Figure 3—Funnel in out-of-way position to allow hydraulic dumping of picker basket.

about 6 feet long and 3 feet in diameter (approximate width of funnel opening) are large enough for 2-row, 50-foot plots yielding about 2½ bales per plot (25–35 pounds of seed cotton per plot).

The funnel is attached to the basket-duct with hinges (Figure 3) so that it can be moved out of the way when the basket is emptied of accumulated sacks. For convenience, the basket can be emptied at the end of the field near the trailer and weighing scales.

In 1961 an average of 3½ minutes was required to harvest a 2-row 50-foot plot by this method while a hand picker needed 2½ hours for a plot of that size. The fact that hand-picking crews are paid hourly wages for plot-picking rather than the customary pound-rates adds to the slowness of the hand harvest. Consequently, in spite of much higher hourly costs for equipment and operator, the mechanical-picking cost was about $4 per pound of seed cotton compared with almost 13¢ for hand-picking.

Only slight changes are required in plot lay-out. Alleys between plots should be at least 10 feet to allow the machine to stop at the end of a plot and regain almost full cylinder speed before entering the next plot. Sacks can be tagged and identified in picking order of the plots and placed in that order on the machine platform. Little time need be lost in changing of sacks between plots.—PETER H. VAN SCHAIK, Research Agronomist, Crops Research Division, ARS, USDA, Southwestern Irrigation Field Station, Brawley, Calif., and Associate Specialist, Agronomy, University of California, Davis.

A CORDLESS HEDGE TRIMMER FOR HERBAGE SAMPLING

PASTURE research activities may require the harvesting of cage-protected areas, small field quadrates, and individual plants. Frequently such sampling is done with hand shears or electric hedge trimmer; the latter requires a power source such as a semiportable gasoline-powered generator. Most semiportable generators are rather heavy and difficult to hand-transport over the pastures.

A new light-weight, portable, shock-proof cordless hedge trimmer is now commercially available2 (Figure 1). It is powered by a nickel-cadmium battery housed in the handle. This trimmer is used for various herbage sampling activities at the University of Missouri.

The number of herbage samples which may be clipped with a fully charged battery depends on the kind of herbage and its stage of development. Forage in 3- by 3-foot quadrates were clipped with the trimmer to leave a 2-inch stubble. Completely charged batteries required recharging after sampling 50 to 75 quadrates of orchardgrass or after sampling 13 to 19 quadrates of Kentucky bluegrass. Both grasses were in the vegetative stage of development when sampled. Kentucky bluegrass containing dead vegetation and cut at ground level reduced the efficiency of the trimmer so that an average of only seven 3- by 3-foot quadrates could be clipped per charged battery. Coarse stemmy growth seems to cut better than growth which is very succulent or fine leaved.

Additional batteries may be obtained to extend the running time. Two batteries may be re-charged simultaneously on alternating current of 115, 125, 220, or 240 volts. Charging time is 12 to 14 hours. Batteries may be re-charged at least 400 times according to the manufacturer.

Considerable time may be saved in using the cordless hedge trimmer. For example, in a dense orchardgrass stand (extended blade lengths 20 to 30 inches) 30 to 40 seconds were required to clip each 3- by 3-foot quadrat with the cordless hedge trimmer and 2 to 3 minutes per quadrat with hand shears. This amounted to a saving of 1½ to 2½ minutes per quadrat.

Possible disadvantages associated with the cordless hedge trimmer are (1) additional batteries are necessary for continuous operation longer than approximately 1 hour; (2) very succulent vegetation may necessitate frequent cleaning of the blades to prevent drag caused by the accumulation of plant juices and residues; and (3) the operator must maintain a constant alertness so as not to inflict bodily injury to himself, or others.

Despite these disadvantages, the cordless hedge trimmer has proved satisfactory for sampling certain herbage species at Missouri.—ARTHUR G. MATCHES, Research Agronomist, Crops Research Division, ARS, USDA, and Field Crops Department, University of Missouri, Columbia.

1 Contribution from the Crops Research Division, ARS, USDA, and Field Crops Department, Missouri Agricultural Experiment Station, Journal Series 2481. Approved by the Director. Received Oct. 10, 1962.
2 Cordless Hedge Trimmer manufactured by the Black & Decker Mfg. Co., Towson 4, Maryland. Mention of this product and company does not imply endorsement or recommendation by the U. S. Department of Agriculture or the University of Missouri, over others of a similar nature not mentioned.