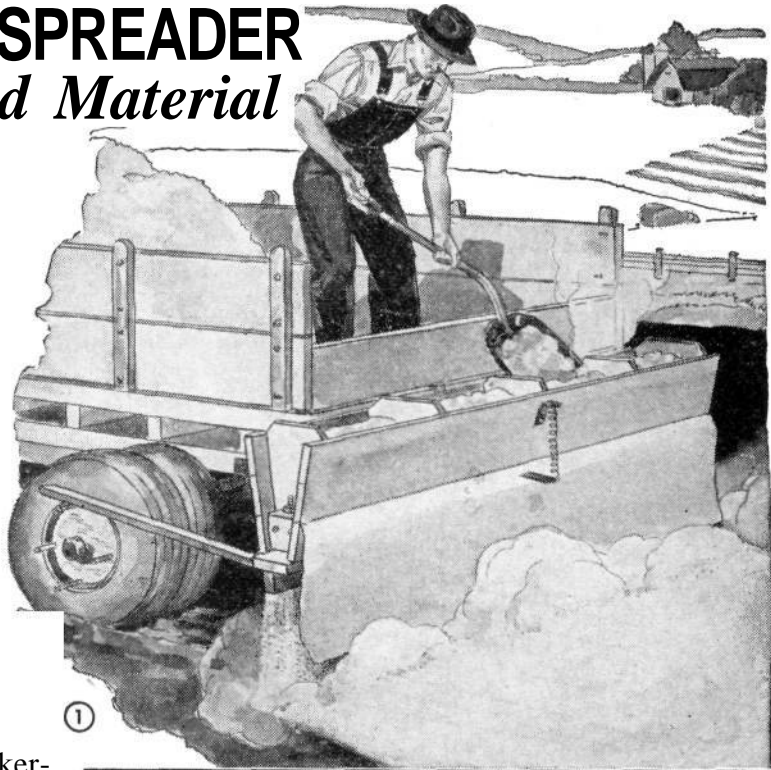


# LIMESTONE SPREADER

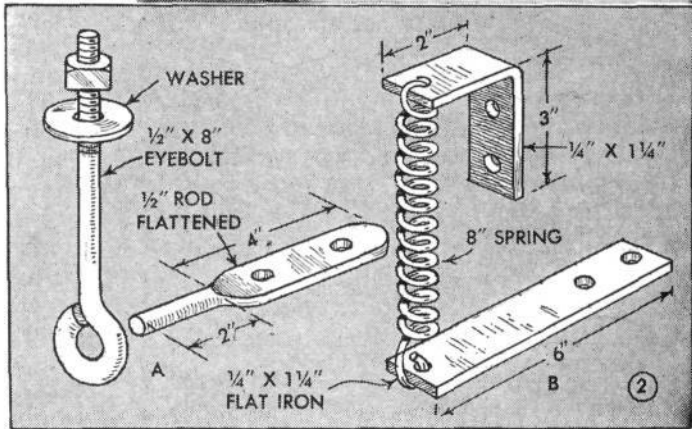
## *Saves, Time and Material*

HERE'S a practical and inexpensive spreader for handling any finely-ground fertilizing material such as rock or lime phosphate, limestone, etc. It is made almost entirely of wood, only a few pieces of flat iron, rods and bolts being required. It will operate satisfactorily at speeds up to 10 m.p.h. Fig. 1 shows the spreader in use on a truck, but it operates equally well on a rubber-tired tractor trailer or an ordinary farm wagon. About all that is necessary to adapt it is to change the length of the hangers and perhaps the "knocker" or agitator arm. On a farm wagon, the knocker-arm contacts on the wheel can be clamped to the spokes.

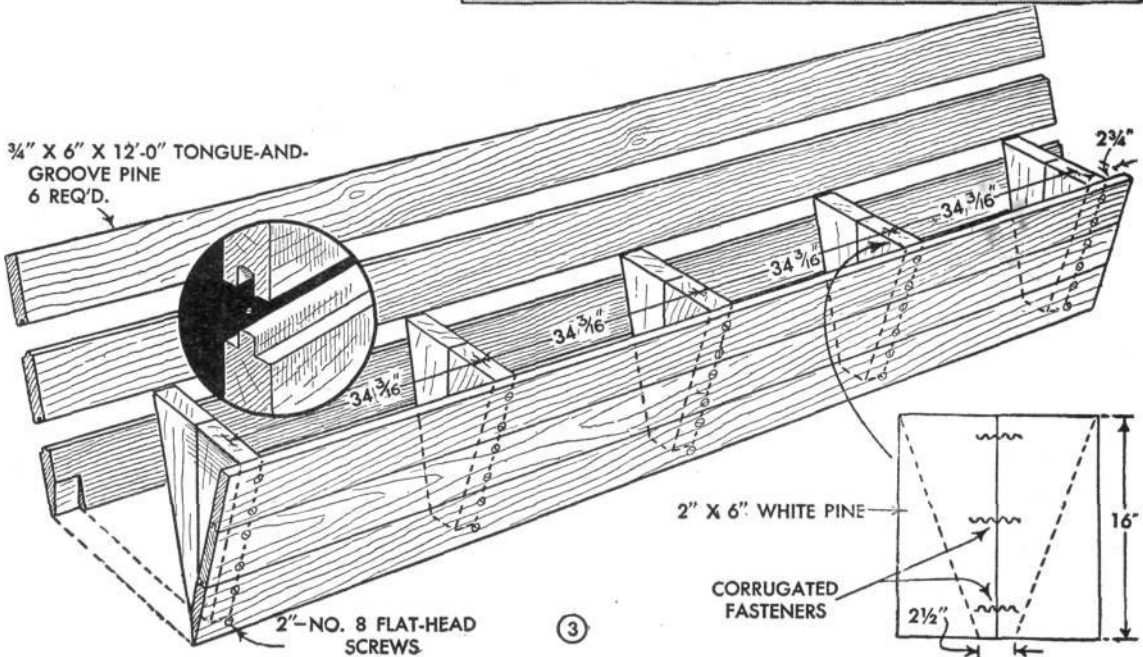


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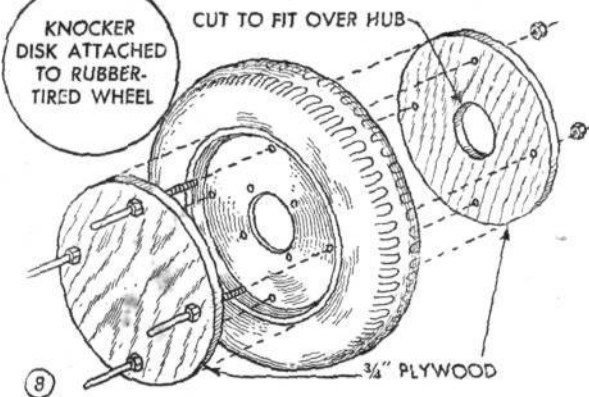
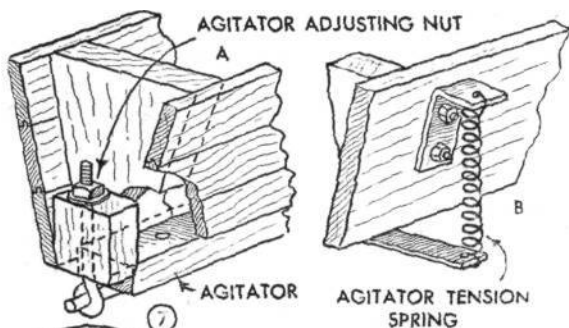
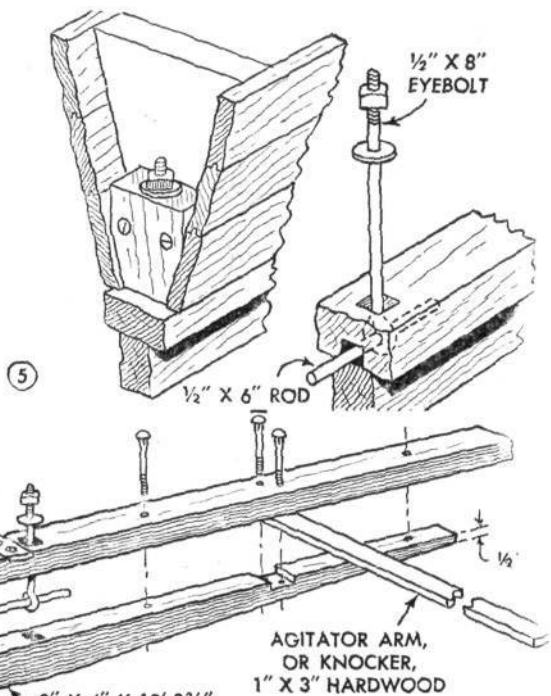
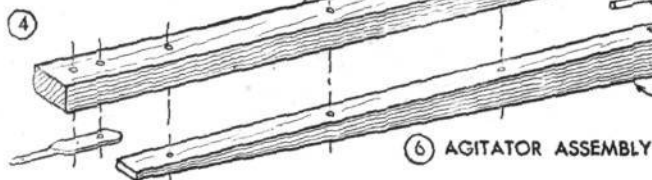
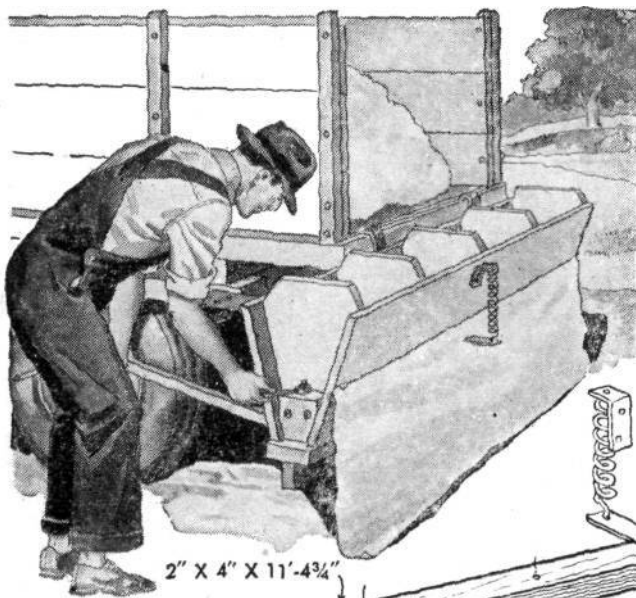
The hopper, Fig. 3, is 12 ft. long overall and is divided into four compartments. The compartments add to the strength of the assembly and also make it easier to keep a uniform amount of material in the hopper. However, the hopper can be made somewhat longer or shorter, and wider at the top and deeper if desired. In any case the inside width at the bottom should be 2-1/2 in. The ends of the lower



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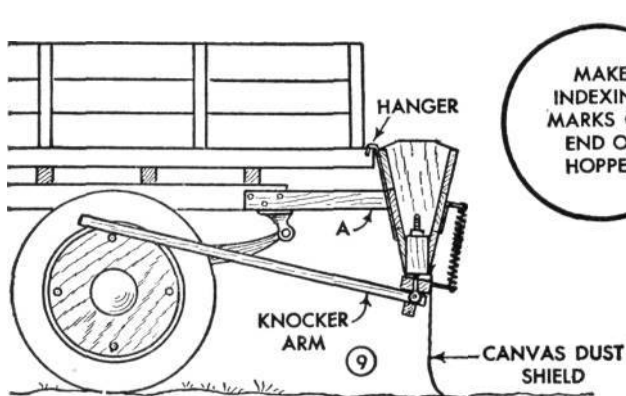
boards are notched to take a 2 by 4-in. block as shown. Be sure the partition pieces are all the same size, and before assembling paint all joining edges with an oil paint. Use screws in assembling. They hold much better than nails. Plane the edge of each of the bottom boards flush with the partition pieces so that the bottom of the hopper is square across. Parts shown in Figs. 2 and 5 can be made by a blacksmith or a welder. Two each of parts A in Fig. 2 are required, but only one each of

parts B, and one eyebolt and rod as shown in Fig. 5. This latter part is assembled at the center of the hopper. Parts A and B of Fig. 2 are shown in position in Figs. 6 and 7.

The agitator consists of two lengths of 2 by 4-in. stock assembled with bolts as in Fig. 6. The lower stiffener is tapered from the center toward the ends. Although not essential, the tapers cut down the weight somewhat without weakening the piece. Note, in Fig. 6, the position of the center pivot, which is detailed in Fig. 5. The exact position of the agitator arm is not given as this has to be determined by measurements taken directly from the truck, trailer or wagon on which the spreader is to be used. Once the location is determined the arm is bolted in place as shown in Fig. 4. It's a good idea to use waterproof glue in all joints of the hopper and agitator.

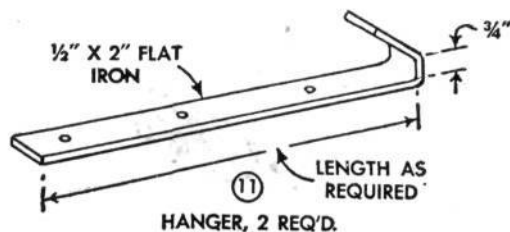
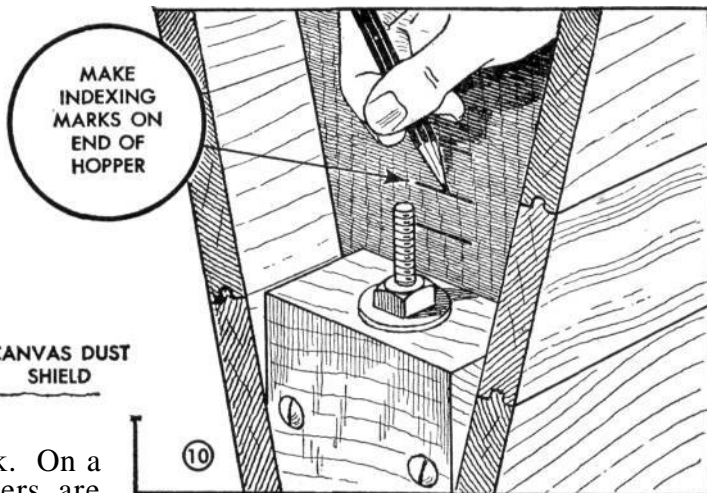
Fig. 8 suggests one way of fitting a knocker disk to a rubber-tired wheel. Of course, the construction of the wheel will determine how the knocker disk is to be attached. On some types of disk wheels it is not necessary to drill holes for the knocker pins as there are equally-spaced openings near the rim. The knocker pins are lengths of 1/2-in. iron rod threaded from one end to such distance that they will pass through the disks and project about 6 in. as indicated. Be sure to cut an opening in the outer wood disk for the valve stem. A similar arrangement can be made for use on wood-wheeled farm wagons, using larger diameter wood disks.

The hopper is supported on hangers as in Figs. 9 and 11. Length of the hanger is not given as this has to be determined by



measurement of the wagon or truck. On a wagon or tractor trailer the hangers are simply hooked over the endgate, and on a truck they usually can be hooked to the bed. Ordinarily, the bottom of the hopper should be about 24 in. from the ground and in most cases two braces will be required to hold the hopper level as at A in Fig. 9. Nearly all users fit the hopper with a canvas dust shield as in Fig. 1. This prevents loss of the fine material. The completed spreader should be given two coats of oil paint to prevent warping and shrinking.

To determine the setting for a given amount of fertilizer spread per acre, first draw the agitator snugly against the bottom of the hopper by turning down the nuts on the three eyebolts as in Fig. 4. Then release the nuts a given number of turns until the agitator moves freely without binding when actuated by the knocker assembly. This will give a check setting. Then fill the hopper with a known quantity of fertilizer and drive across the field until the spreader is empty. Measure the distance traveled in feet. Then multiply the width of the hopper by the distance traveled and divide by 43,560. As an example, assume that 300 lbs. of material in the 12-ft. hopper cover a strip 1820 ft. long; 1820 ft. multiplied by 12 ft. equals 21,840 sq. ft.;



21,840 divided by 43,560 equals .501, or approximately one half acre covered. More or less can be spread by adjusting the agitator. When you have the spreader adjusted for the amount or amounts desired, make index marks at the ends and center of the hopper as in Fig. 10. The marks then will enable you quickly to set the agitator to spread any given amount. Always adjust the center pivot whenever you change the setting of the end pivots.

Constructional details on limestone spreader printed by courtesy of the Agricultural Experiment Station, College of Agriculture, University of Illinois; Englert Engineering Co., Nashville, Tenn.; and Ruhm Phosphate and Chemical Co., Mt. Pleasant, Tenn.