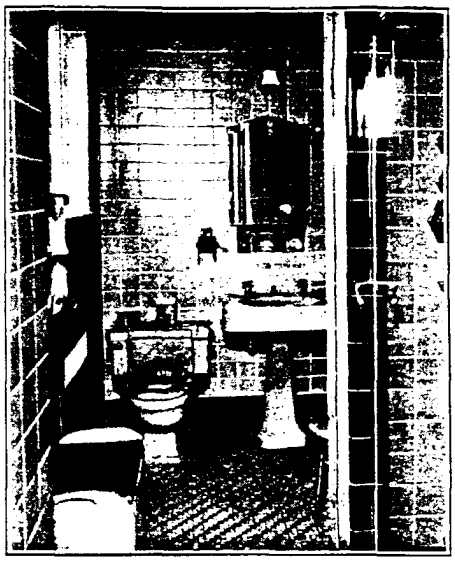
Lead Pipes Add Hidden Quality to Handsome Remodeling Job

TWO beautiful bathrooms are provided by the remodeling job performed in the residence of Dr. R. M. Nittoli, in Elizabeth, N. J., by Sauerbrunn Bros., plumbing contractors, of the same city. But the plumbers provided more than just two beautiful bathrooms, as the lead underfloor work shown in the photographs testifies.

With this kind of concealed plumbing, the owner is assured of permanently sanitary conditions. The pipe will never clog, permitting waste to be conducted away promptly and avoiding possibility of trap siphonage resulting from unequal pressures caused by clogging. The floors will not have to be torn up to tighten a joint loosened by vibration or settlement because the joints are bonded wiped joints, and fear of pipe breaks is removed because the flexible lead will not snap off but will adjust itself without strain to movement.

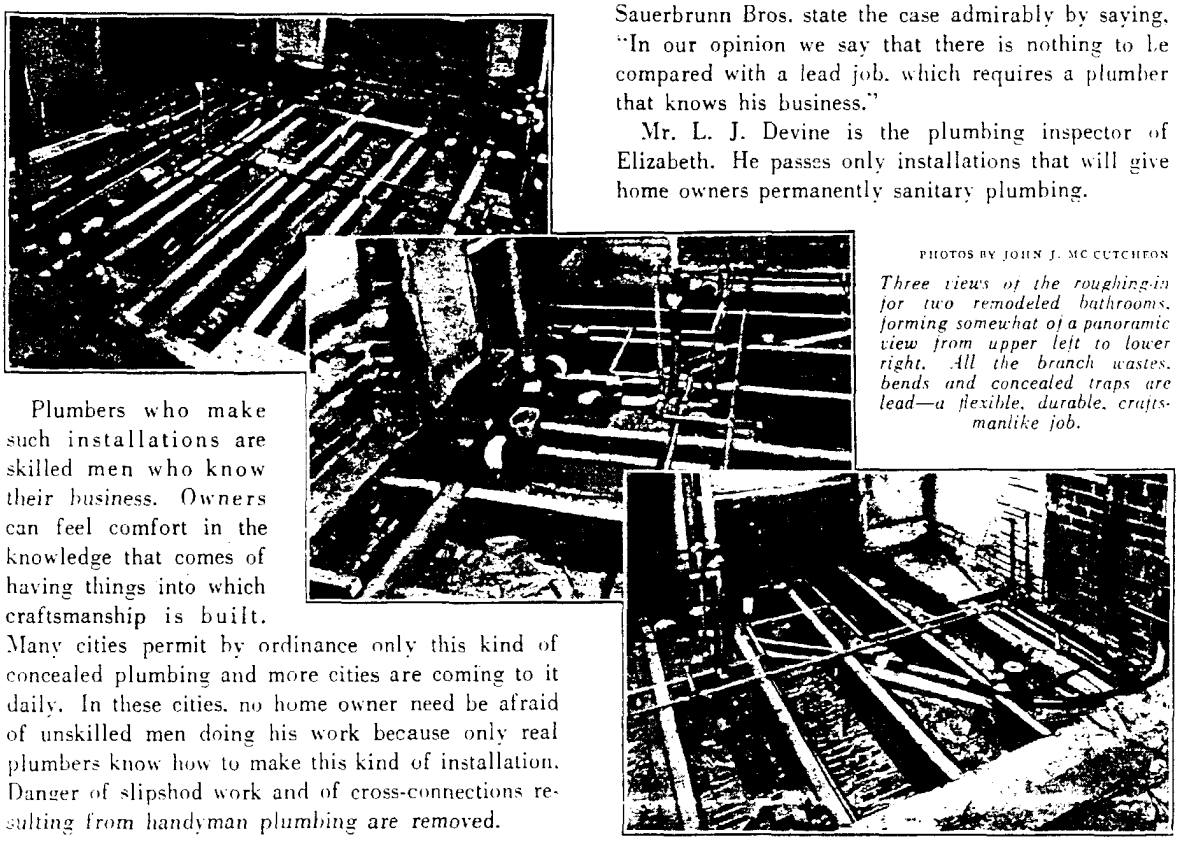


Lead waste pipes function dependably but unseen in this attractive remodeled bathroom.

JOHN J. MC CUTCHEON

On this job 12 ft. of 4 in., 20 ft. of 1½ in., and 12 ft. of 2 in. lead waste pipe was used, in addition to two lead bends, a lead drum trap and two lead P traps. Twenty joints were wiped in making this installation, a nice job for a real plumbing mechanic. Sauerbrunn Bros. state the case admirably by saying, "In our opinion we say that there is nothing to be compared with a lead job, which requires a plumber that knows his business."

Mr. L. J. Devine is the plumbing inspector of Elizabeth. He passes only installations that will give home owners permanently sanitary plumbing.



PHOTOS BY JOHN J. MC CUTCHEON

Three views of the roughing-in for two remodeled bathrooms, forming somewhat of a panoramic view from upper left to lower right. All the branch wastes, bends and concealed traps are lead—a flexible, durable, craftsmanlike job.

Plumbers who make such installations are skilled men who know their business. Owners can feel comfort in the knowledge that comes of having things into which craftsmanship is built. Many cities permit by ordinance only this kind of concealed plumbing and more cities are coming to it daily. In these cities, no home owner need be afraid of unskilled men doing his work because only real plumbers know how to make this kind of installation. Danger of slipshod work and of cross-connections resulting from handyman plumbing are removed.

LIA 25377

California, Oregon, Washington Plumbers Endorse Lead

Associations in 23 States Have Now Passed Resolutions Favoring More Lead in Plumbing

DURING May, the State Associations of Master Plumbers in California, Oregon and Washington added their names to those state associations which have adopted resolutions advocating greater use of lead in plumbing. With the addition of these three states, the drive to improve plumbing conditions for both public and plumber through the use of this time-tested material may truly be said to be nation-wide. In 23 states, which contain more than two-thirds of the entire country's population and which are spread from the Atlantic Ocean to the Pacific, state master plumbers' associations have adopted such resolutions. These states are:

California	Iowa	Massachusetts
Connecticut	Kansas	Michigan
Illinois	Kentucky	Minnesota
Indiana	Maine	Missouri
New Jersey		Pennsylvania
New York		Vermont
North Dakota		Washington
Ohio		West Virginia
Oklahoma		Wisconsin
Oregon		

Reasons for these actions, as set forth in the resolutions themselves, have been repeated in LEAD on a number of occasions. These resolutions are the strongest sort of endorsement for lead plumbing and they recognize the reliability and serviceability of this material. Plumbers know better than any one else how plumbing materials perform in service. Their businesses and reputations depend upon those materials. Such wide-spread approval of lead by the legitimate plumbing industry can allow only one conclusion to be drawn—that lead plumbing installations are to the best interests of the public and, as a consequence, to the best interests of the plumbing industry.

Plumber Uses Lead Working Skill as Sales Help

RECOGNIZING the attention-getting value of the products of craftsmanship, Mr. L. H. Bennett, Peekskill, N. Y., master plumber, has put his craftsmanship to work doing a selling job for him. In his shop window he has placed a number of articles he made himself which certainly attract attention.

The elephant is made from a lead bend and the small, complete bathroom next to it is made from sheet lead. The truck at the right is a combination of sheet lead and lead ingots. In the center of the window is a moving exhibit of a man made of fittings, leading a fittings "Spark Plug" to water at a lead trough filled from a lead pump. A small motor below actuates a rod through the center of the pump, which in turn raises and lowers the pump handle and man's arm. The movement of the arm pivots the upper part of the man's body which causes him repeatedly to jerk "Spark Plug" towards the trough.

To tie all this up with the craftsmanship of plumbing, Mr. Bennett shows a solder pot and ladle, some lead bends and a 4 in. wiped joint, and also displays the Lead Industries Association poster linking lead plumbing and the skilled craftsman.

Thus, not only in the installation of plumbing but in the selling as well, craftsmanship can play a big part. The plumber who is skilled has a distinct advantage over the one who isn't, for he has something to sell besides materials and labor. He can sell his craftsmanship, which gives him a competitive advantage over handymen and other incompetent so-called plumbers.

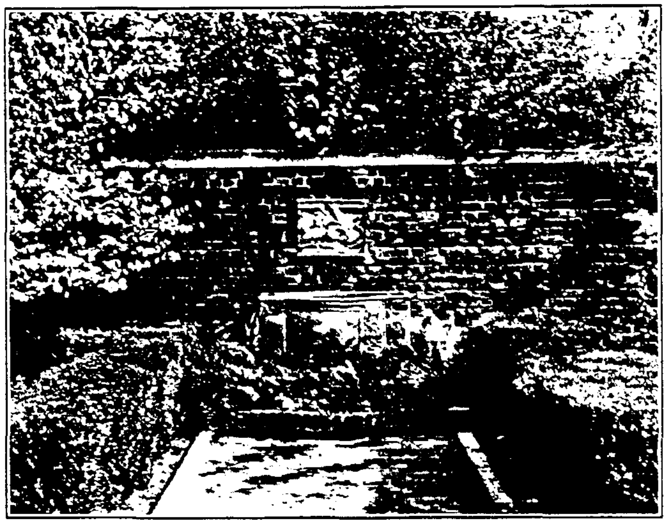
WM. H. PENROSE

This plumber's window display, largely composed of lead work, attracts attention and at the same time is tied up with practical plumbing through the solder pot and ladle, lead bends and wiped joint, and the poster.

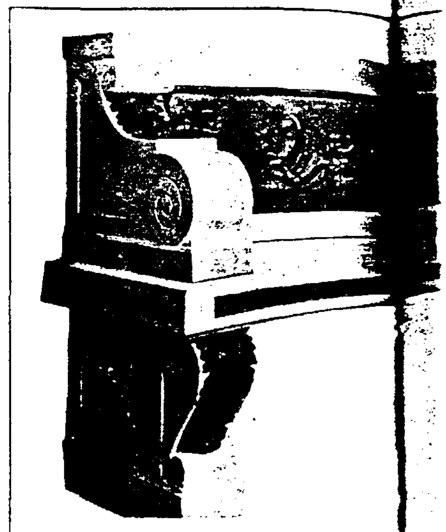
LIA25378

Extensive Lead Ornamentati stii

Cast Lead Inserts and Perforate Pan



Perforated cast lead panel depicting ducks, mounted on the garden wall over a cast lead cistern.

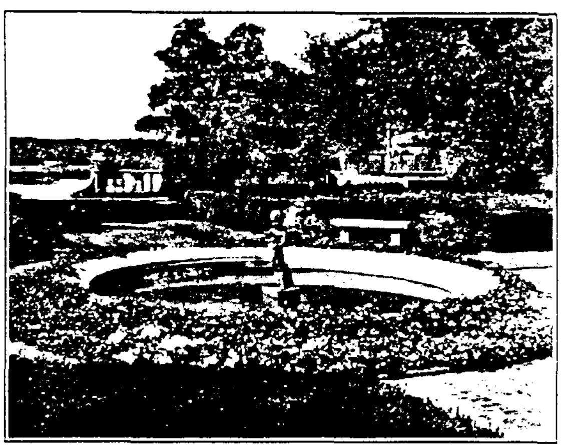


A dri lim stone orn mented lea that u on th cover. beau tiful an trea ment e ag

LEAD is traditionally employed for garden ornamentation, but in landscaping a beautiful estate in the middle west, Mrs. Annette Hoyt Flanders, New York landscape architect, has employed the metal in original and unusual ways. These new applications of lead are particularly happy developments and may also be employed in building architecture to good advantage.

In the above mentioned gardens, limestone garden furniture has been decorated by the insertion of ornamental cast lead panels and embellishments that lend extraordinary charm. The lead castings are applied to the stone by means of dowels. The beautiful color of lead is harmonious and improves with age, while lead will never cause staining or discoloration of the stone. Ornamental castings in lead have a softness of line not reproducible in other metals. An added advantage is that, due to the flexibility of lead, it can be cast in flat strips and fitted to curved surfaces, like the back of the garden seat, simply by bending. This work was executed by Erkin Studios of New York from Mrs. Flanders' designs.

This method of ornamentation readily suggests itself for architectural purposes. For instance, panels over stone entrances or in stone corridors might use this form of decoration and it could be used with



An exquisite cast lead fountain figure in the same garden.

Lead Alloy Die-Cast Ornaments ve

THERE is a big market for die-cast metal novelties for use as paper weights, table decorations, favors and other ornaments. Many of these are made from lead or its alloys. The same thing is true of medallions, buttons and other types of insignia used in huge quantities each year for conventions, societies and propaganda purposes.

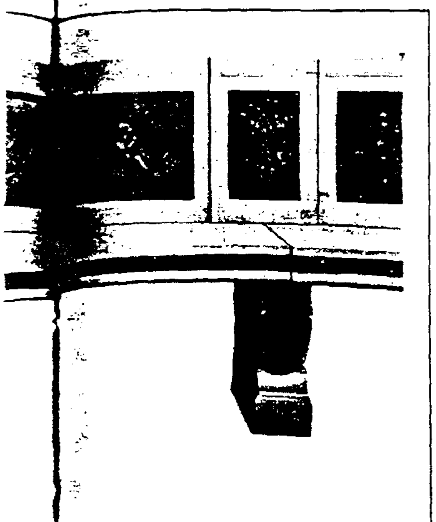
Illustrated here are some die-cast lead alloy ornaments made by The A-F-E-L Metal Products of Orlando, Florida. They are cast of an alloy said to be non-tarnishing and non-corroding and are sent out just as they are released from the mold without any polishing or lacquering. They have a soft silvery lustre, resulting in a trade name of Silve-Lstr for the metal.

A few orn ments Silv Lstr Alloy.

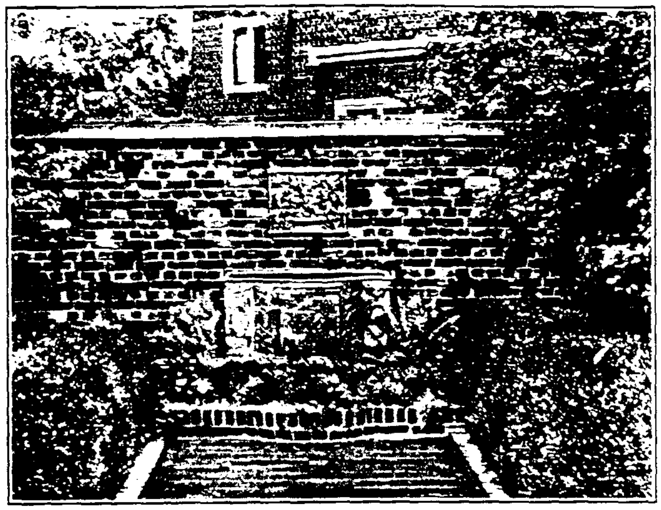
LIA2537c

ati stinguishes a Beautiful Estate

rated Panels Add An Unusual Touch



A d... lime-stone orna-mented ... lead that is ... on the ... beau-tiful ... treat-ment ... age-



Another perforated cast lead panel over a lead cistern. This panel represents a rose bush.

great facility to replace stone carvings or castings.

Two unusual cast lead panels were also employed by Mrs. Flanders on the same estate. Since the owner is an ardent duck hunter. one cast lead panel depicts ducks. with waves of water below and curls of cloud above. The owner's wife being a confirmed cultivator of roses. the other panel depicts a rose bush. The unusual feature of these panels is that. instead of being conventional solid panels. they are perforated. In one. the lines of waves and clouds are solid with spaces between. and. in the other. spaces occur between the stems and foliage of the rose bush. These panels are mounted on a brick garden wall. the wall showing through the perforations. This method might also be employed architecturally. much the same as that previously described. These panels hang above two cast lead cisterns which add a traditional touch to this lovely garden decoration that has been treated so originally with an age-old metal. The panels and cisterns were executed by Hope's Windows. Inc. from Mrs. Flanders' plans and sketches. Lead fountain and garden figures. some of which are pictured here. also abound on this lovely estate.

The photographs of the lead work in these gardens are reproduced by courtesy of Mrs. Flanders. and the detail of the bench by courtesy of Erkin Studios.

ents ve Many Advantages and Uses

Lead alloys are well suited to die-casting where no great strength is required of the metal. Low melting point. attractive color and ability to fill the mold well. thus reproducing detail faithfully. are among the things that make lead alloys so satisfactory for die-castings. Of course. type metal is an outstanding example of a lead die-casting alloy and shows what sharp detail. even in very small castings. may be obtained with alloys of this type.

A few orna-ments ... Silve-Lstr alloy.

The manufacturers of Silve-Lstr also advocate its use as a coating for less expensive. less durable metals. particularly where these metals are exposed to weathering. An example would be its application as a coating on fly screens to present a bright surface that will not stain paint or stone.

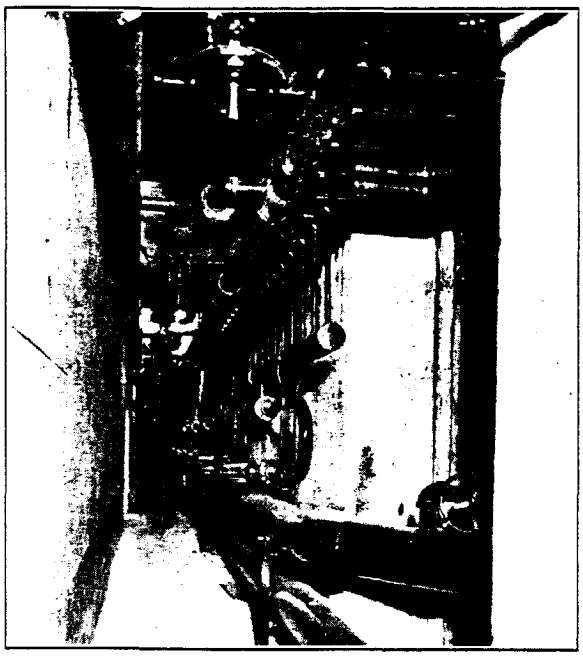
Cast lead squirrels perch on the garden walls of this lovely estate.

LIA25380

Lead Provides for Expansion of Ice Rink Brine Piping

LEAD expansion bends figured prominently in the piping for an artificial ice skating rink installed by the Mechanical Construction Corporation of Hibbing, Minn., in a new Memorial Building recently erected there. The cost of the building approximated $500.000 and the skating rink installation totaled more than $63.000.

In conjunction with this artificial ice skating rink, over 10 miles of pipe was embedded in a 20.000 sq. ft. monolithic concrete and terrazzo floor. Adjoining this floor was a concrete tunnel about 200 ft. long and 4 ft. wide in which were placed the various brine supply and return mains.



Pipe tunnel in the new Hibbing Memorial Building, showing the lead expansion bends in the brine pipes.

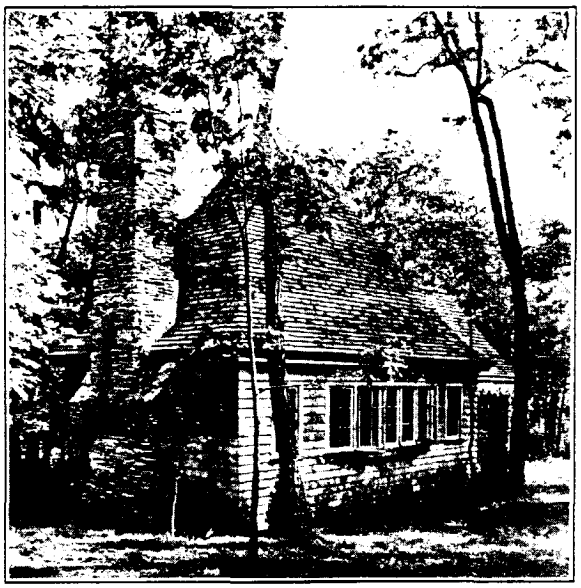
In the accompanying illustration, the lead expansion bends are visible. Sixty-six of these, requiring about 8.000 lbs. of lead were used. Each bend is about 3 ft. long and made of lead $\frac{1}{4}$ in. thick. The bends provide expansion for all the pipe illustrated. This expansion is not in one direction only, for there is both longitudinal expansion of the mains in the tunnel and lateral expansion from the pipes extending from the floor.

This particular installation is one of three like it that have been installed throughout the country. The principle involved is much the same as that requiring the use of so much lead on ship board. In that case, lead expansion bends are provided where pipe lines pass through bulk heads and must not only provide for expansion of the pipes but must take care of movement of the ship structure itself. The great resistance of lead to corrosion by salt solutions and its high degree of flexibility make it ideal for these purposes.

Hibbing, Minn., in which the building described here was erected, is a village of some 16.000 people in the heart of the Mesabe Range, Minnesota's great iron mining district, and was once reputed to be the richest "village in the world".

Problem of Flashing Stone Chimney Solved by Lead

HIGH on a hill in Dutchess County, New York, is the attractive tea house of Mr. and Mrs. Melbert B. Cary, Jr., designed by the New York Architect, Roswell F. Barratt. One of the prominent features is the chimney, built of beautiful greenish-gray slate found on the property, but weather-proofing presented a difficult flashing problem because of the roughness and crumbly nature of the stone. In lead, the architect found the answer to the problem.



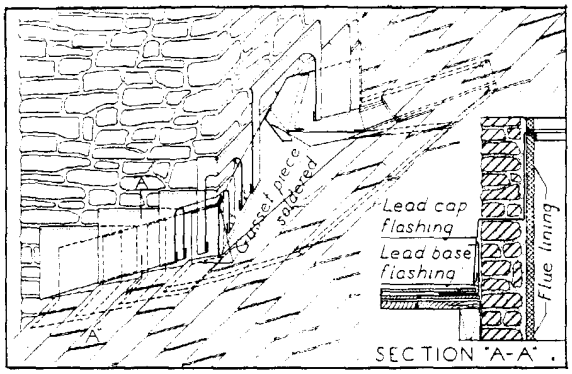
RICHARD AVERILL SMITH

The stone chimney of this tea house by Roswell F. Barratt, architect, has lead flashing.

LIA25381

Because of its softness and flexibility, the lead flashing was easily made to fit the irregular stone surfaces. To provide a complete cut-off for moisture at the flashing, the metal was carried through the stone chimney to the flue lining. It was turned up at that point to the first joint in the lining, and was carried through this joint and turned down inside. Soft lead weighing 4 lb. per sq. ft. was used.

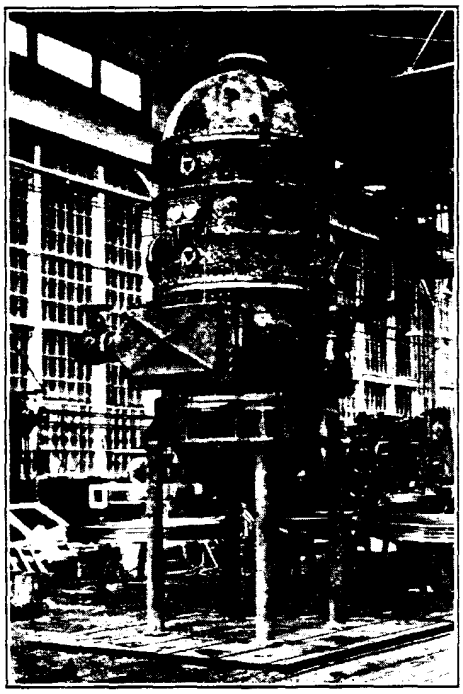
Lead flashing, of course, has other advantages. Its attractive color is always harmonious and it never causes staining of adjacent materials. In addition, it is more durable than any other common metal when exposed to the atmosphere. Ease of working keeps the labor cost of installing lead flashing at a minimum and may effect decided savings.



A detail of lead flashing for the stone chimney shown on the preceding page. In this case, the architect specified that the flashing extend through the flue lining, providing a complete cut off for moisture at the flashing.

Cast Lead Evaporator for Titanium Sulphate Solution

TO WITHSTAND the corrosive action encountered in concentrating a titanium sulphate solution containing 15 to 20 per cent free sulphuric acid, the American Zirconium Corporation, of Baltimore, Md., employs lead. A Struthers-Wells horizontal tube evaporator, measuring 4 ft. 6 in. in diameter and 7 ft. high is used. With the exception of the base, which is cast iron, this entire evaporator is made of lead alloy castings, the alloy consisting of 92 per cent lead and 8 per cent antimony. Antimony was added to give the evaporator greater hardness and strength, an advantage during manufacture, transportation and installation. About 35,000 lb. of the metal was required to make the castings.



A large cast antimonial lead evaporator for concentrating titanium sulphate solution. The entire evaporator, except the base, is lead alloy.

The steam pressure encountered is 10 lb. gauge and the vacuum 26 in. of mercury. The walls of the evaporator shell are 1¼ inches thick.

In the manufacture of such large and heavy lead castings, there were naturally requirements which necessitated a departure from common iron foundry practice. These were ably worked out by the manufacturers, the Titusville Iron Works Division, at Titusville, Pa., of the Struthers-Wells Company, of Warren, Pa., and were the subject of a prize-winning article by F. J. McGrail, foundry superintendent, in the September, 1935, issue of THE FOUNDRY.

This cast lead evaporator used in the processing of a relatively new commercial material, titanium sulphate, is an apt illustration of the versatility and adaptability of lead where corrosives must be handled. Lead is resistant to a wide variety of common and unusual chemicals, and, if properly handled, may be readily fabricated into almost any desired shape. Lead equipment is easily repaired without undue loss of time and common shapes are available for replacements in all localities. Also a high salvage value may be claimed for lead. More often than not, when all factors are considered, lead works out to be the most economical material for chemical equipment. Where explosives or inflammables are used, the non-sparking of lead when struck is an advantage.

LIA25382

White Lead a Feature of Attractive Home Development

ALL THE homes in the attractive Ridgewald Highland development at Waldwick, N. J., will be protected and beautified by pure white lead paint. Several of the homes have already been completed and others are now under construction. They sell for $5,690 and up on 50 by 100 ft. landscaped plots, and altogether about 300 acres are owned by the developers.

These homes have many attractive features such as oil burners, insulated walls, modern kitchens and a location overlooking the beautiful Saddle River Valley. Not the least of the attractive features from the prospective purchasers' standpoint should be the white lead paint employed on the houses. This assures the purchaser that he will not be subjected to the unnecessary expense of repainting shortly after acquiring a new home. When the time does arrive for repainting, he will not have to burn and scrape off old failing paint, an expensive proposition, for white lead wears down smoothly and evenly, leaving an excellent, strongly adherent surface for repainting.

When a house is freshly painted, it is difficult for the average person to tell the difference between good and poor paint. To his grief, however, if he has purchased the house, the difference shows up a year or so later. For this reason, the temptation to builders to use cheap paint is strong. However, the saving involved in using cheap paint instead of white lead is small, if any, because labor forms the larger part of the cost of painting and because more gallons of cheap paint are usually required to cover a given area. Therefore, the wise builder sticks to white lead and does not risk incurring ill will.

The use of white lead on the Ridgewald Highland Homes is an indication of the high quality materials used throughout. Mr. Eric Carlson is in charge of the architectural department and construction, and the painting is being performed by A. C. Ernst of River Edge, N. J. and Paul Ivaska of Teaneck, N. J.

White lead paint on houses built for sale may be used as an aid in selling the houses just as rustless plumbing, rustless sheet metal and other features are.

PHOTOS BY WURTS BROS.

Three views of attractive homes in the Ridgewald Highland Development at Waldwick, N. J., all painted with pure white lead, which will assure home buyers there of freedom from early and expensive repainting.

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