

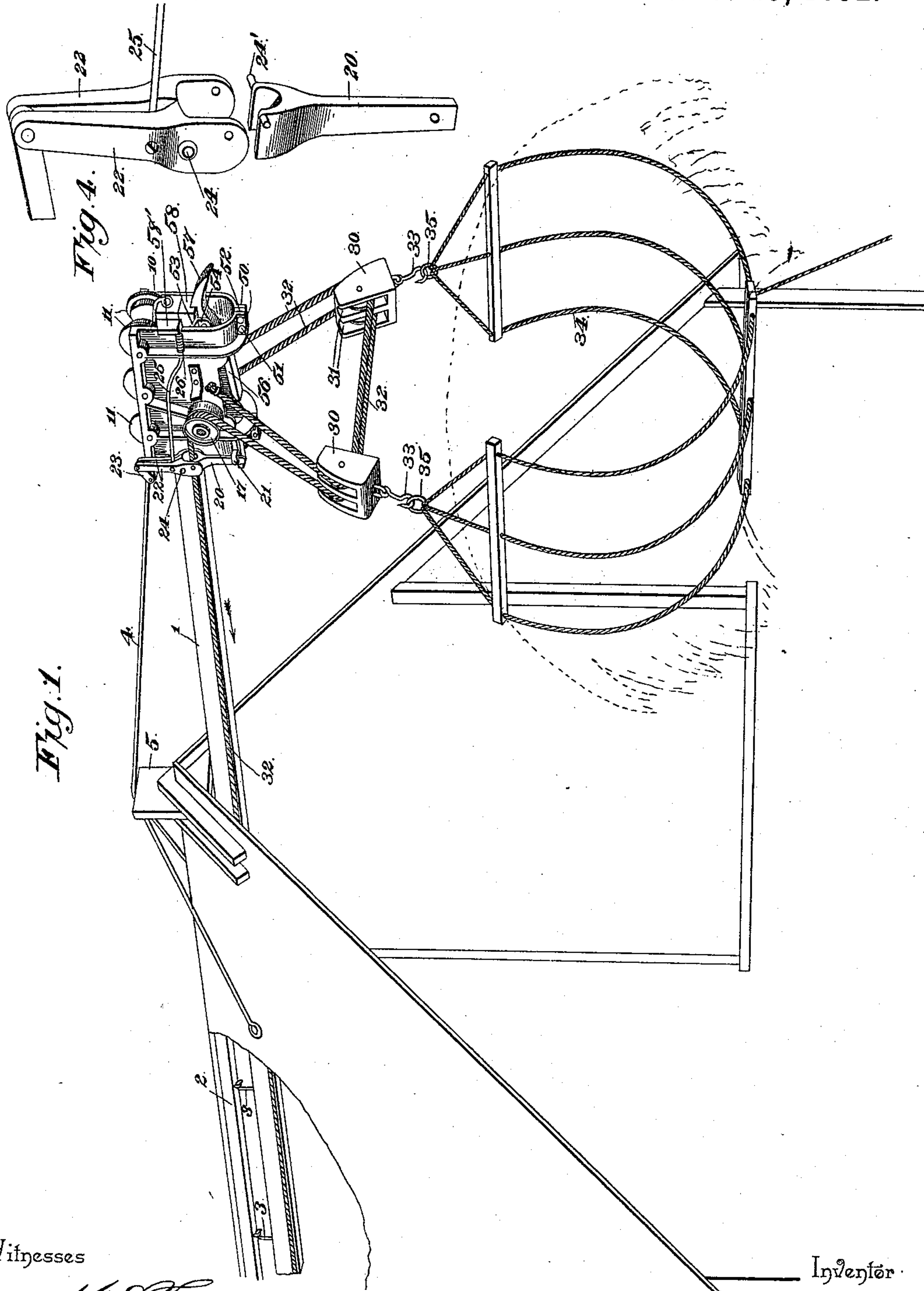
(No Model.)

2 Sheets—Sheet 1.

J. LAW.
HAY CARRIER.

No. 486,164.

Patented Nov. 15, 1892.



Witnesses

M. Fowler

L. Gollamer

By his Attorneys,

C. A. Snow & Co.

Inventor
John Law

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

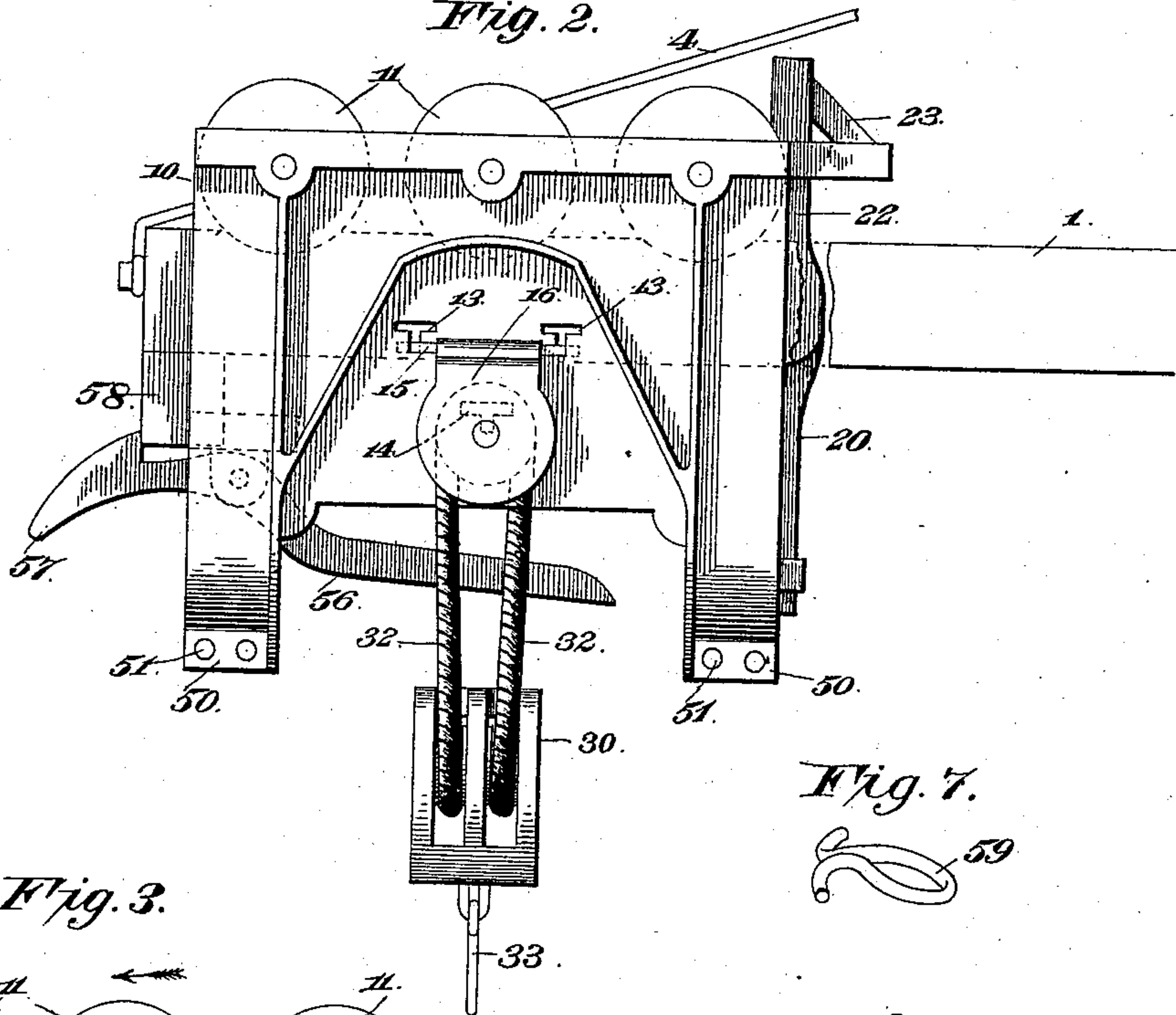


Fig. 7.



Fig. 3.

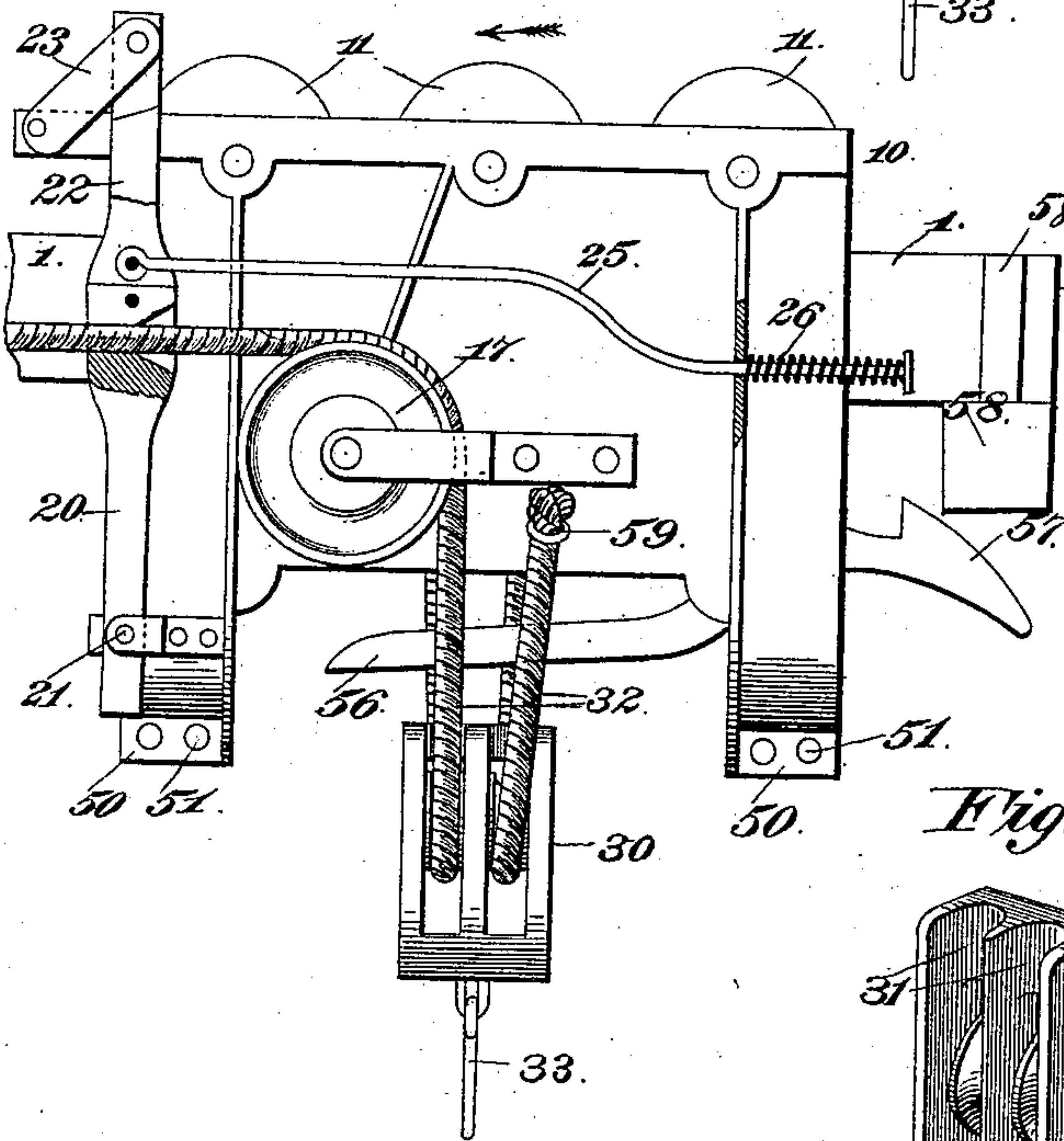


Fig. 5.

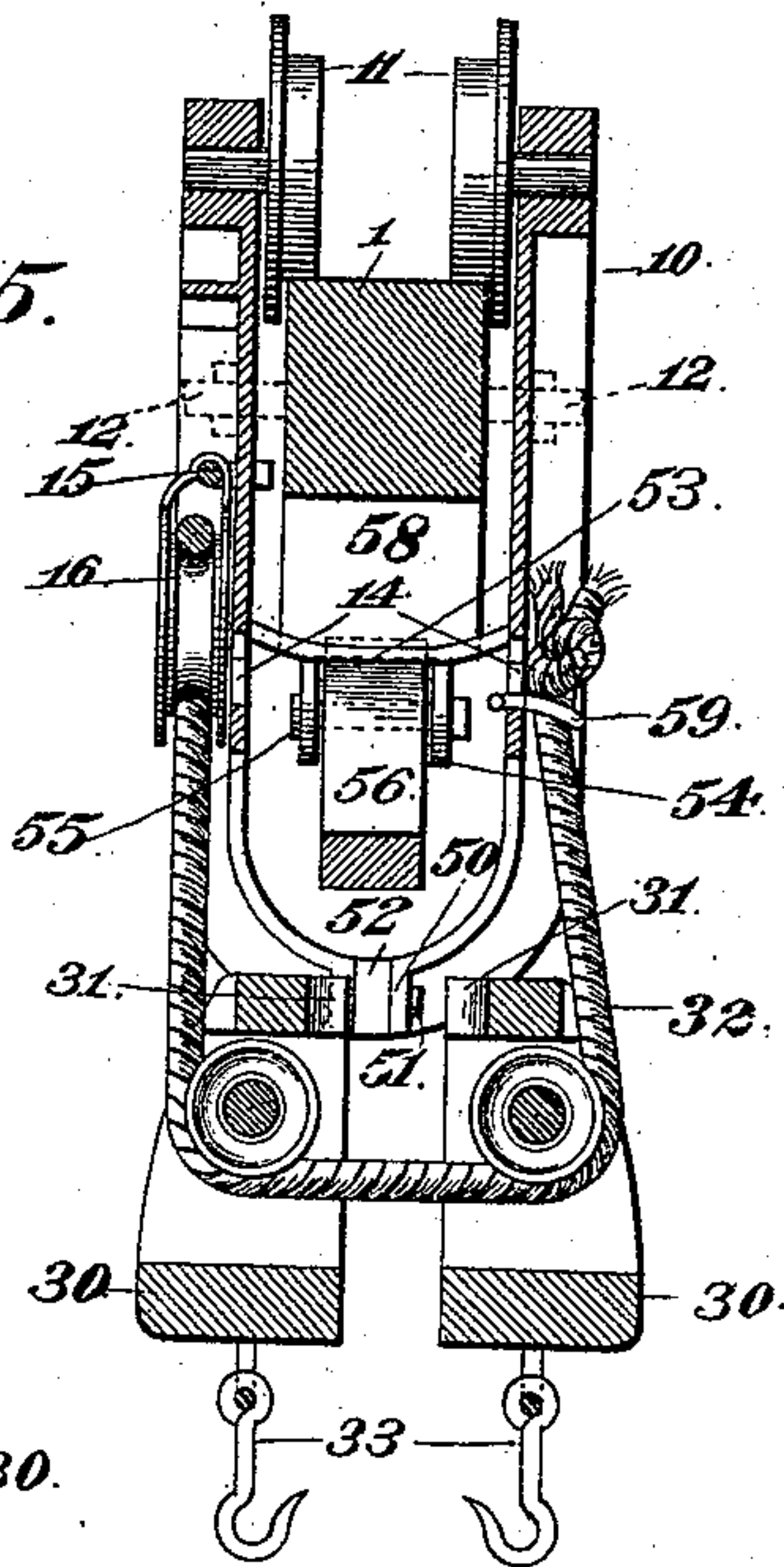
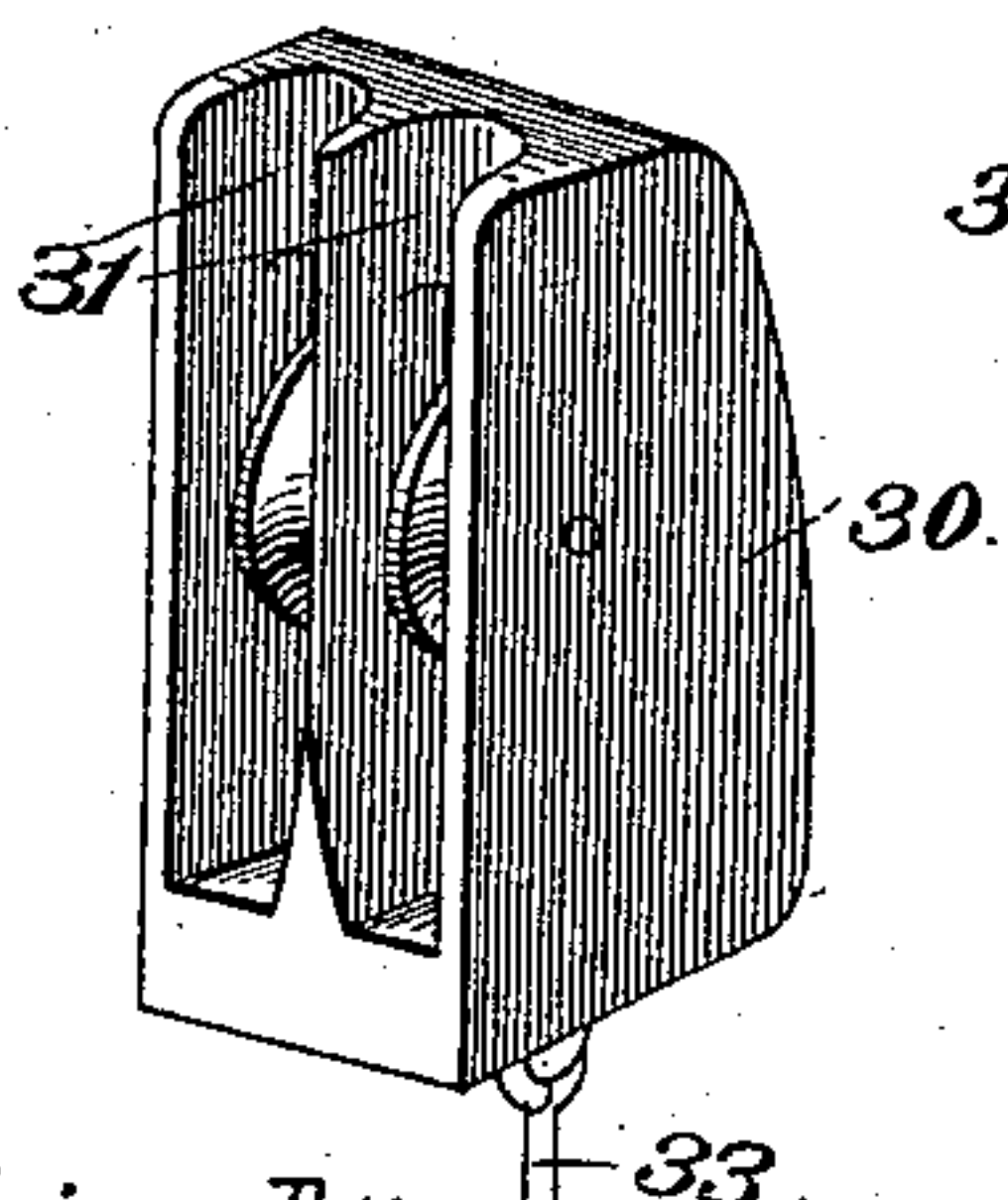


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOHN LAW, OF MADELIA, MINNESOTA.

HAY-CARRIER.

SPECIFICATION forming part of Letters Patent No. 486,164, dated November 15, 1892.

Application filed October 10, 1891. Serial No. 408,308. (No model.)

To all whom it may concern:

Be it known that I, JOHN LAW, a citizen of the United States, residing at Madelia, in the county of Watonwan and State of Minnesota, have invented a new and useful Hay-Carrier, of which the following is a specification.

This invention relates to hoisting, and more especially to elevated carriers having rope-catches; and the object of the same is to provide such a carrier of improved construction which is especially adapted to lift a load of hay from a wagon and convey it into a barn.

To this end the invention consists in the construction hereinafter more fully described and claimed, and as illustrated on the two sheets of drawings, wherein—

Figure 1 is a general perspective view of this improved carrier mounted on a track and showing the pulleys connected to the ends of a sling drawn around a bundle of hay, the latter being indicated in outline. Fig. 2 is an enlarged right side and Fig. 3 a left side elevation of the carrier. Fig. 4 is a perspective detail of the rope-clamp, the parts being slightly separated. Fig. 5 is a transverse section through the carrier. Fig. 6 is a perspective detail of one of the pulley-blocks. Fig. 7 is a perspective detail of one hook.

The track which I preferably use in connection with this improved carrier comprises a rectangular beam 1, supported beneath the ridge-pole 2 of a barn by hangers 3, rising from the center of the upper side of a beam. The front end of this beam projects from four to six feet beyond the end of the barn above an opening therein, as seen in Fig. 1, and carries blocks 58 and 58', as hereinafter described. 4 is a truss-rod connected to the beam near its end, passing over a saddle 5 on the roof of the barn and connected to the latter at suitable points, as shown, so as to sustain the projecting end of the beam with the weight that it is to carry.

My improved carrier consists of an approximately-U-shaped body 10, provided with ribs and braces about as shown, and along each of the upper edges of this body is located, preferably, three wheels 11, flanged and adapted to travel on the opposite upper corners of the track. If desired, guide-wheels 12 may be journaled in the sides of the body, as seen in dotted lines, and may bear against

the sides of the track to prevent undue friction of parts, although these are not necessarily used. The right side of said body is provided with openings 13, 13, and 14, the former two of which are arranged in the same transverse line, so as to receive a rod 15, which passes through the body of a block 16 and pivotally but removably connects it with this side of the body. On the opposite side of the body is journaled a sheave 17, mounted in suitable brackets for holding it rigidly in position. Farther along than this sheave—that is, nearer the barn—is a rope-clamp consisting of a lower member 20, pivoted at 21 near the lower end of the body, a pair of upper members 22, pivotally connected by a link 23 with the upper end of the body, a fastening-bolt 24, connecting the two upper members, and pivotal connecting-pins 24', uniting the meeting ends of these members, so that the single lower member turns within the cup formed by the projecting ends of the upper members, as best seen in Fig. 4, a rod 25 leading from the double upper member and passing through a rib on the body and a spring 26 drawing the rod in a direction to hold the clamp normally closed. The clamp 20 22 is opened by the end of the rod 25 striking against the projection 58', thereby separating said parts of the clamp and allowing the rope to have free play there-through.

The pulley-blocks which I preferably use are best seen in Fig. 6 and are preferably double, as there shown, although they may have a greater or less number of sheaves, according as the machine is to be threaded. In their preferred form, however, the body 30 of the block is of the usual shape on its outer side; but its inner side (or that which is to come next the other pulley-block, for there will be two, one at each end of the sling) is provided with deep notches 31 in alignment with and above the sheaves, the purpose of these notches being to receive the rope 32 and strip therefrom whatever hay or straw may cling thereto, thereby preventing the sheaves from becoming clogged. To the lower end of each block is connected a hook 33, adapted to engage the end of a flexible hay-sling 34, which may be of any approved pattern, forming no part of the present invention, but having an eye 35 at each end to engage the hooks

33 and preferably capable of being separated at its center.

I have said that the body of the carrier is U-shaped, and, as will be seen in Figs. 2 and 3, its bend is cut away between the ends. The sides of this body are really separate, and where they meet in the bend they are turned down into flanges 50, which are connected by bolts 51, washers 52 being interposed. Thus when it is desired to use the carrier on a broader track the bolts are removed and thicker washers are inserted, whereby the sides of the body are caused to be farther separated. Within the body, near its outer end, is a transverse plate 53, having downturned ears 54, through which passes a bolt 55, and on this bolt is pivotally mounted a catch 56, having a hooked outer end 57, adapted to engage a block 58 on the under side of the track near its end, the inner end or tail of this catch standing in the open space at the center of the body.

With the above construction of parts the carrier is placed on the track, the rope 32 led from a horse, a windlass, or other source of power (not shown) alongside the track, through the rope-clamp, over the sheave 17, through the two blocks 30, and connected to the body, and the hooks 33 of the blocks are engaged with the eyes 35 at the ends of the sling 34, which was placed on the hay-wagon before the hay was loaded thereupon, as will be understood.

The threading of the rope in the present case is as follows: Passing through the clamp it leads over the sheave 17, through the block 30 at one end of the wagon, over the load, to and through the other block 30, up to and through the block 16, which is pivotally connected to the right-hand side of the body, thence back through the last-mentioned block 30, over the load, through the first-mentioned block 30, and up to the left side of the body. The latter is in this case provided with an opening 14, similar to that above mentioned and which I should have said is T-shaped, and to the end of the rope is secured a hook 59, which is simply a stout piece of wire coiled or clamped on the rope and having its extremities bent outwardly. Such extremities are passed through the upper portion of the T-shaped opening 14 and are moved down into the lower or reduced portion, and the rope is thus detachably but firmly connected with the body. When the rope is drawn upon, it commences to lift the two blocks 30, and thus the ends of the sling 34 are drawn up around the load and the latter is compressed. If the load be a small one, the flat faces of the blocks will finally come in contact; if not, when they have been drawn up as far as possible the strands of rope which connect the blocks will strike the tail of the catch 56 (or the bodies of the contacting blocks will do the same) and the result is that the hooked end 57 of the catch is tripped from the block 58 on the track. The weight of the load

drawing over the sheave 17 then causes the carrier to commence to travel inwardly on the track, and as soon as it moves the outer end of the rod 25 moves away from the block 58' and the force of spring 26 causes the rope-clamp to operate automatically, so that the rope cannot slip back to loosen the sling, and further draft on the rope draws the load into the barn, as is desired. In some cases, where the lifting-power is great and the loads to be lifted are comparatively light, the rope can be threaded singly—that is to say, it can be led through the clamp over the shelf, through a single block 30, over the load, through another single block 30, and up to the right side of the body, where its hook 59 will engage the opening 14, the pivoted block 16 being in that case omitted. However, I lay no claim to the specific threading of the device, as that is a matter well known to all who are skilled in this art.

What is claimed as new is—

1. In a hay-carrier, the combination, with an approximately-horizontal beam having a block on its under side, of the carrier proper comprising a plate bent into U shape under the beam, its bend being cut away between its ends, wheels journaled in the sides and traveling on the beam, a transverse plate within the body, having downturned ears, a catch pivoted between its ears, and having a hooked outer end, its inner end or tail standing in the cut-away portion of the body, sheaves on the body, blocks at each end of the load, and an operating-rope passing over said sheaves and through said blocks, between which latter it is adapted to strike the tail of the catch.

2. In a hay-carrier, the combination, with the track, the body traveling thereon and having in one side a pair of openings in horizontal alignment, and a sheave journaled at the other side, of two double blocks adapted to be connected to the ends of the load, a single block, a rod passing through its body and pivotally connecting it with said openings, and a rope leading over the sheave, through the two pulley-blocks, over the pivoted block, back through the two pulley-blocks, and connected with the carrier-body.

3. In a hay-carrier, the combination, with the track, the carrier proper moving thereon, a sheave journaled in one side of the carrier, and a rope-clamp consisting of a single lower member pivoted at its lower end to the body of the carrier, a double upper member pivotally connected by a link at its upper end to said body, the lower end having lips astride the upper end of the lower member, and pivoted pins passing through these lips and into the lower member, of pulley-blocks connected to the load and a rope leading from a source of power through said clamp, over the sheave, through said blocks, and connected to the body.

4. In a device of the character described, the combination, with the body, a sheave con-

nected thereto, and a rope passing over said sheave, of a rope-clamp adjacent the sheave, consisting of two members pivotally connected at their inner ends and having their outer
5 ends pivotally connected with the body, a rod extending from said members near their meeting ends and passing through a rib on the body, and a spring drawing said rod in a direction to normally close the clamp on the
10 rope.

5. In a device of the character described, the combination of a carrier-body having a T-shaped opening, a rope having a free end thereof extended upward from blocks below the carrier, and a wire-clamp consisting of a
15 loop with outwardly-bent ends arranged at an angle to said loop, the said loop of the clamp receiving the end of said rope and the outwardly-bent ends thereof inserted through
20 the horizontal portion of the T-shaped opening and moved downward into the narrower vertical portion thereof to secure the end of the rope to the carrier, substantially as set forth.

25 6. In a device of the character described, the combination, with a track having a block, of a carrier-body moving on said track, a sheave on said body, a rope-clamp adjacent the sheave, a spring holding said clamp nor-

mally closed, a rod projecting from the clamp 30 and adapted to open it when the rod contacts with said block, and a catch removably holding the body in position to keep these parts in contact.

7. In a device of the character described, 35 the combination, with a track having blocks near its outer end on its lower face and on one side, of a carrier-body moving on said track, a sheave on said body, a rope-clamp adjacent the sheave, a rod projecting from said clamp 40 beyond the body and adapted to contact with the block on the side of the track to hold the clamp open, a spring normally closing the clamp, a catch pivoted in the body and adapted to engage the block on the lower face of 45 said track, and a rope connected with the body, passing under the tail of said catch where the rope connects with the load, and passing thence over the sheave and through the clamp. 50

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN LAW.

Witnesses:

DANIEL C. HOPKINS,
C. M. POMEROY.