WITH SOME OLD LUMBER AND A FEW PIECES OF HARDWARE, YOU CAN BUILD THIS DRY WASHER FOR NEXT TO NOTHING

HOW TO BUILD A DRY WASHER

By Ron Herley

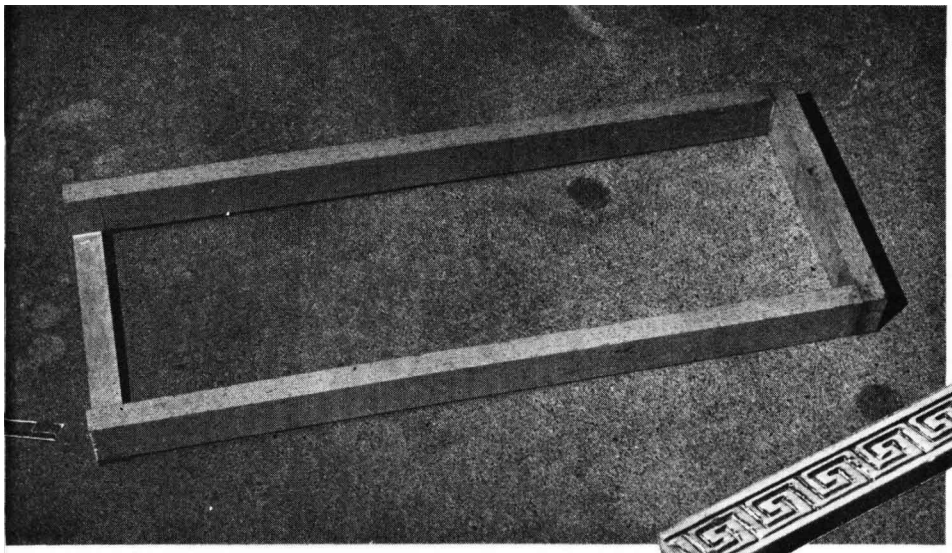
Before the dry washer, there was the blanket. Like the Spanish—who first tried this cloth apparatus centuries ago to separate gold from sand or gravel—a treasure hunter could still use one today in those dry areas where no abundant supply of water is available. The procedure is simple. First, shovel a couple of pounds of placer sand onto a blanket, tarp or hide; next, you and a buddy hold it at each end and snap the contents into the air. The prevailing wind will then blow away much of the sand and dust, permitting the heavier iron—and hopefully gold—to fall back down onto the blanket. Sound like fun? It's not: over a day, it's gruelling, dirty work.

So for prospecting arid lands, we suggest you save your blankets for sleeping, and build a dry washer. For the winter time when you're in the garage or cellar getting ready for the next season of treasure hunting, it's a fun project. Plus, it's cheap, for it can be built for next to nothing out of old lumber. The only hardware required are four hinges, four catches and a couple of yards of vinyl. Heavy cotten can be substituted, since it's easier to work with, but vinyl is more impassable to air. Finally, you must also have a piece of Indian Head cloth.

There's no need for us to provide precise measurements for this project. I'll give only the general size of mine—which you can then adjust to your own needs. My dry washer, since it's small and light enough to pack on your back or trail bike, is primarily useful for testing ore in remote washes. Once I've found a likely spot, I can then afford to go in with a bigger, machine-powered dry washer or electrostatic concentrator for more extensive recovery work. But whether you build the washer big or small, you can be assured it's unique, for it has evolved from a number of different plans I have followed over the years. Most dry washers, for instance, have a frame into which the riffle box fits, and that makes it heavy. The one you see here, though, is constructed so the riffle tray is actually part of the frame.

This, the riffle tray, is the most important part of any dry washer. My riffles are spaced about four inches apart, and underneath each riffle, there is a piece of molding which is approximately a quarter of an inch wider than the riffle. This allows a small space of dead air on the top side of the riffle where the heavier material can collect. I should also mention that my bellows open up to about seven inches. The design has worked well, producing plenty of air power to work debris down the riffle tray.

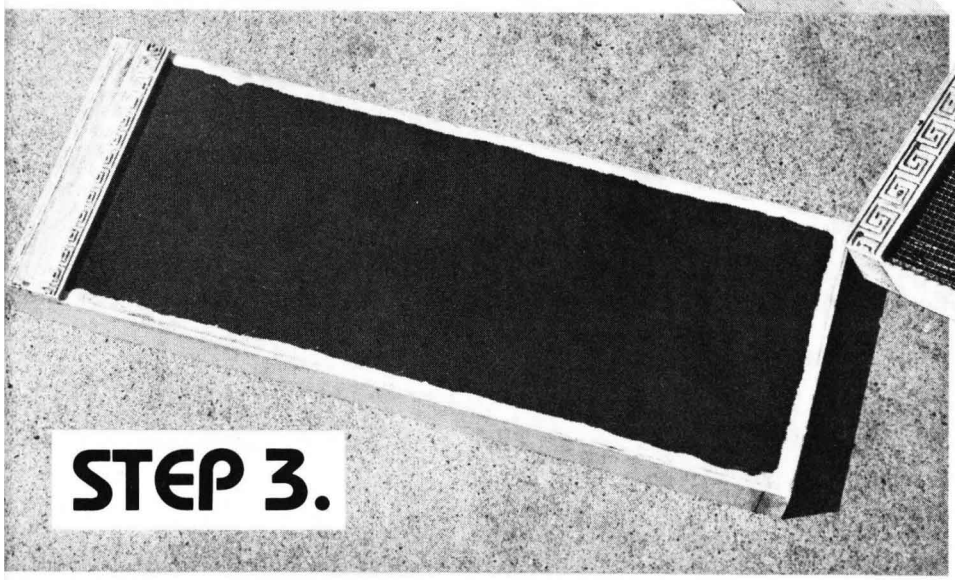
While constructing this dry washer, simply take your time and cut the material as you go to whatever size is best for you. It's easy; just follow the step-by-step instructions.



STEP 1.

STEP 2.

THE RIFFLE TRAY IS ACTUALLY PART OF THE FRAME



STEP 3.

STEP 4.

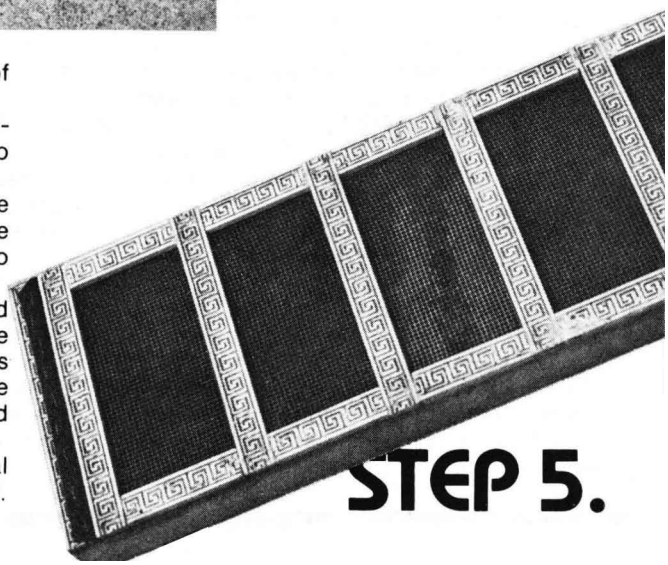
STEP 1. Our riffle tray is 8½ by 22 inches and is made of 1-by-2-inch pine.

STEP 2. The front end is held together by a piece of molding, which allows the foot of the tray to be open and debris to fall out of the box.

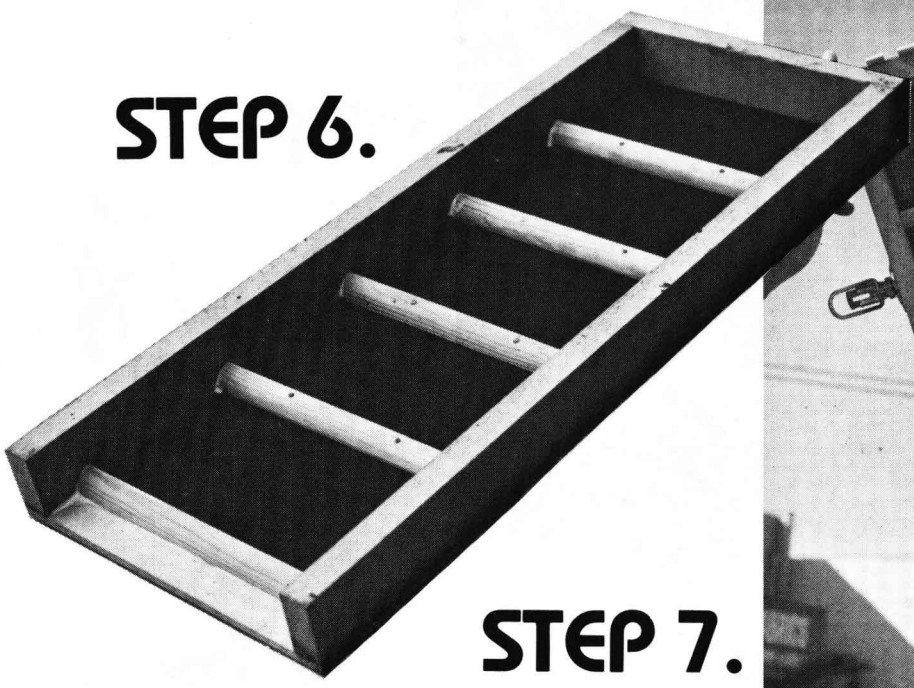
STEP 3. Next, staple a piece of Indian Head cloth to the back side, getting it smooth but not overly tight, just so the wrinkles are out of it. Then put glue around the edges to keep it from unraveling.

STEP 4. Tack down a piece of eighth-inch screening and attach the molding to the underside of the riffle tray. Make sure it's at least a quarter of an inch wider than the riffles you'll be using, in order to create the dead air space we spoke of. The molding, just as the riffles will be, are spaced about four inches apart.

STEP 5. Fill in the area between the riffles with additional molding, making a flat surface with an air-tight base to it.



STEP 5.



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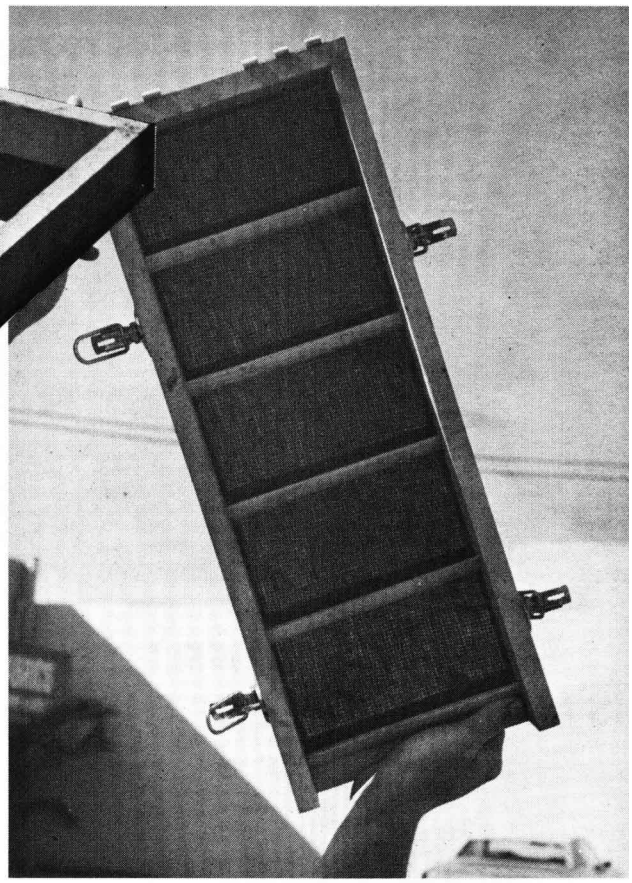
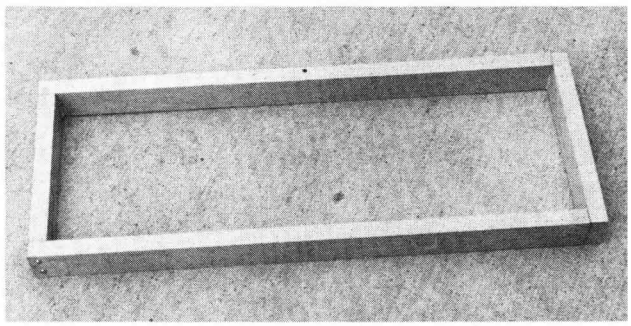


STEP 7.

STEP 6. The riffles are now inserted and nailed down. These are made of ½-inch quarter-round molding, and notice the flat sides face the upper end, or head, of the tray.
STEP 7. Here the dead air space created can readily be seen through the Indian Head cloth.
STEP 8. Now make two more frames the same size as the riffle tray—in our case, 8½ by 22 inches—except make them exclusively from the 1 by 2 inch pine.
STEP 9. Cut a piece of plywood the same dimensions (8½ by 22) and hinge one end to the frame, which will be the base of the bellows. Drill several holes through this base and cover them with flaps of rubber. This will allow the bellows to inhale, yet seal it off when full.
STEP 10. Here's how to cut the vinyl for the bellows.
STEP 11. The bellows material is stapled into place to hold it. We used a stick temporarily nailed to the frame and the bottom of the bellows to hold it open to the seven inches desired.
STEP 12. Next, nail thin strips of molding to the frame to hold the bellows material down permanently. If you want, use glue or sealer to hold it all together, but make sure the bottom molding and bellows material is inset enough so it won't bind with the upper frame. You'll know when you close it, so inset it just enough so it won't bind.
STEP 13. Attach a piece of leather strapping or anything you have handy to the back of the bellows. In doing this, it's best to open the bellows all the way and then close them about an eighth of an inch before you attach the strapping. This will keep the bellows from straining and maybe ripping apart when you really start pumping it. (The weather stripping you see here, we'll get to later.)
STEP 14. Now, pull in the sides of the bellows and glue pieces of vinyl or whatever to them so you can run a rubber across the gap. This device will keep the bellows folding properly.
STEP 15. The second tray you built in Step 8 will be the hopper, which is now hinged to the head of the riffle tray. We used loose-pin hinges, permitting the unit to be separated whenever necessary.



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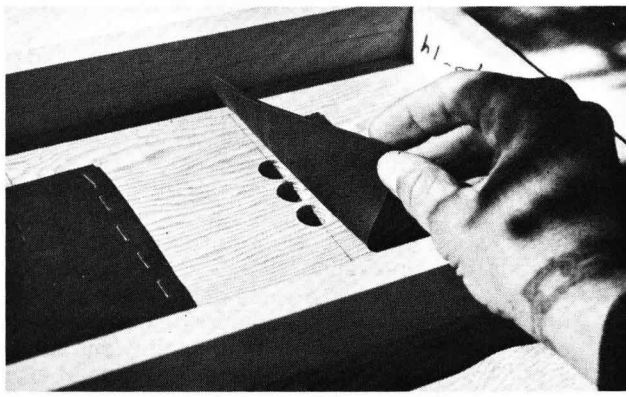

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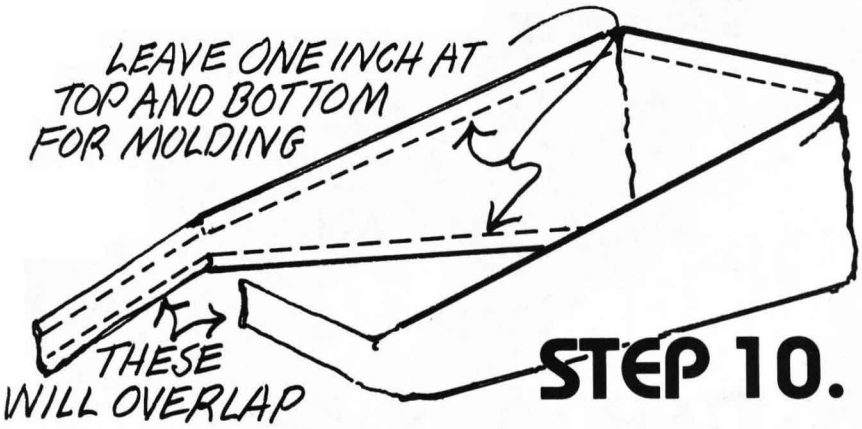
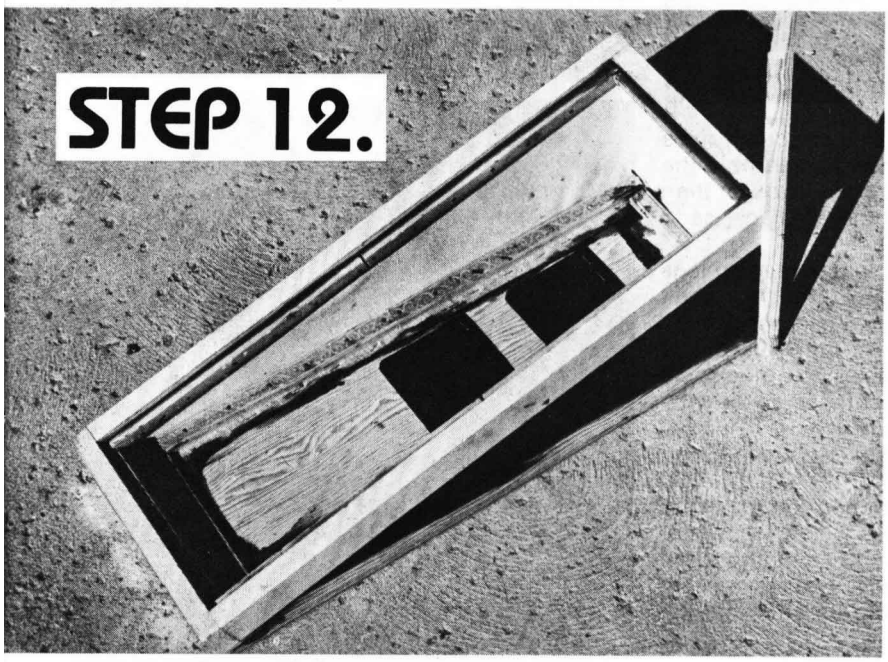


STEP 10.

STEP 11.



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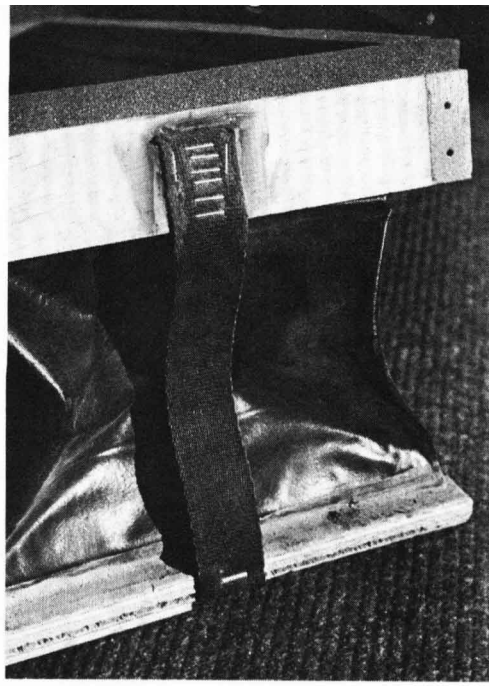

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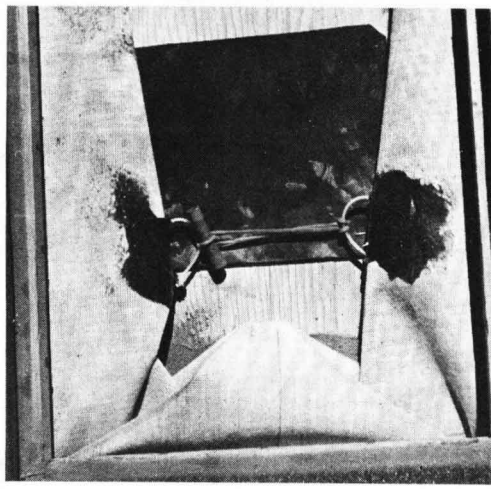

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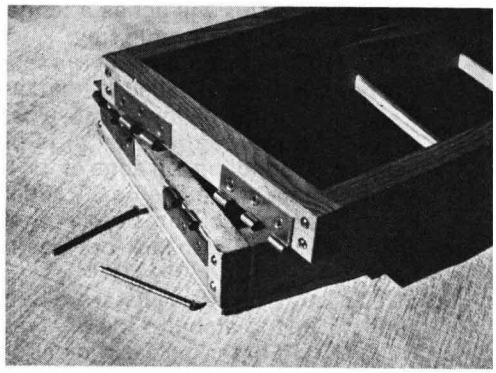

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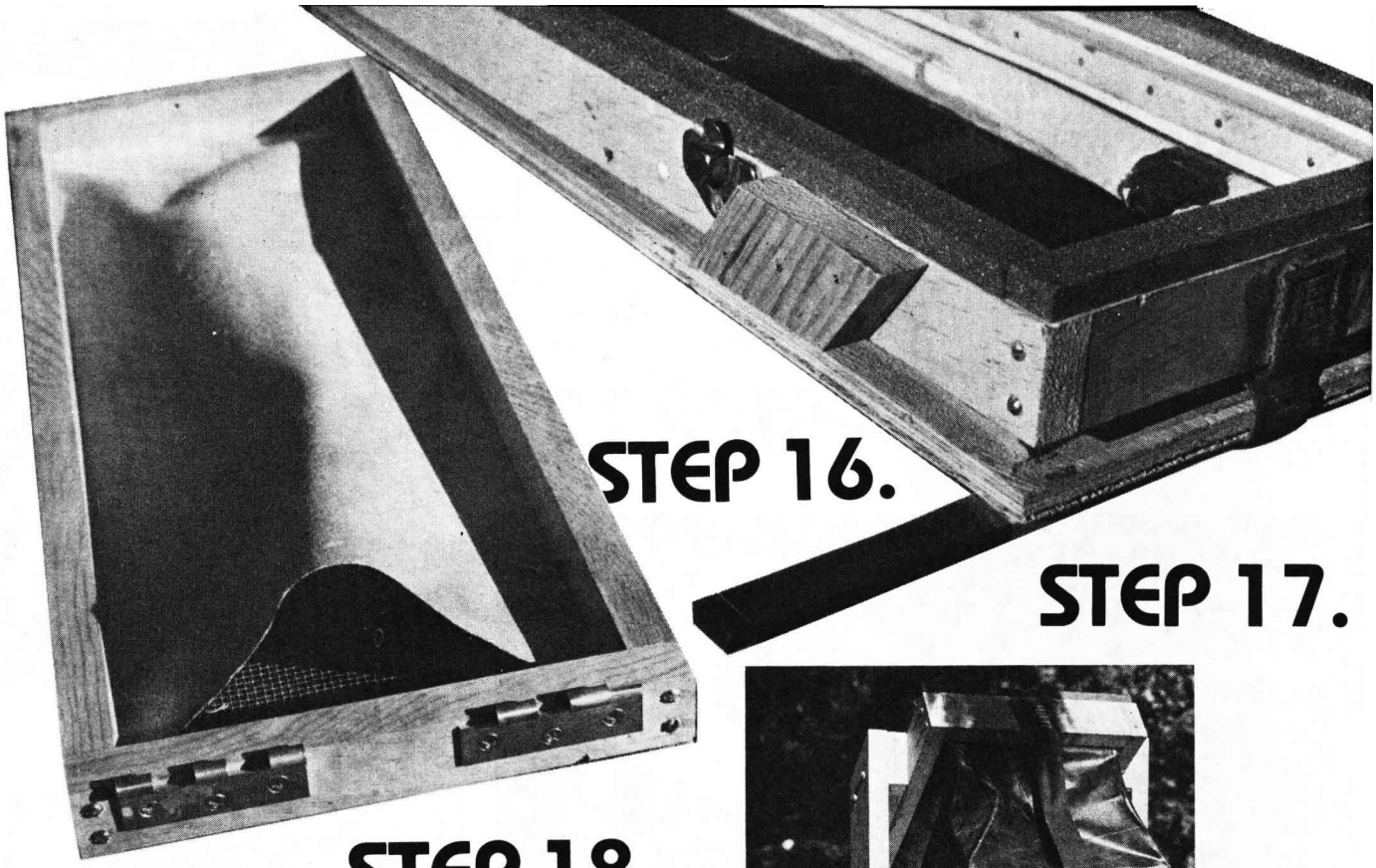
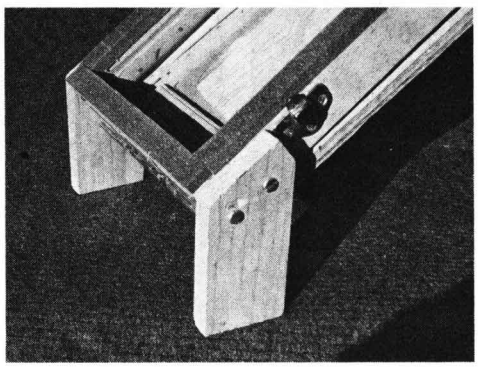
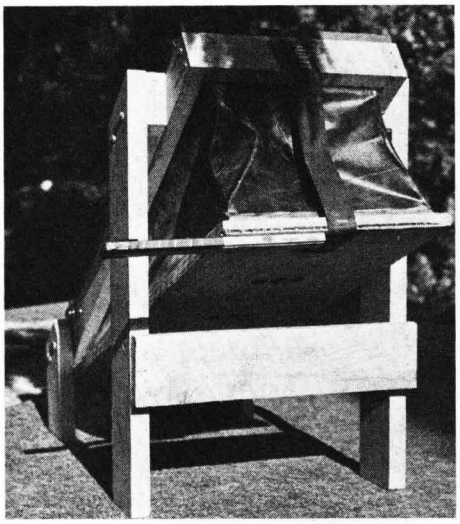


STEP 16.

STEP 17.

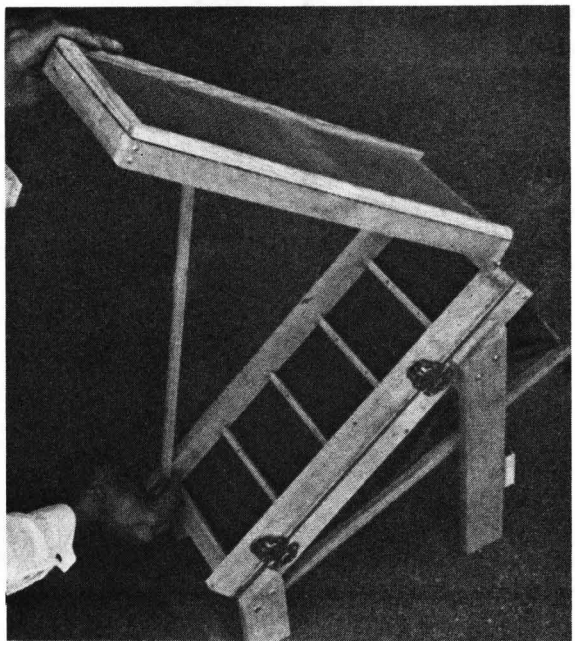
STEP 18.





STEP 19.

STEP 20.



STEP 16. Nail down a section of eighth-inch screen and a piece of vinyl to the top of the hopper. Notice how the vinyl—at what will be the foot of the hopper—is looser than at the head. This will act as a funnel, guiding placer sand onto the head of the riffle tray.

STEP 17. At this point, put in spacers where the rear legs will be. These are installed to hold the legs out so they won't wear a hole in the bellows. Also, a handle (just a short stick, which you may want to tape) is put on the back of the bellows. Around the top edge of the bellows box, glue some foam weather stripping. Finally add the catches, so the riffle tray and bellows clamp snugly together.

STEP 18. Screw on the front legs; no spacers are required here.

STEP 19. The rear legs are now attached, plus a cross support, just to stabilize the dry washer.

STEP 20. For the last task, install a piece of molding to the inside of the riffle tray so the molding will pivot. As a result, when you lift the hopper, this will swing up and hold the hopper at any desired angle.