G. M. EICHINGER.

HOISTING MACHINE.

APPLICATION FILED APR. 5, 1913.

**1,094,645.**

Patented Apr. 28, 1914.

2 SHEETS—SHEET 1.

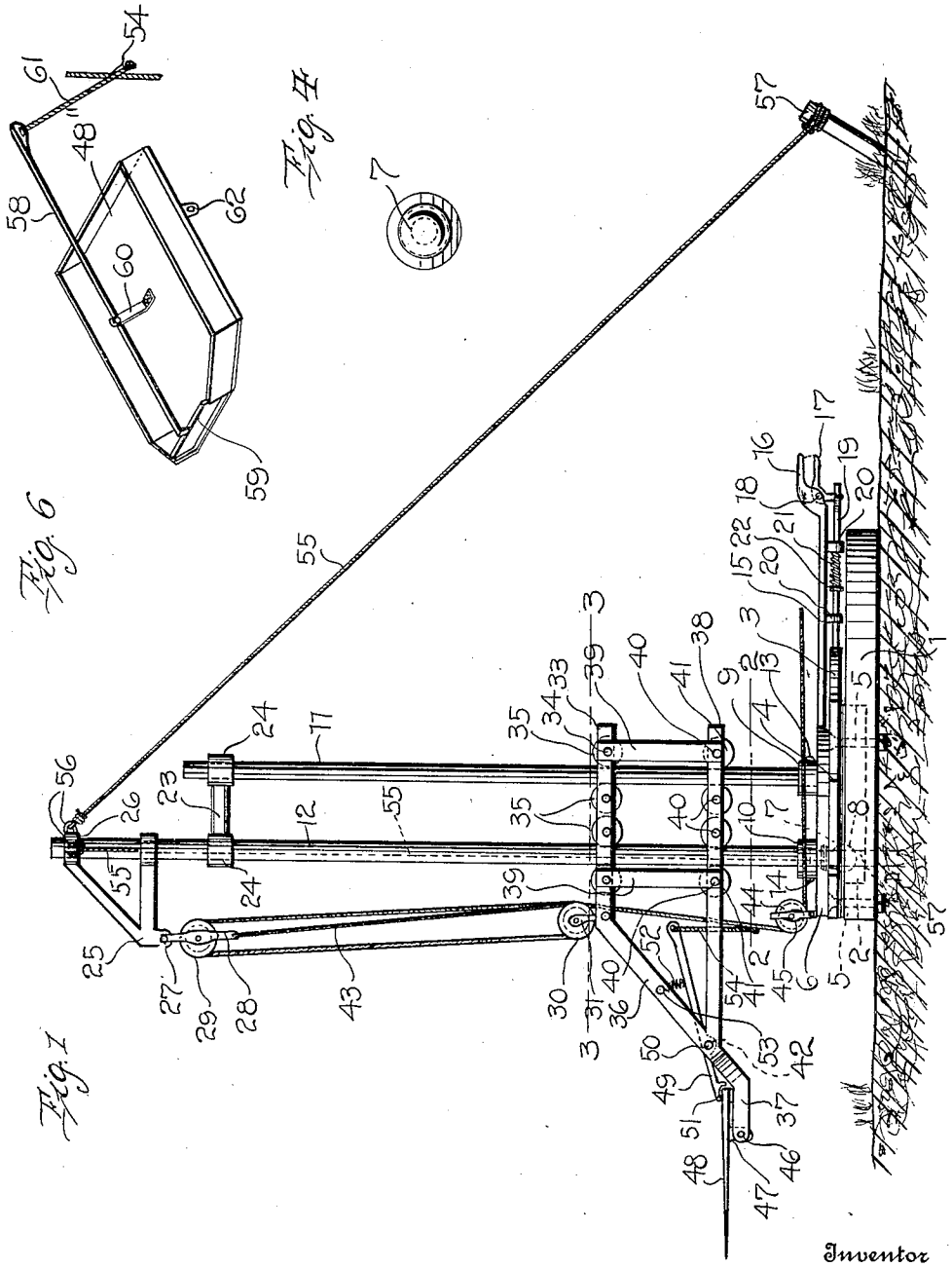

Fig. 6

Fig. 4

Fig. 1

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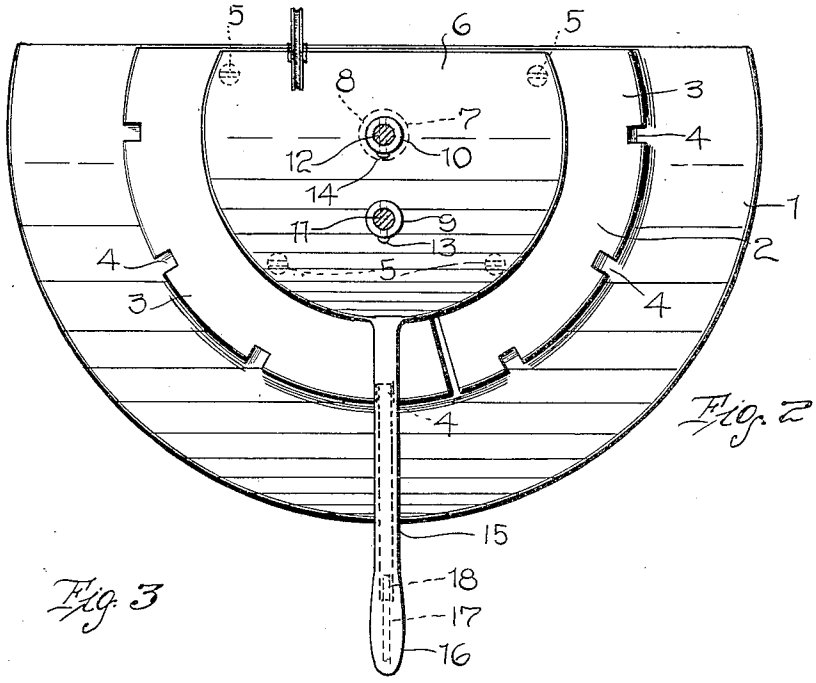



Fig. 2

Fig. 3

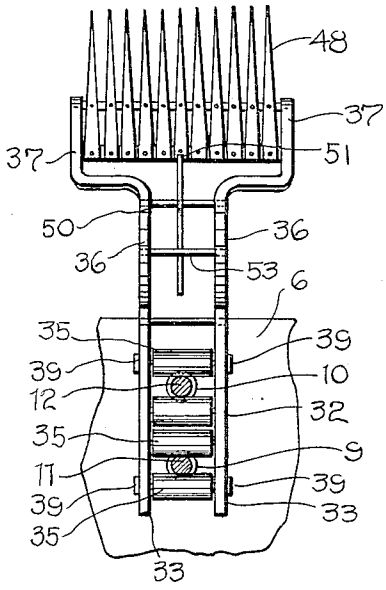
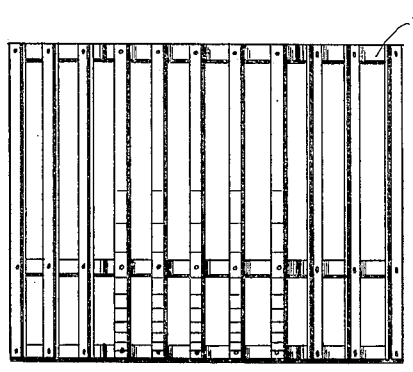



Fig. 5

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# UNITED STATES PATENT OFFICE.

GEORGE M. EICHINGER, OF CLEAR LAKE, SOUTH DAKOTA.

## HOISTING-MACHINE.

1,094,645. Specification of Letters Patent. Patented Apr. 28, 1914.

Application filed April 5, 1913. Serial No. 759,128.

*To all whom it may concern:*

Be it known that I, GEORGE M. EICHINGER, a citizen of the United States, residing at Clear Lake, in the county of Deuel and State of South Dakota, have invented certain new and useful Improvements in Hoisting-Machines, of which the following is a specification, reference being had to the accompanying drawings.

This invention comprehends certain new and useful improvements in hoisting machines and has for its primary object to provide a hoisting machine which will be of such construction that it may be readily employed for stacking hay, loading manure, elevating grain and various other purposes for which hoisting machines are employed.

A further object is to provide a machine of this character which will be of extremely simple construction and operation and highly efficient in use and which may be employed for a number of different purposes, thereby making it unnecessary to employ separate machines for stacking hay, loading manure, elevating grain, etc.

A further object is to provide a machine of this character including standards mounted upon a turn table and having a vertically movable frame engaged upon the standards with a removable rack or the like pivoted in an extended portion of the frame and means for locking the pivoted member in horizontal position, thereby preventing the load from sliding off of the pivoted member during movement of the frame.

A further object is to provide a device of this character which will be strong and durable and which will be constructed in such manner that the turn table may be readily turned to change the position of the frame and the member pivoted in said frame and then locked in position to prevent further horizontal movement of said frame and pivoted member.

A further object is to generally improve and simplify the construction and operation of a device of this character and thereby increase the efficiency and at the same time reduce the cost of the same.

With these and other objects in view, my invention consists in certain novel constructions, combinations and arrangements of parts to be hereinafter more fully described, claimed and illustrated in the accompanying drawing, in which,

Figure 1 is a side elevational view of my complete device; Fig. 2 is a cross-sectional view on the line 2—2 of Fig. 1; Fig. 3 is a cross-sectional view on the line 3—3 of Fig. 1; Fig. 4 is a detail view of the ball upon which the turn table rotates; Fig. 5 is a detail plan view of a second form of rack adapted to be pivotally mounted in the adjustable movable frame; and Fig. 6 is a detail perspective view of a grain box adapted to be pivotally mounted in the adjustable or movable frame when the machine is to be employed for hoisting grain or the like.

Referring more specifically to the drawing in which similar reference characters designate corresponding parts throughout the several views, 1 designates the base having the semi-circular member 2 mounted therein, said semi-circular member having its thick portion countersunk in the base 1 and having a thin semi-circular flange portion 3 spaced slightly above the base 1 and provided with notches 4 in its curved edge, the purpose of which will presently appear. The semi-circular member 2 is preferably formed of two sections, as shown in Fig. 2, and is preferably secured to the base 1 by means of the bolts 5 extending through the thick or main portion of the sections of the semi-circular member 2 and through the thin portion of the base 1.

Mounted upon the semi-circular member 2 is the turn table 6 which is mounted for rotation upon said member 2 by means of the ball 7 connected to the under face of the turn table 6 and engaged in the socket 8 in the semi-circular member 2 at the center of said member 2. The turn table 6 has the spaced sockets 9 and 10 formed upon its upper face, within which the lower ends of the standards 11 and 12, respectively, are secured by means of the pins 13 and 14. The turn table 6 also has an arm projecting from the center of its curved edge with a handle 16 formed upon its outer end. A bell crank lever 17 is pivoted to a depending portion of the handle 16, as shown at 18 and has one arm normally parallel with and spaced from the horizontal or extended portion of the handle 16 while the opposite arm of the bell crank lever is pivoted at its extremity to the outer end of the latch bar 19 which is slidably engaged through the depending ears 20 of the arm 15 and has its inner end adapted for engagement in the notches 4 in the edge of the semi-circular member 2, as will be clearly understood. A spring 21 is engaged

around the latch bar 19 and has one end bearing against one of the ears 20 while the opposite end bears against the collar 22 mounted upon the latch bar between the ears 20, it being understood that the spring 21 is also positioned between the ears 20 and serves to normally retain the inner end of the latch bar in engagement with one of the notches 4.

It will be understood that the standard 12 extends for some distance above the standard 11 and the standards are connected near the upper end of the short standard 11, by means of the connecting and bracing arm 23 which has the cuffs 24 upon its opposite ends engaged around the standards 11 and 12, as will be clearly understood. The triangular bracket 25 is mounted upon the upper extended end of the standard 12, as shown at 26 and has a depending perforated ear 27 at its lower point through which a swinging bracket 28 is engaged, said bracket 28 having a pulley 29 mounted therein for coöperation with a lower or second pulley 30 mounted in the bracket 31 extending upwardly from the vertically movable frame.

The movable frame comprises spaced upper horizontal members 33 positioned upon the opposite sides of the standards 11 and 12 and connected by the transverse shafts 34 which have the anti-friction rollers 35 mounted thereon for engagement against the opposite sides of the standards 11 and 12, it being understood that the shafts 34 and rollers 35 are positioned between the standards and also outwardly of each standard. The spaced upper horizontal members 33 have their forward ends directed downwardly at an angle, as shown at 36 and then extended in a horizontal direction as shown at 37, the purpose of which will presently appear. The upper horizontal members 33 are connected with a pair of lower horizontal frame members 38, by means of the vertical frame members 39 and the lower spaced horizontal members 38 are connected to one another by means of the lower transverse shafts 40 corresponding to the shafts 34 and having rollers 41 mounted thereon which correspond to and coöperate with the rollers 35, thereby making it possible to move the frame 32 vertically upon the standards 11 and 12 with the minimum amount of friction between the parts. The outer ends of the lower spaced horizontal frame members 38 are connected with the inclined or downwardly directed members 36 of the upper frame members 33, as shown at 42 and are preferably formed integral with said members.

One end of a frame raising cable 43 is secured to the swinging bracket member 28 and the cable is extended downwardly and engaged around the lower pulley 30 then brought upwardly and engaged around the upper pulley 29 and again extended downwardly past the lower pulley 30. The cable is then engaged around a third pulley 44 mounted in the bracket 45 secured to the upper face of the turn table 6 and extended in a horizontal direction above the turn table, as shown in Fig. 1, to be operated by an engine or draft animals or any other suitable means, as will be readily understood.

A shaft 46 is removably engaged through the free extremities of the horizontal portions 37 of the frame members 33 and is adapted to also extend through the depending perforated ears 47 of a hay rack 48 or the like positioned between the said horizontal portions 37 of the members 33. It will be understood that the hay rack 48 is of such length as to extend beyond the horizontal portions 37 of the members 33 and owing to the position of the lugs 47 between the ends of the horizontal portions 37, the rear edge of the rack 48 rests above said horizontal portions, thereby preventing rearward tilting of the rack. A trip lever 49 is mounted upon the rod 50 extending transversely through the members 33 at the junction of the horizontal portions 37 with the downwardly or inclined portion 36 of said members and has a forwardly directed point or nose 51 normally extending over the rear edge of the rack 48 to hold the same in horizontal position when a load is positioned upon said rack. The trip lever 49 is resiliently retained in normal position by means of the spring 52 having one end secured to the lever and its opposite end secured to a bar 53 extending transversely through the downwardly directed or inclined portion 36 of the members 33 and the trip lever 49 may be released, when desired, by pulling upon the cord 54 secured by one end to the rear end of the trip lever, as will be clearly apparent.

When the device is properly positioned, it may be anchored by means of the anchoring cables 55 connected at their upper ends to the uppermost portion of the triangular bracket 25, as shown at 56 while their lower ends are connected to the anchoring posts 57 driven into the ground at spaced distances from the base 1 and preferably upon opposite sides and rearwardly of the base, it being understood that while I preferred to use three anchoring posts 57 and cables 55, any suitable number may be employed.

From the foregoing it will be understood that the frame 32 is lowered to place the rack 48 near the ground to receive the hay or other material to be raised for stacking or other purposes and after the material has been placed upon the rack, the cable 43 is operated to raise the rack 32 upon the standards 11 and 12 and the turn table 6 is secured, as previously described, to swing the

rack 48 to proper position, after which the cord 54 is operated to release the trip lever 49, thereby allowing the rack 48 to tilt forwardly upon the shaft 46 and allow the material to slide off of the said rack. It will be understood that after the cable 43 is relieved of strain, the weight of the frame and parts carried thereby will cause the same to again move downwardly upon the standards 11 and 12, the anti-friction rollers 35 and 41, reducing the friction to the minimum.

In Fig. 5 I have shown a slatted or open platform 48′ having its ends inclined downwardly, as will be clearly understood by referring to the drawings and it will be understood that this platform may be readily secured upon the transverse shaft 46 after removal of the rack 48, and thereby adapting the machine to handling or hoisting manure or the like.

In Fig. 6 I have shown a grain box 48″ which may be substituted if desired, for the rack 48 to adapt the machine to handle grain and like material, the grain box 48″ having the front portions of its sides directed slightly toward one another to provide a narrow front open end which is normally closed by the door 59 upon the forward end of the lever 58 fulcrumed upon the upper free end of the post 60 having its lower bent end secured centrally upon the upper face of the bottom of the grain box. The rear or free end of the lever 58 is extended beyond the rear end of the box and suitably perforated to receive a suitable operating cord 61 connected with the cord 54 for operating the trip lever. It will also be understood that the grain box 48″ has suitable perforated ears secured to the under face of the bottom of said box to receive the transverse shaft 46, one of the ears being shown in Fig. 6 and designated by the numeral 62.

It will be understood that any other suitable forms of racks, platforms or boxes may be removably secured upon the transverse shaft 46, if desired. It will also be understood that various changes in the details of construction and arrangements of parts may be made within the scope of the appended claims without departing from the spirit of my invention.

Having thus described my invention, what I claim is:—

1. A machine of the character described comprising a base, a turn table, means mounted upon the base for supporting the turn table, means for locking the turn table against movement upon its supporting means, standards carried by the turn table, a movable frame mounted on the standards and comprising spaced parallel longitudinal members connected by transverse shafts, rollers mounted upon the shafts between the standards and outwardly of the same for engagement with said standards, whereby friction will be reduced to the minimum during movement of the frame, the outer ends of the upper and lower longitudinal members being connected, a transverse shaft mounted in the forward extremities of the longitudinal members, a material receiving member mounted upon the transverse shaft, a trip lever engaged with the said member, means for retaining the trip lever in normal position, means for releasing the trip lever to allow the member to rock upon the shaft upon which it is mounted, means for moving the frame upon the standards, means for guiding the last mentioned means and means for supporting the guiding means.

2. A machine of the character described comprising a base, a turn table, means mounted upon the base for supporting the turn table, means for locking the turn table against movement upon its supporting means, standards carried by the turn table, a movable frame mounted on the standards and comprising upper and lower longitudinal members arranged in pairs and connected by transverse shafts, said pairs of upper and lower longitudinal members being connected by vertical frame members, rollers mounted upon the shafts between the standards and outwardly of the same for engagement with said standards, whereby friction will be reduced to the minimum during vertical movement of the frame, the outer ends of the upper longitudinal members being directed downwardly and connected with the outer ends of the lower longitudinal members, a transverse shaft mounted in the outer connected ends of the upper and lower longitudinal members, a material receiving member mounted upon the last mentioned transverse shaft, a trip lever engaged with said material receiving member, means for retaining the trip lever in normal position, means for releasing the trip lever to allow the member to rock upon the last mentioned transverse shaft, means for moving the frame vertically upon the standards, means for guiding the last mentioned means, and means for supporting the guiding means.

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

GEORGE M. EICHINGER.

Witnesses:
T. J. Law,
C. A. Mead.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."