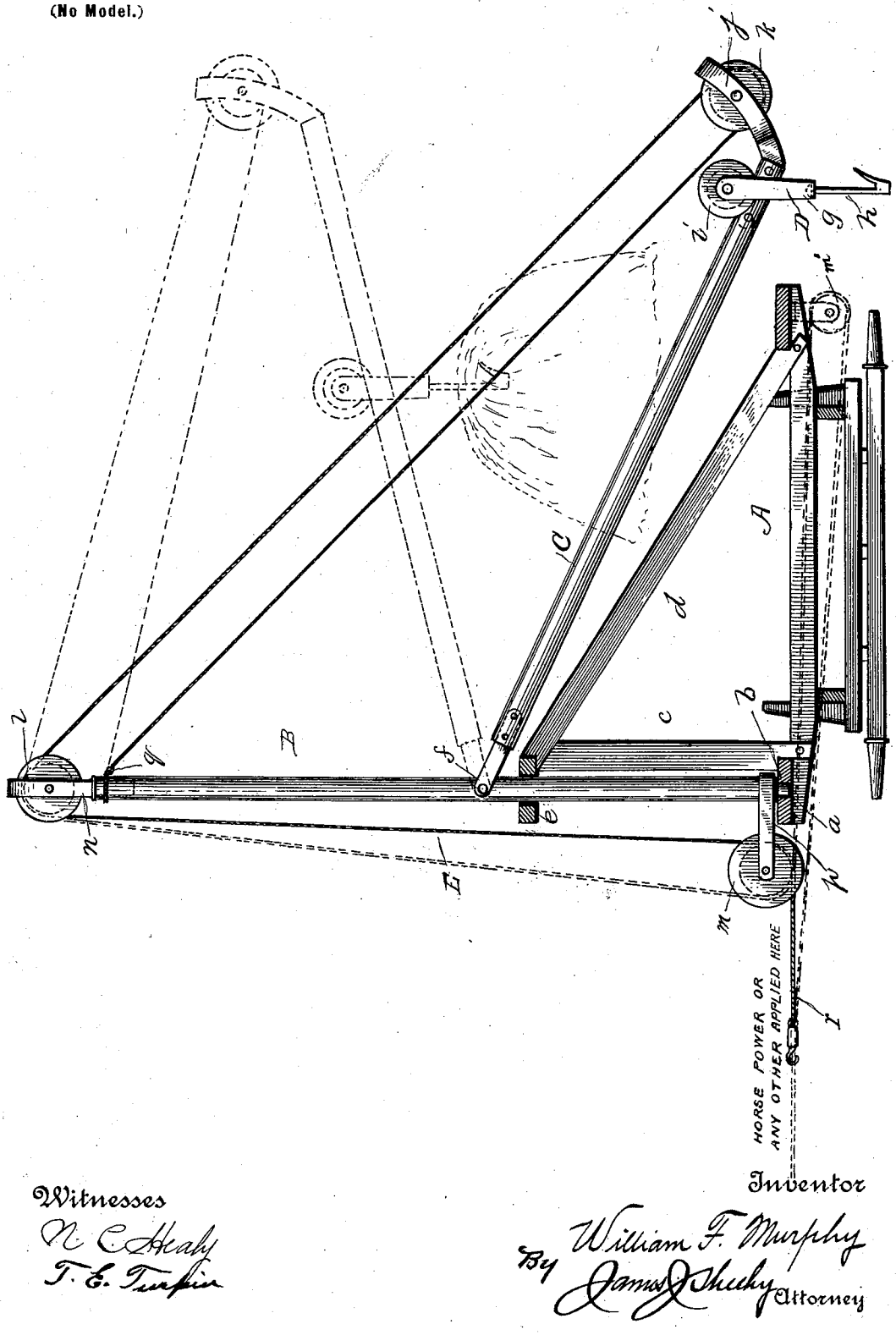
No. 703,444. Patented July 1, 1902.

W. F. MURPHY.

LOADING DEVICE.

(Application filed Aug. 31, 1901.)

(No Model.)



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UNITED STATES PATENT OFFICE.

WILLIAM F. MURPHY, OF IOWA CITY, IOWA.

LOADING DEVICE.

SPECIFICATION forming part of Letters Patent No. 703,444, dated July 1, 1902.

Application filed August 31, 1901. Serial No. 73,986. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. MURPHY, a citizen of the United States, residing at Iowa City, in the county of Johnson and State of Iowa, have invented new and useful Improvements in Loading Devices, of which the following is a specification.

This invention is an apparatus for loading corn-fodder, hay, or other articles onto a wagon or the like; and it has for its object to construct an apparatus for the purpose which will be cheap, durable, and efficient and may be readily attached to a wagon-body and operated either by manual or horse power with but little exertion.

The invention will be fully understood from the following description and claims when taken in connection with the drawing, which illustrates my improvements in side elevation and attached to a wagon-body, parts of the latter being shown in section.

Referring by letter to said drawing, A indicates a wagon-body, which may be that of a hay-wagon or other suitable wagon, the one here shown being simply represented to illustrate one mode of applying my improvements thereto.

My improved elevating or loading apparatus is preferably attached to the side and about the middle of a wagon-body, and for the purpose I provide the body at a suitable point with a vertically-disposed recess *a* or other suitable means, into which I step the lower end of a mast B and which lower end is preferably reduced, as shown at *b*, so as to enter the recess and permit the mast to rotate therein. In the present illustration I have provided the wagon-body with an upright *c* and a diagonal brace *d* to sustain a collar *e*, the eye of which is vertically disposed to allow the mast to pass freely through the same; but of course I do not wish to be understood as limiting myself to any particular means for sustaining the mast in its proper vertical position and allowing the same a rotative movement.

C indicates a boom which serves as a track for the carrier, as will be presently described. This boom is pivoted at its inner end to the mast at a suitable altitude, as shown at *f*, and is carried thereby, the pivot being such as to allow the boom to swing vertically.

D indicates the carrier. This carrier may comprise a block *g*, having a depending hook *h* of a suitable construction to engage a bundle of fodder, hay, or any article to be elevated and loaded onto the wagon-body, and a vertically-disposed roller *i*, which is designed to bear upon the boom and suspend the carrier therefrom. This roller *i* is allowed to travel freely on the boom, being manipulated by the hoisting-tackle. The boom carries at its outer end a bearing *j* for a vertically-disposed roller or pulley *k*, and this bearing may serve the additional function of a stop for the outward movement of the carrier D. The bearing *j* is preferably curved, as shown. The mast carries at its upper end a vertically-disposed pulley *l*, and it carries at its lower end a similarly-disposed pulley *m*. These pulleys may be attached to the mast by any suitable means, the upper one being shown as carried by a loop or arm *n*, which is stepped in a recess in the top of the mast, and the lower pulley is shown as attached to the mast by a horizontally-disposed arm *p*.

E indicates a lifting-cable, which may be composed of rope or wire. This cable has one end attached to the mast near the upper end of the latter, as shown at *q*, and thence passes downwardly and over the pulley *k* on the boom and upwardly and over the pulley *l* on the mast and thence downwardly and under the pulley *m*, also attached to the mast, after which it is carried off, as shown at *r*, where it may be grasped by hand or have any suitable horse-power attached to it.

In operation it will be seen that the cable having been slackened, so as to allow the boom to assume the position shown in full lines on the drawing, the carrier will descend to the outer end of the boom by reason of its gravity and is now ready to receive by its hook a quantity of fodder, hay, or other articles to be loaded upon the wagon-body, when by applying force to the cable by hand or other means the boom will be raised on its pivot, and when it passes above a horizontal plane or into the position shown in dotted lines the boom will serve as a track to the carrier, when the latter will travel inwardly or in the direction of the mast, where it can be readily removed by an attendant. While the boom has a vertical movement, it has also

a horizontal movement by reason of the mast to which it is attached being allowed to rotate, so that a weight to be elevated can be carried to any suitable point on the wagon-body or other device to which the apparatus may be attached.

In lieu of carrying the cable E off from the pulley *m*, as indicated by *r* and illustrated in full lines, said cable may be carried around the pulley *m* and to and around a pulley *m'*, located at the opposite side of the body or hay-rack with reference to the pulley *m*, and thence back to the point *r*, where the power is to be applied, as shown by dotted lines. This latter arrangement is advantageous, since by reason of the pulley *m'* being located at the opposite side of the body or hay-rack with reference to the mast and the pull on said pulley tending to hold it down there is less liability of the weight of the mast and its appurtenances tipping the body or rack to the left than when the cable is carried direct from the pulley *m* to the point at which power is applied.

When desired, a rope (not shown) may be connected to the carrier for the purpose of enabling the operator to control the same.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a loading apparatus a mast mounted so as to turn on its axis, upper and lower pulleys thereon, a boom pivotally connected to the mast and arranged to swing in a vertical plane and having a pulley on its outer portion, a carrier mounted and adapted to gravitate in opposite directions on the boom, and a cable connected at one end to the upper portion of the mast and passed around the pulley on the boom, the upper pulley on the mast and the lower pulley on the mast in the order named.

2. The combination of a wagon-body provided at one of its sides with an upright having a vertically-disposed bearing, a diagonal transversely-disposed brace interposed between said upright and the body, a mast journaled in the bearing on the upright and stepped at its lower end in a bearing in the body, and having vertically-disposed pulleys at its upper and lower ends, a vertically-movable boom pivotally connected at its inner end to the mast and having the combined bearing and stop *j* at its outer end, and the pulley therein, a carrier arranged to travel on the boom, and a cable attached at one end to the mast and passed around the pulleys on the boom and mast.

3. The combination of a wagon body or rack, the rotary mast mounted in the bearings at one side of the body or rack and having vertically-disposed pulleys at its upper and lower ends, the boom pivoted at its inner end to the mast and carrying a vertically-disposed pulley at its outer end, a carrier arranged to travel on the boom, a pulley located at the oposite side of the rack with reference to the lower pulley on the mast, and the rope or cable attached at one end to the mast and carried around the said pulleys and carried to a suitable point for the attachment of power.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM F. MURPHY.

Witnesses:
IDA V. GOODHUE,
W. H. BAILEY.