handle efficiently the batching requirements of the small patch job to the multi-story "plaster factory" — all mechanically. Great strides have been made in making moving parts—bearings, blades and other vital parts more long lasting and dependable with less "down time" for repairs meaning that the job gets more for its money with less equipment.

Rubber blades, now widely used in the industry, are a very recent development in plaster mixers—only 6 or 7 years old. At the same time the trend to electrification of mixing equipment has been another interesting and useful development. In a period of less than five years there are now more electrically powered mixers used in the industry than gasoline operated. This also means less lost time, quieter and more dependable operation and less hazard on the job.

And, along with streamlining and taking waste inches from all mixers, (Please turn to page 7)



● **FROM RIGHT** are Arthur D. Hoppe, president of the firm; Wayne Beatty, plastering foreman; Jack Hasley, vice president and field superintendent; Wayne is showing how he joined an ornate piece of staff work to run mold—with perfect alignment

the plastering contractor to reduce costs substantially because more sand could be added to the same amount of plaster and yet have a higher quality plaster because of the more thorough mixing.

The first portable, mechanical plaster mixer was designed and built by Bryant Essick in 1923 for Essick and Company. Essick and Company, now known as Essick Manufacturing Company, was founded in Los Angeles, California by the late Newman Essick and his son Bryant in 1922. Sixty plaster mixers were built and sold in 1923 by Essick and Company.

Mechanical features of the first mixer were:

- a) 1 cylinder Novo engine.
- b) A 6-8 cubic feet all welded, steel drum.
- c) Battery ignition
- d) 30 x 3½ Model T wheels and tires with ball bearings.
- e) A clutch adapted from a Model T planetary transmission.
- f) Ribbon type blades.

The acceptance of plaster mixers

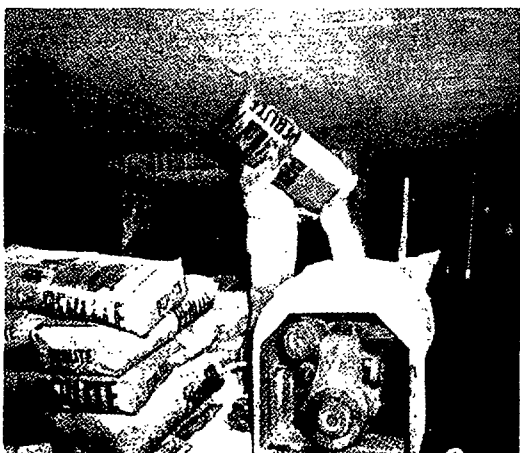
Industry's Oldest Mechanical Aid Not So Old As You'd Imagine

**Plaster mixer, industry's right hand,
less than 25 years old**

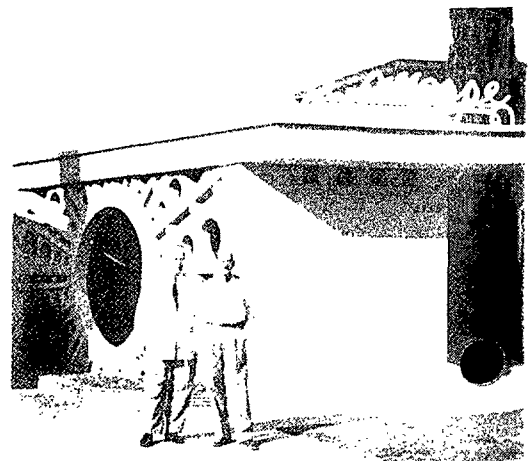
CAN you picture the plastering industry, with its widespread usage of mechanization today, without a mechanical mixer — or a plastering contractor not using a portable plaster mixer?

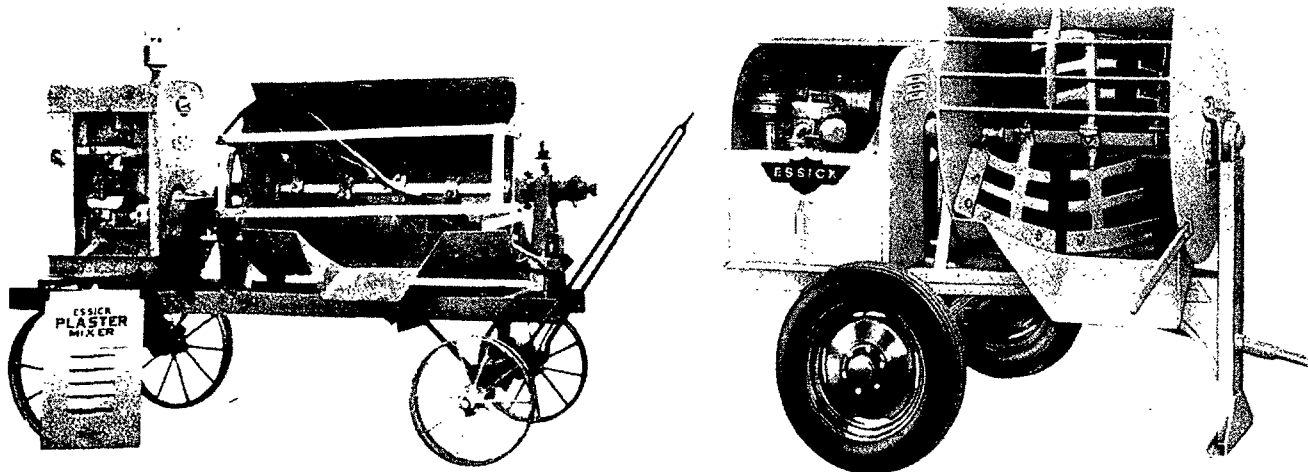
Without a mechanical plaster mixer, it is doubtful if lathing and plastering would have become the vital factor in the building industry which it is today. A number of major advantages were effected by a portable, mechanical plaster mixer. One was the greater quantity of plaster mixed in a much shorter time; another was a better mixing job which eliminated "white caps" and "butterflies" and produced a smoother mix much easier to spread. The mechanical plaster mixer enabled

did not come easy. The first demonstration, anything but successful, was for a plastering contractor on a school job in Whittier, California. A whole batch of plaster (without any retarder) was mixed, but before it was used, it set up! Understandably the contractor wanted no part of the new machine. However, six months later, following many other demonstrations he was convinced of



● **ART HOPPE** and Jack Hasley in front of the Hoppe Company offices. Note the ornamental plasterwork in background





● **LEFT PHOTO:** One of the early plaster mixers manufactured by Essick and Company; **RIGHT:** This is the 8-cubic-foot deluxe model currently offered the craft

the mixer's capabilities.

Plaster mixers were first sold on a national basis starting in 1925. Three different models of plaster mixers were made in 1926, after three years of production. Essick Manufacturing Company now sells 19 models and sizes to fit every plastering need.

Two companies, Essick Manufacturing Company, which designed and manufactured the first plaster mixer, and The A. D. Hoppe Company, which realized early the tremendous potential in using a mechanical plaster mixer, have played important roles in the development. Their growth has been roughly parallel, as each has kept pace with the growth, progress and mechanization of the plastering industry.

Arthur D. Hoppe, one of Southern California's prominent pioneer plastering contractors, was among the first to envision the tremendous advantages a portable, mechanical mixer would have. Art Hoppe started business in 1921 and for a while tried using small concrete mixers to mix plaster, as did a few other contractors. However the difficulty of mixing hair and the necessity of a chopping action to get a smooth, even batch of plaster made concrete mixers impractical. In 1923 Hoppe bought one of the early Essick mixers and put it to work on a series of buildings in Los Angeles. Presently the A. D. Hoppe Company uses more than 25 mixers.

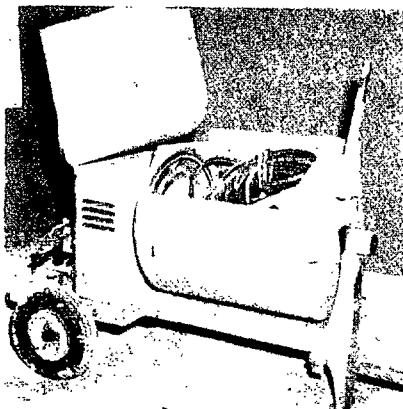
Through the years the A. D. Hoppe Company has done the plaster work on approximately 150 Fox West Coast theaters. One of the largest Hoppe jobs was the huge Tripler General Hospital in Hawaii, a joint venture with J. Carroll Duncan.

Other large jobs have been Warner Brothers movie studios, United Artists studios, CBS Television City,

May Company department stores, brewery for Schlitz and Pabst Blue Ribbon.

One job currently being handled by Hoppe Company is a building with a basement and penthouse, at 9700 Wilshire Blvd. Three exclusive shops will be housed in the building, each shop will have a great deal of ornamental cornice work (which was almost a lost art until the apprentice training program was adopted) that will exemplify the fine quality craftsmanship that has been ever present on all Art Hoppe's jobs. Supervising all of Art Hoppe's jobs is vice president and field superintendent Jack Hasley who has been with the company 26 years.

In order to survive, any industry, company, or individual must constantly strive for progress and quality. The plastering industry has been enhanced and perpetuated by many mechanical improvements. Among the improvements, the portable mechanical plaster mixer has been one great aid in quality work and mechanization. Currently, plaster machines and pumps, used with mixers, are rapidly gaining acceptance and wider usage to keep pace with progress.



Lath and Plaster Enhance Church In Buffalo

ONE of the best examples of the use of lath and plaster in Gothic architecture seen in Buffalo in recent years was executed by Edward Mader & Co., lathing and plastering contractor, in the newly completed St. Bernard's Roman Catholic church at South Ogden and Clinton Sts.

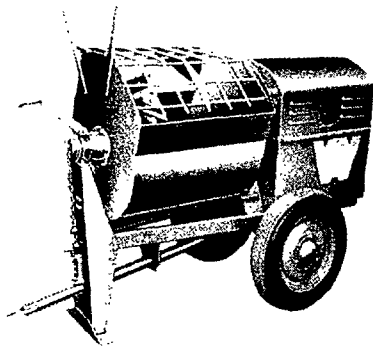
A spokesman for the Mader concern pointed out that the project called for an extensive layout job, with considerable use of steel channels and metal lath.

"We feel it is one of the nicest ornamental jobs in the Buffalo area in a long time," said the Mader spokesman. "Gothic architecture is not found in many of the modern churches being built today because it is too expensive. However, parishoners of the St. Bernard's church are well pleased with results."

All channels were formed right on the job. The project included 2500 linear feet of ribs. Mader handled the entire project, including plastered splays, plaster caps and moulding.

The Mader crew on this job averaged 15 men over a three-month period. Harold Keller was plaster foreman and Joseph Anthony, lather foreman.

← **● A COMPLETE** line of plaster mixers, from small portable machines to the largest job requirement is manufactured by Muller Machinery Company of Metuchen, New Jersey. This shows machine set up on job



CMC Mixers Popular

MORE than 40 years of experience back the full line of plaster mixers made by the Construction Machinery Company of Waterloo, Iowa.

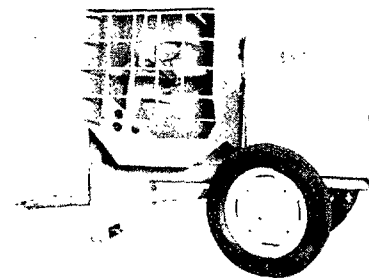
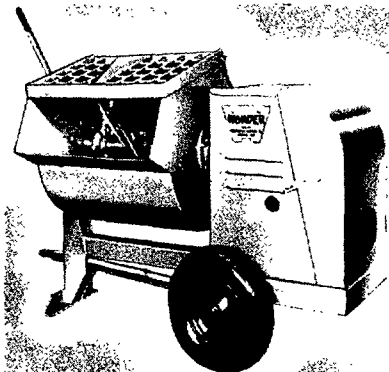
Offering five sizes ranging from 4 to 12 cubic foot capacity, all have exclusive "Triple Hoe" action for thorough end-to-end, over-and-under, to-and-fro mixing. On all Wonder models, the scraper blades are adjustable, and are available in steel or rubber.

Five CMC models include: the 4 cu. ft. "Hoe-Boy" which offers optional gas or electric power; two 6 cu. ft. mixers, the "Deluxe" and "Super Six"; 9 cu. ft. Super Nine; and for the real big jobs, the 12 cu. ft. "Mechanical Hoeman" which has power tilt as standard equipment.

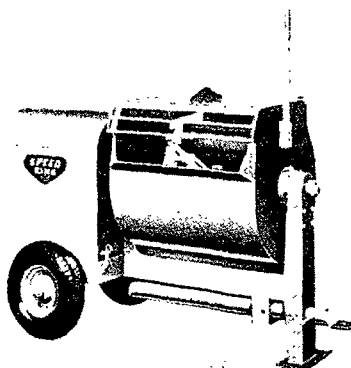
The heart of all CMC mixers is the hoe shaft construction, which insures easy maintenance and longer seal and bearing life with easily adjustable seal glands and paddle shafts. Low charging heights; heavy duty electric welded frames; tapered roller anti-friction bearings; safety grating and bag splitters, are among other features.

The machines are manufactured by Construction Machinery Company, Waterloo, Iowa, and distributed through dealers around the nation.

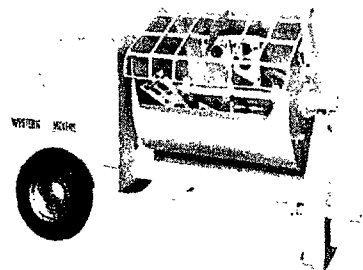
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● **BIG CHIEF** mixers are manufactured by Big Chief Division, Douglas Motors Corporation, Milwaukee. This machine is available in a 2-cubic-foot portable model (operates on chassis with handles and wheel like a wheelbarrow); provides top quality construction features; available in either electric or gasoline power; weighs only 225 lbs.; and an 8-cubic-foot, 2-bag model providing such features as criss-cross mixing action; perfect protection shaft seal; telescopic axle; and heavy duty Wisconsin air-cooled engine. Frame is welded-channel and tube construction; charging height only 44"; safety grid over drum meets all safety requirements.



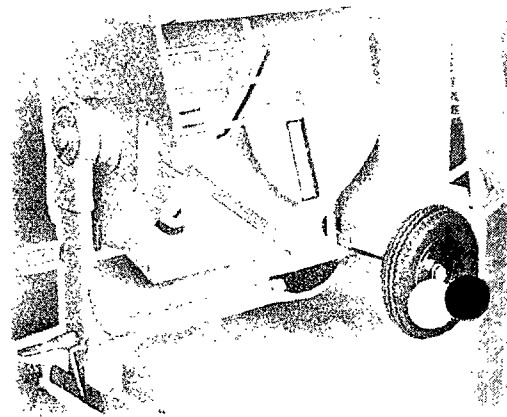
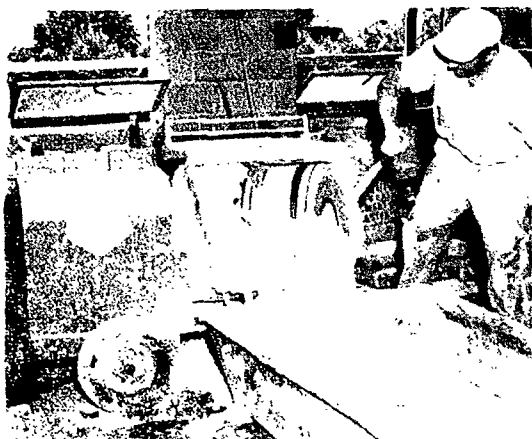
● **WESTERN MIXER** produced by Douglas Motors Corporation of Milwaukee—Big Chief Division. This self-cleaning machine comes in 4-, 6- and 8-cubic foot sizes—features low charging height, rubber scraper blades on each paddle plus extra wiper on each end to completely clean drum and drum heads; easy tilt drum, double sealed anti-friction thrust bearings, disappearing tow pole; anti-friction wheel bearings and pneumatic tires. Available in gas or electric power; housing is piano hinged for easy accessibility and protection of engine and drive; can be tilted on stops to allow more ventilation in hot weather



● **TWO SIZES** of plaster-mortar mixers—4 and 6 cu. ft.—in the Speed King line have proved popular with plastering contractors because of the features that enable them to produce smooth spreading material that is easy to spread or spray. These features include four sets of 3-blade paddles that give a fast pugmill "figure 8" mixing action; shift lever power engagement with either gas engine or electric motor drive, which makes it easy to start and stop mixing at any time without stopping engine; low loading height of 34" on the 4 ft. model and 41" on the 6 ft. model; width of the 4 ft. Speed King is only 29½" to permit it to pass through a 30" door; abrasion resistant alloy steel drums with safety grill and sack splitter and Timken shaft bearings, protected by leak-proof double neoprene rubber grease seals. Popular optional items are rubber wiper blades and replaceable drum reliners for severe abrasive service. Speed King Manufacturing Company Division of Jaeger Machine Company, 550 West Spring Street, Columbus 16, Ohio



● **GILSON MODEL 4-MP** plaster mixer features large drum 24" diameter, 28" long; rubber seals on drum shaft; available with rubber blades; grit proof precision bearings; smooth, dependable roller chain drive; clutch standard equipment; doorway width axle; choice of Wisconsin, Briggs and Stratton or Lauson gasoline engines or electric motor; hinged safety grill and bag splitter



MECHANIZATION (from page 4)

some progress is now noted in new types of plaster mixers—operating on the turbine rather than the rotating blade principal.

And, plaster mixers, now the most universal of plastering's mechanized partners, will continue to improve and stand ready to do their important part of the big job for our industry.

Following you will find listings and descriptions of the products now offered the craft by the various mixer manufacturers:

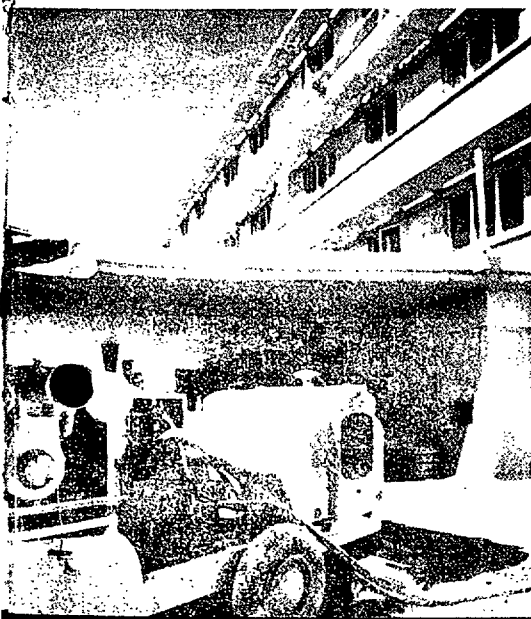
PLASTER MACHINES

It was not too long ago that one of the pioneers in the plastering machine field—the E-Z-On Corporation of Chicago, was about to throw in the sponge for a bad job so far as the lathing and plastering industry was concerned. There had been a considerable flurry of interest when the machine was first introduced to the craft—then came the backwash of troubles, complaints and disuse and it would appear for a time the fledgling company might be faced with calls for finding more resale customers for equipment it had already sold than new users.

Then, a few firms here and there decided to take a new look and immediately the plaster machine began to come of age, and along with the pioneers a host of other brands and types of mechanized plaster apparatus quickly came to the craft.

The reason for the early backlash was simple. Most plasterers were not mechanics—they were hand craft artists; and too many contractors attempted to make less costly by machine, work they had already under contract instead of realizing the ma-

● **SET UP** on the job a Karelus machine goes to work with only the hose leading from the machine to the wall or ceiling indicating that plastering is in process—no other equipment is needed for delivering plaster from the ground to the job



Plastering Machines

Airplaco Bondacoter

Air Placement Equipment Company,
1011 W. 24th, Kansas City, Missouri

Du-All, Glover and Azar,

7327 Varna, N. Hollywood, California

Cement Gun

Cement Gun Company, Allentown, Pennsylvania

Plaster Glazer

Colorcrete Industries, Holland, Michigan

Dou-All

Blomgren & Company, 1445 N.E. Marine Drive, Portland, Oregon

Doss

California Plaster Equipment Corporation, 2460 Channel Drive, Ventura, California

Dynoblast

Dynoblast Material Gun Company, 1808 Martin, San Angelo, Texas

E-Z-On; E-Z-Tex

Plaster Development Center, 1725 W. Pershing Road, Chicago 10, Illinois

Karelus Sand Hog, Fire Chief,

Vermicu-Pump, Jr.

Albert Karelus and Sons, 909 S. Fremont, Alhambra, California

Plaster-Master

Santa Anita Manufacturing Company, 4961 N. Double Drive, Temple City, California

Plaster-Tex

Fred Christian, Walker, Minnesota

Tex-Sprayer

Cyclone Equipment Company, 42 Clara Street, San Francisco, California

Tommy Gun

Thomsen Supply, Inc., 2733 South La Cienega, Los Angeles 34, California

True Gun-All

True Gun All Equipment Corp., Box 2526, Tulsa, Oklahoma

Spray-Way

2772 Norton, Lynwood, California

Sprayton

Sprayton Equipment Company, 18055 James Couzens Highway, Detroit 35, Michigan

Quikspray

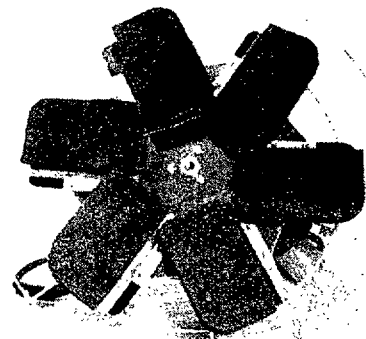
Quikstir, Inc., P.O. Box 327, Port Clinton, Ohio

chine curtain wall method; when laboratory tests revealed the great increases in structural strengths afforded by machine—when contractors discovered tract homes and apartments could be speedily and beautifully done by machine; when journeymen discovered the machine was creating more demand for our products and there was more employment rather than less—then the machines had the stimulation and enthusiastic backing which today make them the biggest news in lathing and plastering. And, with them most of the new vistas for our industry are opened wide.

The plaster machines, described in some detail in this section fall generally into two categories—first, the basecoat and volume production machine and second, the texture or finishing machine. While many of the larger machines will do both kinds of work efficiently many contractors are finding it profitable to have machines of both types to speedily place the large volumes of our materials required for fireproofing, curtain wall construction, and browning of solid partitions—and one or more of the smaller machines to economically and quickly apply a wide range of tasteful textures and finishes. Some of the manufacturers make both types—others concentrate in one field or the other. But, an especially interesting point to remember is that virtually all of the plaster machines now offered our industry have been developed and put on the market by our own people—contractors and journeymen—rather than outside equipment manufacturers. Proof that the "operation bootstrap" so often used in the progress of our industry in recent years—is a reality.

(Please turn to page 9)

● **THE POWER Trowel** and its companion (pictured) the power float, offers the industry one of its most stimulating new opportunities in mechanization. Better work, more types of plastering and greater customer satisfaction result from the use of this unique tool, invented by Burnaby, B. C. contractor Douglas Drummond, now a product of Plaster Development Center (E-Z-On)



chine opened vistas for new types of work the plastering industry had long since lost or never had. When the machine fireproofing jobs came to architect's and builder's attention; when the public saw the beauty and realized the economy of machine applied acoustic; when far sighted leaders in our industry demonstrated that schools, small buildings and homes could be as easily and economically constructed as major commercial structures—with the ma-

Modern Plaster Machines Designed to Provide Versatile Operation

By ALBERT KARELIUS & SONS, INC.
Alhambra, California

INDEED the era of mechanized plastering is here. During the last several years, plaster pump manufacturers have been spending endless days and months on research to perfect systems that took the hard work out of moving plaster around on the job. During the last two years, the fruits of their efforts started to bear. Today, mechanized plastering cuts down the hard labor, reduces application time and leaves the arts to the trade.

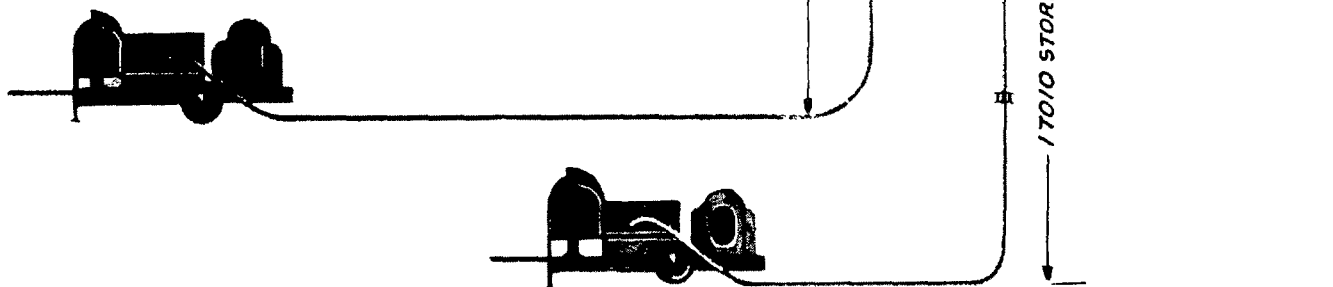
Today, using certain materials, one plaster pump with synchronized compressed air can pump uniformly mixed materials as high as 300 feet. The modern plaster pump is noted for its simplicity of operation, dependability of uniform material flow, plus speed of coverage. It is common to see a complete plastering unit, mounted on a special mechanized trailer bed, moved into the central location of a job site. No physical contact is made between the mixer and the man at the nozzle end of the hose. Like a fire hose, the proper pressure and mixture of material is controlled at the nozzle end, whether it be at the ground floor level or up 20 stories.

For instance, a Sand Hog pump with compressor and mixer is set up at ground level. The plasterer desires to start at the 14th story. A 1½-inch metal pipe is tacked to the building side to the 10th floor. Here a relay booster is set in, from which the desired length of flexible hose is attached for 14th floor plastering under pressure or the hose may be set up to floor level to supply a buggy for hand operation. One thing is very important in this mechanized plastering age. Because of the speed of modern plastering operation, plenty of scaffolding should be set up to prevent tie-ups of the plasterer and the pump operation.

The modern plastering gun encompasses a spray pattern control, thus reducing waste of material and adding to the neat, attractive, professional finish of the plastering job. The modern gun control allows plastering to be done in tight places almost beyond the reach of the plastering guns of yesteryear.

There are pumps on the market, such as the Sand-Hog, that will pump any material required on a job. These materials include gypsum regular fibered, double fibered, glass fibered or unfibered, with such aggregate as sand, vermiculite or perlite; wood-fibered gypsum with or without aggregate; portland plastic or common cement with sand, vermiculite, perlite, asbestos, asbestos mineral wool, haydite and limestone, as well as all pre-mixes both for base and finishes.

Because there have been so many important changes made in today's mechanized plaster pumps, schools are being maintained by manufacturers. For example, under the direction of Lyle Karelius, vice president in charge of development, a school is maintained both at the plant and in the field. Chief purpose is to teach quality mix control and consistency of mix for a clean job, via use of today's streamlined, efficient, easy-operating mechanized plaster pumps.



MECHANIZATION (from page 7)

One of the most recent and most revolutionary and at the same time the most logical, in the march of mechanization to the lathing and plastering craft, is the power trowel —(and now, the power float)—now doing yeoman service to better plastering and more of it everywhere in the land.

Basically the power trowel (or float) is simply a set of revolving blades to more quickly and more efficiently finish a plaster job. But, it was not that simple. It took Douglas Drummond, Burnaby, British Columbia contractor (and inventor of the power trowel) a great many long evenings in his shop and a great many days on the job—and considerable of his limited finances, to develop the exact pitch, shape and angle of the blade to do the job efficiently and economically and after his rough model was taken by the E-Z-On Corporation it required the investment of huge sums of money and long research, job use and development to perfect the power trowel so it could be offered the craft as a product which would better finish coat plastering. And, then some more long hours and much more money went into the development of its twin—the power float which is now revolutionizing plaster finishing around the land—affording better, trouble-free and more durable plasterwork and saving countless journeymen the grief of sore muscles at the end of the working day.

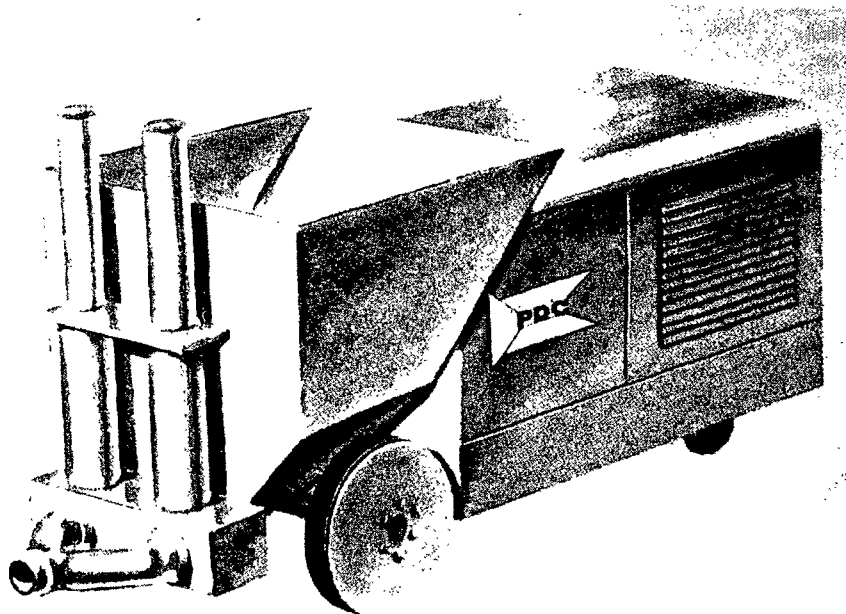
The power trowel has made it possible to more quickly and economically finish plaster—it has virtually eliminated the major problem of shrinkage and craze checking—it has opened the field of super-hard finish plaster which will serve even as blackboard surface—opening new fields to lathing and plastering and new economies to those who construct buildings. And, saving time—an important point in today's construction picture. The power float and trowel is one of the craft's most recent partners in the field of mechanization and has taken the craft's fancy quickly everywhere.

POWER LATHING

Along with the development of mechanized application of plaster, the vital lathing branch of the craft has come along rapidly, too.

While not truly mechanization—the popular clip systems which are now so widely used in buildings of all types—contribute to the mechanization of the industry through the fact that their manufacture in modern factories provides the mechanic on the job with a carefully fashioned attachment for doing the job better and in less time and providing the customer of lathing and plastering

(Please turn to page 19)



● STEDIFLOW MACHINE, claimed an engineering breakthrough in the design of plastering machines, gets premiere at CPIA convention

New "Stediflo" Plastering Machine Gets Premiere At CPIA Meeting

THE future of the plastering industry lies in the machine application of gypsum and portland cement plaster. Big developments of the last nine years, such as the increase of machine-applied acoustical plaster, and the entirely new field (for lather and plasterer) of curtain wall construction have left no doubt of this.

The growth of the industry, then, depends to a large extent on the ability of the machines at its disposal. The better the machines, the better the plasterer's opportunity for expanding his business and increasing his profits.

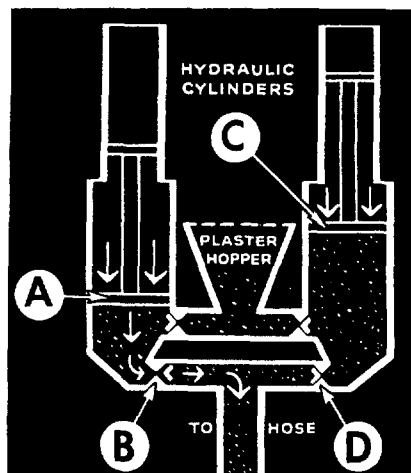
The new "Stediflo" plastering machine, to be introduced to the plastering industry at the CPIA conven-

tion and manufactured by Plastering Development Center, Inc., solves all of the basic problems of the machine application of plaster.

The first commercially practical machine was developed by the E-Z-On Corporation (now Plastering Development Center, Inc.) in 1949, and since that time a number of different types have appeared on the market.

Nine years of machine application have proved that the most desirable

● **HOW THE new Stediflow plastering machine automatically compensates for the compressibility of plaster.** Plaster piston A is nearing the downward extent of its stroke, forcing plaster at the desired pressure out valve B into the hose. At the same time, plaster piston C, having reached the uppermost extent of its stroke, has already started downward, compressing the plaster to a sufficient pressure to provide a steady flow to the hose when valve D opens



single requirement of a plastering machine is a steady flow of plaster. This has been very difficult to achieve because all plaster or cement mixes contain entrained air, ranging from 10 to 40 per cent of their volume. Entrained air makes the mix compressible, and this compressibility has posed serious obstacles to the achievement of a steady flow.

A steady flow of plaster is important for three reasons:

1. When scratching metal lath, a smooth, steady flow is essential to provide a uniform scratch coat. A surging, pulsating flow alternately "blows through" the lath or fails to "key," thus making flat, even application impossible.

2. When spraying on a ½-inch brown coat, a steady flow assures a flat, even coat requiring less hand work.

3. When spraying on a texture coat of acoustical plaster or a sand finish, a steady flow is necessary to maintain the same overall texture.

Two other problems affecting plastering machines are inherent in the plaster mix. The abrasive action of sand and other aggregates imposes a severe strain on equipment which can only be overcome by careful engineering. And the quick-setting action of the plaster mix requires that the machine be designed for fast, easy cleaning.

Up to the present time, five types of machines have proved practical for the machine pumping of plaster:

The Auger Type, consisting of rotor and stator, was successful in providing a steady flow of plaster, but plaster could only be pumped a short distance and all-sand mixes could not be pumped. Maintenance costs were very high.

Pressure Tank Pump, involves placing plaster in air-tight tank, then introducing air pressure to force mix through hose. Has no moving parts to wear, but requires batch mixing so that operation is not continuous. Pressure requirements vary with the consistency of the mix, requiring continual adjustment to maintain a relatively constant flow. And when emptying the hose, plaster velocity speeds up, causing a dangerous jet action.

Two-Cylinder Pump on Crankshaft, illustrates difficulty inherent in compressibility of plaster. As one plaster cylinder reaches bottom of its stroke, the other reaches the top and starts downward. However, it may move downward as much as 40 per cent of its stroke before it has compressed plaster sufficiently to re-establish a normal pressure and, consequently, a normal flow. Continuous spurts or pulsations in flow are inevitable result.

Two-Cylinder Pump Operated by Air, consists of two cylinders placed

in line and powered by an air compressor, has same disadvantage as Pressure Tank Pump. Fails to compensate for compressibility of plaster, resulting in a pulsating flow at nozzle.

Two-Cylinder Pump Operated Hydraulically, consists of two cylinders placed in line and powered by an hydraulic cylinder. Like the air-operated pump, this machine fails to compensate for the compressibility of plaster, and produces even greater pulsations at the nozzle.

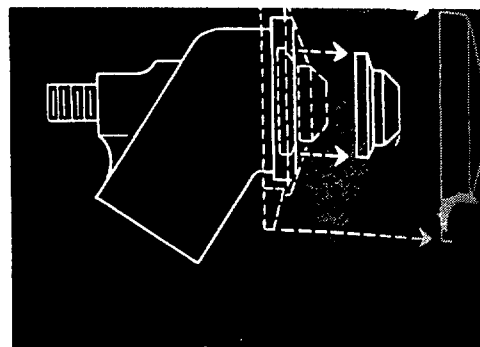
Many extremely small machines have been put on the market and these have appealed to contractors because of their portability and low price. These small machines are ideal for small jobs and for texturing. However, contrary to some thinking, three or four of the small machines cannot be used to replace one big machine on a large job. Such use of the smaller machines is not economical, and may prevent the plastering contractor from being competitive—and the future of the industry depends upon his being competitive at all times.

Although all of these types of machines have disadvantages, they reduce the cost of applying plaster or cement and are performing valuable service today. The growth of the plastering industry in machine application has depended on them until now.

The engineers at Plastering Development Center, Inc., the same men who developed the first commercially practical plastering machine, have been aware of these problems for years. In developing a new machine, they resolved not to attempt to market a device which would not solve the problems of pulsation, valve leakage, separation, pack-ups and abrasion.

During their first two years of developmental work, they came up with a machine that would pump all-sand plaster, any pre-mix, any lightweight aggregate. But this wasn't good enough. Five more years of testing and research were necessary before the new Stediflo machine was perfected.

Three flow-control features make it possible to use the new Stediflo machine for browning, for scratching metal lath and for all texturing work. (1) Hydraulically operated pistons automatically compensate for the compressibility of plaster, and deliver a steady, non-pulsating flow. (2) Rate of flow can be varied as simply as tuning a radio, adjusting from 1 to 225 sq. yds. of ½ in. thick plaster per hour merely by setting a dial. (3) Volume delivered remains constant, even if stiffness of the mix is changed. It can pump at two or three times the pressure at which the auger pump could effectively be used.



● **NOZZLE OF new Stediflow** which weighs much less than types now in use, has a new "snap-on" orifice tip—can be removed, cleaned and replaced in just 5 seconds

These three features have never before been available on one plastering machine. In addition, on the Stediflo machine, spray control is precisely regulated at the nozzle. The new, easy-to-clean Stediflo nozzle weighs significantly less than types now in use. Nozzle stoppages can be cleared in 50 per cent less time, thanks to the new "snap-on" orifice tip that can be removed and replaced in just five seconds. There's no need to use a special wrench to remove the nozzle, no need to scour the nozzle to remove sand from screw threads.

Ease and simplicity of cleaning are major features of the Stediflo machine. It can be cleaned out in as little as five minutes. Maintenance due to the abrasive action of the plaster is so low as to be insignificant, while on machines like the old auger type, it was possible to spend as much on maintenance in a year as the original cost of the machine.

Other specifications of the Stediflo machine: Height, 40 in.; width, 28 in. (will go through a 28-inch door); length, 72 in.

Power sources: 32-amp., 60 cycle, 220-volt electric motor or 15 hp., 2-cylinder gasoline engine.

These two power sources are interchangeable on the job by the contractor. The machines are identical. The gasoline engine, equipped with an electric starter, is ideal for outdoor use, or where ventilation is no problem. The electric motor makes it possible to use the same machine for indoor use in the winter, when ventilation might be a problem.

The Stediflo plastering machine, combining all of the best research of recent years, represents a real engineering breakthrough in the plastering field. It will enable plasterers to compete in markets that are just opening up, and make it possible for them to realize greater profits and exploit more opportunities than ever before.

Trowel Must Give Way To Gun

Contractor-manufacturer offers some solid advice on mechanization

By C. RUSS SHINNEFIELD, Spray-Way, Inc.

MECCHANIZATION has finally arrived in the age-old plastering craft. Until a few years ago this was virtually the only business where no major technological improvements had been made.

Within five years the industry is going to see 90 per cent of base coats applied by machine. Plus a healthy percentage of finish work.

Some contractors ridicule such statements. They sincerely believe that the way grandpa applied plaster will never be improved upon. They're wrong. A contractor who refuses to keep in step with progress is on the way out. His competitors will back him off the map with their improved efficiency.

This is true of both large and small contractors. It's just as easy to move one of our Spray-Way units onto a single house job and fire it up as it is to get a mixer running for hand application. Some contractors in the custom home field are already using pumps. More will follow. Eventually everyone must have a machine if he intends to stay in business.

I make these statements more as a contractor than as a manufacturer. No one manufacturer is going to corner the market. If you don't have a machine now you'll either buy a Spray-Way or something else.

The point is that you'll mechanize—or die on the vine.

Please don't get the idea that mechanization as we think of the term is a revolutionary step. It's history repeating itself. We have mechanized before and are now in the midst of another phase. There is nothing about a plaster pump to cause consternation. Keep an open mind and consider cold facts.

How could you hope to compete on today's market if you drove to the job every morning in a horse drawn wagon? Would any contractor even consider giving up mechanical mixers and going back to the hoe?

In the early days we figured it took a mechanic to start the water cooled mixer every morning. The thing scared us. But gradually the trade learned how to handle those machines. Just as it had previously scoffed at and then accepted gasoline instead of horsepower.

Engines are better constructed and more foolproof today than they were

a generation ago. That's one big advantage a contractor enjoys with plaster pumps. There is less reason for him to worry about keeping his gun running than his mixer. Our Spray-Way units are heavily powered. They are designed to last longer and give less trouble than the average mixer.

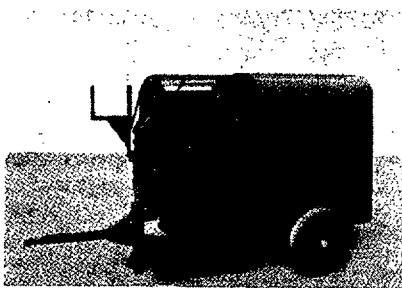
It doesn't take engineering ability to keep a pump operating. All it requires is plain common sense. Grease and oil it as you do any machine. A good hod carrier can become an expert in a week.

Of course the pump mechanism will be new at first but it's essentially simple—far more so than an internal combustion engine. Rotors and stators will wear, and each crew should have spares on hand. It takes less than 10 minutes to replace a tube. Most contractors also like to have an extra 25 ft. length of hose on the job.

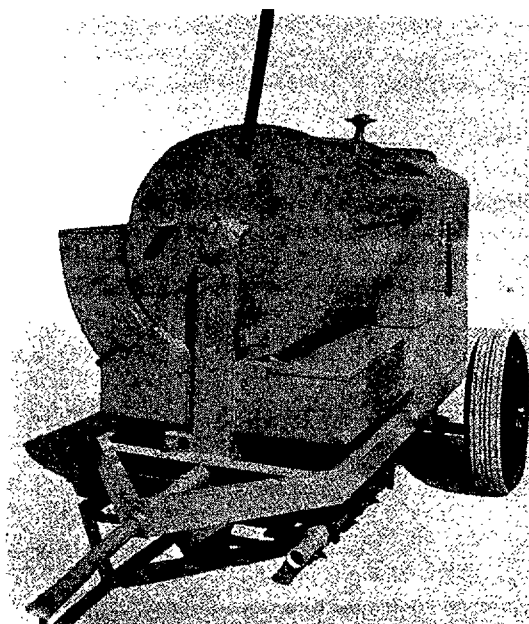
Under ideal conditions you can triple production by using a machine. And think of the new fields it opens up. Fireproofing, marvelous looking acoustic, spandrel wall construction, back-up for exterior facing, etc. The potential yardage represented by these completely new applications is truly fantastic.

That's why progressive union spokesmen have taken the long range view and refused to fight machines. They also recognize that both hod carriers and plasterers are relieved of the back-breaking labor once expected of them. Employees needn't go home at night as tired as ditch diggers. Tools have been placed at their disposal which both increase their skill and reduce fatigue.

It's not my purpose to tell you



● **JUNIOR MODEL** of the new machine developed by southern California plastering contractors



● **SPRAY-WAY MACHINE**, front view; stand visible under towing bar is hinged and swings up out of the way

how to run your jobs. Nobody can do that. But I can give you some personal experience which may benefit those who haven't tried gun application.

In our shop it takes about a day to break in a nozzle man. Any competent journeyman can be making money for his employer in that time.

He has three controls to master: pump speed, air pressure, size and shape of orifice. In various combinations they produce different spray patterns and textures.

We don't find clean-up a problem. Once we masked trim, but no longer feel this is necessary. The newly-developed Spray-Way has a speed control at the nozzle, so the operator can move in close to the wall, slow down the pump, and cut in around openings. We have even demonstrated that this can be done effectively on exterior eave-overhangs of houses, where rafter ends have caused so much difficulty in gun application.

If the job is done at once, any spatter that happens to get onto the trim can be washed off very easily. We also use another machine, which shoots walnut shells, to dress up any surface that needs it.

We can reduce scaffolding requirements 50 per cent by using an extension on the nozzle. The extension makes it possible to shoot the upper portion of a room from the floor. All it amounts to is an extra length of pipe from 18 in. to 24 in. long. With this system it's not necessary to scaffold three or four rooms ahead of time for the nozzle man.

I don't mean to oversimplify mechanized plastering. While it's not at all complicated, there will invar-

ably be those times when the unexpected happens. On the next occasion you'll know what to do.

Like most manufacturers, we stand behind our equipment and see to it that any bugs are ironed out. It's got to make money for you or we don't stay in business. You're not facing a job shut-down if something happens to the pump on a Spray-Way. The mixer stands at regular height from the ground and can be immediately converted to hand application.

Many contractors have demonstrated that machine usage is not limited to spraying plaster. In some areas they have been put to work pumping grout. They are frequently employed in elevating mortar to upper floors. As mentioned above, the Spray-Way may serve as a mixer for hawk and trowel work. All of these possibilities broaden the field for an alert contractor.

Always remember that plaster is no more sacred than any other product or service. If something equally good comes along at a lower price, no builder is under obligation to use plaster.

Machines increase our efficiency. They enable us to meet competition, both inside and outside the industry. The question isn't whether we mechanize, it is when and how well we mechanize.

Machine Care

Frequent washups of your plastering machine pay many times over for the little time needed to do this important task—it gives results.



FRED CHRISTIAN, former Fargo, North Dakota (now Walker, Minnesota) plastering contractor, is the inventor and manufacturer of the very popular Plaster-TEX machine, now in wide use throughout the industry both in North America and in many foreign countries.

Like most of the mechanized equipment to come to our industry in recent years, the Plaster-TEX is the result of a practical mechanic's need for doing the job better. Therefore, the Plaster-TEX got long, hard usage on Fred Christian's own jobs before it was put on the market and thereafter improvements and changes have been made as the job situation warranted to a point where Christian knows both from his own job experience and that of his associates in the industry that his machine is properly engineered to do the job expected of it.

The Plaster-TEX has rapidly be-

Plaster-TEX Is Product Of Contractor

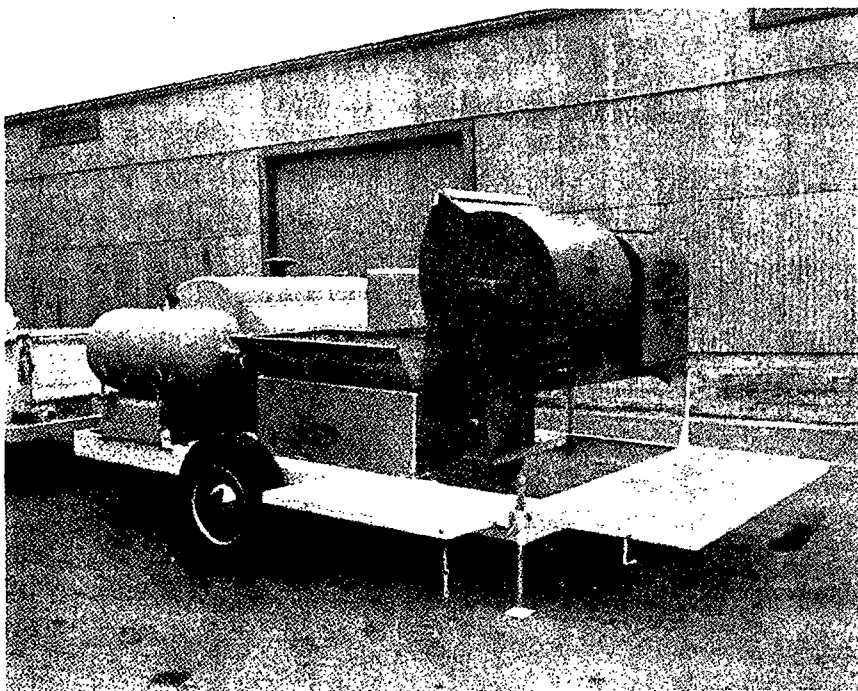
come big business to Fred Christian, to the point where he has now retired from active contracting and is devoting his full time to its manufacture and distribution. Christian is a "working manufacturer" and spends a large portion of his own time in the field to see that his customers get satisfaction and good jobs from his machine and to bring back to the factory any suggestions which come to him from the field.

Sound engineering and plaster "know-how" plus quality construction make most Plaster-TEX owners strong boosters for this extremely versatile machine.

Chief components of the Plaster-TEX are a husky motor-driven compressor mounted on a sturdy frame with wheels for easy mobility and a large stainless steel hopper provided with adjustable slide air stem and interchangeable orifices and jet pins to control desired flow and texture (gasoline powered models are also available).

Christian is especially proud that all of the materials used in his machines are of high quality, designed to serve his users well and faithfully without undue adjustment, awkward or tiring shape, and assembled to uniform standards of excellence.

"It's the kind of machine that we found we needed in our own shop," he declares, "so it's now available to other contractors."



Want Information?

Send either a card or letter to any of the manufacturers listed in this Story of Mechanization and they will be happy to furnish you with complete details of their products, or PLASTERING INDUSTRIES will be pleased to obtain information for you. A card or note will do the trick and be answered promptly.

• **COMPLETE, MECHANIZED** mobile unit plastering factory-on-wheels offered by Albert Karelius and Sons. The whole unit is mounted on a steel trailer bed and may be hauled from job to job intact

ABC's

of Machine Plastering...

By THOMAS S. THOMSEN

WE are writing this article for the plastering contractor who is not yet familiar with plastering machines and machine operations. There are several types of machines available today. There are also many ways that these machines can be put to use on the job. In this article we will discuss primarily the use of small machines, such as the Tommy Gun plastering machine.

There are two types of pumps in common use. One is a piston type which incorporates a piston and check valves to pump the material. The other is a progressive cavity type, called a Moyno pump. It is this Moyno pump, manufactured by Robbins & Meyers, Inc., that we will discuss in this article.

The Moyno pump is used on the Tommy Gun plastering machine. The Moyno pump is used because it is capable of pumping plaster materials at a steady constant rate of flow, yet it is very simple in design. It has only one moving part, the rotor. The

plating over the steel. This rotor turns inside of a steel encased rubber stator tube. These are the two pumping parts, the rotor and the stator.

The rotor is sometimes referred to as the screw, because it has the appearance of a round smooth screw. Since the rotor turns inside of the stator tube, the rubber inside of the tube has a similar shape to that of the rotor. They aren't exactly the same shape, because a cavity is formed between the two parts. As the rotor turns inside of the stator this cavity travels through the length of the pump. This creates the pumping action.

The length of the rotor and stator tube determines how much pressure the pump will develop. A two stage pump is twice the length of a single stage and will develop twice the pressure of the single stage pump. A two stage is used on the Tommy Gun plastering machine.

The pump is the most important part of the plastering machine, but other factors are necessary in its construction to make it useful on various types of work in the plastering industry. A machine like the Tommy rotor is steel with a hard chrome

● **TOMMY GUN** was developed by Thomas S. Thomsen, CPIA honorary member and retired Los Angeles plastering contractor widely known throughout the industry

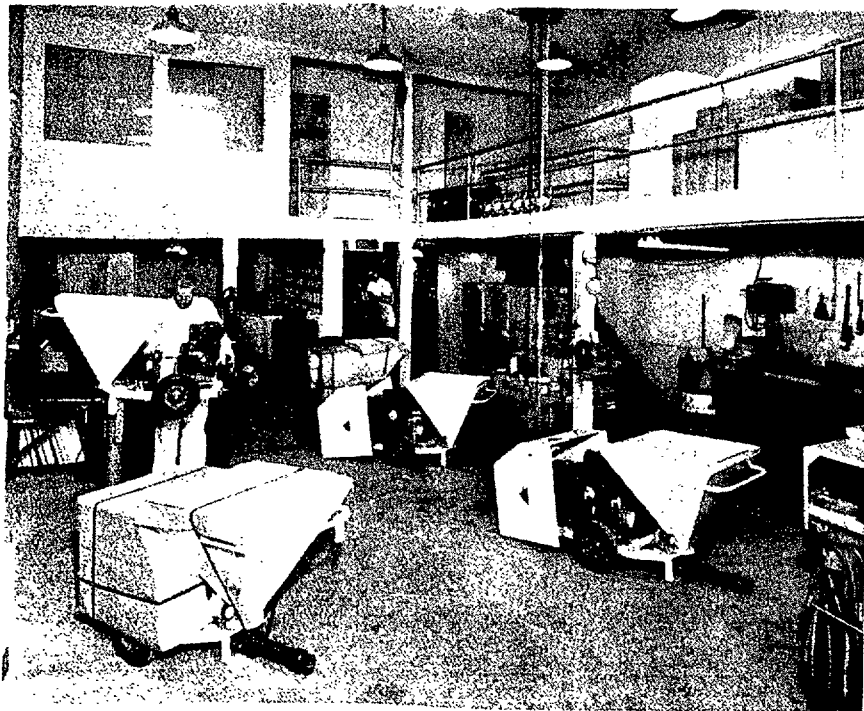
Gun has a vane type air compressor, a heavy duty air cooled gas engine, an automatic clutch with remote control at the nozzle and a variable speed drive to regulate the volume output of the pump. With these features built into a machine it is possible to do many types of work, such as texturing, acoustical plaster, inside brown, fireproofing, cement dash, outside scratch. A machine should also be as free of maintenance as possible. A machine like the Tommy Gun requires very little grease or oiling.

The nozzle is an important part of the machine operation. A full understanding of the principle of operation of the nozzle is very important. The nozzle used on the Tommy Gun plastering machine has an air control at the nozzle to turn the pump off and on remotely. This control is operated with air from the compressor. For this reason there are two air lines that have to be as long as the material hose.

One large air line furnishes air to the nozzle head to break up the material and one smaller air line returns air to the control on the machine to turn the pump off and on. The material being pumped to the nozzle comes through an orifice in the nozzle head. Air from the large air line enters the nozzle head just behind the orifice. As the air hits the material it breaks it up into a pattern. Various patterns may be obtained.

The type of pattern or finish depends on four things: the air pressure, the size of the opening in the orifice, the rate of flow at which the material passes through the orifice, and the stiffness of the material. For instance, a fine finish will need more air, less volume or rate of flow, smaller orifice and thinner or wetter material than a heavy course pattern or finish. A thin material will break up fine with enough air pressure while

● **INTERIOR VIEW** of modern plant where Tommy Guns are made and readied for shipment to users around the world



a heavy material with less air pressure will make a heavy course finish.

These are things that the contractor can become familiar with in a short time. If these various adjustments were not possible on the machine, it would not be possible to satisfy the owner or the architect's wishes as to texture and pattern of the finished job.

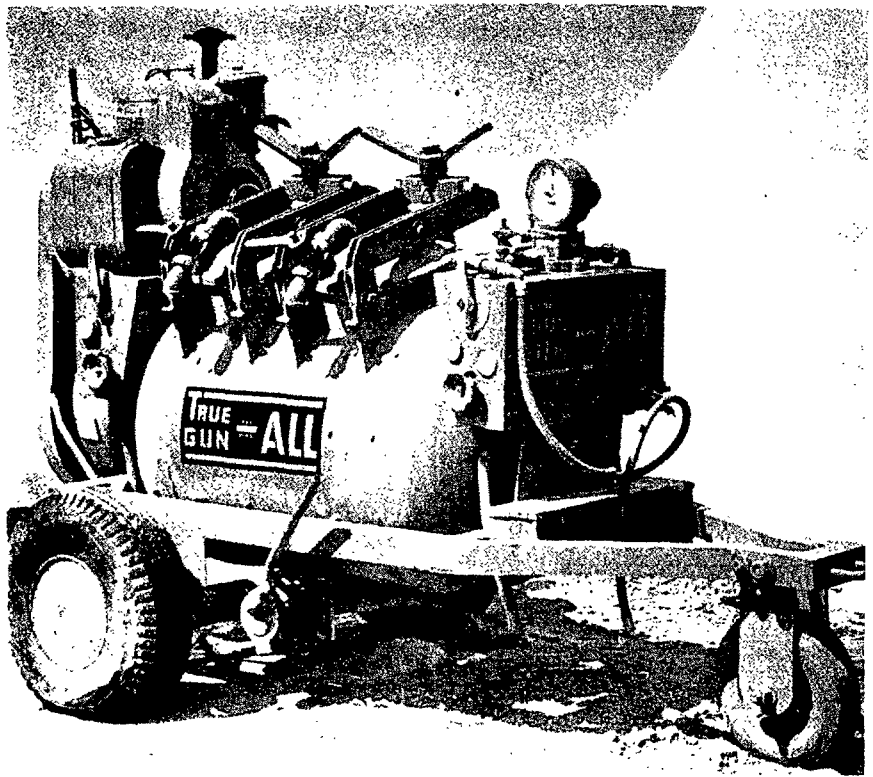
The mixing of the material to be pumped is an important item. A clean mixer should be used to prevent old chunks of material from getting in the mix and then clogging the nozzle. A screen on the hopper of the machine will help in keeping these chunks from getting into the pump.

In most all cases more water is needed in the mix than when applied by hand. A thinner mix allows the material to flow more readily through the hose and reduces the wear on the pump. The material is easier to work when applied in this manner.

Material hoses are available in various sizes and lengths. The size and length of the hose will depend on the material to be pumped. Thin texture materials can be pumped through a smaller hose than a heavier brown material. For this same reason there is a smaller texture nozzle and a large browning nozzle available.

In most cases a machine applied job is planned a little differently than a hand applied job. These things are usually worked out by the contractor. Each contractor has his own technique in running a job. The plastering machine should and can become another useful tool as did the power plaster mixer not so many years ago.

• **HYPERBOLIC PARABOLOID** structure fashioned entirely from light steel, metal lath and True Gun-All method. Good housing, fast, at low cost



True Gun-All For Big Work Is Progressive Building

AN INGENIOUS contribution to the mechanization of the industry, the True Gun-All, developed by Tulsa, Oklahoma lathing and plastering contractor Max M. True, will, according to its maker, place up to 4 cubic yards of concrete an hour.

Instead of combining dry sand and cement with water at the nozzle as do other pneumatic guns, this compact machine blends the batch thoroughly in its own two tank chambers and sends it out wet. This is said to reduce the overspray, enable

lower slump concrete and save material.

Control point for proper hydration is in the mechanically governed mixing drum and premixed materials of controlled density and moisture content are pneumatically applied up to long distances from the machine itself.

Any type of cement material, plaster, stucco or concrete is applied to even consistency without sand pockets, and the dense material has excellent adhesion for large jobs such as covering of tanks and towers, fireproofing of decks, beams and columns and overcoating of various types. There is very little bounce-back or waste. A mesh of metal lath can be used with reinforcing steel as an inexpensive integral formwork for unusual shell shapes and hyperbolic paraboloid structures.

True-gunned concrete has high compressive strength—as much as 6000 psi for a 1-4 mix at 7 days and sand used may be either wet or dry. The pumping action of the paddles inside the tank permits hose lengths up to 250 feet.

In operation, first one tank and then the other is charged, the lid



• **NOZZLEMAN SCRATCHING**
metal lath with True Gun-All

clamped down, and the production becomes continuous.

Plastering or placing operations may take place at considerable distance from the machine itself permitting versatility in such operations as covering of high tanks and towers, lining of vessels and pipes with refractory material, high output steel fireproofing, structural concrete, rock wool cement, plaster or grout, swimming pools, etc.

True-All guns have been purchased by such companies as New York Central Railroad for repairing bridges and grouting behind bridge abutments, U. S. Steel and other major steel producers for repairing their open hearth furnaces while hot and for all manner of plastering operations. At present there are approximately 55 in use in the U. S. and users also in Japan, Venezuela, Canada, The Hawaiian Islands and other points. Huntley-Blazier Company of E. St. Louis is considering use of the True-All for their job in Dallas for fireproofing steel beams with lumnite and haydite.

The structure pictured is built entirely of metal lath and reinforcing steel without forms. The roof is 2 inches thick, the walls 6 inches. Approximately 3000 homes are in the process of construction in Havana, Cuba making use of this light shell method of construction.

Hoses Important

A good hose is just as important as a good machine for mechanized plastering. Buy the best; give it good care; clean it out frequently; watch the pressure and you'll get better production and less down time on the job.

Machine Plastering Today, Future, As We at Plaster-Master See It

SEVERAL YEARS ago when we designed and built the first finish plastering machine we did not visualize the great potential and need for mechanization within the industry. Today we are presently manufacturing six different model plastering machines that are specifically designed to pump and apply plaster.

Many sections of the country are not as open minded about machines as are the contractors of Southern California, and the acceptance is slow. We note that in a great number of these sections substitutes of plaster are stepping in and have cornered a great share of the business that once belonged to the plastering contractor. In many areas drywall has all but pushed aside the interior plastering of homes, and is now starting on the commercial, store building type of construction.

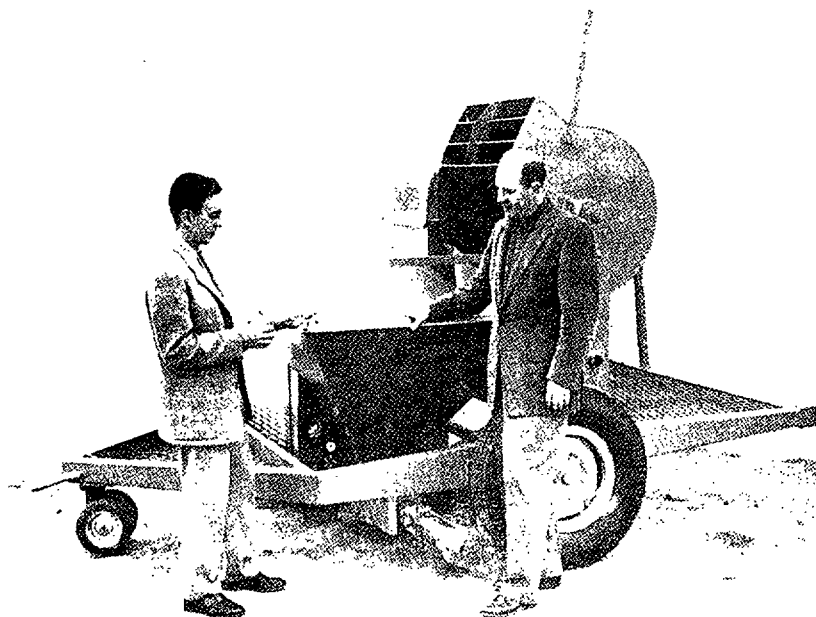
Plastering machines are not the answer by themselves, but we firmly believe they are very necessary if the industry is to stop this trend. Not only can machines gain back what has been lost, but they can be used to great advantage on many fairly recent types of construction. Fireproofing steel beams and col-

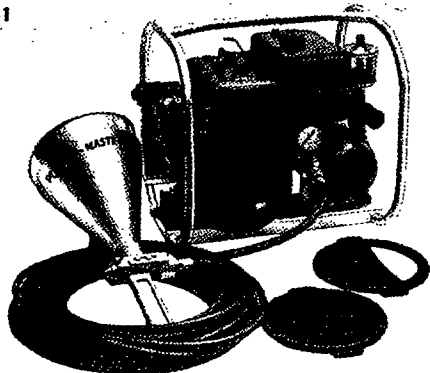
umns, filling solid partitions, are two fast growing applications that are best accomplished with machines.

Some architects, builders and contractors have the misguided thought that if a plastering machine is used on the job it means an expensive clean-up procedure. This is not the case if a little thought is given in organizing the job set up, such as protective masking, sufficient number of men to clean as you progress, and not lose sight of the fact you will just about double the yardage. Proper location of materials is also very important. Training by experience, is important and it has been proven by some of the most successful contractors using machines that not only is more yardage obtained but better quality work results as the men work as a permanent crew, each one knowing his responsibility for a particular operation. This fact is especially true on interior browning.

A great number of contractors

• **ADMIRING TRAILER** - mounted new model D Plaster-Master are Milton C. Vogel, left, president of Santa Anita Manufacturing, Russ C. Watkins, salesmanager





● **PLASTER MASTER** line of mechanized tools for plastering:

1. Model HG is available either in gasoline or electric powered units. Sells for \$297 complete fob factory
2. Improved model BH-80. Increased to 9 hp with new positive action flow control to regulate for perfect control of volume
3. New model D standard machine. New feature is hood on piano hinge, for maintenance. This shows what is under hood
4. New model D standard machine—side view
5. Model D special low, narrow 8 cubic foot hopper for use inside buildings. Machine is only 32 inches wide

Sandblast Firm Offers Machine

IT WAS in 1954 that Cyclone Sandblast Equipment of San Francisco decided to enlarge its business, according to A. C. "Bert" Whitefield. "We cast around in search of a market where there was the need of mechanization, or of machinery to take the place of obsolete practices. We discovered one that promised a fruitful field—the plastering industry," Whitefield declares.

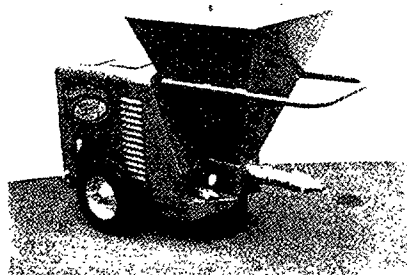
Before deciding upon the type of mechanized tool that we would undertake to manufacture and offer to the trade, we made a study of such mechanization as had already entered the field.

In the main, there were two contributions made: One, the machine-pump type that applies the material continuously through pressure hose. The other, a hopper type of dash gun, in reality a batch type sprayer of cementitious material applied by hand-held spray guns.

The machine pressure hose type represents more of an investment than many smaller plasterers are in position to assume. Wherever it is justified by large area jobs it fulfills a splendid purpose, but for every large contractor who has the type of jobs to warrant such a tool there exists the great majority of the plastering trade needing mechanization just as much, and to whom the hopper type of spray gun performs a mechanizing transition from the old hand method insuring increased coverage to the individual plasterer, considerable savings in material and labor and, in general, puts him in position to increase his profits by doing more work at less cost.

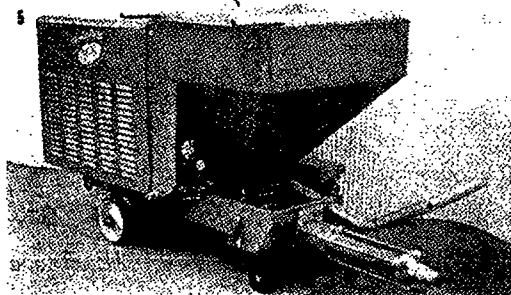
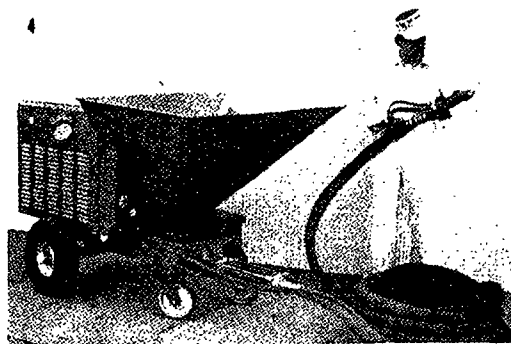
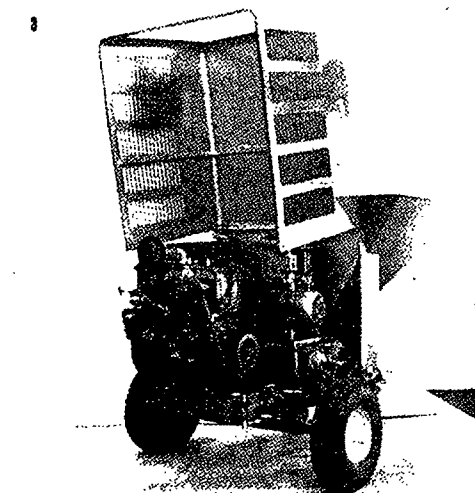
It is estimated that as much as 85 per cent of plastering is done by just such plastering contractors, by those who do the smaller jobs. That was the market we decided to cater to. The Tex-Sprayer hopper dash gun units were created, engineered

purchase a machine for a particular important job and use it for the first time on this job. This should not be done; a machine should be used on smaller jobs first so the crew has a chance to obtain a little experience

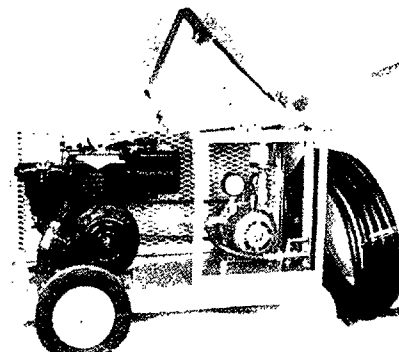


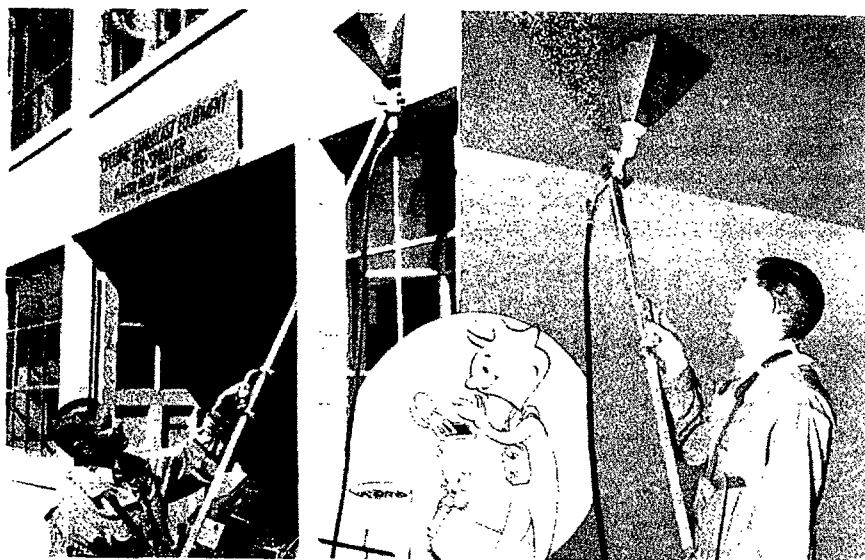
● **IMPROVED MODEL AG-36a** Plaster-Master machine

before starting on the important big jobs. Another important factor for the contractors to realize is that the machine does not replace any particular man, but is the center of operation and the crew must learn to operate around the machine. Because of the speed with which the work can be accomplished, organization is important and necessary.



● **TEX SPRAYER** one gun unit; the machine is also available in a two-gun model (compressor will handle two hoppers simultaneously)





● **WITH THIS** unique equipment, the Tex-Sprayer and its various attachments, plaster may be mechanically applied from the floor in most cases, and the Soft-Blast cleaner then employed to remove overspray from windows, glass and painted work without damage—fast

and designed to fill this need.

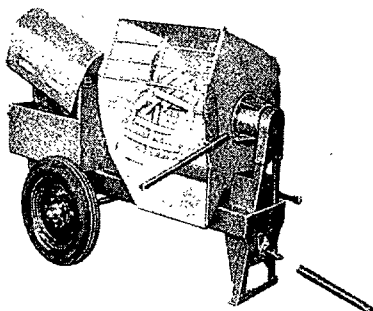
We incorporated features that gave our dash spray gun distinct advantages, did some advertising to announce our advent into this field using the medium of PLASTERING INDUSTRIES, and were soon rewarded by the kind of acceptance that resulted in our having to move to larger quarters to take care of the demand for our units. Aside from the large numbers sold in our own state of California, we have sold them in Florida, Georgia, Mississippi, Louisiana, Texas, Arizona, Nevada, Colorado and Oklahoma, Illinois, Missouri, Ohio, Pennsylvania, New York, Wisconsin, Minnesota, Iowa, South Dakota and Wyoming, Idaho, Oregon, Washington, Montana, Michigan and Canada.

The Tex-Sprayer dash gun has recently been awarded patent protection under Number 2801880. While the improvement, that of mechanizing the work and accelerating production, was widely recognized by the industry, there remained some prejudice that was brought about by the mess mechanized spraying created in the form of overspray, necessitating precautions by preliminary masking, and then the clean-up after each job.

Here we were on familiar ground. Our blast-cleaning experience gave us the inspiration to solve this problem. We did! By evolving a Soft-Blast cleaning compound that would in no way damage any underlying surfaces which may have been painted, aluminum or metal sash, glass. Supplemented by a special hand-blast gun, a hopper to hold the cleaning material, made extremely light and portable so that it could be

moved from room to room. Extension air-rods that enable the operator to reach as high as 12 feet from the ground, all a complete unit that mechanized the cleaning job and, what is most important, did it much faster and at less cost than was possible by the old method.

We are about to announce our new Cyclone Model WA-50 to the trade, telling them about this new way of clean-up. We have engineered it so that the air-demand can be obtained from our standard Tex-Sprayer compressor unit, or with the user's compressor if he has one. This unit requires only 25 lbs. pressure and a volume of 8 cubic feet of air.



● **THE NEW** model 8-MP Gilson Mixer is designed for heavy duty plaster mixing operations; features 30" diameter drum—30" long; 8 hp Wisconsin engine; rubber seals on drum shaft; grit proof precision mixing shaft bearings; roller chain drive; automotive type enclosed disc clutch; sealed gear reduction in oil; Timken bearing wheels; spring mounted axle; available with rubber blades

● **ON WINTER** General Hospital at Topeka, Kansas, in charge of E. L. Thompson Company the Quikstir is shown in operation:

1. Robert Smith, mixer man and superintendent Ed Hopton
2. Hopton, Bill Reed of U. S. Gypsum, Smith
3. Merle Worman and Delmar Frost

Quikstir Handy

INCLUDED in the line of Quikstir, Inc., of Port Clinton, Ohio, operated by Thomas McRitchie is the popular Quikstir lime processing machine and a popular finish and texture spray machine.

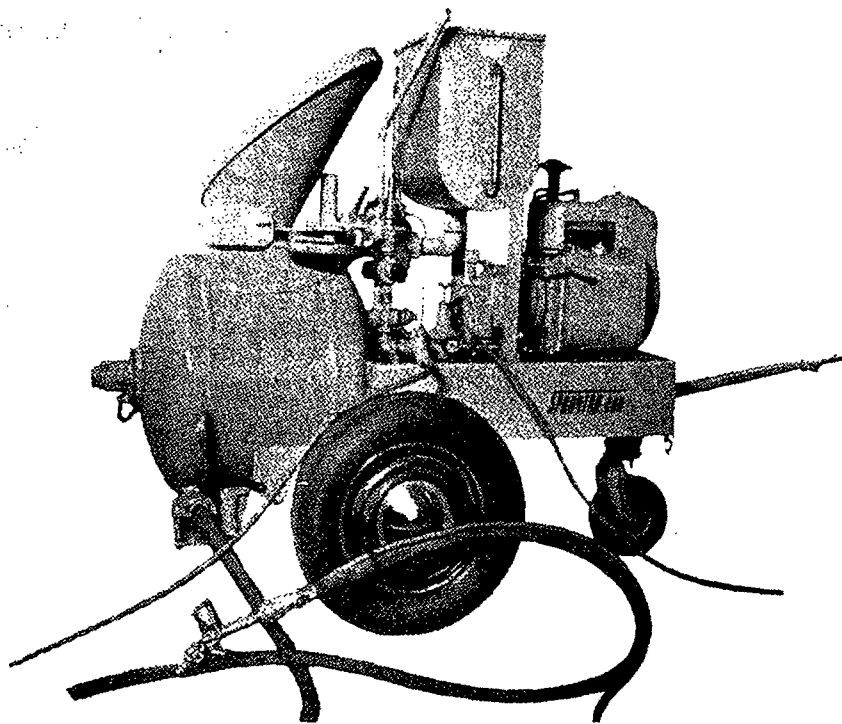
The Quikstir is a sturdy electric powered blender which operates blades much like an outboard motor propellor to process a bag full of lime in about 3 minutes; to perfectly mix all types of finish coats including color materials and will serve up to 20 journeymen whitecoating.

The apparatus is completely portable, weighing less than 50 pounds and may be used to mix in different barrels so one machine may do a variety of mixing jobs. The product is completely smooth, free from lumps and chunks and provides a better finish coat product than most plasterers feel can be blended in any other way.

The Quikstir sells for only \$129.50 f.o.b. its makers.

The Quikspray, selling at \$289.50, is a machine for one man application of acoustical finish, texture and dash coat materials, quickly adjustable for either ceiling or wall work; contains more than 2 gallons of material in the easy-loading hopper; is sturdily constructed and very portable. The compressor operates from a switch built into the nozzle handle.





Sprayton Machine

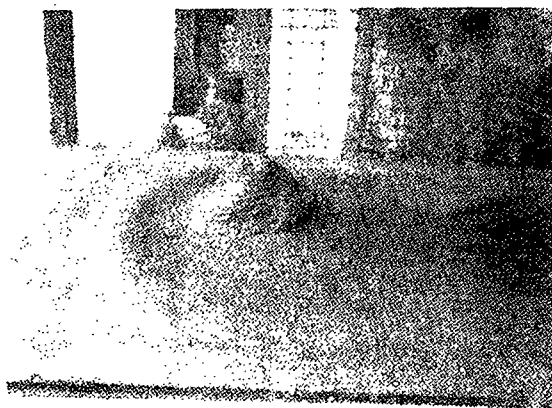
ANNOUNCED recently was a new mobile pneumatic masonry spray gun, the Sprayton, developed by the Sprayton Equipment Company of Detroit, Michigan.

The pictures accompanying the photo of this machine demonstrate several important features of this equipment:

1. The ability to use very stiff mixes and as lean as 1:4. Even one inch thick plaster may be applied in a single coat if desired, and this is sprayed out at a nozzle flow rate of 250-300 square feet per minute.

2. Finish coat applications may be followed when properly cured out by spray application of colored coats

● **SHOWING HOW** stiff material may be, yet sprayable. In this case the nozzleman kept on spraying until this shape was built up. At this point it was stiff enough to cut with a trowel



at such high rate that lap marks may be almost completely avoided.

The machine will apply up to 3½ cubic ft. per minute; will mix and spray stucco and plaster; apply cement coatings and build concrete walls; pump insulating and roofing materials, etc.

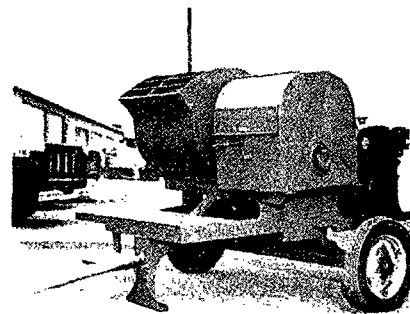
The Sprayton machine consists of a motor or engine-driven mixing tank and water tank which are assembled on a wheel mounted frame.

● **SPRAYING A** mix of 1:4 sand cement one inch thick in one pass



Glover & Azar Offer Machine

WITH the introduction of machine applied plaster, the plastering industry has a new toe-hold upon a greater market in existing plaster work, also creating an immense market in fields such as: Fireproofing over steel columns, decks etc., roof deck application, spandrel wall construction and above all affording



● **REAR VIEW** of trailer mounted gasoline powered Du-All showing easy accessibility of pump mechanism

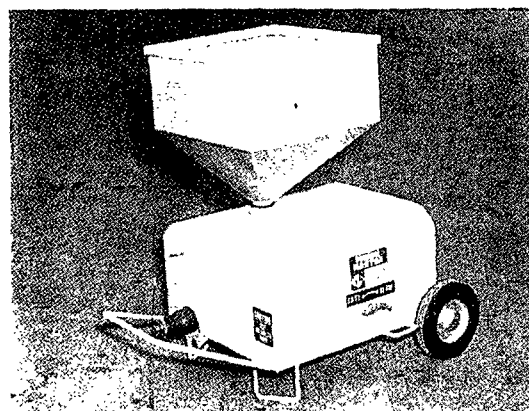
the plastering contractors a chance to regain what was considered lost to them, the application of beautiful, uniformly applied texture of acoustical plaster in place of acoustical tile.

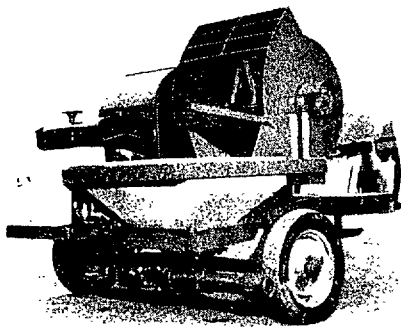
The proper use of machines for application of plaster has met with complete approval from the modern architects and builders. Machine application is the answer to clean, economical and better class of work.

Imagine the apprentice who starts working with tools that are strange to him. He is awkward, cannot work with the ease of the journeyman—he cannot produce at first. Given time he improves, he gains ease in handling his tools and then ultimately he produces work that is good and starts to earn money for his employer.

The same holds true with experienced journeymen who start to work

→
● **FINISH MASTER** is the small version of Glover and Azar's new machine





● **FRONT VIEW** of trailer unit machine shows compactness

with machines. At first they are the same as the apprentice—learning. Then with a little experience they start producing a cleaner, better type of work. The machine takes the place of back-breaking drudgery in applying material to the walls and ceilings. It releases the plasterer full time to the “art of his skill”—producing straight, true and even surfaces to which he and the industry as a whole can point with pride.

A better job, well done and satisfaction to all concerned is the result of machine applied plaster.

The training of men to work with machines is comparatively easy. The sum and substance of training amounts to a short period of time to gain experience. Experience is by far the best teacher—coupled with competent demonstration of technique through the use of one key man employed in the machine crew. He should be familiar with the complete operation, from set-up of scaffold to the texture of mix.

Due to misuse, negligence, also lack of complete knowledge, machine operations in the past have met with certain disappointments.

We, of Glover & Azar Mfg. are endeavoring to correct this situation with the introduction of the new Du-All Plaster Machine. It's the answer to the question of most plastering contractors—when is the ideal machine going to be built? It is here! The Du-All is the machine that does everything—scratches, browns and finishes. It uses any aggregate, plus being able to handle pool finishes, grout, tile mortar and many other uses in a variety of fields in the construction industry.

We are doing our best to teach everyone the use of machine applied plaster. We are teaching a systematic method of proper machine use—also a complete course on maintenance of machine. All this free of charge.

Maintenance of the Du-All necessitates above all cleanliness—this helps avoid 90 percent of plaster machine holdups. Daily checking and maintenance of the machine is easily done by men on the job in less than 5 minutes.

Dou-All Machine

THE line of Blomgren and Company of Portland, Oregon, in the field of mechanization consists of three products; a sand plaster and cement machine; a finishing machine and a lath handling truck—all developed by plastering contractor Clarence A. Blomgren.

The new Dou-All machine is completely self contained requiring no other power or compressors and operates on a piston principle that is designed to pump straight sand and plaster or cement as well as lightweight aggregates.

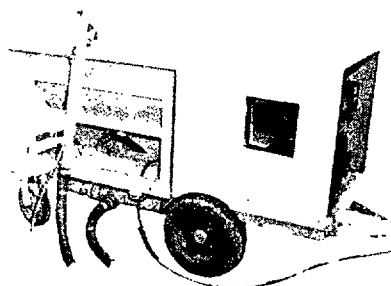
A slow moving large piston pump (6 inch diameter by 15 inch stroke) pumps $\frac{1}{4}$ cubic ft. of material in each direction of piston travel, taking in material on one side of the piston while discharging it on the other side, providing continuous flow at the nozzle. Wear on working parts is reduced by the slow movement of the material piston and the hydraulic pump and rotary vane air compressor which supplied atomizing air at the nozzle. On and off adjustments are at the nozzle.

The machine is easily moved about on the job or towed on the highway; its width is 34 inches; loading height 38 inches and cross bar shown in photo is for holding a width of planks to charge wheelbarrow loads into its 8 cubic foot hopper. Approximate weight is 700 lbs., the machine comes equipped with 75 feet of material and 75 feet of air hose, an aluminum nozzle 30 inches long and 4 stainless steel nozzle tips of various sizes.

Output claimed for the machine is from 1 to 4 cu. ft. per minute and it can be stepped up for pumping roof deck materials, etc. Introductory price is \$2995, f.o.b. Portland, Oregon.

The finish machine offers high volume for acoustic, texture or stucco dash, instant control of on and off and pattern at nozzle; integral unit with $2\frac{1}{2}$ hp. gasoline engine and material tank. This machine is offered for \$695.

The lath truck, developed by Blomgren, picks up 30 bundles of gypsum lath each trip; clears a 28 inch opening; has hydraulic lift and may be used for any material handling problem. \$245 f.o.b. Portland.



MECHANIZATION (from page 9)

the advantages of fracture resistance, sound transmission control and more durable finished plastering. And, the many ingenious types of clips are contributing greatly to better lathing and plastering and increased mechanization of our industry.

Directly in the field of mechanized lathing are the power assists for the preparation of lathing shapes and reinforcement. In this field come the popular cornerite and strip processors—ingenious pieces of equipment which slit into convenient widths several strips of metal lath at once—and then bend them to the proper angle for effective installation, or leave them flat for field and open area reinforcing. Too, are the several popular types of welded wire reinforcing, made on electronically controlled machines which receive coils of wire at one end and deliver a finished product at the other—ready for packaging.

Then there are power shears, power hacksaws, breaks and equipment for fashioning or repeating shapes in channel iron bracketing; for cutting studs and base; for pre-fabing metal lath baskets for column and beam fireproofing. And, more and more lathing and plastering contracting firms are incorporating these important items in their equipment—to do a better job faster, more accurately and more economically.

Powder and spring-actuated stud drivers have become a handy tool in every contractor's kit in the lathing and plastering craft—along with the many types and kinds of motor driven small tools such as power drills, power chippers and other useful equipment to extend lathing and plastering's role and to lighten the hard and costly work of hand labor.

And, now approved in many areas of the industry and enthusiastically accepted is the air driven stapling machine for the rapid and efficient attachment of lath by machine. These efficient, dependable guns quickly and securely attach the lath to the frame—save the bother and incon- and open new opportunities for our industry to better meet its competition.

Forerunner of this interesting equipment, of course, was the stapling machine. Though introduced to the lathing and plastering craft less than ten years ago as a valuable and useful tool, its use is now universal and has completely changed the methods for application of backing paper, stucco mesh, cornerite, strips and even beads and casings in many lathing and plastering shops. The handy stapling machine—either hand or hammer-operated, has been quickly absorbed in the industry's bag of mechanized tricks and is as familiar on our jobs today as the lather's hatchet or the plasterer's trowel. But, remember, less than 10



● **PRIME MOVER** is especially adaptable to interior and multiple story work because it will go up steep inclines and carry a full ¾-ton load; it is short enough (64 inches) to fit on standard hoists and elevators and is narrow enough (31½ inches) to go through standard doorway. Safety and sure controls are also inherent in a walking type powered cart. Manufacturers are Bell Prime-Mover Company, Muscatine, Iowa

years ago it was virtually unknown as a tool of our craft.

And, more recently and still in the development stage, are a number of experimental apparatuses for the power welding of lathing assemblies—even to the application of expanded metal lath itself. While much of the development in this field is so new the equipment is not yet on the market, we warrant it will one day soon and when that day comes lathing will be speeded still further—attachments will be more dependable and other new vistas will open up for lathing and plastering. In the meantime, channel clips, pre-cut and straightened hangers and various other novel results of the age of mechanization are already available and being widely used in our industry.

And, along with all this development in tools, improved manufac-

turing techniques, quality control and better packaging has resulted in more dependable basic materials of our craft to extend the opportunity still further along with the development in mechanical apparatus for lathing and plastering.

HOISTS, HANDLERS

And, then there is the vast field of mechanized handling equipment to streamline the mechanization of our industry and keep pace with the rapid advance which has been made in the application of our products themselves.

Power hoists are almost as common on most lathing and plastering jobs today as the power mixer. From the simple electrically operated, chain-driven hoist which will quickly and tirelessly lift a wheelbarrow or a load of material from the ground to the working area, to the mechanically operated hoisting tower or elevator — this equipment goes through a wide range of types and sizes. One piece of equipment, pictured in this article, may be driven, like a truck, flat to the job and then, at the press of a switch, elevated into vertical position to serve a three-story or higher building direct from the ground. A material bucket, which is an integral part of the device, then carries the plaster from the mixer to the working area.

One of the plaster mixer manufacturers, Anchor Manufacturing Company, this year offered a unique hoist which operates integrally with the Anchor plaster mixer, to receive the plaster from the mixer, elevate it to the plastering machine, dump its load and return for another batch—all automatically and driven from the same power that operates the mixer.

Hoists

Albina

Albina Engine Works, 2100 N. Albina, Portland 12, Oregon

Anchor

Anchor Manufacturing Company, 2900 West 26th, Chicago 23, Illinois

Handiwinch

American Hoist and Derrick Company, St. Paul 1, Minnesota

King Hoist

King Manufacturing Company, 3140 W. Chicago Avenue, Chicago, Illinois

Lad-E-Vator

Campbell Equipment Company, 2122 N. Menard, Chicago 39, Illinois

O K

O K Clutch and Machinery, Columbia, Pennsylvania

Pelican

Buck Equipment Corporation, 720 Anderson Ferry Road, Cincinnati 38, Ohio

Lift-Rite

Howard Rose Industries, 1628 N. Columbia Blvd., Portland 17, Oregon

Power Wheelbarrows

Prime Mover

Bell Prime-Mover Corporation, Muscatine, Iowa

Gar-Bro

Gar-Bro Manufacturing Company, 2415 E. Washington Blvd., Los Angeles 21, California

Towmotor

Towmotor Company, 1225 E. 152nd, Cleveland 10, Ohio

Merry Mover

Merry Manufacturing Company, P. O. Box 1835, Seattle 11, Washington

Workhorse

Worthington Mower Company, Stroudsburg, Pennsylvania



Power Wheelbarrow (pictured): The "Merry Mover" is an extremely versatile, lightweight, economical and efficient power wheelbarrow recently put on the market. The basic Merry Mover comes equipped with a 25-inch long flat bed and thus may be used for hauling lath, plaster and other materials as well as with a wheelbarrow tub for mortar transportation. Will go through 24-inch opening and comes equipped with up to 3-hp motor, all-steel welded frame, finger-tip clutch control, adjustable finger-tip brake control, recoil starter, and pneumatic tires. National distributors—Gwin, White & Prince, Inc., Skinner Building, Seattle 1, Washington; Manufacturers—Merry Mfg. Company, Box 698, Edmonds, Washington.