

J. G. MATTSON.

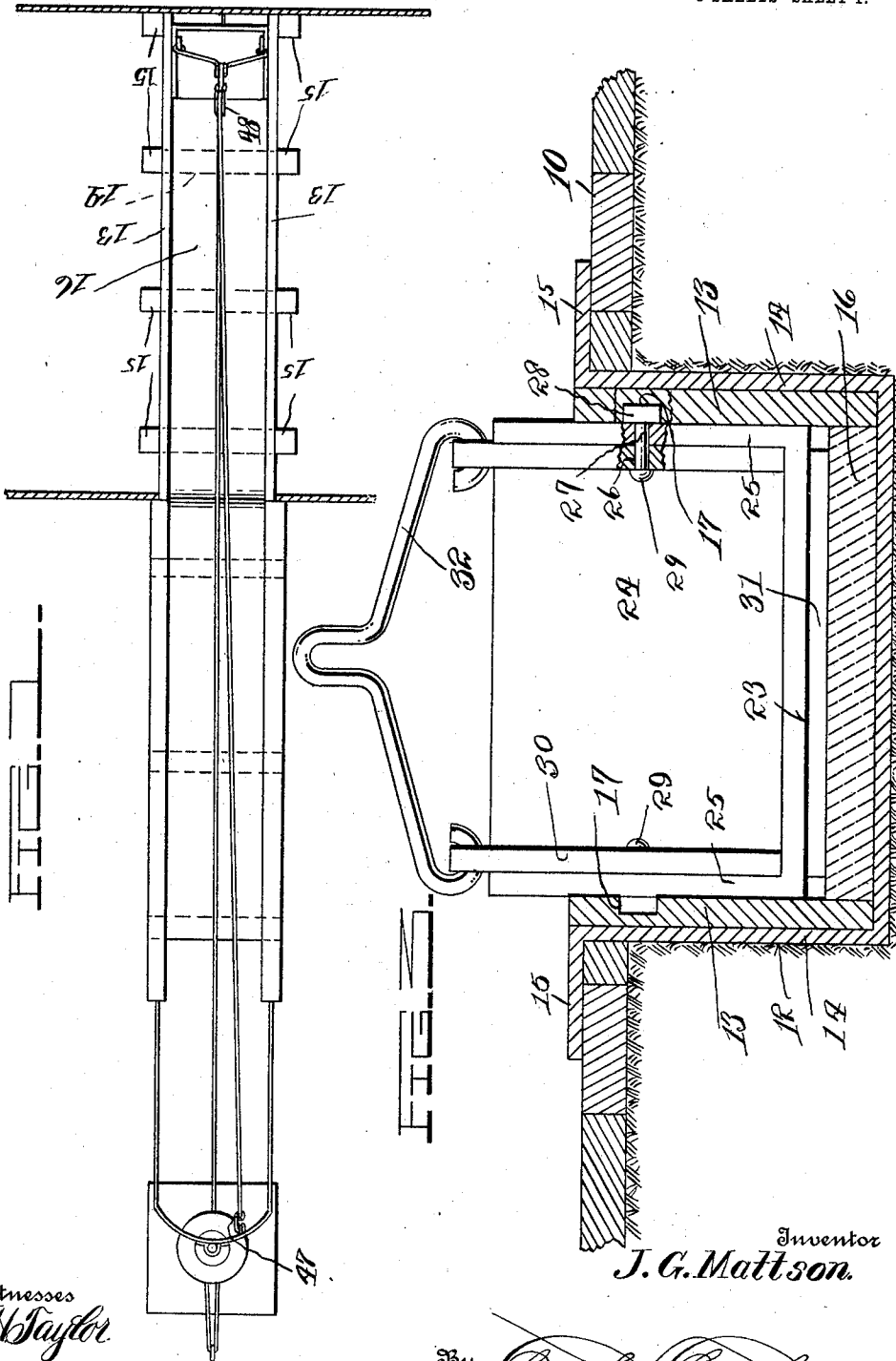
LOADER.

APPLICATION FILED NOV. 29, 1911.

1,038,405.

Patented Sept. 10, 1912.

3 SHEETS—SHEET 1.



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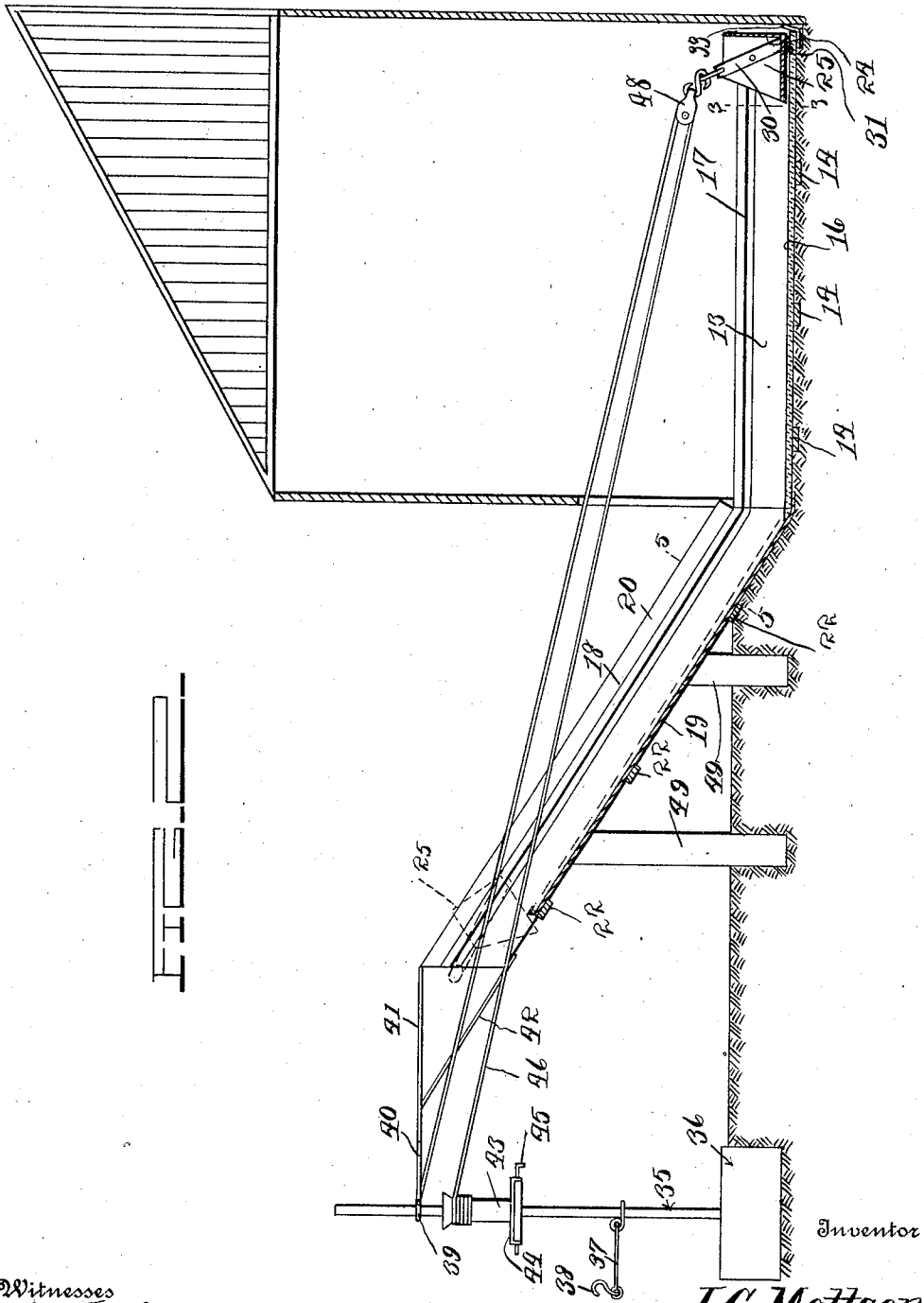
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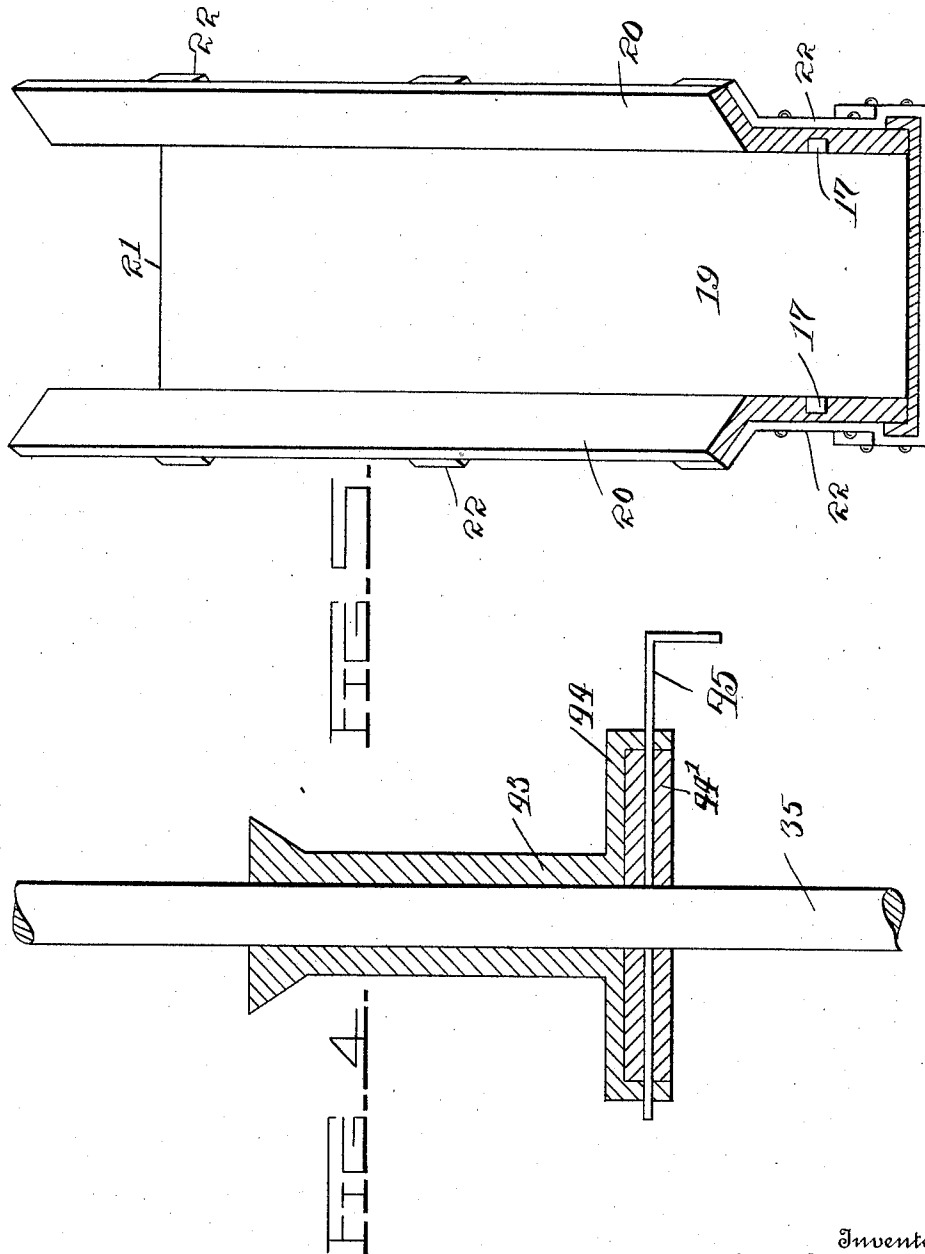
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UNITED STATES PATENT OFFICE.

JULIUS G. MATTSON, OF PLUMB, MINNESOTA.

LOADER.

1,038,405.

Specification of Letters Patent.

Patented Sept. 10, 1912.

Application filed November 29, 1911. Serial No. 663,045.

To all whom it may concern:

Be it known that I, JULIUS G. MATTSON, a citizen of the United States, residing at Plumb, in the county of Becker, State of Minnesota, have invented certain new and useful Improvements in Loaders; 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.

This invention relates to loaders, more particularly to that class of loaders designed for permanent mounting in the barn or the like.

An object of the present invention is to provide a metal trough the sides of which are equipped with alining grooves which form guide ways for the gudgeons of the scoop, a portion of the trough having a cement floor so that corrosion of the device will be reduced to a minimum.

With the above object in view the invention consists in certain novel details of construction and combination of parts hereinafter fully described and claimed, it being understood that various modifications may be made in the minor details of construction within the scope of the appended claims.

In the accompanying drawings forming part of this specification:—Figure 1 is a plan view of my improved loader. Fig. 2 is a longitudinal sectional view through the loader. Fig. 3 is a cross sectional view taken on the line 3—3 Fig. 2. Fig. 4 is a longitudinal sectional view through the winding drum. Fig. 5 is a cross sectional view taken on the line 5—5 Fig. 2.

Referring now to the drawings in which like characters of reference designate similar parts, 10 designates the flooring of a barn or the like, and for the reception of the loader a pit 12 is formed in the floor, the pit being oblong in contour. The loader comprises parallel metal side plates 13 which are held in position by substantially U-shaped straps 14, the legs of which extend upwardly along the plates and are riveted or otherwise secured thereto. The upper ends

of the legs are bent outwardly as shown at 15 and are fixed to the flooring in any preferred manner. A cement bottom 16 connects the lower edges of the side plates and coöperates with the latter in forming a trough for the reception of a hereinafter described scoop. The side plates are provided in their inner faces and near their upper longitudinal edges with longitudinal grooves 17 which are preferably square in outline and form guide ways for the gudgeons of the scoop. The side plates are bent abruptly upwardly through the side of the barn as shown at 18, and a sheet metal bottom 19 connects the lower edges of the plates, the bottom having a marginal flange which extends upwardly along the outer faces of the sides and is bolted or otherwise secured thereto. The upper longitudinal edge portions of the inclined sides are bent outwardly as shown at 20, and serve to direct material falling from the scoop back into the trough. The upper end of the metal bottom 19 terminates short of the extreme end edges of the sides as shown at 21 and forms means for tilting the scoop as will presently be described. The inclined sides 18 and metal bottom 19 are secured together by substantially U-shaped straps 22 which are riveted or otherwise secured to the parts as shown in Fig. 5.

The scoop comprises a bottom 23 from the rear ends of which rises a vertical rear wall 24 and from the side edges of which rise vertical side walls 25, the latter bearing against the sides of the trough. Arranged at diametrically opposite points in the scoop sides are openings 26 which receive the cylindrical necks 27 of approximately square gudgeons 28 which project into the guide ways 17 of the trough sides. The inner ends of the necks are headed up as shown at 29 to retain the gudgeons in position. By virtue of the squared gudgeons engaging in the guide ways, the even advance of the scoop in the guide ways is assured, while at the same time by virtue of the cylindrical necks of the gudgeons, the scoop may rock upon the gudgeons when it arrives at the

discharge end of the trough as shown in dotted lines in Fig. 2 and permit of the scoop emptying its contents into the wagon or other conveyance designed for its reception. A substantially U-shaped bail strap 30 is riveted or otherwise secured to the inner sides of the scoop, the bridge 31 of the strap being disposed on the bottom face of the scoop bottom as shown in Fig. 2 and forming a shoe for the scoop which will minimize friction of the scoop against the bottom of the trough during its movement therein.

The extremities of the strap legs project beyond the upper edges of the scoop sides and are provided with openings for the branched extremity of a bail 32, this bail being connected to a hauling cable which extends longitudinally through the trough and is connected at its outer end to a novel horse power which will be presently described. The hauling cable serves to move the loaded scoop to the discharge end of the trough, and for returning the empty scoop to its initial position, an eye 33 is fixed to the trough and will be used as hereinafter described.

The horse power for actuating the scoop consists of a turning stile 35 the lower end of which is pivoted in a block 36 in any preferred manner, and the turn stile is equipped with a draft sweep 37 to which an attaching iron 38 of any preferred type is secured. The upper end of the turning stile is journaled in an eye 39 arranged centrally on the bowed rod 40 to the opposite ends of which are secured horizontally disposed brace rods 41 which are terminally secured to the side plates 18 near the discharge end of the trough. Upwardly inclined brace rods 42 are secured to the horizontal brace rods and to the side plates and cooperate with the horizontally disposed brace rods in rigidly supporting the rod 40 in stationary position. Loosely mounted on the turning stile is a drum 43 having a circular flange 44 at one end through which and a collar 44' on the turning stile a coupling pin 45 is passed, this coupling pin locking the drum and stile together for simultaneous rotation. A hauling cable 46 is terminally secured at one end to the drum, and is attached at its opposite end through the instrumentality of a hook and eye connection 47 to the rod 40 the loop thus formed in the cable being trained through a pulley block 48 secured to the bail 32. Upon rotary movement of the turn stile, the cable is wound upon the drum and the scoop advanced to the discharge end of the trough. To effect the return of the scoop, the pulley block is attached to the eye 33 above mentioned while the hook 47 is attached to the

scoopbail, and upon rotation of the turn stile the scoop is drawn rearwardly in the trough.

For supporting the inclined end of the trough a plurality of standards 49 are bolted or otherwise secured at their upper ends to the side plates 18 and reinforce the trough against collapsing when under load.

What is claimed, is:—

1. A loader including a trough having side walls provided in their inner faces with longitudinal grooves forming guide ways, each of said sides being directed abruptly upwardly at one end, a plurality of substantially U-shaped straps having their bridges engaged transversely across said sides and having their legs extended upwardly along the sides and rigidly fixed thereto, a bottom connecting the sides remote from their upwardly directed ends and bearing upon the bridges of said straps, said bottom being formed of hardened plastic material, and a bottom connecting said sides at their upwardly directed ends, the last named bottom bearing upon and being supported by the bridges of the straps connecting said upwardly directed ends, said second named bottom further forming a continuation of said first named bottom, and a scoop mounted for movement in said trough and having gudgeons bearing within said guide ways.

2. A loader including a trough having side walls provided with longitudinal grooves in their inner faces forming guide ways, each of said sides having an outer end portion inclined upwardly, a plurality of substantially U-shaped straps having their bridges projecting across said sides and having their legs extended upwardly along said sides and rigidly secured thereto, a hardened plastic material bottom bearing upon the bridges of said straps remote from said inclined ends, a second bottom bearing upon the bridges of the straps carried by said inclined ends and forming a continuation of the first named bottom, said second named bottom terminating short of the extreme outer edges of said inclined ends, and a scoop mounted for sliding movement in said trough and having gudgeons bearing within said guide ways, said scoop being adapted to rock to unloading position upon the extreme free edge of said second named bottom as a fulcrum.

3. A loader including a trough having a substantially horizontal end portion, and having its opposite end portion inclined upwardly, the sides of said trough being provided in their inner faces with longitudinal grooves forming guide ways, a scoop mounted for sliding movement within said trough and having gudgeons bearing within said

guide ways, a substantially U-shaped bail
strap carried by said scoop having its legs
projecting upwardly along the scoop sides,
and having its bridge portion projecting
5 along the underneath face of the scoop bot-
tom and forming a shoe for contact with the
trough bottom, a hauling cable operatively
connected to said bail strap, said hauling

cable operating to advance and to retract
said scoop in said trough.

In testimony whereof, I affix my signa-
ture, in presence of two witnesses.

JULIUS G. MATTSON.

Witnesses:

MORRIS ANDERSON,
J. J. McKENNA.

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