

lighted, and the preservative heated up to a temperature of 200° F. The posts are placed with the butt ends in the tank and given the requisite hot bath, at the conclusion of which the fire is withdrawn and the posts allowed to cool off until the desired penetration and absorption have been obtained. The posts are next upended and the tops given a somewhat lighter treatment. If two of these drums are provided, one for the hot bath and one for the cold bath, the process can be carried on continually, without the necessity of waiting for the cooling of the hot bath.

Much economy of time, effort, and material is secured by the use of a long open tank in which the complete post can be immersed. The tank is constructed either of wood or of steel, according to the way in which the equipment is to be used. If it is to be employed for the cold bath alone, then it can be constructed of wood throughout, as shown in Fig. 3, the heating of the bath to 90° F. being secured by the addition of quantities of heated creosote, &c. On the other hand, if it is desired to use the tank for both hot and cold baths, then it is impossible to use this construction unless steam heating from a traction or other boiler is available. An alternative construction uses framing-quality timber and a soldered galvanized-iron lining. Where only direct heating is available the tank is constructed of iron plate.

For the treatment of boards and scantling a tank of this description 18 ft. long is of the greatest value on the farm. The handling of the material is greatly facilitated by the provision of some form of overhead gear whereby posts, timbers, &c., may be loaded and unloaded in cages into the tanks. This is a matter best left to the ingenuity of the operator. A handy arrangement for the handling of small quantities of timber consists of a number of wire ropes. One end of each rope is attached to one side or other of the tank, the other end remaining free. By laying these wires across the tank the timbers may be raised or lowered at will, as shown in Fig. 4. In a similar manner a number of iron or wood straps are required to keep the wood below the surface of the preservative.

Unless covers are provided the tank should be deep and narrow rather than shallow and wide. An adequate drainage-platform or tank economizes the use of the preservative. It is a necessary adjunct to the simplest plant, even with the brush treatment, where swabbing is preferable to mere painting. A portable plant operated on the co-operative principle by a number of farmers appears to be the most economical type of equipment for this work.

An 18 ft. tank similar to that shown in Fig. 4 costs approximately £20. In  $\frac{1}{8}$  in. iron the cost is approximately £30. Suitable substitutes will naturally suggest themselves to the farmer. Old boilers, water-troughs, hydraulic piping, and other such articles have all been pressed into the service of the wood-preserver.

#### OPERATION OF PLANT.

The Forest Service has investigated the non-pressure treatment of fencing-posts cut from the thinnings of various species growing in the Rotorua plantations, but the tests have in most cases been too