

COLLECTING CAN FOR SMALL TREE-FRUIT

John W. Andresen
 Department of Forestry Michigan State University
 East Lansing, Mich.

Many forest trees, as well as a great variety of ornamental trees and shrubs, bear fruit that is rather small and difficult to collect. The pomelets of numerous species of the Rosaceae; the small woody or semi fleshy cones of Juniperus, Tsuga, Anus, and Chamaecyparis; and the drupes of Cornus, Sassafras, and Viburnum are representative groups of small fruits. Collecting may be difficult because of stiff, sharp thorns, excessive height or crown spread, and brittle or flexible branches that would be risky to climb

The collecting can illustrated in figures 1 and 2 is designed to facilitate easy and rapid collection of small fruit with a minimum of damage to the tree. Actually the idea for the can occurred to me while watching the gathering of cranberries with a cranberry-cradle. Standard 1/614-inch waffle-pattern aluminum sheet was used for the can and cutters. The tines and crossbars were made from 1/8-by 3/14-inch aluminum-bar stock. Total cost of materials was \$^s3.00, plus 5 hours of labor. The following describes how to construct and assemble tines and can:

1. The Tines.

- a. Cut one 11-inch and six 9-inch bars from an 8-foot piece of 1/8-by 3/4-inch aluminum stock. Taper four of the short bars and the 11-inch piece with a hacksaw or bandsaw and file the lower side of each cut to a 45° angle. The two remaining bars, which will be the outer guides of the tine, assembly., should be cut and beveled on only one edge (fig. 3).^{1/}
- b. Cut two 72 inch bars from the same stock as the tines for the tine braces.
- c. Cut a 4-by 72 inch piece of aluminum sheet. Cut seven 1/8by 2-3/4-inch slots in this piece to form the cutting edges (fig. 3). Snip the ends of the cutters to harmonize with the angles of the tines.
- d. Drill 1/8-inch holes in the tines and tine braces, as indicated in figure 3. The cutters must also be drilled as indicated to receive the rivets, which will fasten them to the tines. In addition, drill three 1/11-inch holes in the 11-inch tine, as shown. During final assembly, drill four 1/8-inch holes in the outside edges of the tine guides to receive the rivets joining the tines and the can. (Location of these rivets can be seen in figure 2.) Postponing the drilling of these four holes will help to allow for error in folding the can.

¹ Drawings are by Emil V. Falasky, Jr., graduate student, Department of Forestry, Michigan State University.

2. The Can.

- a. From the aluminum sheet, cut a piece 21 by 19-1/8 inches.
- b. Lay out pattern of can (fig. 1) on the sheet and after cutting it to shape, score or indent it slightly along dotted lines.
- c. Drill the sheet according to the pattern. A wooden backing will prevent the drill from tearing the sheet.
- d. With tinshears, snip along the solid lines at B, B¹, C, and C¹.
- e. Fold outer tine-tabs along lines D-D¹ to form a 90° angle, and then fold sides and tabs of the top and back along lines A-A¹ to form another 90° angle. It may help to start bending the metal on a straight edge of a workbench or a board.
- f. Next fold top along line C-C¹ and back along line B-B¹ at 90° angles. A five-sided box will thus be formed. The tabs of the back should be on the outside of the sides, and the tabs of the top should be on the outside of the back tabs (fig. 2).

3. Assembly.

- a. Rivet tine braces to tines with 1/8-by 3/8-inch rivets. Then rivet the cutters to the tines with the same size rivets.
- b. Fasten the can sides, back, and top together, using the same size rivets.
- c. Finally join the tine subassembly to the can by riveting the small tabs to the tine guides.

For field use, the collecting can is bolted to an aluminum or wooden pole, the latter being pierced with 1/16-inch holes spaced to match those in the can.

To collect pendant fruit, use the can in the position shown in fig. 1. If the fruit is in an upright position, invert can so that tines are toward the ground. In use, the tines should pass close to the fruit clusters and so avoid cutting the twigs. The cutters at the base of the tines will shear the peduncles of the fruit, allowing the fruit to drop into the can. Since the aluminum is "waffled," the fruit will not roll out easily unless the can is tipped forward. A pound or more of small fruits can be collected in the can at one time and then deposited in a larger receptacle.

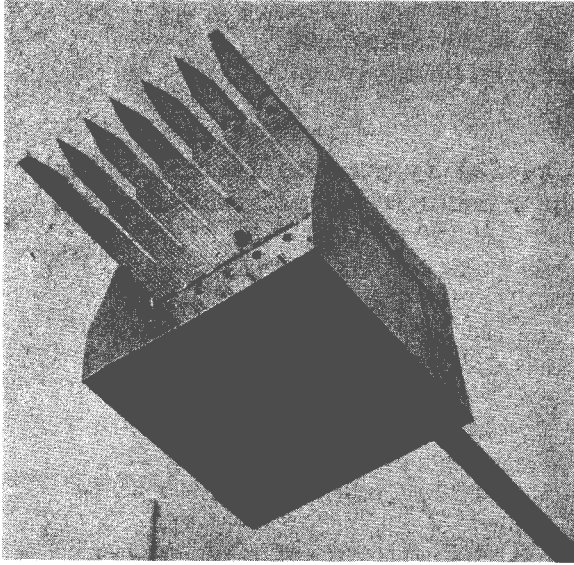


Figure 1. Collecting can showing details of the tine-cutter assembly and open end of can.

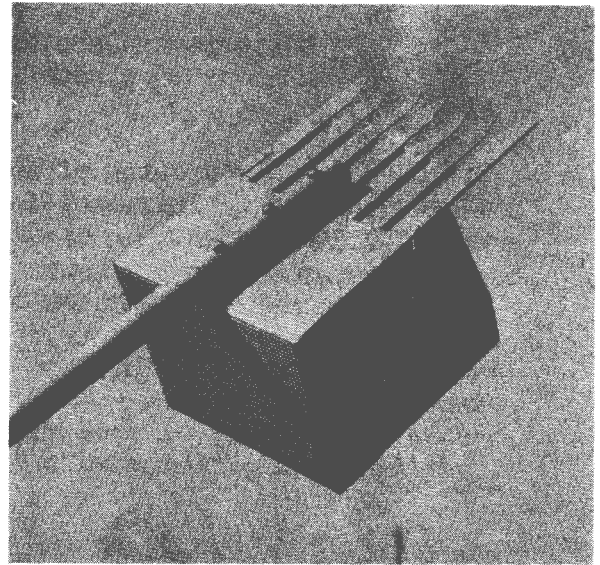


Figure 2. Collecting can showing detail of tabs and pole.

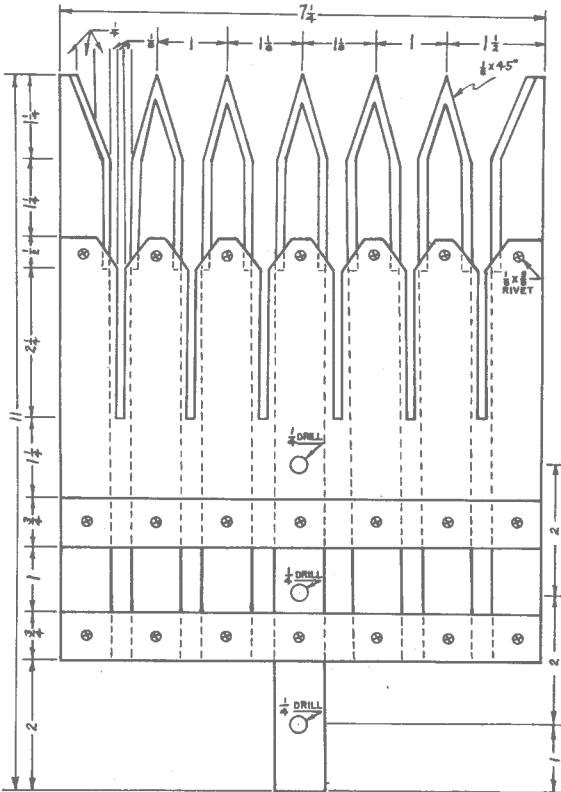


Figure 3. "Inside" plan view of the tine-cutter subassembly. (Dimensions are in inches.)

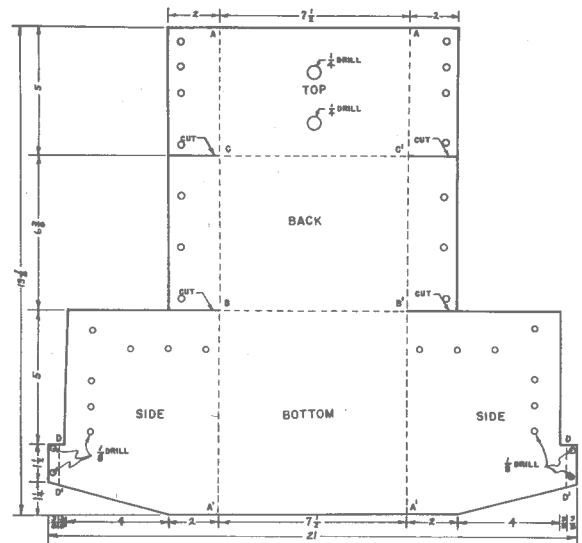


Figure 4. Pattern for can. (Dimensions are in inches.)