

No. 635,110.

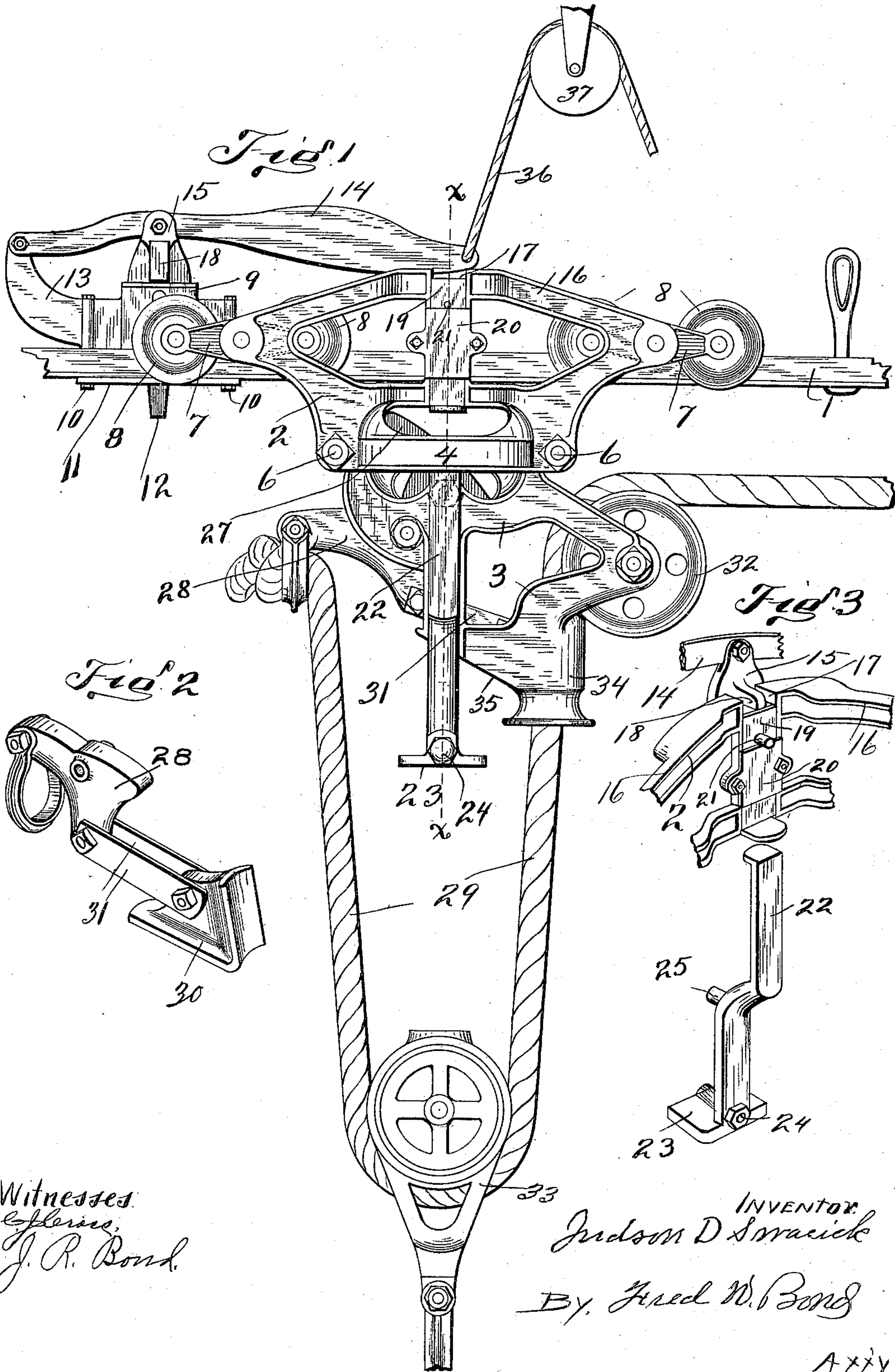
Patented Oct. 17, 1899.

J. D. SWACICK.
HAY ELEVATOR.

(Application filed May 8, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses
J. R. Bond.

INVENTOR
Judson D. Swacick
By Fred W. Bond

Atty

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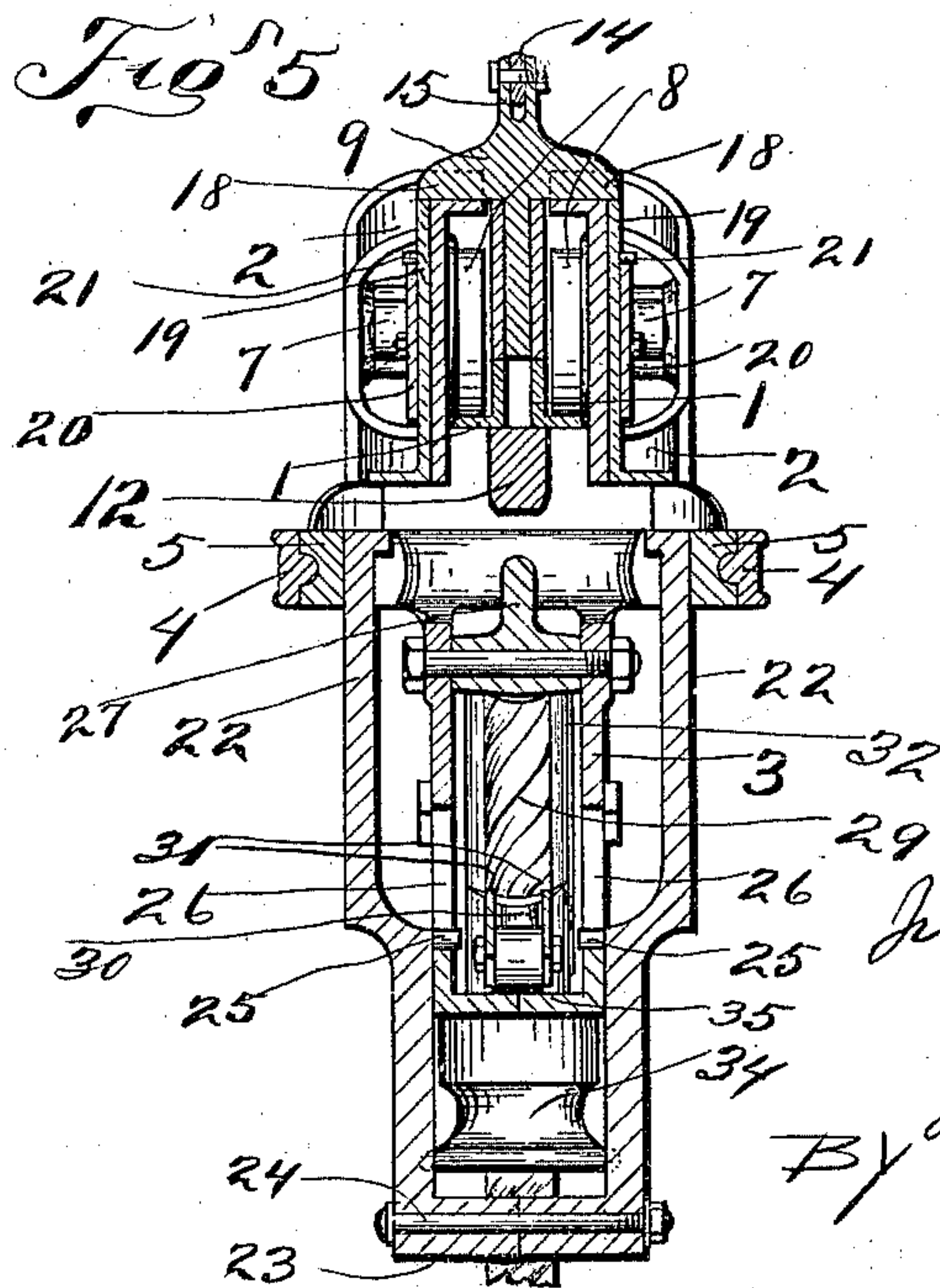
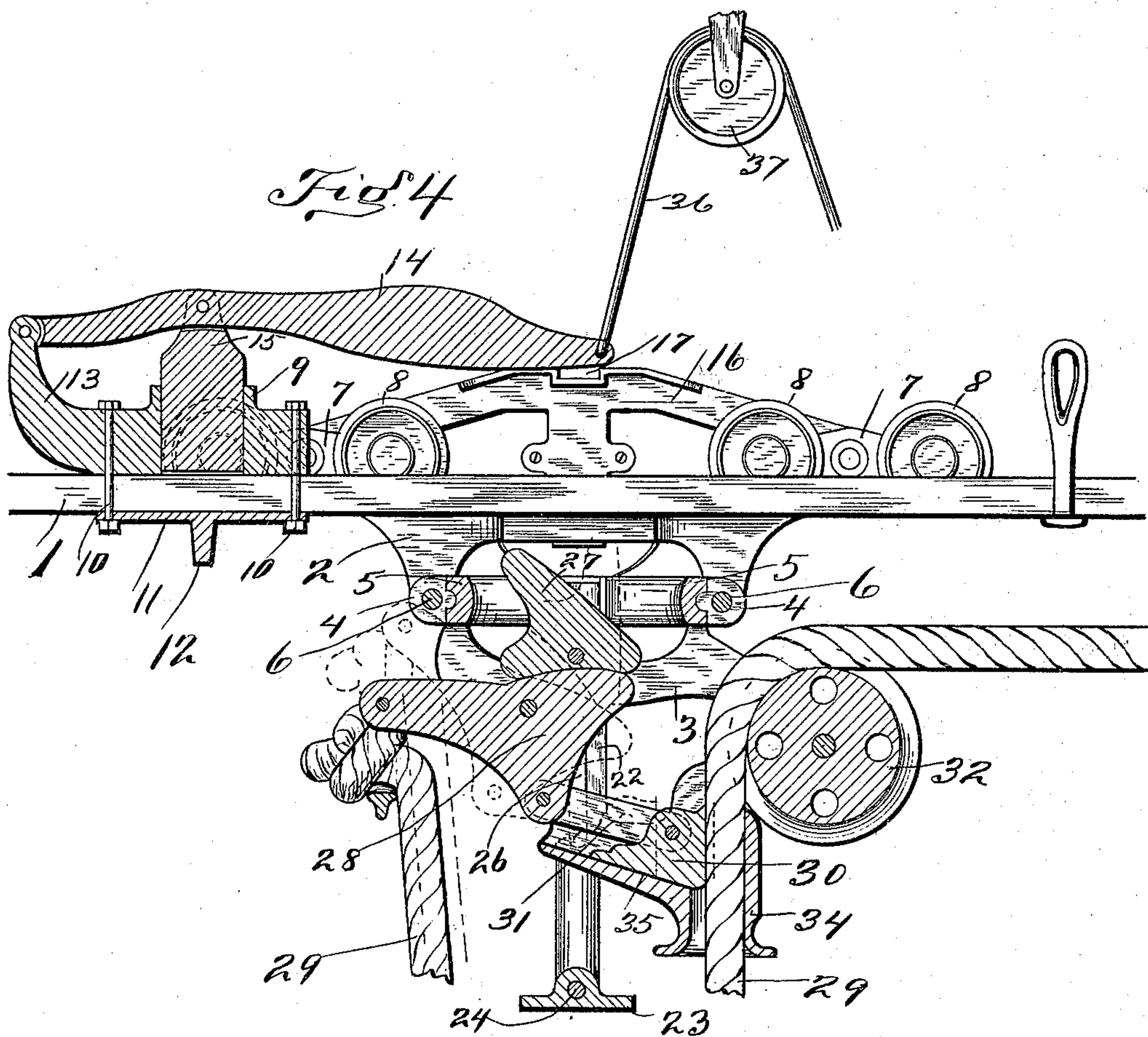
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WITNESSES:
E. R. Bond
J. R. Bond

INVENTOR:
Judson D. Swacick

By *Fred W. Bond*

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UNITED STATES PATENT OFFICE.

JUDSON D. SWACICK, OF CANTON, OHIO.

HAY-ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 635,110, dated October 17, 1899.

Application filed May 8, 1899. Serial No. 715,967. (No model.)

To all whom it may concern:

Be it known that I, JUDSON D. SWACICK, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Hay-Elevators; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the figures of reference marked thereon, in which—

Figure 1 is a side elevation showing the carriage released from the stop-block and the elevating-head partially hoisted. Fig. 2 is a detached view of the rope-clamping and its different parts. Fig. 3 is a view showing a portion of the carriage-frame, also the trip-lever and one member of the bumper. Fig. 4 is a sectional view of the carriage-frame, showing the carriage released from the stop-block. Fig. 5 is a vertical section through line *x x*, Fig. 1, when carriage is locked to track.

The present invention has relation to hay-elevators; and it consists in the different parts and combination of parts hereinafter described, and particularly pointed out in the claims.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, 1 represents the track or way, which is supported and held in place in the usual manner and may be of any desired construction, inasmuch as the track or way forms no particular part of the present invention, except that a track or way of some kind must be employed to carry out the object and purposes hereinafter described.

The carriage-frame 2 may be substantially of the form shown, and to which carriage-frame is connected the swivel-frame 3, said frames 2 and 3 being connected together by the tongue-and-groove circular bars or bands 4 and 5, the circular band 4 being cast or formed integral with the frame 2 and the circle or band 5 being cast or formed integral with the swivel-frame 3.

For the purpose of providing a means for properly connecting the two frames together the frame 2 is preferably formed in sections

or members and the members clamped together at their bottom or lower ends by means of the clamping-bolts 6. To the carriage or frame 2 are pivotally connected the bars 7, to which bars are journaled the traveling wheels 8, one traveling wheel being located at each end of the pivoted bars 7. The object and purpose of arranging the traveling wheels 8 as shown and described is to better distribute the weight upon the track or way.

To the track or way 1 is securely attached the block or head 9, said block or head being connected and held in a fixed position by means of the clamping-bolts 10. At a point below the block 9 is located the plate 11, which plate is provided with the bumper or stop-block 12, said bumper extending a short distance downward and is for the purpose hereinafter described, the plate 11 and its bumper being securely held in proper position by means of the clamping-bolts 10. The head 9 is provided with the arm 13, to which arm is pivotally connected the trip-lever 14, to which trip-lever 14 is pivotally connected the detent 15, said detent being held and guided by means of the block 9.

The top or upper portion of the frame 2 is provided with the arched bars 16, which arched bars are located and arranged substantially as shown in the drawings, and the upper center portions are provided with the recesses 17, which recesses are for the purpose of receiving the flanges 18, formed upon the detent 15, and when said flanges 18 are seated into the recesses 17 the carriage proper will be locked or held in a fixed position upon the track or way 1.

The frame 2 is provided with the sliding bars 19, which sliding bars are located in ways formed upon the sides of the frame 2 and are held in proper relative position by means of the caps or plates 20, and for the purpose of limiting the downward movement of the sliding bars 19 they are provided with the pins 21, which pins strike the top or upper ends of the cap 20.

To the swivel-frame 3 are connected the bumper-bars 22, which bumper-bars extend downward through guides formed in the sides of the swivel-frame 3 and are provided with the strike-plates 23. For the purpose of holding the bottom or lower end of the bumper-

bars 22 in proper relative position the clamping-bolt 24 is provided, which clamping-bolt connects the bottom or lower end of said bumper-bars together. The bumper-bars 22 are each provided with the pins 25, which pins are for the purpose of limiting the downward movement of the bumper-bars, said pins striking the bottom ends of the slots 26, which slots are formed in the swivel-frame 3, as illustrated in Fig. 5.

To the swivel-frame 3 is pivotally attached the dog 27, which dog is substantially of the form shown and is so arranged that when the carriage comes under the block 9 and the stop-block 12 its top or upper end will strike the stop-block 12 and the top or upper end of the dog 27, which in turn forces the inner upper end of the elevating-rope-connecting lever 28 downward and its outer end upward, by which arrangement the lower portion of the lever 28 is moved away from the elevating-rope 29, which in turn releases the clamping-block 30 by means of the connecting-bars 31, said connecting-bars being pivotally attached to the clamping-block 30 and to the bottom or lower end of the lever 28. When the dog 27 has reached the point so as to be tripped by the stop-block 12, the traveling carriage proper is in such a position that the detent 15 will drop, thereby causing the flanges 18 to engage the notches 17, and thereby lock the carriage in a fixed position upon the track.

It will be understood that when the lever 28 is elevated at its outer end the elevating-rope 29 will be free to move over the pulley 32, and when elevating-head 33, together with its load, has been hoisted until the top or upper end of said elevating-head strikes the bumper-plates 23 and elevates the bars 22 the top or upper ends of said bars 22 will strike the bottom or lower ends of the sliding bars 19 and elevate the same, by which arrangement the detent 15 will be lifted, so as to release the flanges 18 from the recess 17, at which time the carriage, together with its load, is free to move upon the track or way.

When the carriage has moved away from the stop-block 12, the dog 27 is released, and by reason of the downward pull of the elevating-rope 29 upon the outer end of the lever 28 the bottom or lower portion of said lever will be thrown or forced toward that portion of the elevating-rope 29 just below the pulley 32, and thereby clamp the elevating-rope between the clamping-block 30 and the inner face of the rope guide or thimble 34, said rope guide or thimble being formed integral with the swivel-frame 3.

The clamping-block 30 is located upon the inclined plate or part 35, said part being located at one side of the rope guide or thimble 34.

In use when it is desired to have the carriage moved along the track or way before the elevating-head 33, together with its load, has reached a point where said elevating-head

will strike the bumper-plates 23 the trip-lever 14 is elevated by means of the trip-cord 36, which trip-cord is extended upward and over the pulley 37, said pulley being located a short distance above the free end of the trip-lever 14. It will be understood that as the trip-lever 14 is elevated by the trip-cord 36 the detent 15, together with its flanges 18, will be lifted, so as to disengage said flanges from the notches 17, at which time the lever 28 will be pulled downward at its outer end, and the clamping-block 30 forced against the elevating-rope, so as to lock said elevating-rope or load in the same manner that the load is located when the trip-lever is elevated by means of the bumper-bars 22.

The object and purpose of pivotally connecting the clamping-head 30 to the connecting-bars 31 is to allow said clamping-block to automatically adjust itself, so that the clamping-block will press or bear equally upon the elevating-rope upon all points of contact.

It will be understood that the end of the clamping-block 30 designed to come in contact with the rope, should be concave, as illustrated in Fig. 2.

By locking the elevating-rope at a point below the pulley 32 the leverage is removed, or, in other words, when the elevating-rope is locked forward of said pulley the downward pull over said pulley acts as a lever upon the rope, and thereby adds to the pulling strength.

By locking the block 30 on the inclined part 35 the downward pull of the elevating-rope has a tendency to wedge said locking-block against the elevating-rope, and thereby bind said rope against said locking-block and thimble or guide.

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

1. The combination of a track or way, a carriage consisting of frames swiveled together one located above the other and the upper frame provided with traveling wheels, a block fixed to the track and a detent held in operative position by the fixed block, a stop-block secured to the track, a trip-lever pivotally connected to the detent and a recessed frame to engage the detent, substantially as and for the purpose specified.

2. The combination of a track or way, a carriage having a frame swiveled thereto, said swiveled frame having pivotally connected a dog, a pivoted lever having connected thereto an elevating-rope, links connected to the pivoted lever, a clamping-block connected to the links, sliding bars connected to the carriage frame, bumper-bars connected to the swiveled frame of the carriage and located below the sliding bars of the upper frame, recesses located in the upper portion of the upper frame and a trip-lever having connected thereto a detent having flanges to engage the recesses of the frame and a stop-block fixed to the track, substantially as and for the purpose specified.

3. The combination of a track or way, a stop-block secured to said track or way and extended downward from said track or way, a traveling carriage provided with a pivoted lever having connected to the outer end of said lever one end of the elevating-rope, an elevating-head operated by the elevating-rope, a guide or thimble and a rope-locking block movable with the pivoted lever and a trip-dog pivoted to the carriage-frame, substantially as and for the purpose specified.

4. The combination of a track or way, a traveling carriage mounted thereon provided with a recessed upper portion, a trip-lever having connected thereto a trip-cord, a detent connected to the trip-lever, a stop-block located below the detent, a dog to engage with the stop-block, a pivoted lever and an elevating-rope connected thereto and means for locking the elevating-rope, substantially as and for the purpose specified.

5. The combination of a carriage mounted upon a track or way and provided with the pulley 32, a thimble or guide located below said pulley and a locking-block located upon an incline and below said pulley 32 and a pivoted lever having connected thereto one end

of the elevating-rope, substantially as and for the purpose specified.

6. The combination of a carriage mounted upon a track or way, an elevating-rope located through a thimble or guide in the frame or carriage, a locking-block located upon an incline, a pivoted lever having connected thereto one end of the elevating-rope and bars connecting said lever and locking-block together, substantially as and for the purpose specified.

7. The combination of a track or way, a carriage mounted thereon, said carriage provided with arched bars located upon the top portion of said carriage and their upper center portions provided with recesses, a pivoted trip-lever located above the track and above the path of the carriage, and a detent pivotally connected to the trip-lever, all arranged, substantially as and for the purposes specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JUDSON D. SWACICK.

Witnesses:

J. A. JEFFERS,
F. W. BOND.