



Houston Plumbers Find Use of Lead An Advantage

HOUSTON, TEXAS, is a plumbing paradise for both residents and plumbers, and much of the credit for this condition may be traced to the fact that lead is extensively used in Houston plumbing installations. As the photographs of a number of recent plumbing jobs in Houston show, all concealed wastes, traps and closet bends are lead with wiped joints. As a consequence the property owner knows he is getting a durable job with a minimum tendency to clog and sufficiently flexible to take care of building settlement. He knows the joints can not vibrate or shake loose and that solids will not lodge in their smooth interiors.

The home owner is further assured of his work being done by skilled plumbing mechanics, because they are the only kind of mechanics capable of doing lead work. As a result, none but highly skilled plumbers find it possible to operate in Houston and the handyman can not compete. Therefore the legitimate plumbers of Houston have benefited through their own vigilance in keeping plumbing work in their city a real plumber's job. It can truthfully be said that conditions in the plumbing business in Houston for both legitimate master plumbers and legitimate journeymen plumbers are excellent and they are not complicated by cheap, unskilled competition. At the same time

Handymen Can't Compete With Skilled Plumbers in Texas Metropolis.

the public of Houston need not worry about unsanitary, dangerous conditions often created by handymen when they attempt to

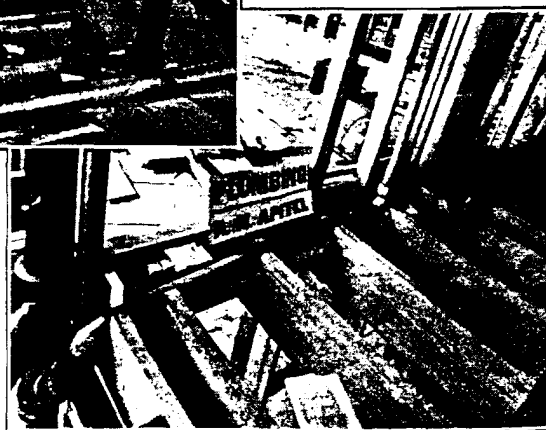
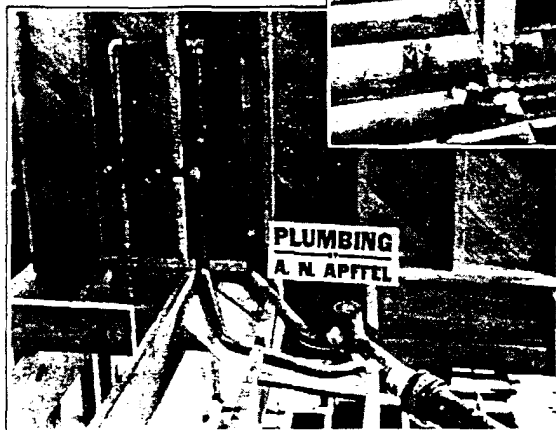
do a plumber's work.

A public service has been performed by the plumbers of Houston in keeping plumbing work in the hands of those who, by training and experience, are capable of making installations that will protect public health and that in the end always prove most economical to property owners. Mr. A. B. McGinty, business agent of the Journeymen's Local, with much foresight has preached this doctrine for sometime and under the leadership of such able men as Mr. McGinty, Mr. D. Morrow, president of the Houston Master Plumbers Association, and Mr. A. A. Peary, chief plumbing inspector, these desirable conditions should continue to exist. There is no better installation for the public than that made with lead by skilled plumbers, nor is there any surer way of eliminating handyman competition from the plumbing business. Just as they have in Houston, plumbers themselves must assume the responsibility for seeing that proper plumbing is installed because they are qualified to judge between good and bad plumbing whereas the average layman is uninformed on this subject. The public needs the legitimate plumber's protection.

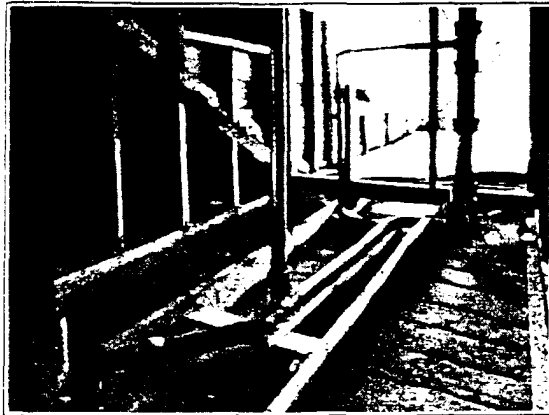
Three views of plumbing in a large residence in Braeswood, a beautiful Houston suburb. The upper picture shows roughing-in for a toilet and shower. Lower left photo shows 2-inch lead re-vent for toilet because, while there are no fixtures entering the stack



above, the opening of the lead bend is more than 36 inches from the stack, which requires re-venting under the Houston ordinance. Lower right photo shows another shower installation. A. N. Appfel, plumbing contractor, and W. G. Herring, journeyman.

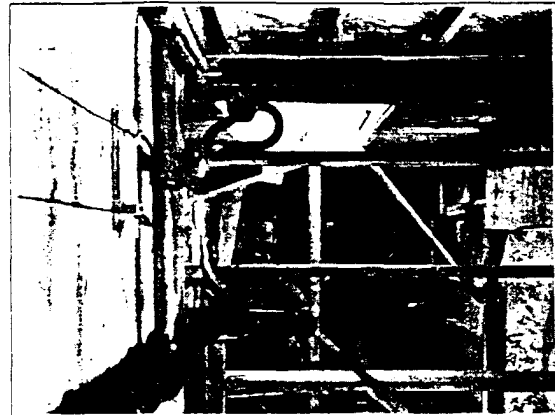


CECIL THOMSON STUDIOS

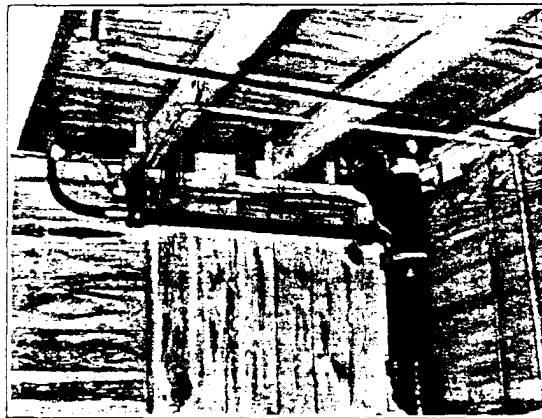


PHOTOS BY CECIL THOMSON STUDIOS

Roughing-in for a new bath in the attic of a Houston residence, illustrating the flexibility and neatness of lead pipe for remodeling and showing how little cutting of joists is necessary. V. J. Walker, plumbing contractor, and Harry Fisk, journeyman.



Roughing-in of another bathroom in the same residence, viewed looking down from the attic. The roughing-in for a laundry tray on the first floor is visible. Mr. Walker, the plumbing contractor, says, "I have found that a good lead job pleases my customers at the time the house is built, and the freedom from deterioration keeps them pleased."

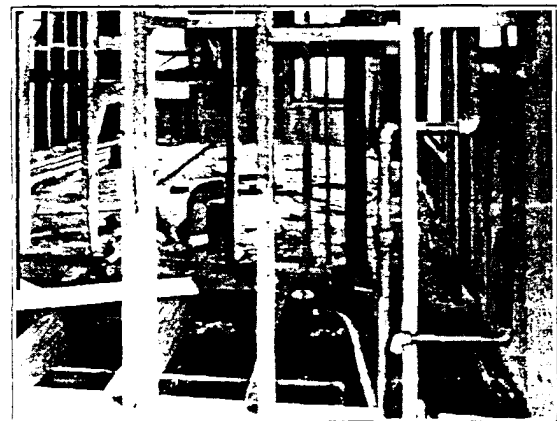


A somewhat unusual installation of plumbing in a garage apartment in Houston, viewed from underneath. The basin waste may be seen entering the 4 in. lead stub

from the right. The vent from the drum trap is carried through the roof separately. J. K. Leslie, plumbing contractor, and George Robb, journeyman.



Leadwork for toilet and basin in a residence on Inwood Drive, Houston. The shower is on a separate stack. The toilet is within 36 in. from the stack and hence is stack vented. J. W. Thiel, plumbing contractor, and Fred Bragdon, journeyman.



A downstairs bathroom in a four bathroom job on Sunset Boulevard, Houston. The downstairs bathrooms have toilet and basin only. The vent for the toilet in this illustration, hidden by a stud, is carried above the water line on the second floor. M. G. Herring, plumbing contractor, and Fred Laird, journeyman.



F. S. LINCOLN

COLONIAL Williamsburg, Virginia, as it has been recently restored through the generosity of Mr. John D. Rockefeller, Jr., is an inspirational project, and as the American people come to know it intimately, will doubtless prove a mecca for those who are interested in the history of their country.

But the Williamsburg restoration also is one of the finest paint jobs in the United States today. Nearly all the structures that were restored or reconstructed, have been painted inside and out with white lead. The inside painting used the loveliest imaginable colors, colors which are accurate reproductions in composition and shade of the very paints used by Virginians of the Colonial period. Of course, one might expect that the reconstruction of Williamsburg would rely upon white lead paint without consideration of its traditional use in Colonial days, but any one who visits Williamsburg today can not help but depart with the impression that the colonists were indeed fortunate, even with their limited facilities, in having a paint at their disposal then which remains unexcelled today.

A surprising feature of the colonial use of white lead more than 200 years ago, is the fact that so many homes were painted with colorful interiors, grays, browns, blues, greens, yellows, in soft harmonious tones, as historical paint research at Williamsburg has proved. In fact, so attractive are some of the paints used that today there is a demand from architects and others who visit Williamsburg and observe these beautiful paints, to have them duplicated.

As one commentator puts it, "The judgment and taste of the Colonial painters are as apparent as the same qualities in the craftsmen builders. They achieved harmony and contrast and used their colors meaningfully with a full comprehension of fitness. The colors themselves had fine body and lasting quality, as evidenced

White Lead Paint for Wilbu Beautiful Colonial Decorative

Parlor in Raleigh Tavern, Williamsburg. The woodwork is painted an attractive green, made from white lead and tinting pigments.

by the existing examples at 'Amphill', 'Wilton-on-the-James', 'Sarah's Creek' or 'Little England' on the York, and many other places in Virginia."

Some of the gorgeous paint effects at Williamsburg were secured by using the same methods employed by colonial painters. For example successive coats of different colors have sometimes been

applied, it being the transparency of the last coat over another tint, which gives the effect desired by the painter.

White lead is so commonly associated with excellence in exterior painting that its equally effective use in interiors is apt to be forgotten. A visit to Williamsburg will convince any one that white lead shows up painted interiors at their best. Those who are particularly interested in the subject are advised to visit the interiors of the Capitol Building, the Governor's Palace, the Wren Building, the Raleigh Tavern and the Ludwell-Paradise House.

A Lead-Covered Cupola at Williamsburg

In addition to the use of lead in painting Williamsburg, the metal will also be found in the form of hard lead sheet as a flashing and covering on the cupola of the Governor's Palace. The use of sheet lead was traditional with colonial build-

* Mrs. Susan Higginson Nash in ARCHITECTURAL RECORD, Dec., 1935.



One of the lead-covered cupolas of the Governor's Palace at Williamsburg.



General Court Room in the Capitol Building at Williamsburg. The woodwork is painted a reddish brown, with light brown and white accents.

Williamsburg Exteriors and Interiors

Decorated With Pure White Lead



One of the cast lead flower pots in the gardens of the Governor's Palace in Williamsburg.

The Blue Room in Wren Building, William and Mary College, Williamsburg, is painted with tinted white lead.



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ers, and Sir Christopher Wren, the famous architect, used it on the building now named for him at the College of William and Mary in Williamsburg. This installation of lead was found to be in such condition after 236 years that much of it could be used again in the restored Wren Building. (LEAD, September, 1933.) Although hard lead is a development of the twentieth century, its color is identical with soft lead, which was the metal used in colonial times, so the effect is the same. Hard lead is stronger than soft lead, however, and may be safely used in thinner sheets. The dark gray cupola is a conspicuous landmark in Williamsburg today.

Lead in Williamsburg Gardens

In the rear of the Governor's Palace at Colonial Williamsburg will be found a beautiful garden containing only plants believed to have been cultivated by the Colonists. In this garden, a photograph of which appears on the cover, will be found eight lead flower pots on pedestals, superbly decorated and blending unostentatiously with the landscape. They doubtless show the influence of the well known British fondness for ornamental lead work, for lead was commonly used in England for a variety of building purposes in Colonial times, just as it is today. The

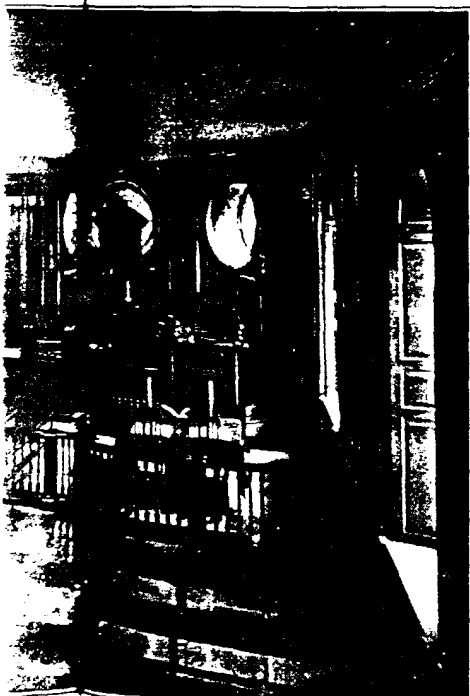
inventory of the estate of one of the royal Governors, Lord Botetourt, taken in 1770, showed that there were "12 leaden & 6 stone flower Potts" in the garden of the Palace.

Iron Clamps for Stonework Set in Lead

An old use of lead noted in Williamsburg which is seldom found in modern construction, is in the setting of the stone steps of numerous buildings. The blocks of the steps were often held together by means of a wrought iron U-shaped strap inserted into recesses in the blocks where they touched, as shown in the diagram. Molten lead was then poured around the straps to hold them in place. The effect of the numerous joints on the stone steps is charming for it breaks the monotony of the unbroken stone surface.

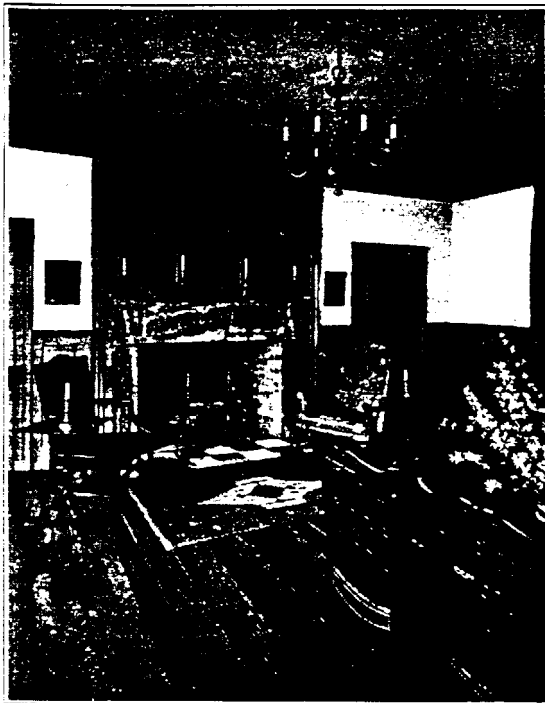
The firm of Perry Shaw & Hepburn, Boston architects, who had direct charge of the architectural development of the restoration, have done a magnificent piece of work. Todd and Brown, Inc., were retained as engineers and contractors. The painting was done, in part by E. K. Perry Co., of Boston, and E. W. Mintz of Washington.

Williamsburg is located some forty miles west of Norfolk, in a part of the United States rich in colonial, Revolutionary and Civil War traditions. It was the center of the economic, educational, religious, and social life of the Virginia Colony from 1699 to 1779. It is very easy to transport one's self today, while walking down Main Street (The Duke of Gloucester Street) with its restored cobble stones, lamp posts, colonial frame and brick buildings, to the days when there were no radios, telephones or automobiles. In fact, one receives the impression that the people in those days must have lived simply but beautifully, and had compensa-



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Williamsburg. The paint is white lead tinted brown and the molding at the ceiling is marbled with white lead.



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Apollo Room, Raleigh Tavern, Colonial Williamsburg. The woodwork is a beautiful blue gray, obtained by the use of white lead, Prussian and ultramarine blue, ivory, drop black, Van Dyke brown and raw umber.

tions in the peace of their existence to offset the livelier days of the twentieth century. So completely has the job of restoration been done that the spell of colonial life is apparent to any one visiting Williamsburg. There is something for every one to see, whether it happens to be the beauty of the architecture, the quiet dignity of the gardens, the furnishings of the homes and taverns, or the general colonial setting.

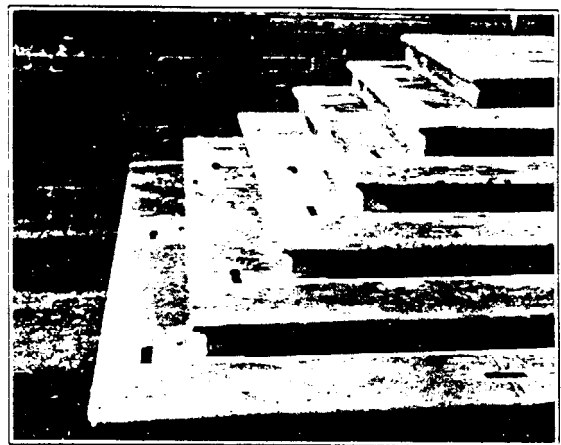


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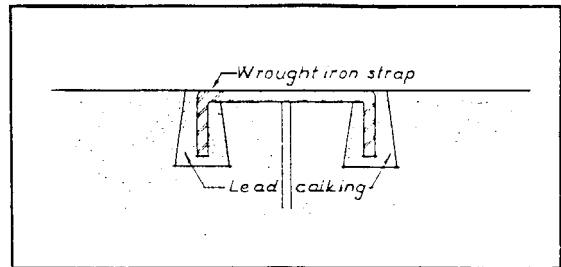
A meat and grocery store on Duke of Gloucester Street, Colonial Williamsburg. Pure white lead paint was used for most of the exteriors in this remarkable restoration project for which Perry, Shaw and Hepburn of Boston were architects.

Several years of architectural and archaeological research were done by those who have built the Williamsburg restoration, and one may well spend several weeks studying intimately the various component parts of the project which had to be fitted together to give it the accurate colonial appearance it has today.

Prior to 1927, when the restoration was undertaken, Williamsburg was a mixture of old colonial homes and architecture of uncertain vintage, but of undeniable confusion. One of the first steps was to acquire the property needed in the colonial portion of the city. This was done gradually so that today more than 90 per cent of the property along Duke of Gloucester Street is included in the Restoration. Four hundred fifty-nine buildings were demolished, telegraph poles were re-



Some of the stone steps at Colonial Williamsburg, showing wrought iron clamps set in poured lead and, below, a sketch showing how the clamps are installed.



moved and the various outward appurtenances of the eighteenth century, such as cobblestones, fences and lamp posts peculiar to the period reinstalled. Sixty-seven colonial buildings have been extensively repaired and restored. Ninety-one have been reconstructed upon existing colonial foundations.

The appeal of Colonial Williamsburg is that it is a living city today. Those who go there once will wish to return again and again, to this uncommercial and superb restoration of early American life.

Southern Pine Association Manual Recommends White Lead

AN ATTRACTIVE Architects' Specification Manual for Residences has just been published by the Southern Pine Association, New Orleans, La. This manual contains a wealth of practical, authentic information for the specification and use of Southern Pine lumber.

Realizing the importance of seeing that consumers are entirely satisfied after they have built with Southern Pine, a section has been devoted to proper exterior and interior painting practice. In this way, it is hoped to avoid unsightly and expensive paint failures which reflect unfavorably on lumber and which are preventable by the use of good paint materials properly employed.

In this section the Southern Pine Association has recognized the proved ability of white lead paint to give lasting and beautiful results. Mixing formulas are given for preparing exterior white lead paint for both new

and repaint work, and recognition is given of master painters in this connection. It is further brought out in the paint section of the manual that, if ready mixed paints are to be employed, only those made by reputable manufacturers who place the formula of the paint on the can should be specified, and it is stated that this formula should contain a high white lead pigment content to insure greatest economy and satisfaction.

In connection with interior painting, architects are warned to specify only highest grade materials, and mixing formulas for white lead paint for interiors are given.

The Southern Pine Association is to be commended for its realization of the importance of good painting in insuring satisfaction with lumber products and for its reliance on such time-tested materials as white lead.

Master Plumbers of Six More States Advocate Lead

SO FAR this year, six more state master plumbers' associations have gone on record, by resolution, as favoring more extensive use of lead in plumbing as a means of providing better plumbing for the public and eliminating handyman competition in the industry. These state associations are in Kansas, Minnesota, Missouri, New York, North Dakota and Oklahoma.

The resolutions adopted are similar to those passed in the last several years by associations in 14 states. Now totaling 20, the state master plumbers' associations which have so far passed resolutions favoring lead work are in the following states:

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

These states represent more than 60 per cent of the population of the United States.

While the wording of these 20 resolutions varies from state to state, the meaning is virtually the same in all. It is that inferior materials, methods and workmanship work a hardship on the public by providing unsanitary plumbing and plumbing that leads to unnecessary expense for repairs on the part of the property owner, and likewise lower the standards prevailing in the plumbing industry. The resolutions then

recognize the known durability of lead work installed by skilled plumbers and encourage the use of lead as a step towards correcting the evils previously set forth.

The wisdom of these resolutions has been definitely proved in many communities where the plumbers have carried out the intent of the resolutions. Plumbing ordinances and installations have been improved and the plumbing business has suffered less from unqualified competition.



CECIL THOMSON STUDIOS

Houston, Texas, is a fine example of the wisdom of using leadwork in modern plumbing. This cottage plumbing in Houston is for a water-closet and basin, and a shower at the left. Some leadwork for another job, wiped up by the journeyman on this job, is scattered in the background. Scheltz and Bragdon, plumbing contractors, and Victor Verrett, journeyman.

Lead Ridges, Hips, Chimney Flashing on a Residence

LEAD ridges, hips and chimney flashing crown the roof of the Marion Litchfield residence at Bedford Village, N. Y., designed by Godwin, Thompson and Patterson, New York architects. The treatment of the hips and ridges is interesting. The 4 lb. sheet lead was installed in 20 in. lengths, each section overlapping the next by 4 in., and extending 7 in. on each side of the ridge or hip. The lead was hammered before installation to give a rough appearance, and the finished ridges and hips are most harmonious with the slate roof. The cap flashing on the chimneys was carried clear through the brick work, turned up the flue lining and then carried through the joint in the lining, thus making a complete cut-off for any moisture entering above the flashing.

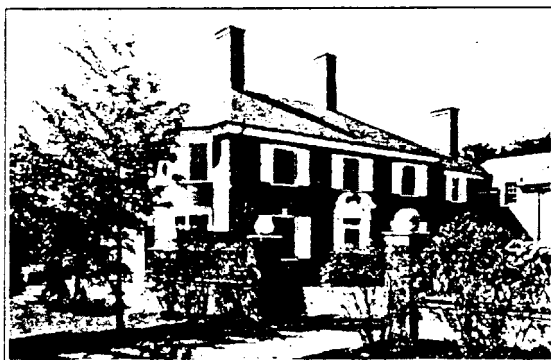
Several methods are practical in installing hips and ridges of this type. If in such short lengths as used



The Marion Litchfield residence at Bedford Village, N. Y. has lead ridges, hips and chimney flashing. Godwin, Thompson and Patterson, New York, architects.

ous with all other construction materials, beautiful in itself, and which will not cause staining of other adjacent materials. Lead is more resistant to atmospheric attack than any other architectural sheet metal and is much thicker, offering proportionately longer life. Its softness permits it to be fitted to irregular surfaces or to be hammered easily as in this installation.

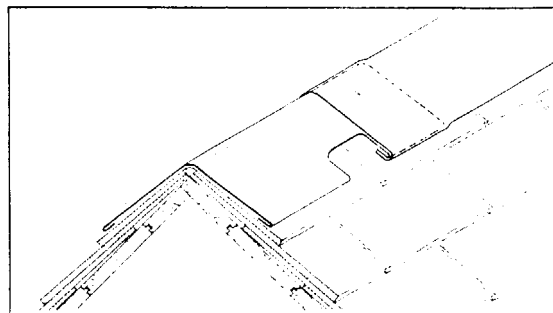
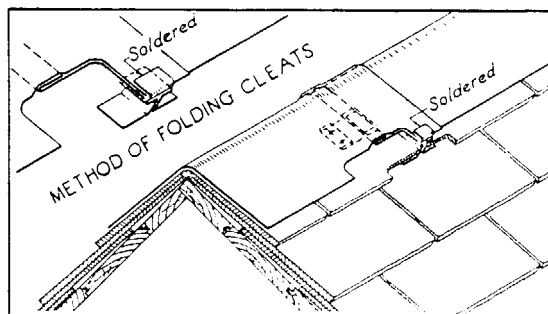
Julius Watsky of Mount Vernon, N. Y., was the roofing and sheet metal contractor on this job.



Another view of the Litchfield residence, also showing the lead ridges, hips and chimney flashing, which were installed by Julius Watsky of Mount Vernon, N. Y.

here, each section may be nailed in place at one end where the nail heads will be covered by the overlapping portion of the next length. Larger lengths should be held by cleating instead of nailing. The other end of each section may be held down by cutting diagonal slits in the sides of each piece and hooking them together. Thus the upper sheet is held down against wind but can still expand and contract freely. Another method is to slip large-headed copper nails in the space between slates, head down, piercing the edge of the lead with the point. A lead washer is then placed over the nail and the end of the nail bent down on top of washer and lead ridging. This also permits expansion and contraction because the nail can move in the space between slates.

Godwin, Thompson and Patterson have used lead on a number of jobs. It provides a material harmoni-



Two additional methods of installing lead ridges and hips and holding edges down.

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