A BOOM-TYPE STACKER

Extension Circular 480

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November 1945

Federal Cooperative Extension Service
Oregon State College
Corvallis

Cooperative Extension Work in Agriculture and Home Economics
Wm. A. Schoenfeld, Director
Oregon State College and United States Department of Agriculture, Cooperating
Printed and distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914

Extension Circular 480 February 1946

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Introduction

Farmers or ranchers having occasion to stack hay in fields scattered along a narrow valley may encounter difficulty in moving a conventional hay stacker from field to field, particularly if the fields are connected only by a narrow road. Ranchers operating under such conditions will find this stacker well suited to their needs.

A stacker which can be easily dismantled, loaded on a wagon and hauled along the road is illustrated and described in this circular. It was designed by Tom Huntington, while foreman on the C. H. Burgess ranch in Wheeler County, Oregon. It was designed primarily to meet the needs for a stacker which could be transported on a wagon between hay fields. Many ranchers in Wheeler County grow their hay in relatively small fields located along the creek valleys. These fields are often connected only by a narrow road making it difficult, if not impossible, to transport a conventional type of hay stacker between the fields.

Operation:

In operation, the Huntington boom-type stacker somewhat resembles a Mormon Derrick. The fork or sling load of hay is picked up by the boom at one end of the stack. It is pulled upward and as soon as the load clears the end of the stack, the boom tends to swing to the center of the stack. The load can be tripped before it reaches this point, or it can be pushed past the center in case it is desired to deposit the load at the other end of the stack. Shifting the anchor cable a few inches either way from the center of the horizontal pole at the base of the two supporting poles will cause the boom to come to rest toward one end or other of the stack, depending upon which way the anchor cable is shifted.

After the fork is tripped, it is pulled back off the end of the stack by the trip rope. From there it drops to the ground when the cable is slackened.

Erecting the Stacker:

Essential dimensions of various parts of the stacker are given in Figure 2. 17 x 22-inch blueprints of these drawings are also available at nominal cost from your county agent or the Oregon State College Agricultural Engineering Department.

When the poles, etc., have been prepared, the three poles forming the "A" frame are assembled and the guy wire attached. Holes, a foot or so in depth, are dug in the ground to receive the lower end of the two vertical poles. The tip of the two poles is raised from the ground and supported in any convenient manner. A six or seven foot fence post is frequently used for this purpose. A cable attached to the tip of the "A" frame is then hitched to a double-tree and the poles pulled into a vertical position by a team. After the "A" frame reaches its position at slightly past vertical, it is kept from falling forward by the guy wire. To keep the stacker from tipping backward, tie-down cables or ropes are attached to the upright poles eight or ten feet from the ground. One-half or three-quarter-inch rope will serve for this purpose. The ropes are looped around stakes driven some ten feet in front of the stacker, brought back and tied to the upright.

They can then be untied from the stacker and pulled out of the hay after the stack is completed, leaving the stakes in the ground under the stack. Another method is to use the tie-down cables that pass clear through the stack. The stack is built around them and when it is completed the cables are untied and pulled through the stack.

When the upright poles are secured in position, the boom is hoisted into place and hooked to the heavy triangle. The necessary cables and pulleys are attached to the boom before it is hoisted into place. As soon as the boom is in position and the team shifted to the rope or cable used for hoisting the load, the stacker is ready for operation.

Dismantling the Stacker:

When the stack is completed, the boom is lowered to the ground and placed to one side. The tie-down ropes or cables are then released so the A-frame can be lowered in much the same manner that it was put up. Mr. Huntington states that in most cases the A-frame is merely allowed to tip over backward and drop to the ground. The bolts are then removed from the A-frame and the three poles, the boom, and the accompanying cables loaded onto a wagon for transporting to the site of the next stack.

Capacity:

A stacker of the dimension given in the drawing Figure 2 will make a stack of from 35 to 40 tons.

Advantages:

The main advantage of this stacker is that it is simple to construct and can usually be made from materials available locally. It is simple to erect and dismantle, and is easily transported from field to field on a wagon or truck.

Disadvantages:

The principal disadvantage is that the arc of the boom is limited, with a resulting limitation on the size of stack that can be built in one place. However, another stack can be built nearby if desired by merely sliding the stacker sideways.

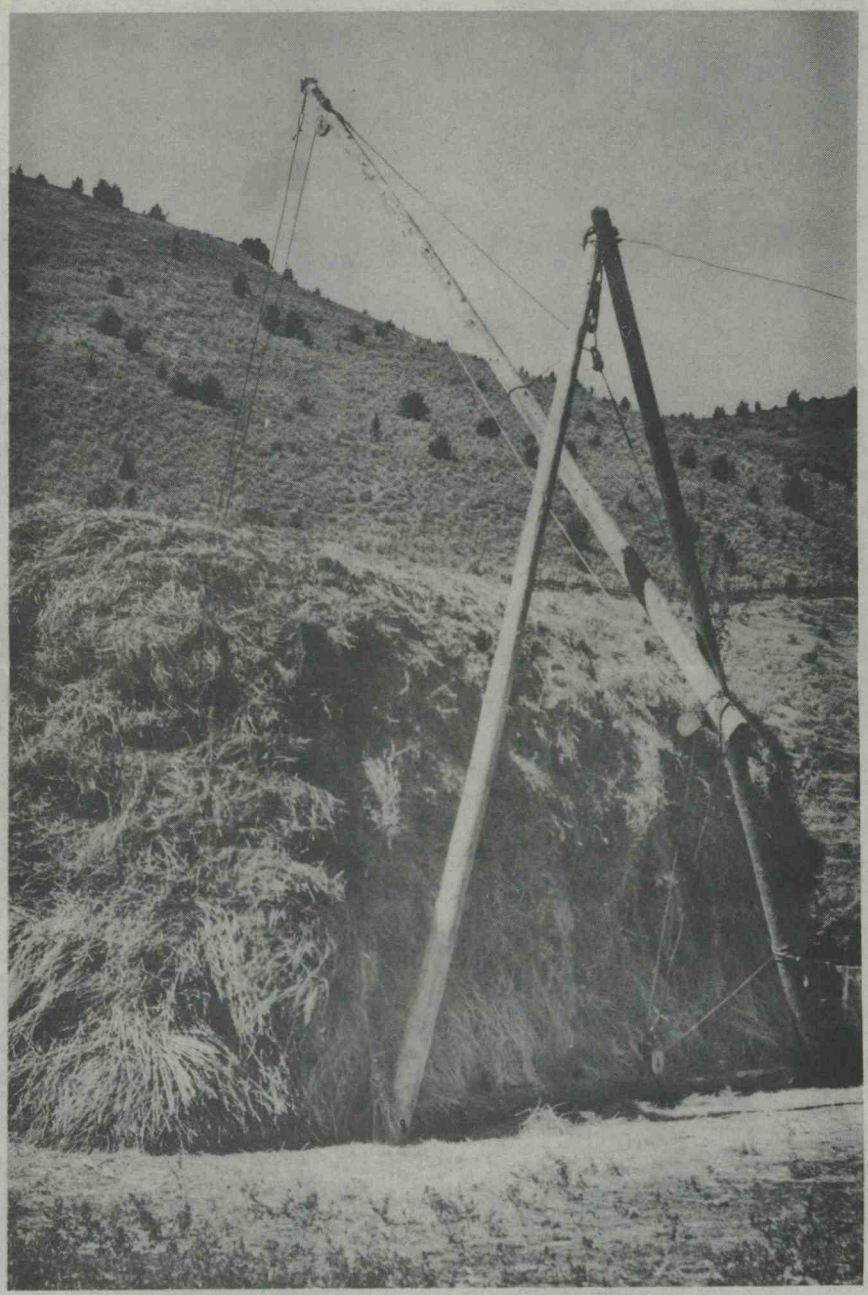
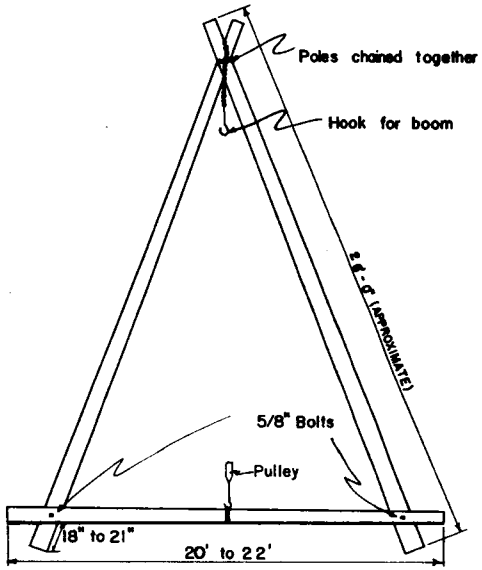
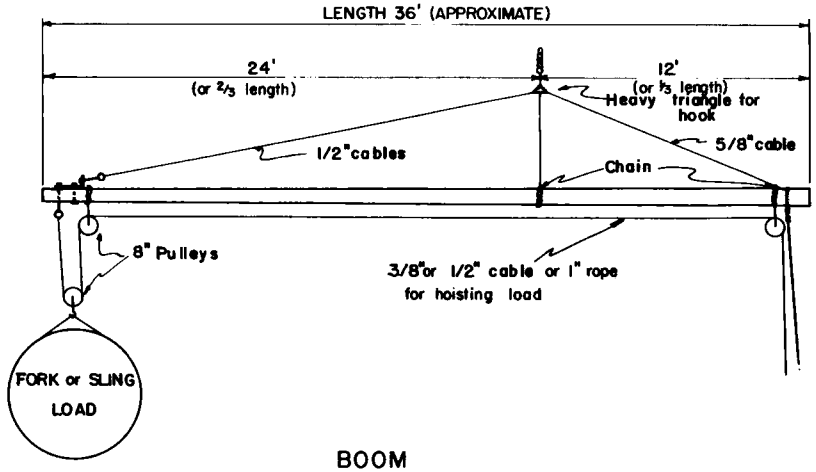


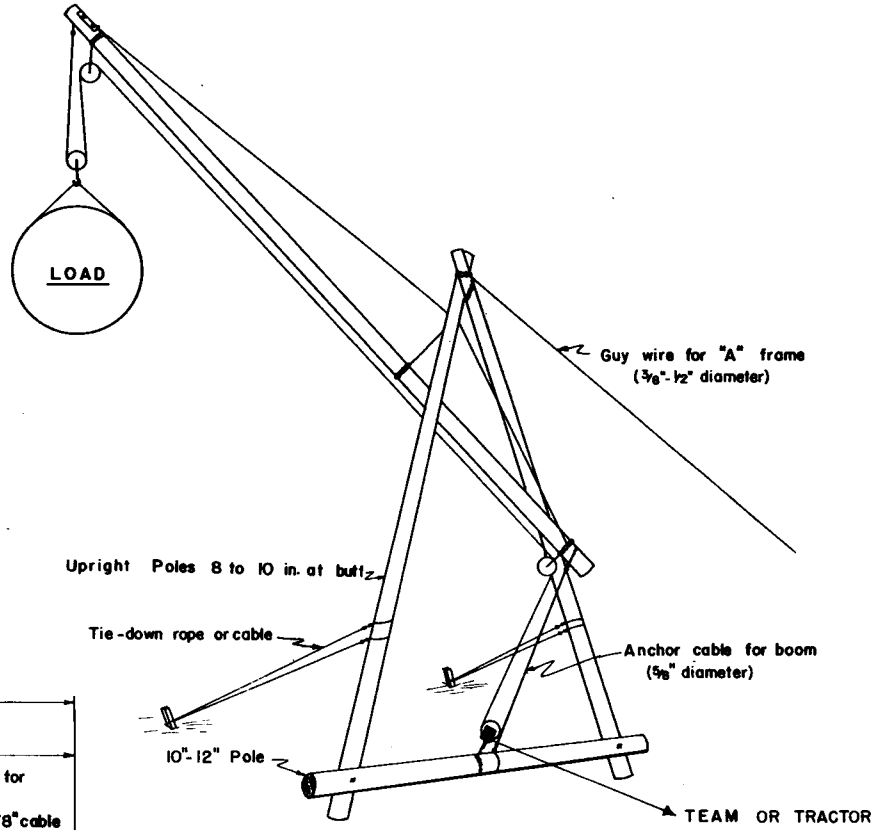
Figure 1. Boom-type stacker beside haystack.



"A" FRAME



BOOM



HUNTINGTON BOOM-TYPE STACKER

DEPARTMENT OF AGRICULTURAL ENGINEERING

OREGON STATE COLLEGE

CORVALLIS, OREGON

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BOOM-TYPE STACKER

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