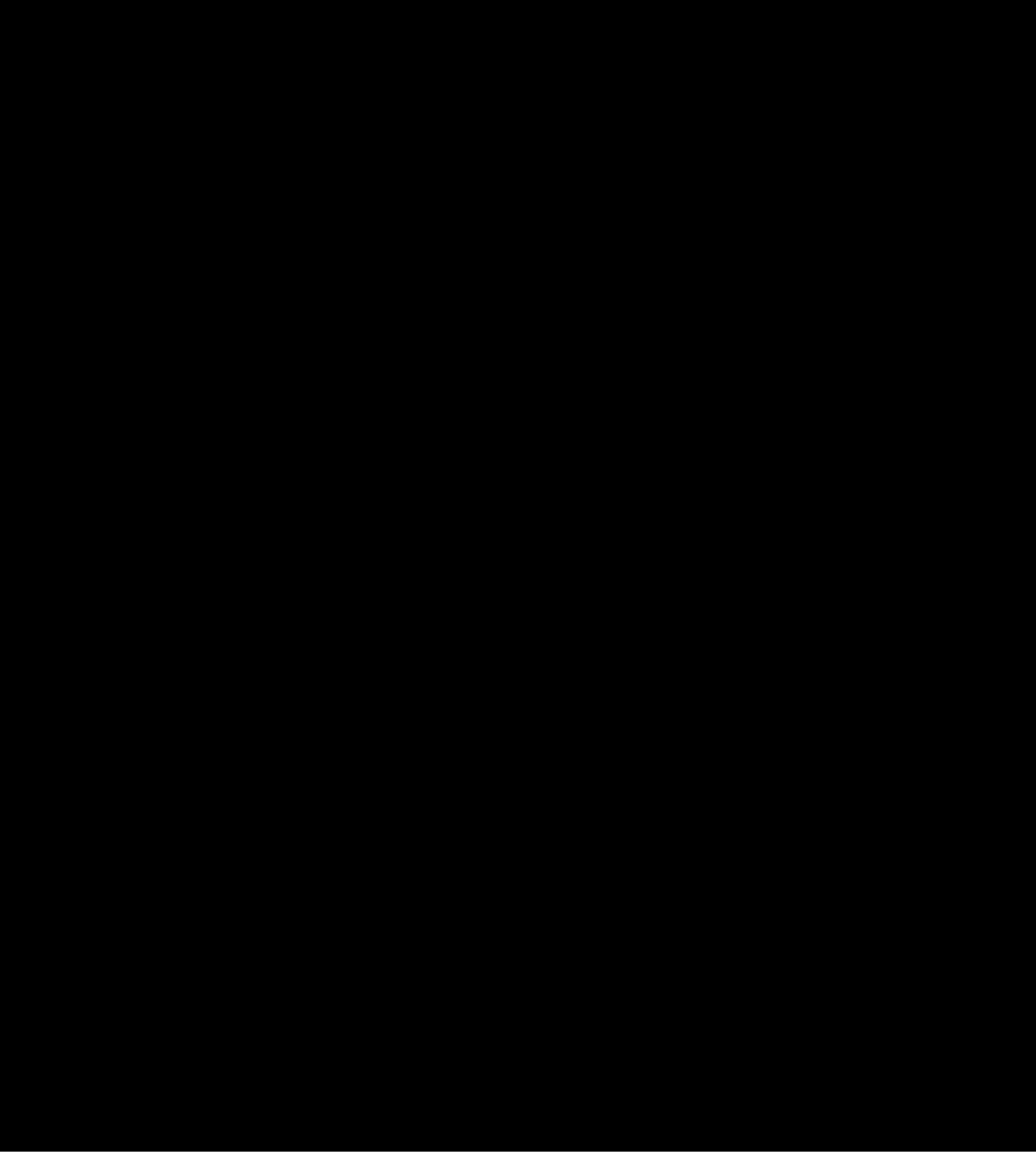




Lead Work on Federal Court House, New York

(Continued from LEAD, November, 1936)

Shower Stall Waterproofing

STALL showers are provided in connection with many of the private offices on several of the tower floors in the United States Court House in New York City. Floors and walls of these stall showers are completely waterproofed with 8 lb. sheet lead ($\frac{1}{8}$ in. thick). The stalls measure approximately 2 ft. 10 in. by 4 ft. 11 in. inside dimensions.

On top of the rough concrete floor a smooth cement surface $\frac{1}{2}$ in. thick was placed. Tar paper was laid over this and the lead pan, which was coated on both sides with a heavy coating of black asphaltum, was set on the tar paper. The lead pan was turned up 12 in. on each edge and the corners were burned. A 2 in. finished floor of cement and tile was placed on top of the lead pan.

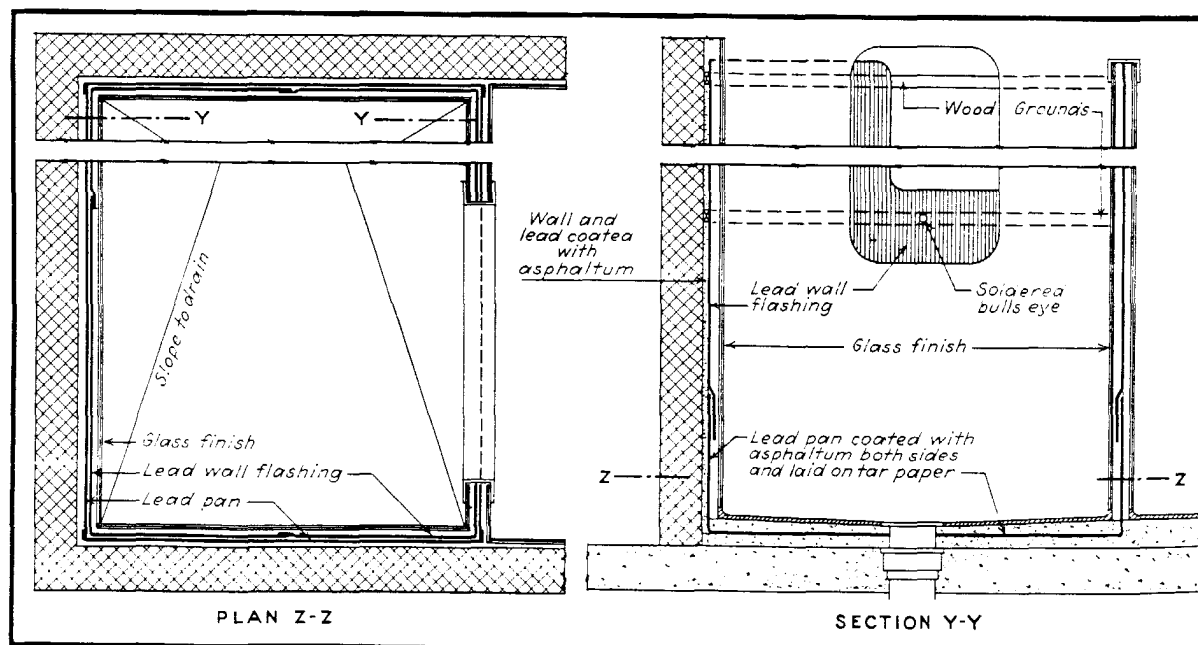
Three of the unfinished walls of the shower were terra cotta blocks. Four horizontal wood strips or grounds, $\frac{1}{2}$ in. thick, were fastened by toggle bolts to each of these walls, spaced equally so the top strip came nearly 6 ft. above the floor. The walls were then plastered flush with the surface of the grounds and lined with sheet lead to a height of 6 ft., this lead lining lapsing inside the upstand of the lead floor pan about 4 in. Before the lead was installed the walls and the side of the sheet lead that would come in contact with them were coated with asphaltum. The sheet lead on the walls

was fastened to the wood strips by clusters of brass tacks, and solder bull's-eyes were wiped over the clusters of tack heads. The walls were finished with opaque glass panels over the lead and cemented to it with special cement.

The partition dividing the shower from the rest of the bathroom and forming the fourth wall of the shower stall is of double glass with sheet lead between the two layers. In this partition is the door to the shower stall. This door is over a stile 6 in. high. The stile is similar to the walls, being two thicknesses of glass with lead between and is topped by a metal sill. Joints in the lead wall lining are wiped and do not occur at the corners, where the lead is carried continuously around the bend.

Sheet lead for shower waterproofing has the advantage of absolute impermeability to moisture, great permanence, and flexibility permitting it to be dressed down tightly, leaving no voids underneath to cause later settlement and cracking of the tile floor. To prevent any action on the lead resulting from free lime in cement, concrete or mortar, the lead should be well coated with asphaltum. Since the possibility of such action only exists when the cement, concrete or mortar is green, the asphaltum offers temporary protection during this initial stage.

The shower stall waterproofing was done by W. G. Cornell Co. All water closets are connected to the soil pipes by 4 in. lead pipe straight connections.



Installation of lead shower pans in the new Federal Court House, New York.



Stall shower in one of the private office suites of the new Court House. Floor and walls are lined with sheet lead.

Absolute waterproofing of shower stalls is extremely important to avoid ruined ceilings and walls below and even weakening of the structure resulting from rotted or rusted joists and beams. Consequently, the Lead Industries Association has published an illustrated leaflet giving step-by-step information on lead shower pans which supplements this article. Copies will be sent free upon request and should prove useful to architects, builders and plumbers. Increasing popularity of stall showers makes accurate information essential.

Roofing

Lead was extensively used on all the roofs of the U. S. Court House, New York. Smaller roofs are completely covered with lead, while on the larger main roof lead is used for wall flashing. The entire tower roof is finished with gold and blue glazed tile under which is a waterproofing of 3 lb. hard sheet lead.

The construction of the tower roof is unique. Thin pre-cast concrete slabs were installed on the supporting steel framework. Over these slabs a layer of 30 lb. felt laid in asphalt was applied. Bronze bars or battens measuring 2 in. wide by 1½ in. high run up the slope of the roof on approximately 2 ft. 8 in. centers. Running

horizontally between these bars are continuous 18 oz. copper cleats about 7 ft. 8 in. apart. Lead sheets were installed with loose-locked seams at these cleats and the cleats were folded into these seams to secure the lead in place. On the sides, the lead sheets were turned up against the bronze bars with sufficient excess lead to make a locked seam. Lead batten caps were then placed over the bars and loose-locked to the lead sheets.

Bronze angles were placed horizontally about every 2 ft. 4 in. up the slope of the roof and bolted to the bronze battens through the lead batten caps. To prevent leakage where the bolts penetrated the lead, 4 lb. soft lead gaskets bedded in elastic cement were used. The horizontal bronze angles support the tile roofing, which is colored glazed terra cotta. A special gold glaze was developed for the gold color in order to maintain indefinitely the gold appearance with the minimum cost of upkeep.

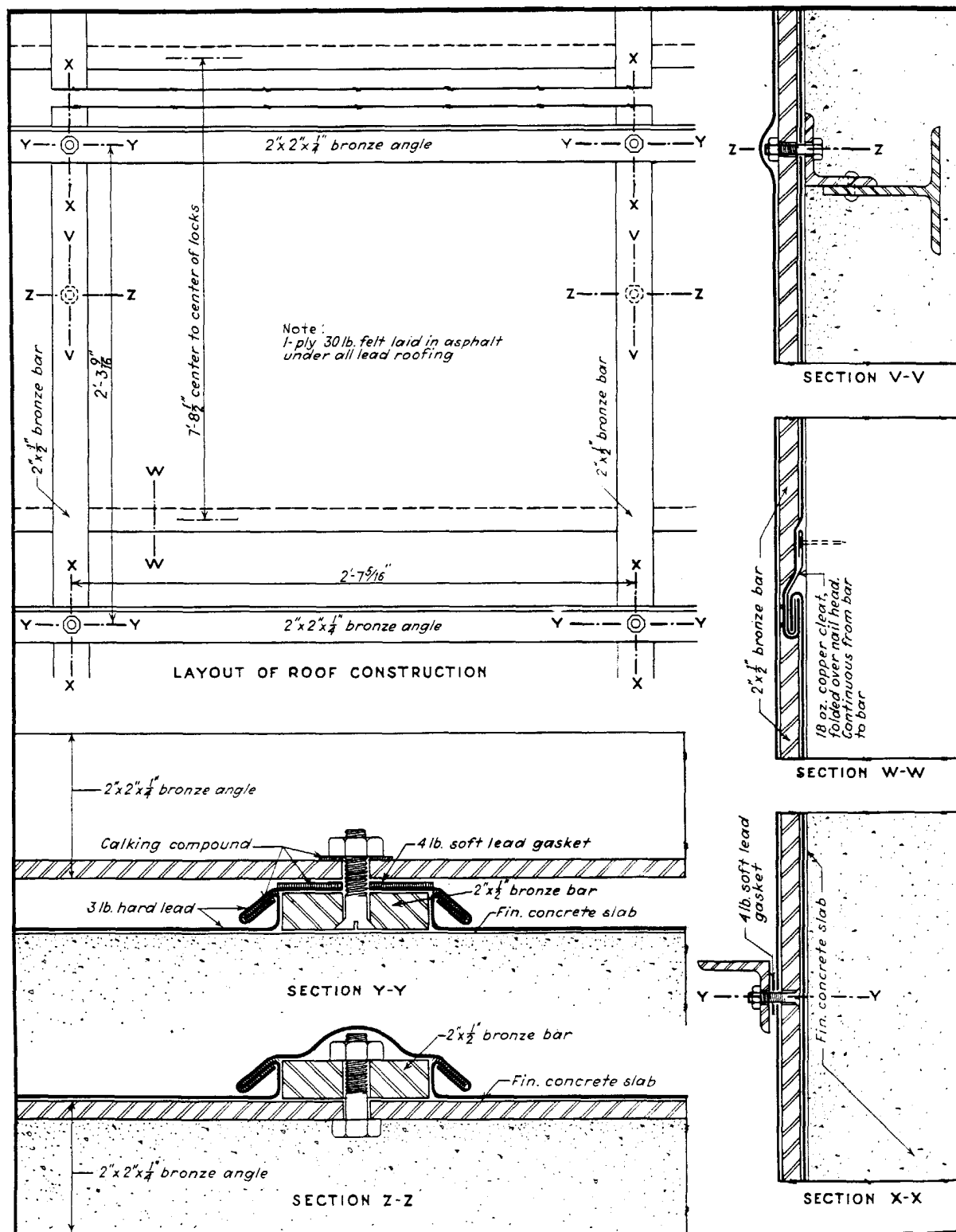
Special attention was given to expansion and contraction which is ever present in any building and is caused by change of temperature. Lead was installed so that it could expand and contract freely in all directions, yet it is firmly supported on the steeply pitching roof by the continuous cleats at the cross seams.

The small flat roof areas were generally installed with flat loose-locked seams in the same way as cornice coverings. At edges continuous lead cleats were calked into



PHOTOS BY WURTS BROS.

Lead flashing around dormer at base of tower roof. The tile roof itself is completely lined with sheet lead.



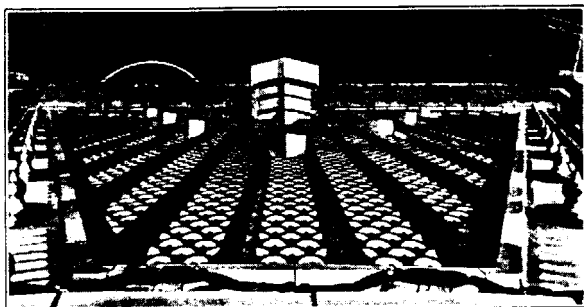
Sheet lead roof lining details, Federal Court House, N. Y.

These details show method of installing loose-locked lead batten roof lining under the tile tower roof so that each lead sheet can expand and contract independently of all others.

reglets and the roof sheets locked to these.

The lead roofing on this job was installed by J. J. Fisher Co. Inc.

The tower roof is unusual in that lead forms a concealed waterproofing rather than the finished roof. Lead is, however, excellent for exposed roof areas because it is exceedingly durable and at the same time presents a most attractive appearance. The soft, gray color of lead is pleasant and harmonious with other building materials and water running off a lead roof does not discolor adjacent paint or masonry.



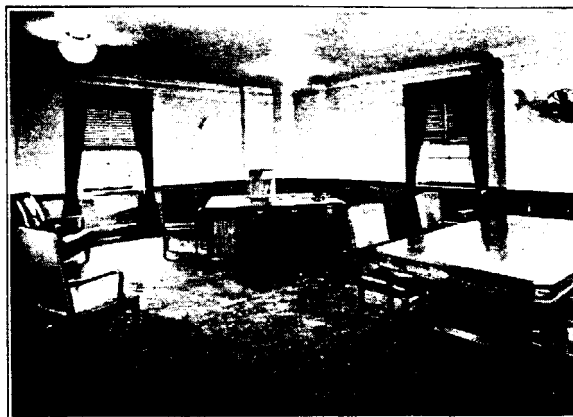
Looking down the tile tower roof which is completely lead lined (opposite page). Lead covered set backs and dormer shown on page 3 are visible at base of roof.

Interior Painting

Pure white lead paint was specified by the architects for the interior painting of the United States Court House in New York. This is in keeping with the general high quality of the building throughout. White lead makes possible the finest decorating work and offers a durable painted surface that can be kept clean by repeated washing without damaging the paint.

The contract for painting with pure white lead paint some twenty or more judges' chambers in the beautiful building was performed by J. I. Hass, Inc., of Jersey City. Two pictures of this fine job are shown here. Another contract for painting the additional interiors in the building is being executed by Arthur M. Golden of Chicago.

Just as white lead is equally suitable for all kinds of exterior surfaces, it is an unusually versatile paint for



One of the lovely private offices in the Federal Court House decorated with pure white lead paint.

interiors. If properly mixed, it may be used on plaster, wood, metal, cement or other materials and as an enamel undercoater, and it may be tinted to the exact shade desired. Repeated washing will not damage it and repainting over long periods of years will not destroy its firm adherence to the surface painted.

These advantages are in addition to the beauty of decoration done with white lead.

The following mixing formulas are recommended for white lead paint on interior plaster:



PHOTOS BY WURTS BROS.

Another of the private offices. Pure white lead was used for the interior decoration.

	PRIMING COAT		SECOND COAT		THIRD COAT					
					Flat Finish (Brushing)		Flat Finish (Stippling)		Semi Gloss Finish	
	A	B	A	B	A	B	A	B	A	B
Soft Paste White Lead.....	100 lb.	100 lb.	100 lb.	100 lb.	100 lb.	100 lb.	100 lb.	100 lb.	100 lb.	100 lb.
Boiled Linseed Oil.....	3 gal.									
Pure Turpentine.....	1 1/4 gal.		1 1/4 gal.		1 3/4 gal.		1 gal.		3/4 gal.	
Floor Varnish.....	2 gal.		3/4 gal.		1 pt.		1/2 pt.		1 1/4 gal.	1 gal.
Lead Mixing Oil or Lead Reducing Oil.....		4 to 5 gal.		3 to 4 gal.		3 to 4 gal.		2 gal.		2 to 3 gal.
Liquid Drier.....			1/2 pt.		1/2 pt.		1/2 pt.		1/2 pt.	
Gallons of Paint.....	9 1/4 gal.	7 to 8 gal.	5 1/4 gal.	6 to 7 gal.	5 gal.	6 to 7 gal.	4 1/4 gal.	5 gal.	5 1/4 gal.	6 to 7 gal.
Approximate Coverage per Gallon.....	800 sq.ft.	800 sq.ft.	800 sq.ft.	800 sq.ft.	800 sq.ft.	800 sq.ft.	800 sq.ft.	800 sq.ft.	800 sq.ft.	800 sq.ft.

Note: Formulas A and B may be used interchangeably depending upon the materials it is desired to use or their availability.



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*A view of the new Federal Court House, New York City.
Cass Gilbert, Inc., architects.*

Structural Steel Painting

All the structural steel for the United States Court House, New York, was given two coats of pure red lead paint. A shop coat was first applied at the plant of the fabricators and after erection, a field coat, tinted with a small amount of lampblack to differentiate the two coats in color, was applied. Tinting each coat a different color facilitates inspection to see that no places are missed.

Red lead has long been considered the standard for metal painting, and in competitive tests and actual service it continues to exert its superiority. It is preferred by railroads, highway commissions and others who have a large amount of structural steel painting and whose experience in the protection of steel is broad. (LEAD, January and May, 1933.)

By using pure red lead on the structural steel of the Court House, the McClintic-Marshall Company, fabricators and erectors of the steel work, have provided maximum protection for the steel, in keeping with the quality and durability that has been built into this structure.

The following mixing formulas are recommended for the application of red lead to structural steel. Pure red lead is also obtainable in ready mixed form and in several colors, such as red, light brown, dark brown and black, for use just as it comes out of the can.

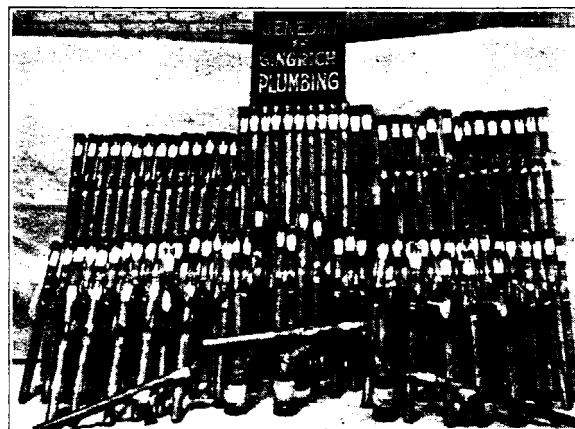
	Priming Coat	Second Coat	Third Coat
Paste Red Lead	100 lb.	100 lb.	25 lb.
Lampblack		3/4 pt.	17/8 gal.
Prussian Blue			1 1/2 gal.
Linseed Oil	17/8 gal.	17/8 gal.	2 1/4 gal.
Pure Turpentine	1 1/2 pt.	1 1/2 pt.	3 pt.
Drier	1 1/2 pt.	1 1/2 pt.	3 pt.
Gallons of Paint	4 1/2 gal.	4 5/8 gal.	6 gal.
Approximate Coverage per gallon	600 sq. ft.	600 sq. ft.	700 sq. ft.

Lead Wastes, Vents, Bends in Pasadena Apartment House

ONE hundred eight lead wastes and vents and 40 lead bends will be installed in the plumbing system in the new apartment building being erected at 30 South Grand Ave., Pasadena, Cal., for Mrs. George Rhodes, owner. All joints in this lead pipe are wiped, and stacks are cast-iron with lead-caked joints.

Such an installation, which is required by the Pasadena plumbing code and is ably installed by Pasadena's plumbers, provides a durable, flexible installation that costs no more than less satisfactory jobs. Tenants are protected from plumbing troubles and unsanitary conditions, the owner from expensive and unnecessary repairs.

The photograph shows some of the lead work wiped up in the shop for this apartment house job. It was arranged by B. B. Sheffield, business agent of the journeyman plumbers' local, through the courtesy of Benedict and Gingrich, plumbing contractors on this job. Clarence Cameron and Sid Taylor are the journeymen re-



A. E. ARNOLD

*Some of the lead work for the apartment building at
30 South Grand Ave., Pasadena, Cal.*

sponsible for this fine lead work.

It is obvious that this kind of plumbing is only for the skilled plumber who has spent years learning the trade. No fly-by-night mechanic or handyman could make this installation. As a result, the public is protected by the assurance that plumbing is done by men thoroughly competent to make a sanitary and permanent job. Plumbers, too, benefit in cities where code requirements are like Pasadena's, because the levels of crafts-

manship and of competition are raised.

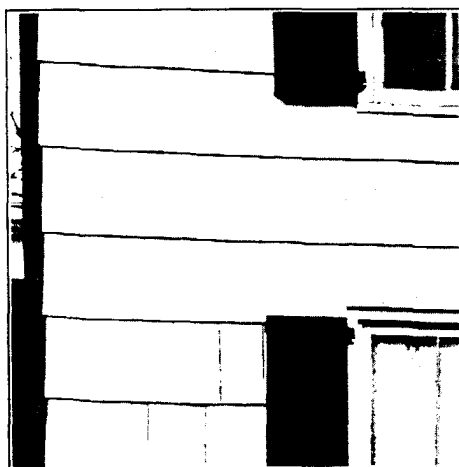
Lead plumbing has many advantages either in frame or fireproof construction if properly installed. It is flexible enough to provide for settlement and vibration. Bonded wiped joints can not vibrate loose nor do they offer obstruction to flow or places for solids to lodge and clog the pipe. Bends can be given an easy sweep, joints are fewer, and, of course, the material itself is the most durable of any of the common metals.

White Lead Paint Excellent After 14 Years Exposure

PURE white lead paint is doing its part well to preserve the Home of Huntington Historical Society, at Huntington, Long Island, N. Y. Painted last with pure white lead in 1922, the photograph shows the excellent condition after 14 years exposure to the rigorous climate of the locality.

The house, of shingle construction, was built in the early 1700's and has been in the possession of the Huntington Historical Society since 1918, being a gift of Mrs. Ella J. Conklin Hurd, a direct descendant of the original owner.

L. E. Berkey Co. of Huntington, did the last painting that has been done on the house. Mr. Berkey says, "This was painted with white lead in 1922 and as you have seen the building you know that it has stood up very well. We have many other jobs that have been painted with the same material



Unretouched detail of the pure white lead paint on the 200 year old home of the Huntington Historical Society taken 14 years after last painting.

and have found it very satisfactory. In fact, for exterior work, we use white lead on all of our jobs."

This building illustrates particularly well several of the advantages of white lead paint. Despite the long interval between paintings, no cracking or scaling of the paint has occurred, showing that white lead is always in excellent condition for repainting without the necessity of any expensive preparation, such as scraping or burning off old paint which leads to another expense, a new priming coat. Furthermore, the building still presents an attractive ap-

pearance after its long exposure to high and low temperatures, rain, snow, fog and salt air.

Naturally, a paint that can stand for so long between repaintings and still not be expensive to repaint keeps the yearly cost of painting at a minimum.

Prominent Architect Uses Lead Signature Plate

AT THE request of a thoroughly satisfied client, Electus D. Litchfield, New York architect, signed one of his houses with an interesting lead plate bearing his name and the year in which the house was built. The architect who is proud of his work is not only willing but anxious to sign it, but not every client has the fine taste to suggest that his architect sign his house.

The lead plate used by Mr. Litchfield is interesting and appropriate to the brick house to which it was applied. A simple lead plate with the architect's name and the date in attractive lettering was cast in a sand mold which gave it a pleasingly soft texture. The plate is the

size of the exposed face of the brick. On the back, two metal bolts or rods about 2 or 3 in. long are soldered, one at each end extending at right angles to the back of the plate. A brick is omitted in an appropriate place near the ground on the facade of the building and the space thus left is filled with mortar. The rods on the back of the lead plate are forced into this mortar before it sets until the lead is flush with the wall.

This makes a permanent signature for the architect because lead will last as long as the building and the inscription will remain legible. Numerous cast lead water pipes dating from the days of the Roman Empire



WURTS BROS.

Cast lead signature plate used by Electus D. Litchfield, prominent New York architect, on a home at Pelham Manor, N. Y.

have been found after burial in the ground for nearly 20 centuries. Inscriptions on these pipes are still legible. Furthermore, the lead plate is attractive in itself and will not stain the materials adjacent to it. The accom-

panying photograph shows the appearance of one of Mr. Litchfield's name-plates after nine years on a house at Pelham Manor, N. Y. Lead plates have the further advantage of being inexpensive and easy to make.

Lead used like this is always restrained and in good taste, making it particularly appropriate for architects' signature plates. It does not blatantly proclaim the designer but rather gives his name in a dignified manner. However, lead is equally appropriate for a number of other kinds of signs and markings. It is ideal for street numbers on building entrances because it is attractive, does not cause staining and needs no polishing. It makes beautiful silhouette shingles, (Lead, November, 1934). Certain parts of lead signs, the lettering for instance, may be tinned to provide contrast between bright tin and dull lead. That procedure is useful for signs for offices and shops (Lead, September, 1933).

"Seal of Approval" Assures Quality of Lead Plumbing Goods

TO ASSIST purchasers and specifiers in obtaining only the highest quality lead pipe, traps and bends, the Lead Industries Association has adopted rigid standards covering the manufacture of these products. In addition, it is licensing manufacturers to use a "Seal of Approval" to be stamped on pipe, traps and bends complying with the Association standards. The standards and "Seal of Approval" went into effect January 1, 1937. Purchasers and specifiers are now urged to look for the "Seal of Approval", as reproduced here, on the lead pipe and fittings they buy or specify. By so doing, they will be using the best assurance of obtaining material of proper quality and weight.

This action was taken in answer to a request made by resolution of the National Association of Master Plumbers at the Chicago Convention in 1935 that all manufacturers of lead goods stamp their products with their names, so that plumbers would be protected against inferior quality merchandise. The Lead Industries Association and its member manufacturers, in a desire to cooperate to the fullest extent, has gone further. Beginning in January, 1937, lead pipe meeting the Association standards is stamped at least every 12 in. with the manufacturer's name or trade mark and the "Lead Industries' Seal of Approval". Each coil or length of pipe will also

Look for this Seal stamped on lead pipe, traps and bends to assure you of high quality material.



be stamped at least once with the symbol for its wall thickness and the inside diameter of the pipe.

Lead traps and bends meeting the standards will likewise be stamped with the manufacturer's name or trade mark and the "Seal of Approval". The weight per running foot and inside diameter will also be stamped on traps and bends.

The "Seal of Approval" on the lead pipe or fittings he purchases or specifies, will assure the buyer or specifier that this merchandise has been made from lead of the required high purity, that reasonable diligence has been used to provide products free from any manufacturing defects, that the wall thickness is correct within rigid tolerances, and that weight and dimensions of fittings have been held within strict limitations.

Naturally, the cooperation of architects, engineers, plumbers, plumbing inspectors, supply houses and others who buy, sell or specify lead products, will be necessary to make the standards and "Seal of Approval" most effective.

UPON REQUEST, THE LEAD INDUSTRIES ASSOCIATION WILL BE GLAD TO MAIL "LEAD" REGULARLY, FREE OF CHARGE, TO THOSE INTERESTED, AND WILL COOPERATE, WITHOUT OBLIGATION, IN THE SOLUTION OF YOUR LEAD PROBLEMS