



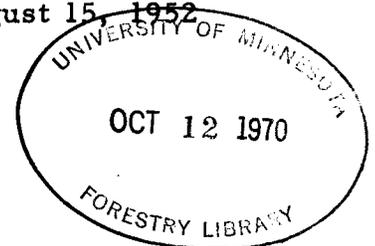
MINNESOTA FORESTRY NOTES

No. 4

August 15, 1952

Power Driving of Wood Fence Posts⁽¹⁾

John R. Neetzel ⁽²⁾



Most farmers today harvest their grain with combines, gather corn with tractor-operated pickers, cut and bale hay mechanically and milk their cows with machines; yet they still build and maintain their fences by hand much as was done thirty or more years ago.

Recently developed mechanical post drivers may change this picture considerably. Three years of experience driving thousands of wood posts in the erection of farm fences indicated that power driving is a practical and economical method of setting such posts. Since the hand setting of wood posts is the slowest and most laborious part of fencing, power driving makes increasingly practicable the use of treated wood posts which are preferred by many farmers.

Power post drivers are small, simple pile-drivers and the driving is accomplished by dropping a heavy weight on top the post. One type of power driver is attached to the farm tractor and uses the tractor for both transportation and power. This type of driver requires time to assemble and detach and ties up the tractor while it is mounted. The tractor-mounted driver is especially adapted to setting replacement posts in old fences. A second type of driver shown in Figure 1, is mounted on a two-wheel trailer and has its own power unit. The trailer-model post driver can be used behind a truck, tractor, passenger automobile, or even a wagon and is always ready to operate. It is ideal for building new fences but not quite as handy for replacing posts.

Wood posts $2\frac{1}{2}$ to 9 inches in diameter and $6\frac{1}{2}$ to 8 feet in length have been successfully power-driven in both wet and dry soils, in loose alluvial soils, in peat, in gravel beds, and through a thick compact hardpan. They have been effectively power-driven in loose cultivated fields, in heavy sod, among the roots of trees, on level land, and on steep hillsides.

A two-man crew can power drive about thirty 3- to 4- inch line posts per hour. In a series of experimental fences, 550 $6\frac{1}{2}$ -foot, 3- to 4-

(1) This research was undertaken in cooperation with the University of Minnesota Division of Agricultural Engineering and the Lake States Forest Experiment Station.

(2) Research Associate, School of Forestry, University of Minnesota, and Forester, Lake States Forest Experiment Station.

inch line posts and about 250 8-foot, 5- to 8-inch corner, gate and anchor posts were driven in 31½ hours by an inexperienced two-man crew. The soil varied from deep and loose to very rocky, and the topography was unusually hilly. Yet, the crew averaged 25 posts per hour.

Power driving of wood posts is neither hard nor difficult work. It is necessary to move a lever to operate the driver, but physically this is much easier than digging holes and tamping soil around a post. As shown in Figure 2, normal carefulness in the setting of power-driven wood posts results in a sturdy, well-aligned fence.

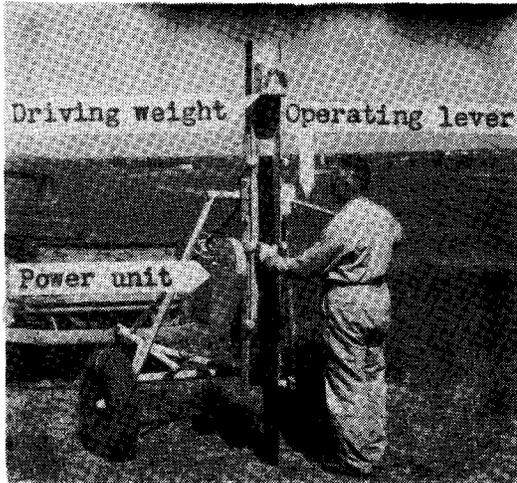


Fig. 1 - Power Fence post driver

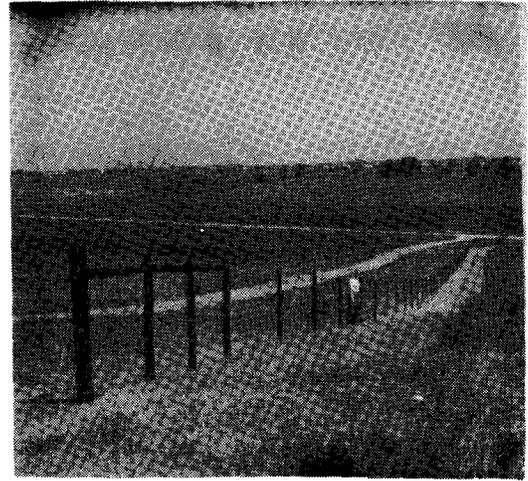


Fig. 2 - Power driven fence posts

As posts are driven the displaced soil is packed very firmly around them. A post with about a 3/4 inch-wide blunt point is best for general use and sharpening the large end of the post assures a maximum post diameter at the ground line. Straight, flat-topped posts drive best and result in the straightest fence. Crooks must not exceed the diameter of the post.

In the power driving of thousands of posts, those four inches or larger in top diameter have never been broken although a few of smaller size have broken when driven in frozen ground or against large boulders.

The power post driver is a specialized piece of equipment and would probably have no other important use on a farm. Large farms and ranches could no doubt profitably own a power post driver, but for small farms it may be desirable to have cooperative ownership or to depend on an equipment rental service. The trailer model is ideal for joint ownership or rental service.

The power post driver has mechanized the difficult, time-consuming job of setting wood posts in fence construction and repair. Using a power driver, a farmer and helper can easily set 25 to 30 or more posts per hour in new fence construction. Posts can be driven under almost any soil condition, providing there is 2 feet of soil, and at any season when the ground is free of frost. Driven preservative-treated wood posts provide a firm foundation for a permanent, trouble-free fence.