

LEAD INDUSTRIES ASSOCIATION, INC.

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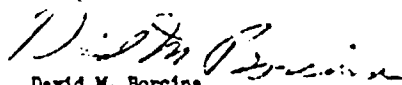
SUBJECT: REPRINT FROM
"HOUSE BEAUTIFUL" ON LEAD

To Members of the Lead Industries Association, Inc.:

We are attaching a copy of the article entitled, "Discovering the Beauty of Lead," which appeared in the June, 1962 issue of HOUSE BEAUTIFUL. The author, Ernst Auerbach, discussed the article with LIA staff prior to publication. We did not, of course, supply him with the cost figure of 50 cents a pound for sheet lead which he mentions in the article.

Additional copies are available free of charge in quantities up to 25 and at our cost of 28 cents each for larger quantities.

Very truly yours,

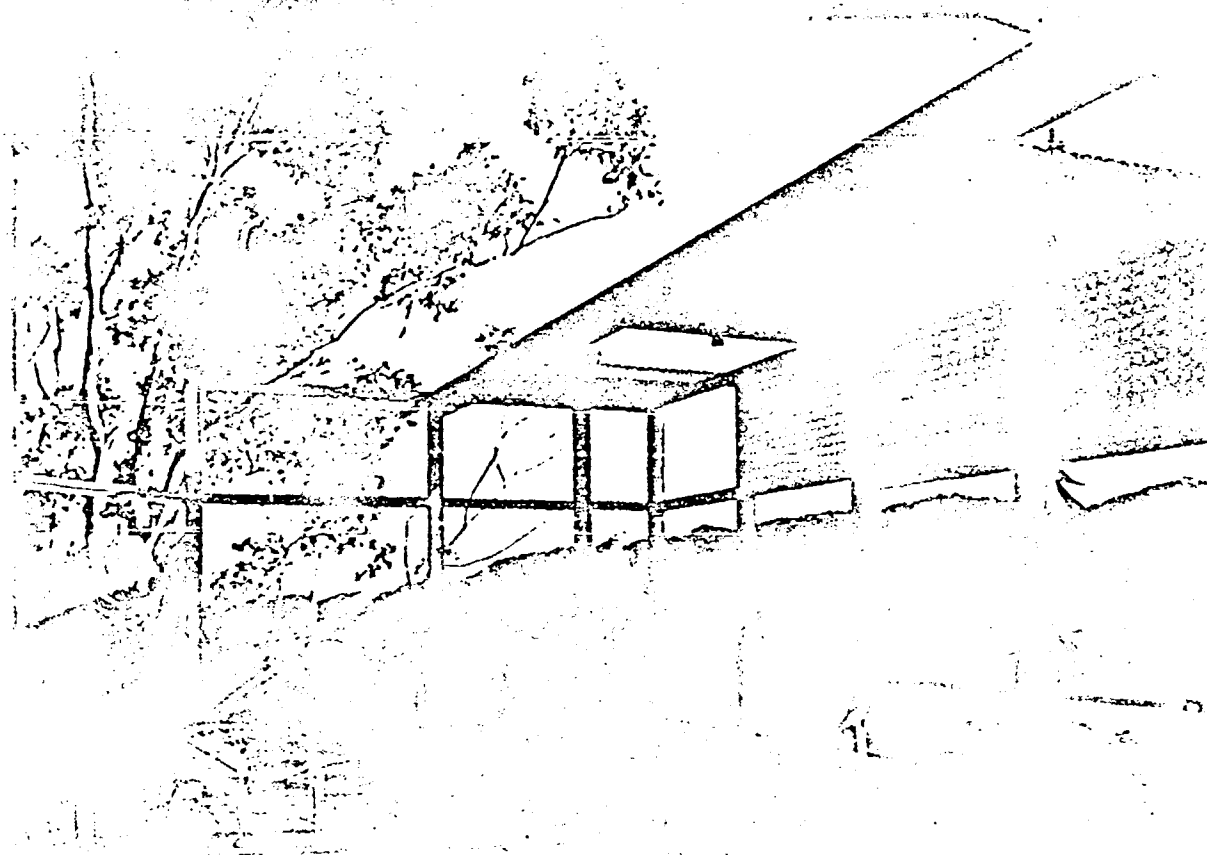

David M. Borcina
Look Ahead with Lead

LIA21396

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No. 9 in the Series: How to Explore and Exploit the Nature of Materials

Discovering the Beauty of Lead

Lead in sheet form is the easiest of all common metals to cut, shape, and form. You can use it to create countless objects of uncommon beauty

by ERNST ALBRECHT

For centuries lead has had widespread use in garden statuary, fountains, pots, urns, as well as in architectural ornamentation and structure. The reason is simple. Lead is a material of quiet, understated beauty, and it is easy to use. You don't need a vast array of special equipment. You need only a few everyday tools and patience to shape it to your will and create countless objects, both useful and decorative.

Immune to corrosion and wasting, lead is ideal for use outdoors. It needs no special care or maintenance. Time and weather are kind to lead, softening its already soft gray color to one that is a perfect foil for flowers or foliage and a pleasing complement to cut stone, natural rock, brick, and painted or unpainted wood.

One method used in the fabrication of lead objects is casting. Casting makes possible a comparatively rapid and endless duplication. But cast objects are heavy in proportion to their bulk, and this means added cost. Aesthetically, they usually lack definition and clarity. Of special importance to us, the casting of any metal is not a task to

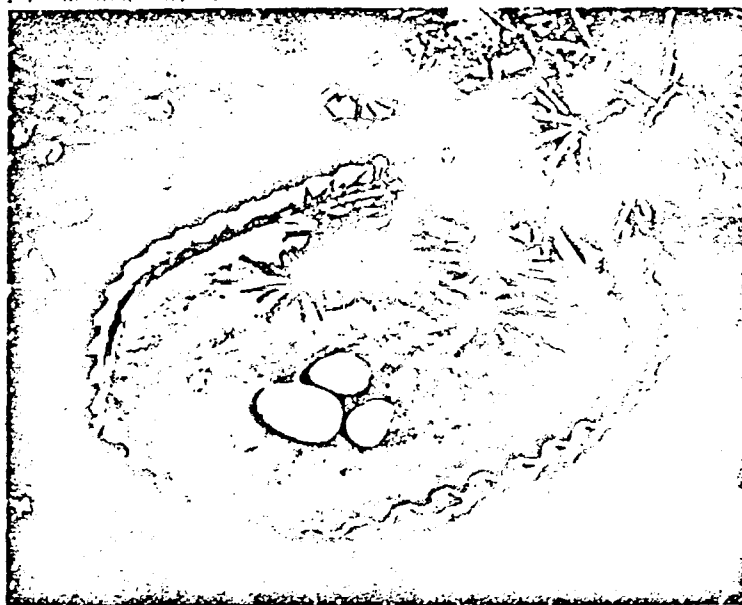
be undertaken lightly in a home workshop or without some special skill and experience.

These disadvantages are avoided if lead in sheet form is used. It is cut with tin snips and easily joined by soldering. If added rigidity is needed, the lead can be overlaid on a stiffening form of wood or applied as an overlay on a commercially available item which you wish to decorate and upgrade. Lead is an informal material. The unevenness and irregularities of its fabrication are a part of its charm. If worked with the casualness proper to its nature, it assumes a character that is unique and gratifying. The little errors you do make will add interest to the result.

Detailed directions are given here for making the bird bath and reflecting pool illustrated on these two pages. Neither of these is beyond the abilities of a normally aware and interested person. Once either or both of these pilot projects are done, a personal technique will have been acquired ample enough to cope with any of the pieces shown on the pages which follow. As your technique will be personal and your needs individual, it is highly improbable that you will want to make a spitting image of any of the pieces shown, which is as it should be.

Smaller variations of the bird bath make excellent plant containers for either indoors or outdoors. An inflated version is ideal for a bonsai. Small flowerers can be folded or bent into ash trays. Prominently placed fence posts can be capped with lead, which can be ornamental as well as a help in checking weathering.

Lead is useful in masking or shielding exposed lights in outdoor illumination. Bird houses (Please turn the pages)



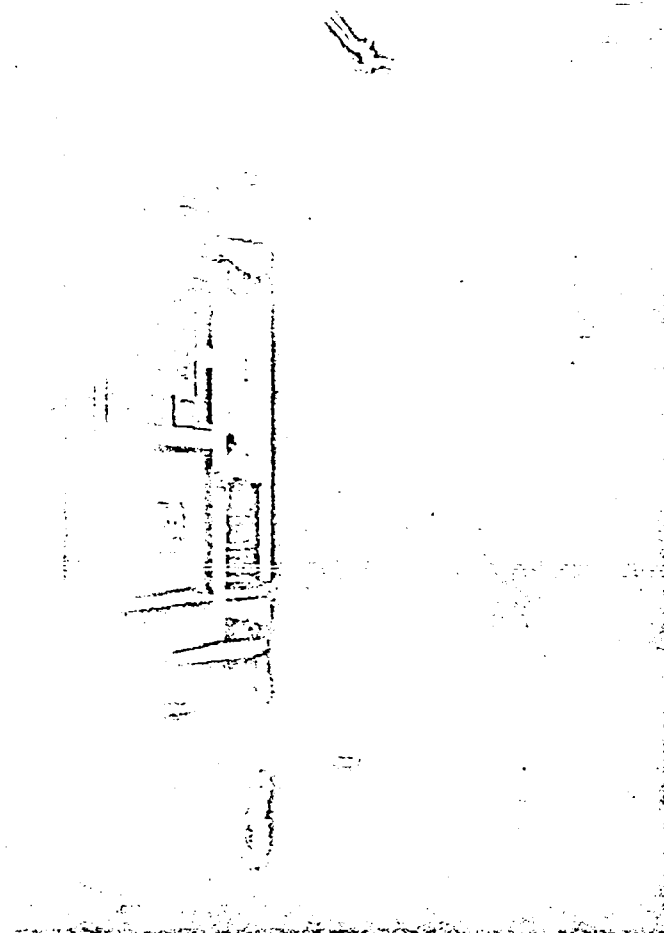
A fluted, oval bird bath, like that shown at left, is a simple project, but it can teach you much about the nature of lead, and enable you to go on to more elaborate projects like those shown on the pages which follow. All projects are made with 1 pound sheet lead, readily available from plumbing shops. Lead is an enduring metal, requires no maintenance.

This reflecting pool, measuring 12" square and 6" deep, can be made of lead placed over a cedar or redwood form. A single sheet of lead covers the bottom, sides, and extends downward on the outside. Only the corners are fitted separately. Lead is so tractable, it can be fitted by hand, eased into place. You can have the wood form made at a millwork shop.

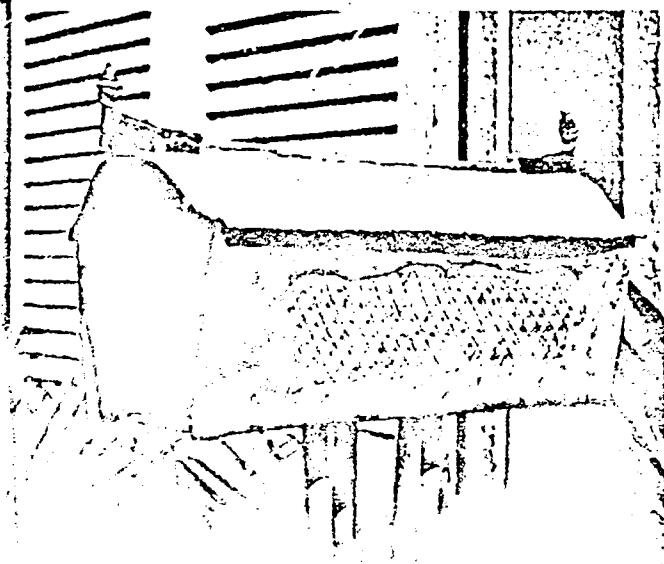
For complete step by step instructions on how to make the fluted bird bath and the quadrant cornered reflecting pool, please turn to page .

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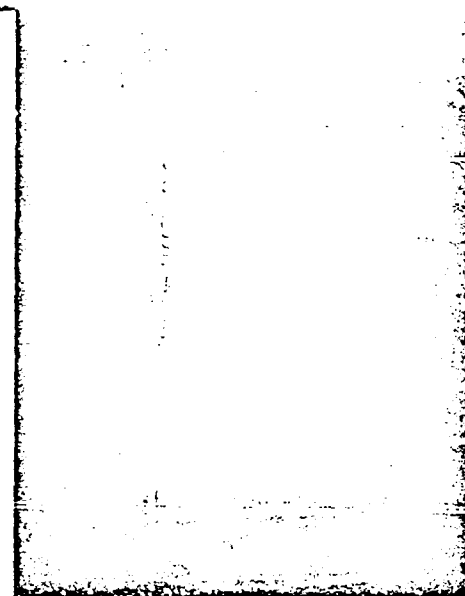
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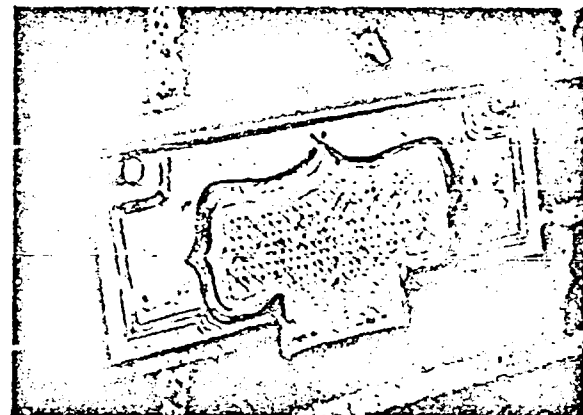
Seven lead projects grouped at this entrance (above) include a lantern, intercom housing, mail slide, lockset, numberplate, door surround, and a pair of plant tubs. Accompanying photos show close-ups of major items. Construction details are given in captions on facing page. In some cases, lead was used to overlay existing hardware. In others, work was from scratch.



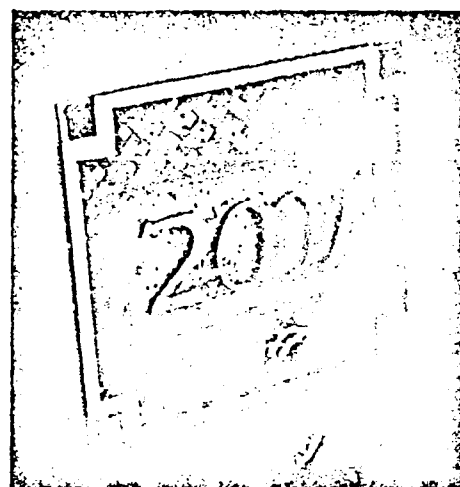
Mailbox below was made by overlaying a regulation galvanized box. Lead extends beyond end of box, concealing original door. Seams act as stiffeners. Finials are wound stranded cable. Cartouche, a chased copper sheet, carries monogram.



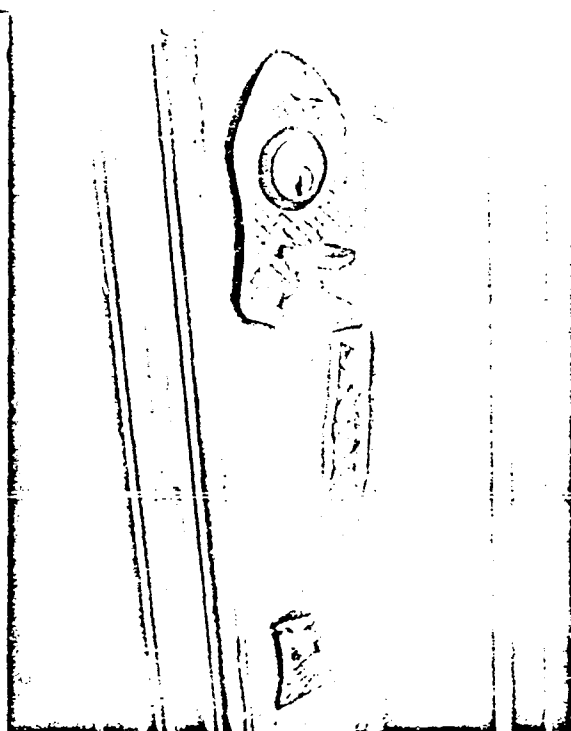
A Decorated lead lantern with brass grilles and screws.



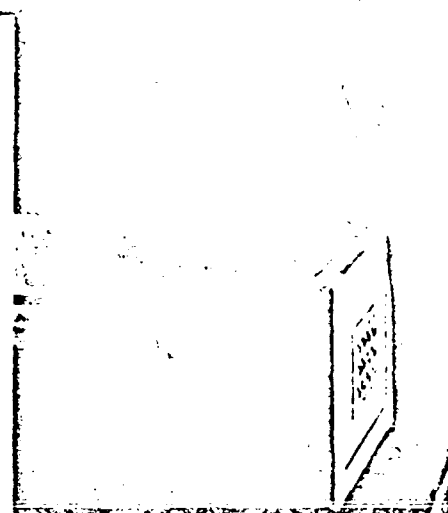
B An existing cast mail slide covered with patterned lead.



C Number plate of alternately matted and unmatted lead.



Lockset, above, was a standard one, like millions of others. Now, covered with lead and pewter, it has become a highly personal expression of owner's special interest (fishing).



Plant tub (above) starts as a cedar tub 16" square and 13" high. After sides are covered with 4-pound lead, corners are framed with lead angles, the edges of which are turned under to create more relief. All joints are soldered, then design is stamped. The strap work is made with $\frac{1}{2}$ " strips, bordered with lead angle. The nails used are #16 brass counter-sunk pins. Their heads are covered with solder before driving.

Door frame and bell plate shown below are a variation of those on facing page. Door molding like one seen here is milled in two sections, fitted, then removed and sheathed in 4-pound lead, the lead fitted by gently tapping with a hammer. Two surfaces were decorated by stamping. The bell plate passes under top molding, with $\frac{1}{2}$ " of it recessed. Counter-sunk pins fasten the plate on its left side. Push button is standard type. Molding screws are covered as described in caption C.

DISCOVERING THE BEAUTY OF LEAD *continued*

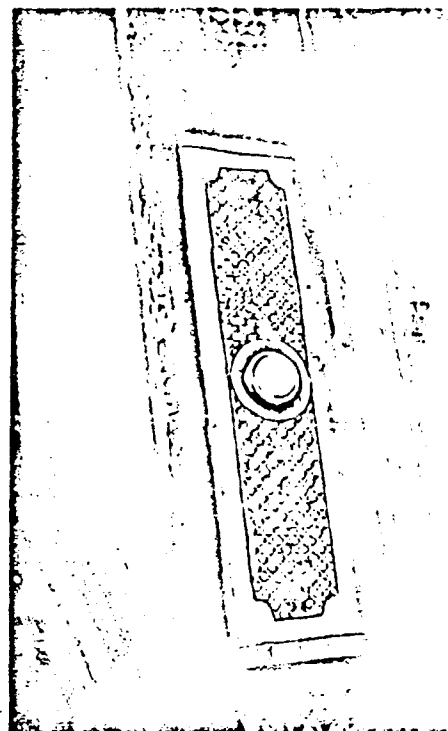
can be made in part of lead. Push plates can protect exterior doors that are painted and much used. The area around bell buttons can be similarly protected.

Sheet lead is designated by the weight of lead in each square foot and is fabricated in two, four, six, and eight-pound weights. It is available in widths up to eight feet. The six- and eight-pound weights are magnificent to work with but they are, unfortunately, hard to get in most parts of the country. For that reason, all the pieces and fittings shown here were designed to be made with four-pound lead. If the heavier weights can be (Please turn the page)

A Lantern shown on facing page is made by overlaying lead on a 16-oz. copper body. Body has no top or bottom, but is flanged, as are lead sides. Lead top and bottom are then crimped to these flanges. Ornamentation is stamped before top and bottom are added. Body measures about 11" x 9" x 20". Three 100-watt lamps are mounted below level of opening. Grille on side is door. Bottom is shaped into a drip tip.

B Lines on mail slide (left, center) are made by striking chasing tool held slightly off vertical and away from travel direction. Stamping is with decorating tools held vertically.

C Strap work on number plate (left) was made with $\frac{1}{2}$ " strips of lead, their ends soldered to the base. Numerals are cut from 11-gauge sheet brass. Two layers of lead are soldered to backs of numerals, adding relief. Screws fastening plate to door go through squares of lead. Corners of squares were folded over to hide the screw heads. Matting of lead is done with a matting tool. See tool flat on page 139.



DISCOVERING THE BEAUTY OF LEAD

CONTINUED FROM PREVIOUS PAGE

bought in your locality, you are urged to experiment with them, particularly in the making of free-standing objects. Use of six-pound lead in the bird bath, for example, would permit a simpler construction of the sides and at the same time more complexity and greater freedom in the style and depth of the fluting.

The heavier weights are excellent in the fashioning of trays and naturalistic shapes, such as leaves. Objects that are to be raised or beaten into relief would also best be made of these heavier weights, or you can get an alloy called antimonial lead. It is more rigid than common sheet lead. However, there is no need for it in your earlier projects.

Sheet lead can be bought at plumbing supply houses, well-stocked plumber shops, and sheet metal shops. Because of its weight, transportation is a considerable factor in the price of lead, but fifty cents a pound is a generous average. A square foot of four-pound lead will thus cost about two dollars.

Lead can be used in conjunction with all common metals, except aluminum. In contact with lead, the life of aluminum is short. Metals like copper, brass, and pewter can enhance a lead project by giving it the aspect of another metal or stone. (Complete details on working with pewter appeared in the January, 1962 issue of *How to Build It*, page 90.)

Straight sides, and extend 4 inches downward on the outside. This is placed on a cedar or redwood form which has been assembled with brass screws. The quadrants of the form are hand-sawn from solid blocks. Grooves $\frac{3}{4}$ inch wide, spaced 1 $\frac{1}{2}$ inches apart, are cut into the top of the straight sides. You can have the form made for you at a woodworking shop.

The form is placed on the lead and its outline traced. The form is then removed and another line is scribbled inside the profile of the quadrants at a distance equal to the thickness of the quadrant wall, which should be approximately $1\frac{1}{2}$ inches. Cut these corners out of the sheet.

Now lay the sheet inside the form and coax it into place. At this

point, a willing but mute assistant would be most helpful. If you can't complete the fitting by hand, use a hammer, but avoid all but the gentlest blows. Use a wood block. Don't strike the lead directly.

Next, fit pieces over the quadrants and solder them to the underlying lead with soft solder. As there is a considerable mass to be heated while soldering, it's a good idea to supplement the heat of the soldering iron with that of a small propane hand torch. After soldering is complete, check the pool for leaks by filling it with water.

To flute the top edges, clamp pieces of wood on each side, $\frac{1}{2}$ inch below the top. Drive the lead gently into the grooves, the lead fluting slightly over the pieces of wood clamped on the sides.

Tools For Working With Lead

Common tools:

Heavy pliers - type with
slip point is best.
Soldering iron - gun
Torch - propane
Tin snips - 8 inch
Ball peen hammer
Clamps - 8 inch

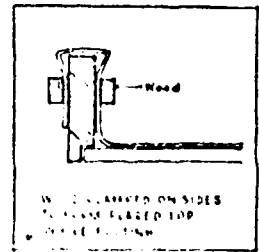
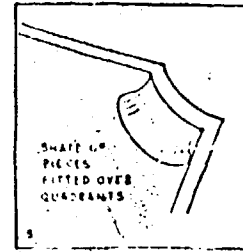
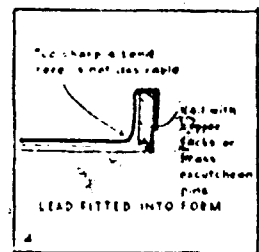
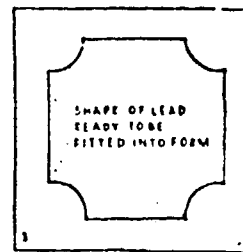
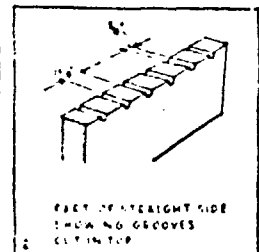
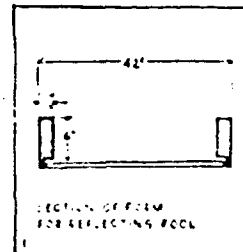
Materials:

Sheet lead (4-pound)
Soft solder (60/40)
Soldering flux

Special tools:

(These special tools are
available from: All-
craft Tool and Supply Co.,
15 W. 43rd St., New
York 36, N.Y.
Order numbers
are from their
Catalog No. 62.)
Hammer - No. 2N4
Mallet tool - No. 3A6
(there is a choice
of six styles)

Follow these diagrams to make the pool

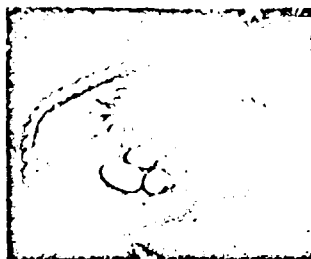


Here is how to make this reflecting pool



A pool measuring 42 inches square and 6 inches deep is a convenient size to make. It is not too heavy for one person to handle. The pool could be made in this

style as large as 7 feet square. Use a single sheet of 4-pound lead large enough to cover the bottom, the inside and top of the



Making this bird bath will sharpen your skills

This pad is 16 x 24 in. by when finished. After deciding on the size and shape, add $\frac{1}{2}$ inch more on all sides of bottom to be turned up as a lip. Scribe a guide line $\frac{1}{2}$ inch

in from the edge of the sheet, then proceed as shown in the series of sketches below.

The average time for a beginner to complete project is 12 hours.

