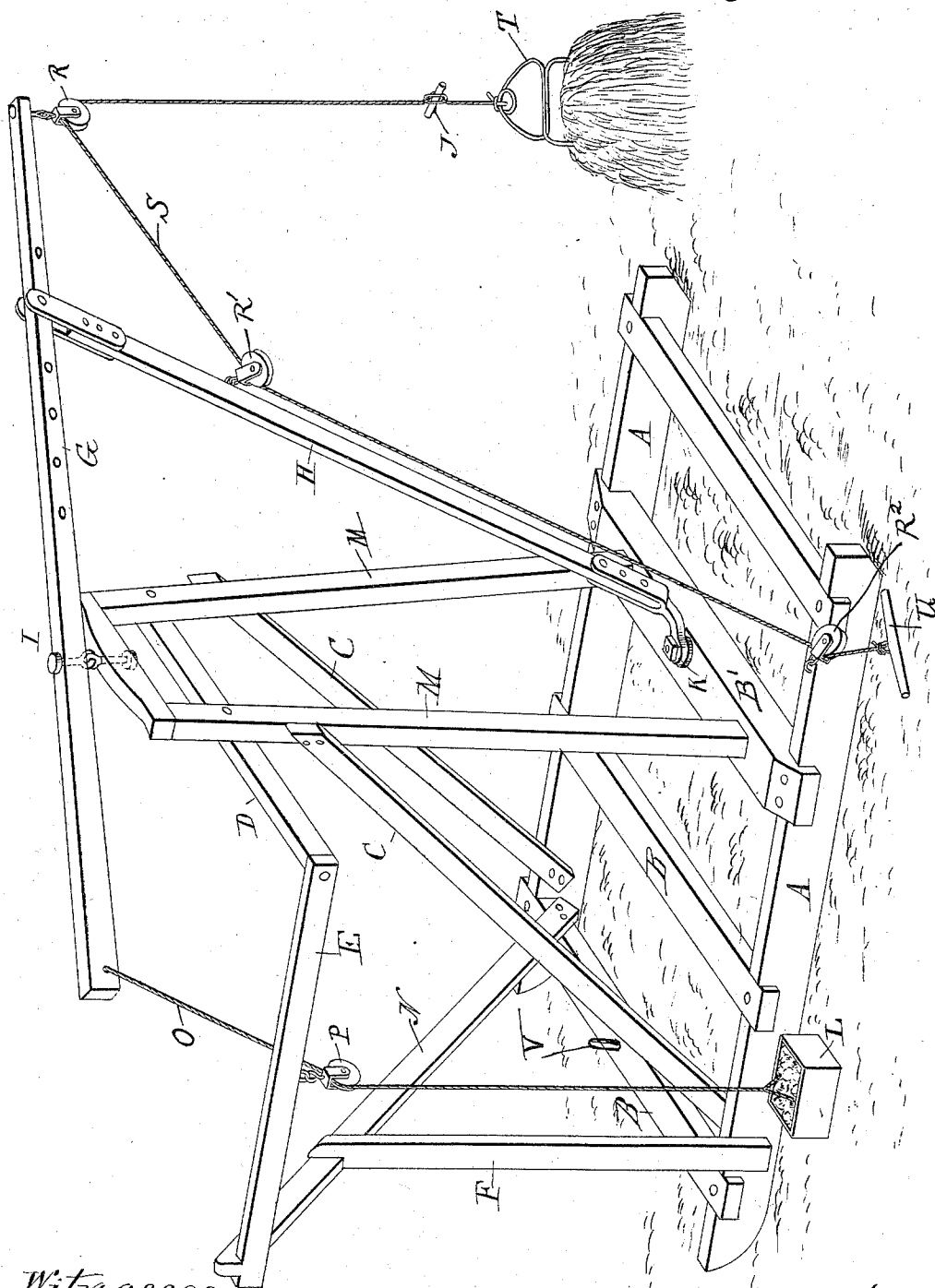


(No Model.)

J. MILLIKIN.
HAY STACKER.

No. 565,685.

Patented Aug. 11, 1896.



Witnesses:

Refus. M. Stollen
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Inventor:

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UNITED STATES PATENT OFFICE,

JAMES MILLIKIN, OF CANAAN, OHIO.

HAY-STACKER.

SPECIFICATION forming part of Letters Patent No. 565,685, dated August 11, 1896.

Application filed March 9, 1896. Serial No. 582,505. (No model.)

To all whom it may concern:

Be it known that I, JAMES MILLIKIN, a citizen of the United States, residing in Canaan township, near West Jefferson, in the county of Madison and State of Ohio, have invented certain new and useful Improvements in Hay-Stackers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention is to provide an improved hay-stacker whereby it may be of simple, durable, and economical construction, and may be conveniently moved about from place to place.

My invention comprises the combination with a sled or other portable base of a derrick having a jib pivoted and fulcrumed to its upper part by a universal joint, a pivoted brace-rod for the hay-supporting arm of the jib, a rope and pulleys by which the jib and hay-fork may be drawn into position for placing the hay onto a stack, and a weight connected with the other arm of the jib for counterbalancing the load and counteracting the strain on the hay-supporting arm and brace-rod during the horizontal movement of the load, and also for automatically returning the arm to the position for taking more hay.

The drawing annexed hereto illustrates an embodiment of my improvements in perspective view.

The base of the apparatus is a sled composed of runners A, connected by suitable cross-pieces B, one of which, B', is made heavier or stronger than the others to receive and sustain the derrick M, standing perpendicularly from the sled. The derrick may be braced by rods C C, extending thence to the front of the sled. The jib G is connected to the cross-head at the top of the derrick by means of a universal joint of any suitable construction, so as to swing horizontally and also be fulcrumed vertically. That shown consists of two connected eye bolts, one of which is secured in the jib and the other of which is passed through a hole in the cross-head, the hole being made of sufficiently large diameter to permit the easy oscillation of the bolt. The jib is pivoted to the cross-head of the derrick, so that the longer part

extends out beyond the rear end of the sled, and it is there braced by a rod H, which is hinged at its upper end to the jib by means of a removable bolt passed through a fork on the brace-rod and one of a series of holes in the jib, while its lower end is pivoted to the cross-piece B' of the sled by means of a bolt passed through an eye in a tongue secured to the lower end of the brace-rod and into the cross-piece. The pivots of the lower end of the brace-rod H and of the jib G are in the same vertical line, so that the jib may swing freely in a lateral or horizontal direction. A series of holes is made in the jib, so that the altitude of its end may be varied by changing the place of its connection with the brace-rod.

Over the front part of the sled I erect a frame composed of the horizontal beam D, secured to the derrick, and a beam E, secured to beam D, at right angles thereto, the beam E being supported by a vertical post F, sustaining an inclined bar N. Connected with the short end of the jib is a cord O, which runs over a pulley P on the beam E, and has fastened to its lower end a box L to receive weights, which may be varied to suit circumstances. The cord is made sufficiently short to allow the weight to throw the long arm of the jib to one side of the sled. Pulleys R R' R² are secured to the long arm of the jib, the brace-rod, and the sled, respectively, as shown, and through these is passed a cord S, one end of which is fastened to a hay-fork T and the other to a whiffletree U. A stop J of any suitable kind is provided in the cord or rope S. That shown consists of a link and pin, the pin being passed through a loop of the cord, passed through the link, and drawn tight.

The operation is as follows: The sled is drawn to the place where the hay is to be stacked and a horse hitched to the whiffletree. When the horse is driven in the proper direction, a bunch of hay in the fork is elevated until the stop J strikes the pulley on the jib, when the latter is drawn around to the place where the stack is to be formed. When the jib is swung around, the weight is lifted and thus counterbalances the load and at the same time relieves the strain upon the brace-rod H and its lower pivoted bearing; and upon back-

ing the horse the jib is automatically returned by the weight to its first position, and upon further backing of the horse the fork by its own weight drops to the position for taking more hay. The form of stop J shown may be adjusted on the cord to secure any desired height of the hay-fork.

In order conveniently to get at the upper end of the jib for adjusting its brace or for stringing the pulleys, the lower end of the brace-rod H may be released by removing the bolt and the eye K, set upon a pin V at the forward end of the sled. This device will also be convenient for lowering the upper end of the jib, so that it may be put into a shed or barn with a low roof.

I do not wish to be understood as limiting myself to the details of construction or the proportions of parts shown in the accompanying drawings, as they may be changed without departing from the scope of my invention.

What I claim, and desire to secure by Letters Patent, is—

1. In a hay-stacker, the combination of a sled or other base, a derrick, a jib pivoted to swing horizontally and fulcrumed vertically on the derrick, a brace-rod connected to the

hay-supporting arm of the jib and pivoted in about the same vertical line with the fulcrum of the jib so as to swing horizontally therewith, a rope and pulleys to carry a hay-fork and to move the jib into position for depositing hay, and a weight connected with the other arm of the jib so as to counterbalance the load and thereby relieve the strain upon the hay-supporting arm and brace-rod during the horizontal movement of the load and to automatically return the jib to the position for taking hay, substantially as described.

2. In a hay-stacker, the combination of a sled or other base, a derrick, a jib pivoted to swing horizontally and fulcrumed vertically on the derrick, a brace-rod adjustably secured to the hay-supporting arm of the jib and removably pivoted to the base by means of a bolt and eye K, and a pin V to be engaged by the eye when removed from the bolt, substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES MILLIKIN.

Witnesses:

GEO. M. FINCKEL,
A. C. MILLIKIN.