No. 847,847. PATENTED MAR. 19, 1907.

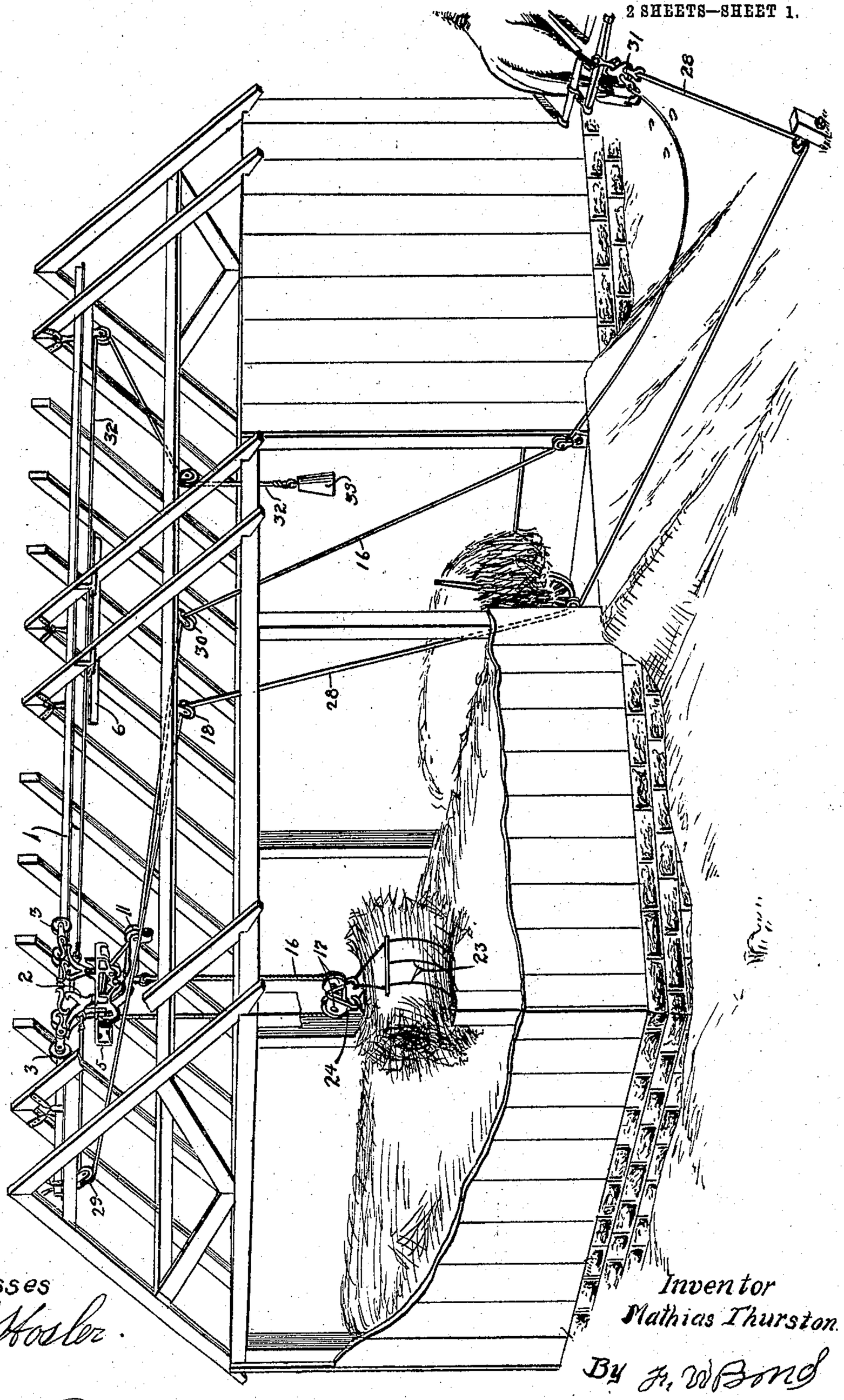
M. THURSTON.

HAY CARRIER.

APPLICATION FILED AUG. 11, 1906.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

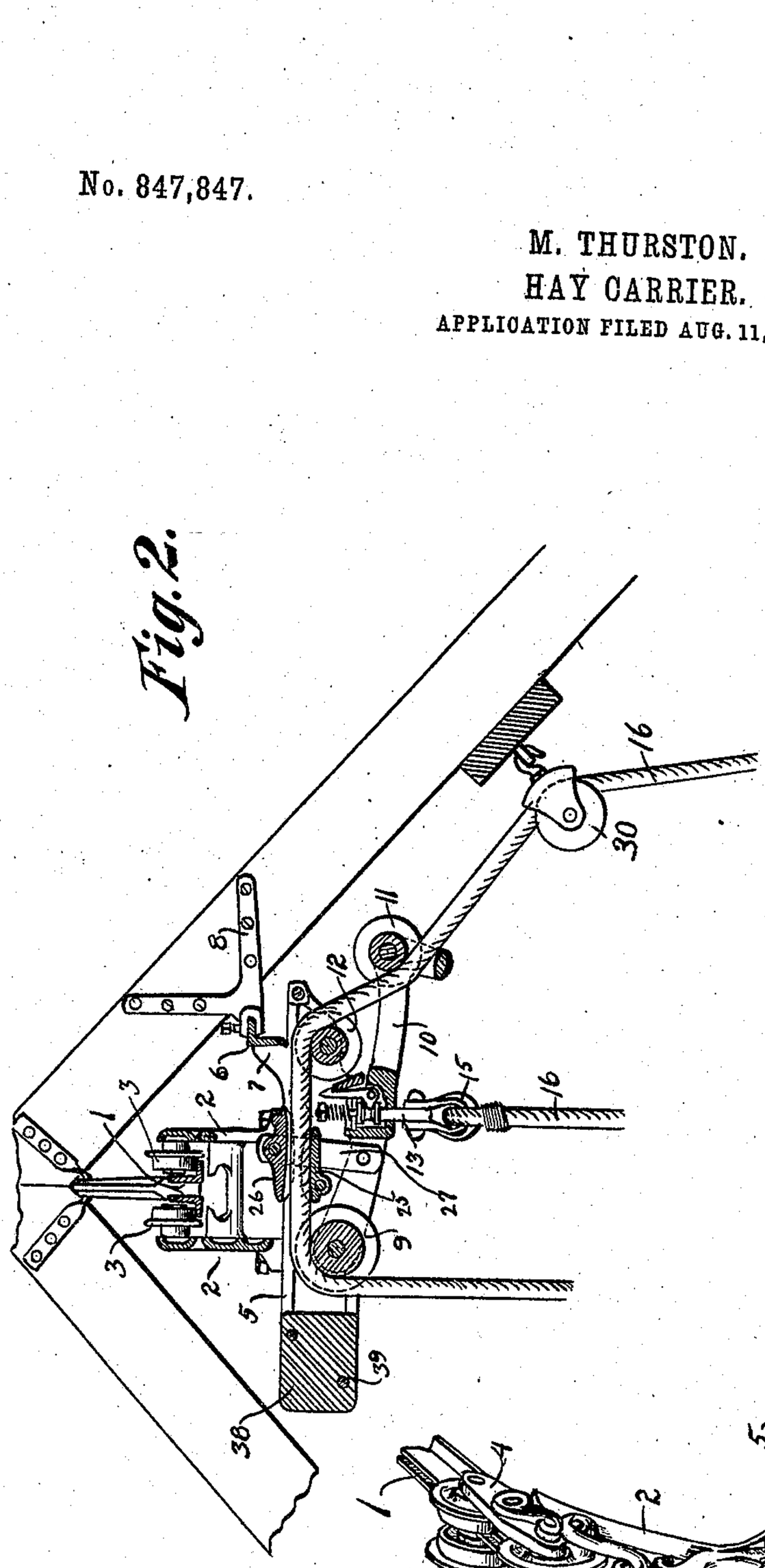


Fig. 4.

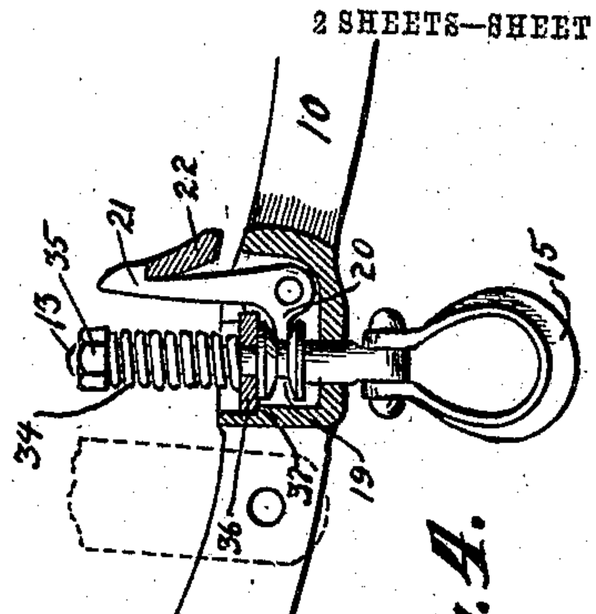
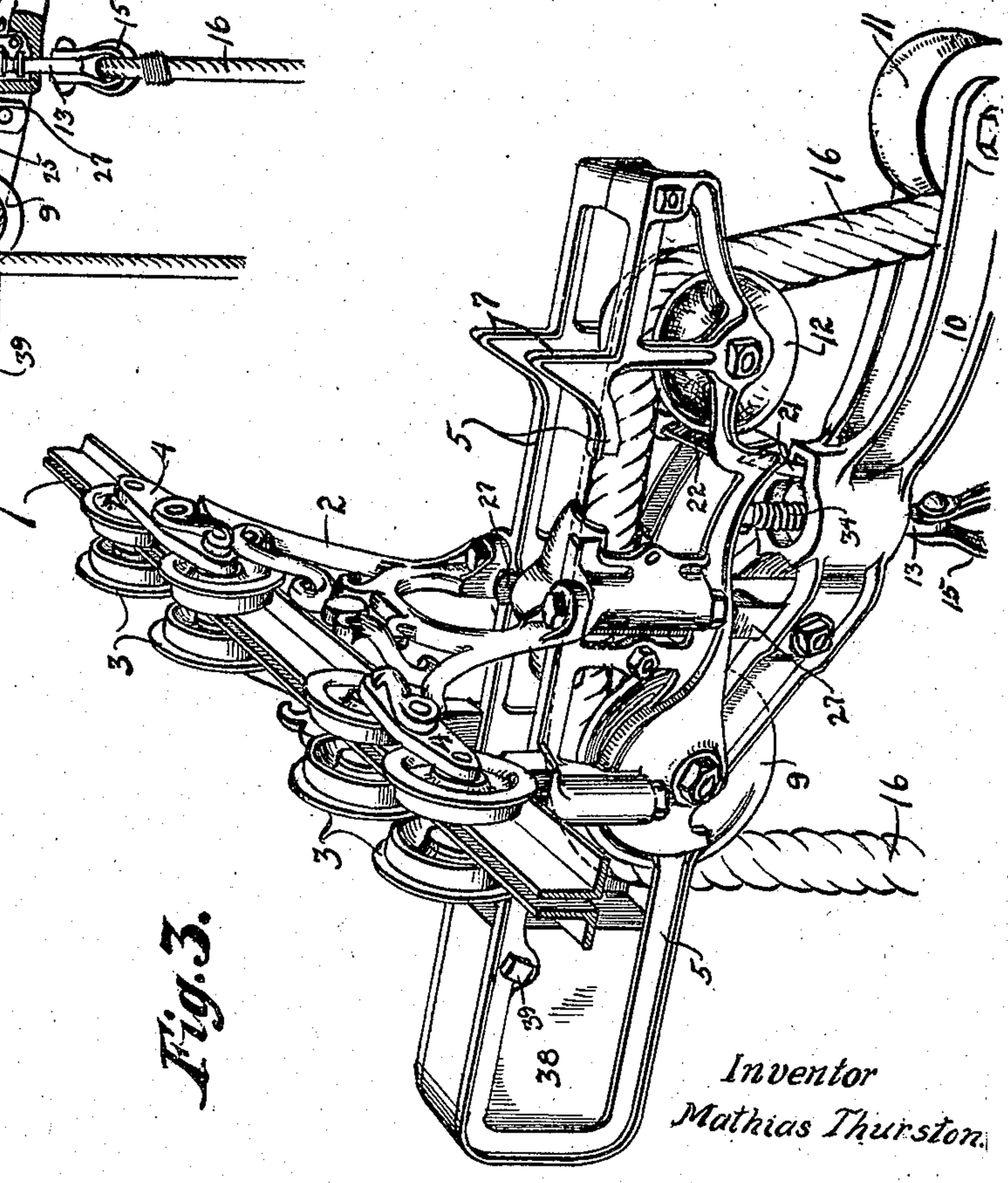


Fig. 3.



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UNITED STATES PATENT OFFICE.

MATHIAS THURSTON, OF STRYKER, OHIO, ASSIGNOR TO THE NEY MANUFACTURING COMPANY, OF CANTON, OHIO, A CORPORATION OF OHIO.

HAY-CARRIER.

No. 847,847. Specification of Letters Patent. Patented March 19, 1907.

Application filed August 11, 1906. Serial No. 330,209.

To all whom it may concern:

Be it known that I, MATHIAS THURSTON, a citizen of the United States, residing at Stryker, in the county of Williams and State of Ohio, have invented certain new and useful Improvements in Hay-Carriers; 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 numerals and figures of reference marked thereon, in which—

Figure 1 is a perspective view of the hay-carrier, illustrating my invention and the method of attaching same to the frame of a barn or other building. Fig. 2 is a sectional view of the carrier, showing the elevating-rope released. Fig. 3 is a perspective view showing the carrier mounted upon its track, showing the elevating-rope locked to the carrier-frame with the side or guide-rail removed. Fig. 4 is an enlarged sectional view of the releasing-catch for the trip-arm.

The present invention has relation to hay-carriers known as "side-draft" carriers; 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 main track or way, which is supported in elevation in the usual manner. The upper frame member 2 may be substantially of the form shown, or it may be of any other desired form, as its only object and purpose is to provide a means for connecting the traveling wheels 3 in proper relationship with reference to said upper frame.

In the drawings I have illustrated the traveling wheels connected to the bars 4, which bars are connected to the upper frame member 2; but this construction as to detail is immaterial, as the only object designed to be accomplished is to provide the upper frame member 2 with suitable traveling wheels designed to travel back and forth upon the track and of course carry the frame 2 and the different parts connected thereto and of course the load to be elevated and conveyed. To the upper frame member 2 is attached the lower frame member 5, which is located at right angles to the upper frame member 2 and is formed of such a length that a side or a lateral extension will be and is produced, the outer end of which lateral extension is designed and calculated to be located just below the side track 6, which side track will be of the form show in cross-section, Fig. 2, or it may be of any other desired form, as its only purpose is to resist the lateral strain, and at the same time preventing the lateral extension portion of the frame 5 from swinging upward. The lateral extension portion of the frame 5 is provided with the flanges 7, which flanges are located in close proximity with the track 6, by which arrangement the two frame-sections are prevented from swinging during the time the load is being elevated.

For the purpose of holding the side track in proper position and alinement the brackets 8 are provided, which brackets are secured to the rafters of the building or their equivalents, and are so located that the side track 6 will be located a short distance below the main track or way and to one side thereof, as best illustrated in Fig. 2. To the lower or right-angled frame 5 is journaled the pulley 9, which pulley is located below the traveling wheels 3 and a little to one side of the main track 1, as best illustrated in Fig. 2. Upon the rod or bolt upon which the pulley 9 is mounted is also pivotally attached the trip arm or lever 10, the outer free end of which is provided with the grooved roller 11. The lower frame 5 is provided with the pulley 12, which pulley is located a short distance above the pulley 11 and a little to one side thereof, as best illustrated in Figs. 2 and 3. To the trip arm or lever 10 is attached the rod 13. The bottom or lower end of the rod 13 is provided with the loop or eye 15, to which loop or eye is attached the end of the elevating-rope 16, which elevating-rope extends downward and under the sling-pulleys 17, and thence upward and over the pulleys 9 and 12 and under the pulley 11, carried at the free end of the trip arm or lever 10, which elevating-rope is extended downward and over the purlin-pulley 30, and thence to the source of power. The rod 13 is provided with the grooved flange 19, which grooved flange receives the lateral arm 20, which lateral arm is preferably formed integral with the catch 21, which catch is pivotally connected to the trip arm or lever 10, as best

illustrated in Fig. 4. The catch 21 is for the purpose of engagement with the catch-plate 22, which catch-plate is attached in any convenient and well-known manner to the frame 5 and is so located that the catch 21 will properly engage said catch-plate 22 when the trip arm or lever 10 is elevated at its free end.

The operation of the device is substantially as follows: After the elevating-rope has been properly adjusted with reference to the carrier proper and the sling-pulleys 17 the sling 23 is connected in the usual manner to the head 24, to which head the sling-pulleys 17 are properly journaled. When power is applied to the elevating-rope, the downpull of the elevating-rope will be on the rod 13, which moves said rod downward sufficient to release the catch 21 from its catch-plate 22; but the trip arm or lever will not be pulled downward during the time the load is being elevated by reason of the elevating-rope coming under the pulley 11. The catch 21 during this time is held away from the catch-plate 22 by reason of the grooved flange 19 and the lateral arm 20. The instant the elevating-rope is slackened the trip arm or lever 10 will move downward slightly, which downward movement clamps the elevating-rope 16 between the clamping-jaws 25 and 26, the clamping-jaw 25 being fixed to the frame and the clamping-jaw 26 secured to the links 27, the bottom or lower ends of said links being pivotally connected to the trip arm or lever 10, at which time the load is held by its own weight against downward movement, or, in other words, suspended in the air. When the load is in this position, the carrier, together with its load, is to be moved on the track until the place of deposit is reached.

In order to move the carriage and its load upon the track or way 1, the rope 28 is provided, one end of which rope is attached to the carrier-frame and extended over and around the pulley 29, which pulley is located at a point beyond the extreme travel of the carrier proper. Said rope is thence extended over the purlin-pulley 18 and downward and is connected to the source of power.

For the purpose of returning the carrier to the point where another load is to be elevated the weight-rope 32 is provided, which is provided with the ordinary weight 33, said parts being of ordinary and common construction and of course need no detailed description here. In order to properly connect the catch 21 with the catch-plate 22, the elevating-rope is given a sudden downpull, which elevates the free end of the trip arm or lever 10 and connects the catch 21 with the catch-plate 22, which places the carrier in position to be operated, as just above described.

It will be understood that by a sudden downpull of the elevating-rope 16 that the action will have a tendency to elevate the trip-arm 10 by reason of its being located under the pulley 11. The pulley is carried by the free end of the trip arm or lever.

For the purpose of preventing any accidental displacement of the catch 21 the spring 34 is provided, which spring is located between the nut 35 and the small plate 36, which small plate rests upon the shoulders 37, as best illustrated in Fig. 4, which spring has a tendency to elevate the rod 13 the instant the weight of the load is removed, thereby bringing the catch 21 into such a position that it will engage the plate 22 the instant the trip arm or lever 10 is properly elevated, as above described, and when so elevated and connected the elevating-rope is released and free to move between the clamp-jaws 25 and 26. The carrier herein described is one in which the draft-line for elevating the load is lateral to the track, and by reason of the automatic locking or clamping of the elevating-rope it is easy of operation and can be operated by a single person.

It will be of course understood that portions of the ropes for moving the carriage must necessarily be parallel with the tracks, or substantially so.

For the purpose of providing a counterbalance for the lateral extended portion of the lower frame member said lower frame member is provided with the weight 38, which is secured to said frame by means of the bolts 39 or their equivalents and is located upon the opposite side of the upper or track frame 1 and of course is for the purpose of providing a means for causing the carrier proper to hang in a true vertical position, or substantially so, from the traveling track.

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

1. The hay-carrier of the class described adapted to be mounted upon a track, said carrier consisting of upper and lower frame members, the lower member located at right angles to the upper frame member, a lever carried by the lower frame member, and provided with a catch, a catch-plate for the catch and means for releasing the catch by the downpull of the elevating-rope.

2. The combination of a traveling frame, a track or way for said traveling frame, a guide-track spaced from the track or way, a lateral extension located below the guide-track, a pivoted lever provided with a pulley at its free end, a spring-actuated rod carried by the lever, and one end of the elevating-rope secured to the spring-actuated rod, a pivoted catch carried by said lever and a catch-plate fixed to the frame, and clamping-jaws adapted to be actuated by the lever.

3. In a hay-carrier of the class described, the combination of a carrier-frame adapted to travel upon a track or way, said carrier-frame provided with a lever, a spring-actu-

ated rod carried by said lever, an elevating-rope secured to the spring-actuated rod, a catch, and a catch-plate adapted to lock the lever to the frame, and rope-clamping jaws adapted to clamp the rope when the lever is released.

4. In a hay-carrier of the class described, the combination of a carrier-frame adapted to travel upon a track or way, said frame provided with a lateral extension and a counterweight, said lateral extension and counterweight located upon opposite sides of the track or way, an elevating-rope and means for clamping the rope.

5. In a hay-carrier of the class described, a carrier-frame adapted to travel upon a track or way, said frame provided with a lateral extension, a lever carried by the frame, and provided with a pulley at its free end, a pulley journaled to the frame, and located in a plane above the pulley carried by the lever, said pulley located in a different vertical plane from the one carried by the lever, an elevating-rope located under the pulley carried by the lever and over the pulley carried by the frame, and catch mechanism for the lever.

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

MATHIAS THURSTON.

Witnesses:

JOHN T. HEATER,

D. D. MILLER.