STATE COLLEGE OF WASHINGTON
PULLMAN, WASHINGTON

EXTENSION SERVICE
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One-Man Rack

A LABOR SAVER

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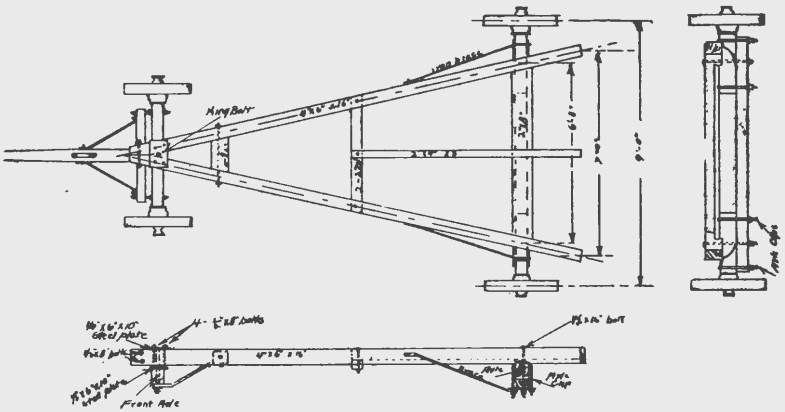
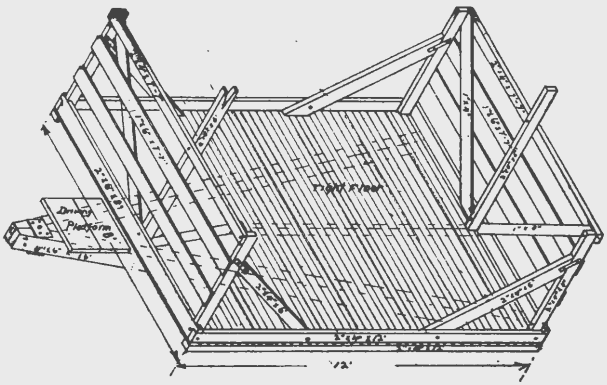


FRAME CONSTRUCTION



RACK CONSTRUCTION

DETAILS OF ONE-MAN RACK

Blue prints of the above plans drawn to a scale of one-half inch to the foot may be obtained from the Extension Service, State College of Washington, Pullman, Washington, for twenty-five cents.

These plans show the wide axle, which makes the rack very difficult to upset, a desirable feature for the hills. For level fields, a standard axle can be used by making the V-frame narrower at the rear end, and letting the rear wheels come through the floor. This is a satisfactory arrangement if a substantial housing is placed over the wheels.

THE ONE-MAN RACK

The bundle rack, illustrated herein, is one recently designed and used by Mr. Charles Stirewalt, a farmer near Pullman, Washington. It differs from the average rack in that it is built low down so that the driver can pitch on the load himself, thus doing away with the pitchers in the field. The elimination of the pitcher means the reduction of several men on every crew—a considerable item during the period of high wages, and the scarcity of labor. Mr. Stirewalt says that the driver can pitch on his load about as easily as he can walk around over the bundles when loading for a field pitcher. A platform for the driver can be placed on the frame in front of the rack. The driver need not get on to the load until it is ready to be unloaded. This, together with the tight bottom, helps to prevent the grain from shattering out of the heads.

Construction

Running gear: The running gear of an old farm wagon may be used by equipping it with low farm-truck wheels twenty-eight or thirty inches diameter. The axles and tongue of an old wagon can usually be found for sale at a low price. As this bundle rack is of the wide-axle type (see cut, frame construction), one of the wooden axles is cut in two and extended, by means of clamping the stubs between, a 2x8, and a 4x6, by means of large clips or U-bolts. As the front axle of an old wagon is usually considerably worn at the center, it is better to use this for the wide rear axle of the rack, and put the original rear axle in front as this piece is of full strength.

The frame: The frame is made of two 4x6's sixteen feet long, bolted together in the form of a V. The timbers spread seven feet at the rear end. At the front end, they are beveled off, and bolted together with half-inch bolts. In addition, as will be noticed in the cut, steel plates are bolted above and below the timbers, at the front end. The king bolt passes through the steel plate and the front axle. The rear end of the timber is mortised into the rear axle and bolted with a five-eighths-inch bolt.

The rack: In the sketch, this is eight feet by twelve feet; Mr. Stirewalt makes his rack seven eet by twelve feet. The floor, which is laid tightly, is nailed directly to the frame. On either side, beneath the flooring, is nailed a 2x4 extending the entire length of the rack. Also, on either side, above the flooring is nailed a 2x4 on edge. On either end above the floor, is a 2x6 on edge. The corner pieces which are 2x4 by four feet, are bolted to both the side and end pieces. The system of bolting and cutting is shown in Figure 2. The construction of the basket is the same as that of the average bundle rack.

Bill of Materials

Running Gear:

Low wheeled farm truck.

The frame:

Lumber:

2 pieces 4″x6″x16′
1 piece 4″x6″x8′
1 piece 4″x6″x1′4″
1 piece 2″x8″x6′
1 piece 2″x4″x16′

Bolts:

Two ⅝″x16″
Six ½″x8″
Two 3/8″x6″
One King bolt
One ½″x24″ threaded both ends

One steel plate:

¼″x6″x10″

One steel plate:

½″x6″x10″ or 2 pieces ¼″x16″x10″

One pair rub-irons

The rack:

Lumber:

7 pieces 2″x4″x12′
2 pieses 2″x4″x16′
1 piece 2″x6″x16′
2 pieces 1″x6″x16′
4 pieces 1″x4″x16′
96 sq. ft. flooring in 8′ lengths

Bolts:

Eight 3/8″x2½″
Twelve 3/8″x4″
Eight 3/8″x6″
Four 3/8″x10″

Strap-iron:

Eight pieces 1/8″x1″x6″

Nails:

2 lbs. 8-penny
4 lbs. 6-penny