

Leaf burner rolls to the job

By **MANLY BANISTER**

Where to burn the leaves?

Let this incinerator-on-wheels help solve the problem next autumn.

And when it's not being used for yard work it'll come in handy—the year 'round—as a trash burner.

Its 30-gal. steel drum gives you a capacity of almost 3 bushels

• **HANDY AS IT IS** in autumn, this mobile leaf burner won't stand idle the rest of the year. It makes a fine roll-away trash burner that dumps ashes from the bottom with a flip of a lever.

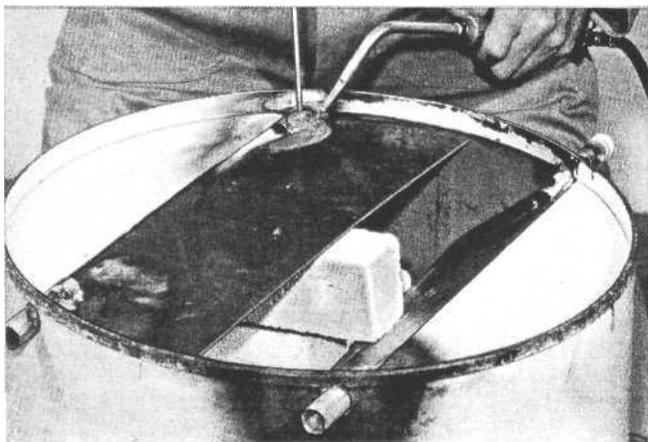


The 30-gal. steel drum is 31 in. high and has an inside diameter of 18 in., giving the burner a capacity of almost three bushels above the 7-in.-deep ash pit. Wheels for the pilot model were salvaged from an old hand lawnmower and have the advantage of being an exact fit for the 15/16-in. dia. of 3/4-in. thin-wall conduit used for the axle. If you decide to use regular 10-in. utility wheels with 1/2-in. bearings, substitute 1/2-in. steelrod.

All joints in the carriage and ash-dumping

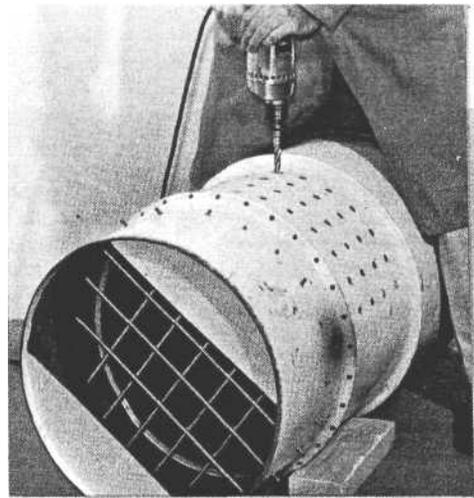


Ash-dumping doors fit into a 10-in.-wide opening sawed out of the bottom of the 30-gal. drum. Orient the cutout so drum seam will be at rear of burner



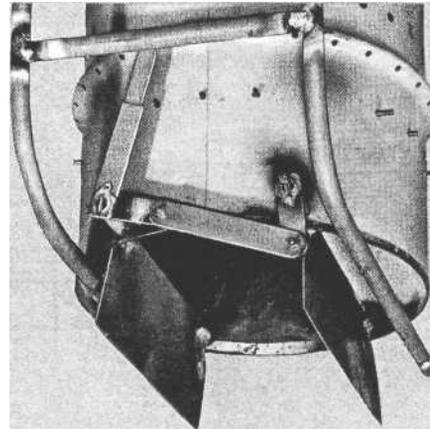
mechanism should be brazed with a bronze brazing rod (Oxweld 25M, or similar). In building the pilot model, a Prest-O-Lite air-acetylene torch with a #4 burning tip was used. If welding equipment is available, the joints may be welded.

The first step is to cut a 10-in.-wide opening in the bottom of the drum for the ash-dumping doors. (Save the cut-out piece to use as a pattern for the doors.) Next, install the grate. This is composed of 10 lengths of 1/4-in. steel



Holes in side of drum should be drilled with 1/2-in. bit in 3/8-in. slow-speed drill. To locate them, tape paper pattern over the drum

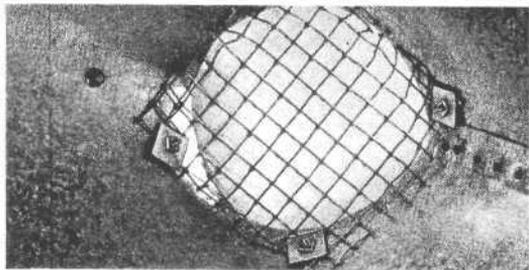
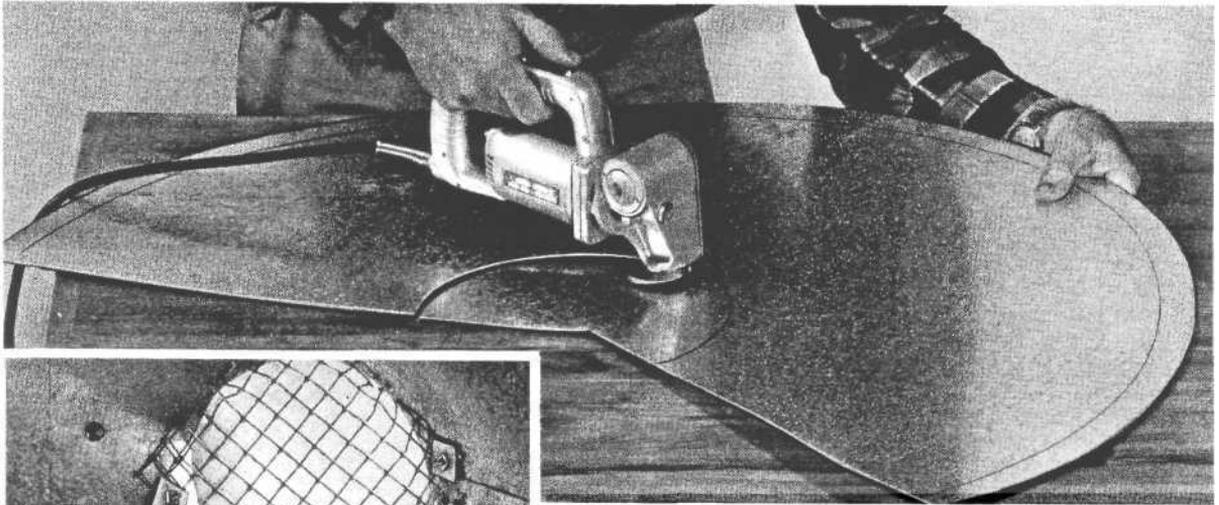
Lever controlling ash-dumping mechanism are brazed to door pivots and connected by linking bar. Note cotter pins in linking-bar pivots



When brazing the ash doors to their 1/2-in. conduit pivots, support them horizontally on insulation bricks piled on the grate. These bricks won't conduct the heat

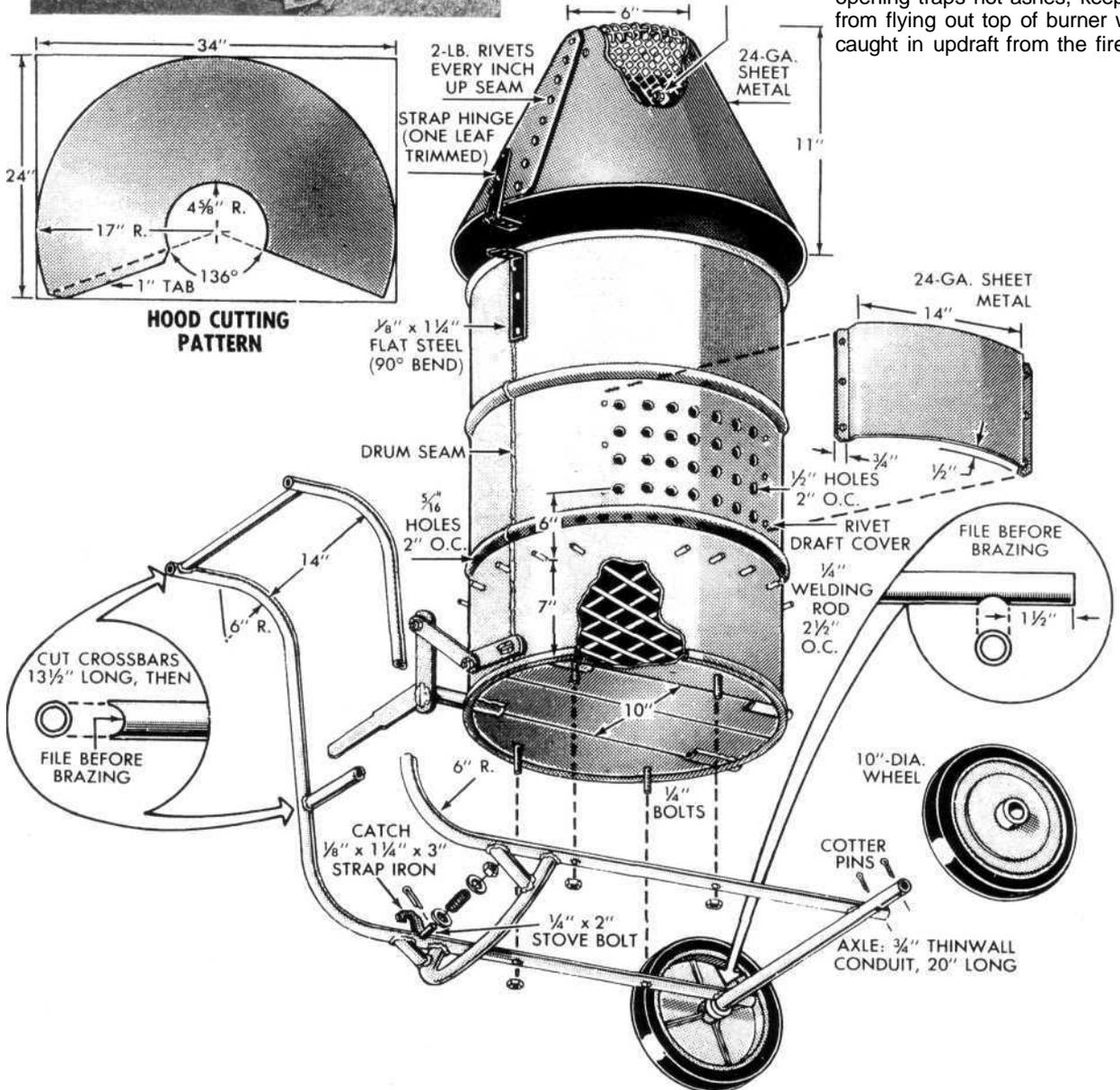
welding rod—five installed crosswise to the opening and five parallel to it. While you should braze or weld the rods at each crossing to make a solid unit, it isn't necessary to braze the grate to the drum. Now, with the drum upside down, drill 5/16-in. holes every 2 in. around the under surface of the rolling flange. Then lay out and drill the pattern of 1/2-in. holes on each side of the drum.

Make the ash doors from 14-ga. ungalvanized sheet metal, using the cutout from the drum



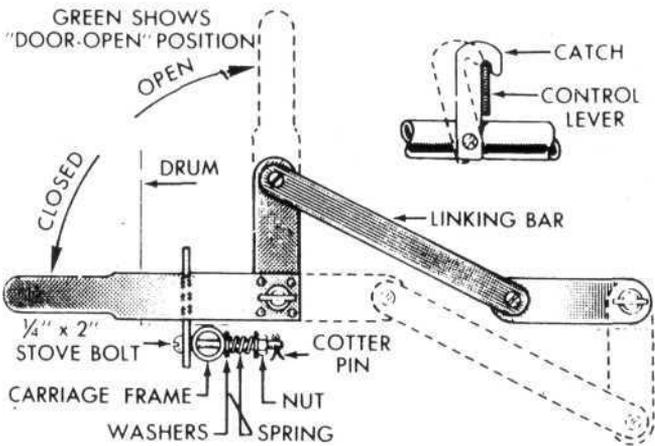
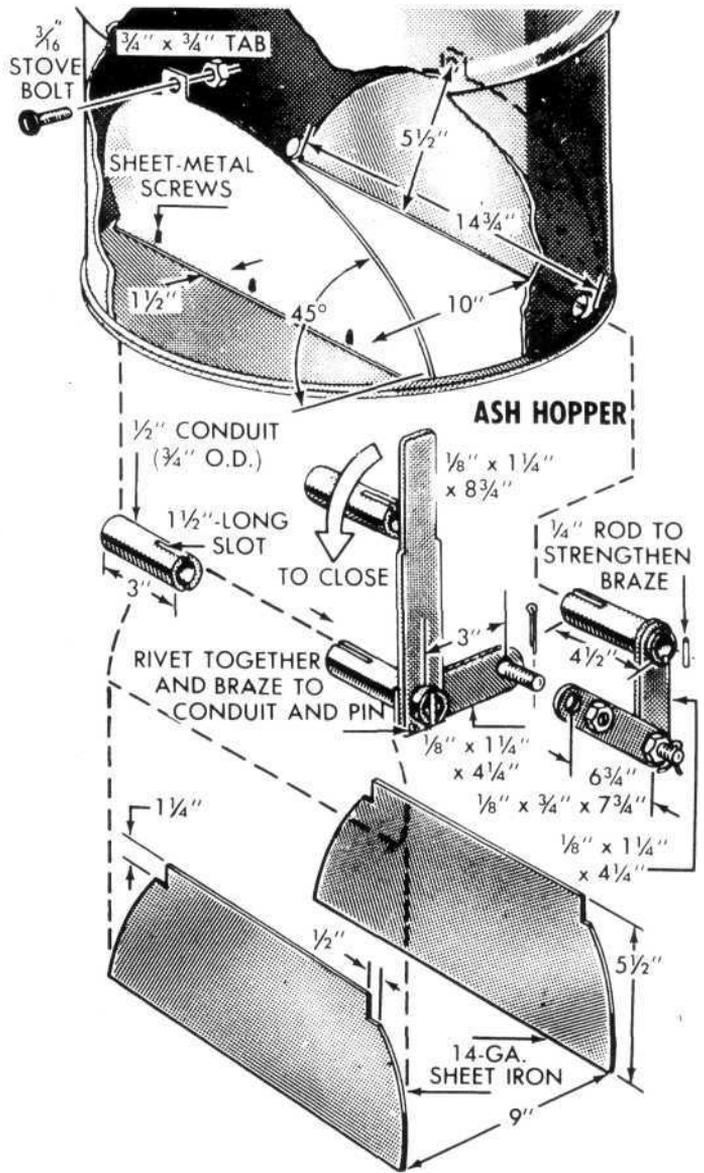
7" SQUARE OF $\frac{5}{8}$ "
HARDWARE CLOTH BENT
OVER COFFEE CAN AND
BOLTED AT CORNERS

Conical hood for burner is cut from 24-ga. sheet metal using pattern below. Hardware-cloth screen over opening traps hot ashes, keeps them from flying out top of burner when caught in updraft from the fire





The burner may be used anywhere on your lawn without damaging the grass. When the 7-in. ash dump in the bottom is full, you merely wheel the cart to the trash heap and dump it with the flip of a lever



bottom as a pattern. The doors should swing 90 deg. in the opening provided. First, determine the amount to be ground from the shoulders for clearance by trial. Locate the pivot holes in the base of the drum. Drill these out to 1/2-in. dia., then file them with a round file to 3/4-in. dia. to fit the pivots of 1/2-in. thin-wall conduit. The door pivots are of two different lengths. Slit the two shorter ones with a hacksaw, braze them to their respective doors and install the doors in the drum to check for ease of opening and closing. If necessary, correct the fit by grinding or filing, then prop the doors in a horizontal position, slit the longer pivots and install in the drum, brazing them to the doors.

All strap-iron requirements of the construction can be met with one 36-in. length of 1/8-in. x 1-1/2-in. strap. Make the ash-dumping mechanism as shown on this page. Braze or weld the levers to the door pivots with the drum

on its side and the doors open. You'll find it easier to position and hold the levers in place if you mount the linking bar and run the nuts up tight. Braze a short length of 1/4-in. steel welding rod into each joint to strengthen it. Also, braze the fulcrum pins in the levers before the unit is mounted, and drill these for cotter pins to prevent losing nuts.

To make the carriage, you'll use most of two 10-ft. lengths of 3/4-in. thin-wall conduit. Bend the side members of the frame before cutting to length so as to have plenty of leverage. A standard 3/4-in. conduit bender, which has a 6-in. radius, is the best tool for making these bends. (If you don't own a bender, you can rent one from your local hardware store.) Cut the first side frame 20-1/2 in. from the second bend, then bend the other frame and cut it to length. Check these frames for congruency.

mount bent frames

Mount the bent frames on the drum bottom 14 in. apart, center-to-center, using 1/4-in. machine bolts with lock washers under both head and nut. Install these bolts as close to the side of the drum as practical. Cut the crossbars 13-1/2 in. long to allow 1/4 in. on each end for fitting. To install the handle, turn the drum upside down and squeeze the side members of the frame to the handle with a bar clamp. Then braze the handle in place. Install, clamp and braze the crossbar in the same manner.

Next, mark and file the side members of the carriage, and braze the axle in place. The wheels can be positioned and retained on the axle with shaft collars. If you are using 3/4-in. conduit for an axle, make shaft collars by cutting slices from standard 3/4-in. pipe coupling. Face them with a file and fit with setscrews. With wheels mounted, turn the unit right side up and block up the back of the drum until it is level. Bend the rear support from 3/4-in. thin wall, starting the second bend where the first leaves off. Fitting the support and Y-braces is a matter of trial-and-error. When the parts fit correctly, braze them together.

Now turn the unit upside down again and install the ash-hopper inserts. These are 24-ga., sheet-metal plates mounted at a 45-deg. angle to facilitate dumping ashes. Their outline is an elongated arc like that of the end of an oval. Make a cardboard pattern first and try it for size. When you arrive at an outline that fits, transfer it to sheet metal and cut it out, remembering to leave a 3/4-in. x 3/4-in tab at the top

for bolting to the sidewall of the drum. Leave a 1-1/2-in. wide tab across the bottom and bend it over at a 45-deg. angle. Fasten these hopper inserts with 3/16-in. stove bolts through the side of the drum and three sheet-metal screws through the drum bottom.

Next, lay out a pattern for the conical hood on a piece of 24-ga. sheet metal and cut it out. If a sheet-metal-forming machine is not available, you can form the cone easily by hand. Just clamp the edge opposite the riveting tab to the edge of a table, roll the tab side over until the tab overlaps the opposite edge, and clamp the two ends together with a pair of clamping pliers. Adjust the small end of the cone to the correct overlap and clamp it. Rivet the overlap every inch, drilling each hole and riveting it before going to the next. You can either use 2-lb. tinned rivets and a rivet set, or small roundhead machine screws, tightening the nuts, then peening over the ends.

attach hood

Attach the hood to the drum with a strap hinge, one leaf of which has been cut off and mounted on a piece of bent strap iron which is bolted to the drum. Mount a barn-door pull on the hood opposite the hinge. To keep hot ashes from flying out of the top, install a screen of 1/2-in. mesh hardware cloth in the hood. Form this screen over a coffee can so that it fits inside the top of the hood, cutting the wires where they buckle. Install the screen with 3/16-in. stove bolts, using 1-in. squares of sheet metal for washers inside. In installing the draft cover, lay out the sheet metal and bend the end tabs first. Clamp the tab between a board and the edge of a table and bend it by hand. Hammer the bend with a mallet to sharpen it, then move the tab out to the second mark and bend it in the opposite direction to a 45-deg. angle.

To make the draft cover fit, give it a radius bend before installing. Then attach it to the drum with 3/16-in. stove bolts. The notched catch which holds the ash-dump lever in place is mounted on the outside of the side frame. Drill a 5/16-in. hole through the conduit and strap-iron catch for a 1/4-in. x 2-in. stove bolt, then mount the catch, using a compression spring between two washers to hold the catch tight to the frame while allowing it to be turned back when necessary. Install a cotter pin in the end of the bolt to keep the nut tight.