L. S. PFOUTS.

HAY CARRIER.

APPLICATION FILED MAR. 1, 1912.

1,069,722.

Patented Aug. 12, 1913.

2 SHEETS—SHEET 1.

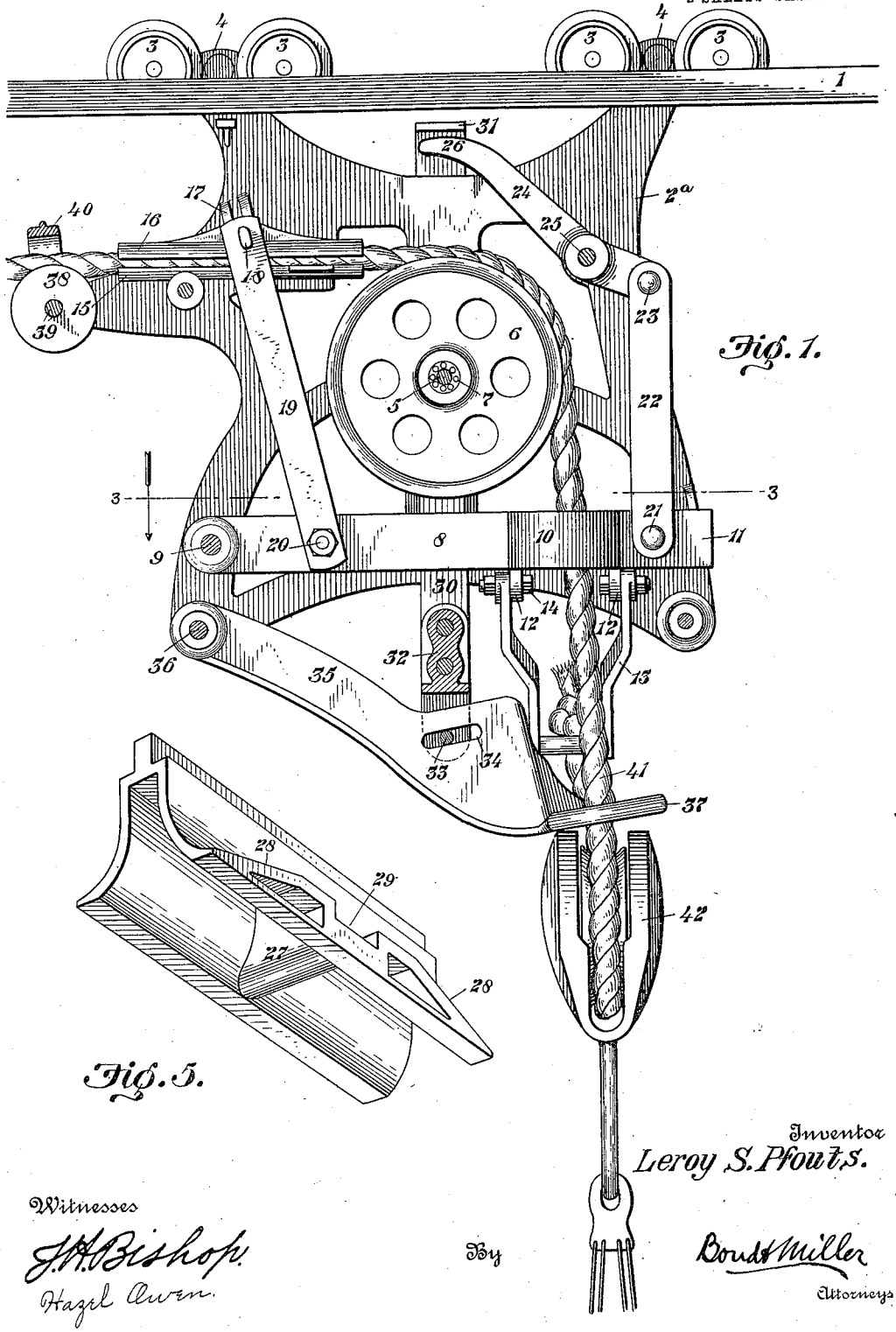


Fig. 1.

Fig. 5.

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Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

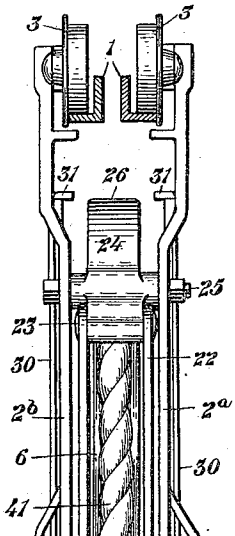


Fig. 3.

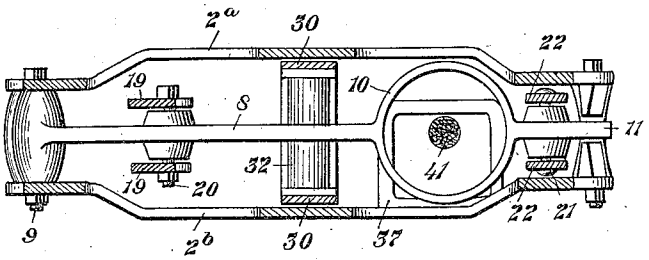
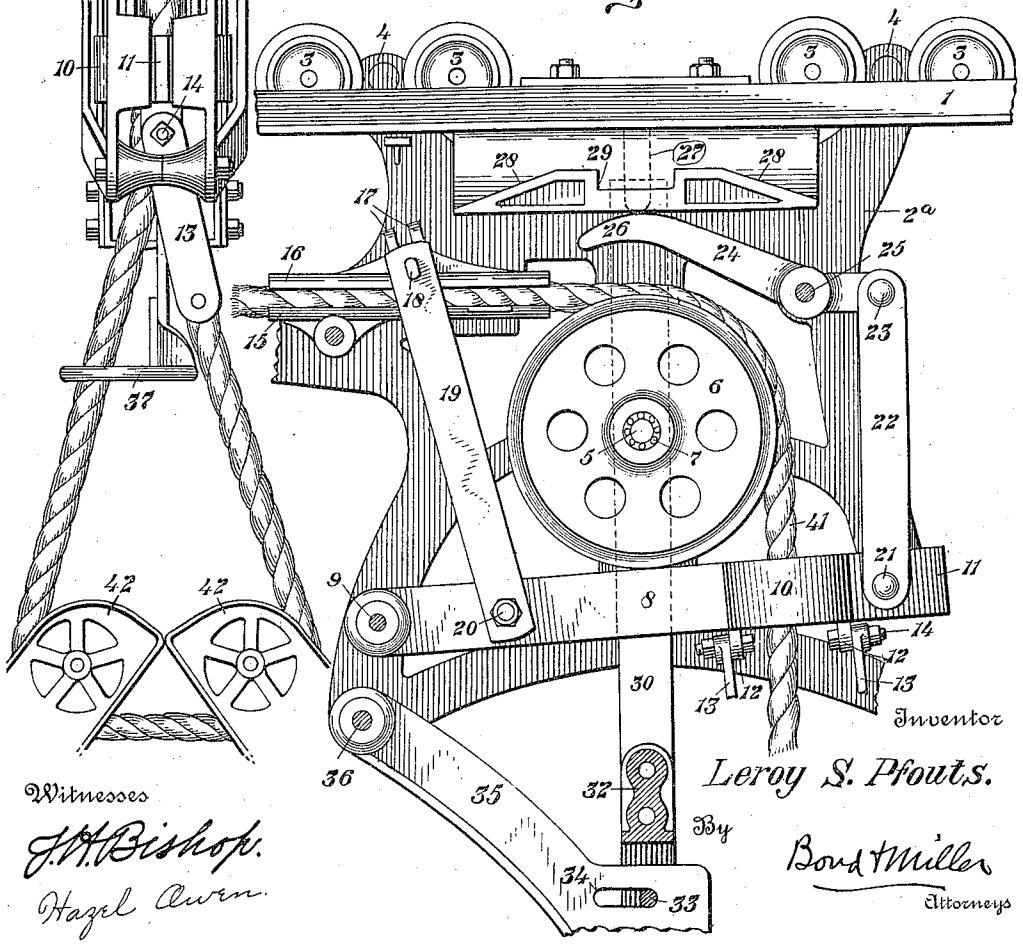


Fig. 4.



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UNITED STATES PATENT OFFICE.

LEROY S. PFOUTS, OF CANTON, OHIO, ASSIGNOR TO THE NEY MANUFACTURING COMPANY, OF CANTON, OHIO, A CORPORATION OF OHIO.

HAY-CARRIER.

1,069,722. Specification of Letters Patent. Patented Aug. 12, 1913.

Application filed March 1, 1912. Serial No. 680,878.

To all whom it may concern:

Be it known that I, LEROY S. PFOUTS, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented a new and useful Hay-Carrier, of which the following is a specification.

Hay carriers may be generally divided into two classes, "cross draft" hay carriers and "parallel draft" hay carriers. My invention relates to the class of parallel draft hay carriers or those in which the elevating rope leads from the carrier in a direction substantially parallel with the track along which the carrier is adapted to move, said elevating rope being employed both to elevate the load to the carrier and to draw the carrier along the track to the place of discharge.

The objects of the invention are to generally improve devices of the character mentioned, to provide a parallel draft hay carrier in which the plane of the fall of the rope will be transverse with respect to the track and the direction of travel of the carrier, to provide a parallel draft, transverse-fall hay carrier in which the weight of the load will be evenly distributed with respect to the two sides of the carrier, and in which the main sheave of the carrier is arranged substantially in that vertical plane which is parallel with the track and passes through the center thereof. These objects, together with other objects which will be apparent to those skilled in the art I attain by the construction illustrated in the accompanying drawings, although my invention may be embodied in other forms of construction, that form illustrated being chosen by way of example.

In the drawings Figure 1 is a side elevation of a hay carrier embodying my invention mounted upon a track, the near side of the frame being removed to more fully disclose the construction, and the parts being shown in the locked position assumed when the load is being transported along the track. Fig. 2 is a rear end view of the carrier, the track being shown in cross-section. Fig. 3 is a horizontal, sectional view taken on the line 3—3 of Fig. 1. Fig. 4 is a side elevation of the carrier, the near side of the frame being removed and certain parts broken away, the carrier being shown mounted on a track at the trip block and the parts shown in unlocked or loading position. Fig. 5 is an under side, enlarged perspective view of the trip block.

Throughout the several views similar reference numerals indicate similar parts.

The numeral 1 indicates the track of any suitable or well known form, which track is suspended from any substantial support, as from the rafters of a barn, and along which track the carrier is adapted to run. The main carrier frame is composed of two sides 2^a and 2^b which are connected to each other and held in spaced relation. The rotatably mounted traveling wheels 3 adapted to run upon the track are connected to the carrier frame in any suitable manner, as by the pivotally connected truck bars 4. Substantially mid-way between the forward and rear trucks, and in the midst of the main carrier frame the main sheave axle 5 extends transversely and is connected to the sides 2^a and 2^b. Upon said axle 5 is rotatably mounted the main sheave 6, preferably provided with the roller bearings 7. It should be noted that the median plane of said main sheave is substantially identical with the vertical, median, longitudinal plane of the main frame of the carrier, which in turn is identical with the vertical, median, longitudinal plane of the track 1.

The rope locking lever 8 at its forward end is pivotally connected to the carrier frame by a transverse bearing having its axis at 9. Said lever 8 lies in the same vertical, longitudinal plane as the sheave 6 and extends rearwardly beneath the said sheave and at a point directly under the rear edge of said sheave said lever is provided with an eye portion 10 from which portion extends yet farther to the rear the trip attaching portion 11. Formed integrally with the lever 8 at the front and rear side of the eye portion 10 are the depending attaching lugs 12, to which lugs the rope connecting yoke 13 is pivotally connected as by the bolts 14.

In the upper portion of the carrier frame, substantially in line with the top edge of the sheave 6, the horizontal stationary rope grip 15 is fixedly connected to the sides 2^a and 2^b and above said stationary rope grip is arranged the movable rope grip 16 extending parallel with the grip 15. Formed integrally with the sides 2^a and 2^b are the spaced grip guiding ribs 17 and the pin 18, con-

nected to the grip 16 extends transversely and is slidably mounted between said ribs. Intermediate the forward end of the lever 8 and the eye portion 10 the spaced grip connecting links 19 are pivotally connected to said lever, as by the bolt 20, and said links extend upwardly and are connected to the pin 18, said connection preferably being accomplished by forming said links 19 with apertures sufficiently large so that said pin may pass therethrough and said links being connected on the two sides of the movable grip 16.

From the above described construction it will be understood that when the rear end of the lever 8 is raised the movable grip 16 will be raised and caused to move away from the stationary grip 15, whereas when said rear end of the lever 8 is lowered said grip 16 will be moved toward the grip 15 to clamp the elevating rope between said grips as will be hereinafter explained.

To the trip attaching portion 11 is pivotally connected at 21 the trip connecting links 22, the upper ends of which links are pivotally connected at 23 to the rear end of the trip lever 24, which is pivotally mounted in the frame upon a transverse axis at 25 and has a forward and upward extending portion provided with the upwardly rounded and curved free end 26. From the description just given it will be understood that when the end 26 of the lever 24 is depressed, the rear end of the rope locking lever 8 will be raised.

Attention is now directed to the construction of the trip block. Such trip block is shown enlarged in Fig. 5 and it will be noted that it consists of an inverted channel shaped member provided intermediate its ends with a transverse tripping ledge 27. Externally, on each side the trip block is provided with an incline 28 leading up to the locking notch 29, said locking notch being preferably interposed between two oppositely extending inclines on each side so as to make the trip block double ended. As illustrated in Fig. 4, when the carrier moves along the track 1 to the trip block the free end 26 of the trip lever 24 engages the lower edge of the tripping ledge 27 and depresses the end 26, thus lifting the rear end of the lever 8 and unlocking the rope grips 15 and 16.

For the purpose of holding the carrier in place at the trip block during the raising of the load to the carrier the vertically slidable locking rods 30 are provided, which rods are slidably mounted in the frame and are provided at their upper ends with inwardly turned locking flanges 31 adapted to enter the locking notches 29 on the two sides of the trip block respectively. The rods 30 extend downwardly beyond the lever 8 and are connected by a yoke block 32 which is provided with a cross pin 33 extending through a slot 34 in the unlocking lever 35. The forward end of said unlocking lever is pivotally connected to the carrier frame upon a transverse axis at 36 and is provided at its rear end with an eye portion 37 arranged beneath the eye portion 10 of the lever 8 and slightly to one side thereof. The lever 35 is preferably formed of sufficient weight to draw the locking rods 30 downwardly and maintain them normally in the downward or locked position. It will be understood, however, that when the eye portion 37 of the lever 35 is raised, that the rods 30 will be slidably raised for the purpose of freeing the flanges 31 from the locking notches 29.

The sides 2^a and 2^b of the main frame are preferably provided with forward extensions to which is rotatably connected the guiding pulley 38 upon an axis at 39. The top edge of said guiding pulley is substantially in horizontal alinement with the top edge of the main sheave 6 and the stationary rope grip 15, and a rope retaining portion 40 arches over the pulley 38 from one side to the other of the frame and is adapted to prevent the rope from leaving said pulley.

In reeving the carrier one end of the rope 41 is connected to the yoke 13 and the rope is then carried down through the sling pulleys 42, or other lifting head, and thence upwardly through the eye portion 37 and the eye portion 10, up and forwardly over the main sheave 6 between the grips 15 and 16 and through the rope retaining portion 40 over the pulley 38, thence forwardly parallel with the track 1 to the forward end of said track, where it passes over the guiding pulley and thence downwardly, and, if necessary, through other guiding pulleys to the point where the horses are hitched at the other end of the rope.

It should be noted that by reason of the arrangement of the elevating rope as just described, the fall of the rope from the carrier to and through the lifting head and up to the carrier again is arranged in a transverse plane. The importance of this construction in a large number of instances where hay carriers are used will be readily apparent to those skilled in the art.

It should be noted that the carrier herein described is especially adapted for those barns in which the hay is elevated at the end of the barn in some instances on the outside of a barn, and carried longitudinally in the barn to the mow. In such cases the load of hay from the field with the slings properly arranged, is drawn up to the point of unloading at the end of the barn, the length of said load extending transversely with reference to the length of the barn. The fall of the rope from the carrier herein described being in a plane transverse to the

length of the barn, the slings with their loads of hay will be drawn up to the carrier without the necessity of rotating while being lifted, and when said slings have been carried to the point of discharge and tripped the hay will be deposited cross-wise in the mow in a very convenient and satisfactory manner.

It will be understood that the trip block should be arranged on the track directly above the place where the hay is to be elevated from the wagon. The said trip block being so arranged and a carrier of my invented construction mounted upon a track and reeved as hereinbefore described the operation of the device is as follows: The parts being in the positions shown in Fig. 4, the grips 15 and 16 will be in unlocked position and the carrier will be locked to the trip block by reason of the flanges 31 being located in the notches 29. The load may then be lifted with the fall of the rope in transverse position, as illustrated in Fig. 2. When the sling pulleys 42 or other lifting head has been drawn up high enough to engage the eye portion 37 of the unlocking lever 35, further upward movement of said pulleys will lift said eye portion 37, thus moving the locking rods 30 upwardly and unseating the flanges 31 from the notches 29. The forward draft upon the rope 41 will then cause the carrier to immediately move forward away from the trip block, and as it does so, the curved end 26 being no longer engaged by the trip ledge 27 will be permitted to move upwardly, and as the weight of the load is partly carried by the lever 8 said lever will quickly move downwardly thus drawing the grip 16 down into locked position upon the rope. The weight of the load will thus hold the rope in locked condition while it is being transported along the track. When the slings have discharged their load and the carrier is returned to the trip block the flanges 31 will ride up the inclines 28 and drop into the notches 29, while the end 26 of the trip lever 24 will engage the legs 27 thus lifting the rear end of the lever 8 and unlocking the grips 15 and 16 to free the elevating rope and permit the empty slings to descend to the wagon for another load.

It should be noted that by reason of the peculiar construction herein described the weight of the load while being elevated and transported along the track is evenly distributed to the two sides of the carrier frame. It should also be noted that the transverse position of the fall of the rope is permitted although the main sheave lies in a median, longitudinal plane. These facts, together with simplicity of construction and ease and certainty of operation are some of the important characteristics of the present invention.

I claim:—

1. In combination with an overhead track, a hay carrier adapted to be supported from and travel along the same and an elevating rope forming a fall in a plane transverse to said track, and the two sides of said fall having operative connection with said carrier in the vertical, median, longitudinal plane of said track.

2. A parallel-draft, transverse-fall hay carrier provided with a main elevating rope sheave having its principal, median plane coincident with the vertical, median, longitudinal plane of the hay carrier.

3. A parallel-draft, transverse-fall hay carrier adapted to run upon a track and provided with a main sheave having its general plane coincident with the longitudinal, vertical plane of said track.

4. A transverse-fall hay carrier provided with means for the attachment of one end of the elevating rope in the median, vertical, longitudinal plane of the carrier and a main sheave for the elevating rope, said main sheave having its general plane coincident with the median, vertical, longitudinal plane of the carrier.

5. A transverse-fall hay carrier provided with means for the attachment of one end of the elevating rope to said carrier in the median, vertical, longitudinal plane of the carrier, an elevating rope having one of its ends attached to said means, said rope forming a fall transverse to the median, longitudinal plane of the carrier, a main sheave having its general plane coincident with the median, vertical, longitudinal plane of the carrier, said elevating rope passing over said sheave and extending longitudinally from said carrier.

6. A parallel-draft, transverse-fall hay carrier adapted to run upon a track provided with a stop block, said carrier provided with a rope-locking lever, an elevating rope connected to one end of said lever, forming a transversely disposed fall and extending through said carrier, rope-locking means operatively connected to the other end of said lever and adapted to engage the elevating rope when the first mentioned end of said lever is moved downward, means for automatically, mechanically raising the first mentioned end of said lever when said carrier is moved into engagement with said stop block, and means for automatically releasing said carrier from said stop block and permitting the first mentioned end of said lever to move downward when a load is lifted by said elevating rope to said carrier.

7. In a parallel-draft, transverse-fall hay carrier, a longitudinally disposed rope-locking lever lying in the median, vertical, longitudinal plane of the carrier, a main sheave rotatably mounted in said carrier above said lever, said sheave arranged with its general

plane coincident with said median plane of the carrier, said lever provided with an eye portion located beneath the rear edge of said main sheave, an elevating rope having one end connected to said lever adjacent said eye portion, forming a transversely disposed fall, and extending through said eye portion and over said main sheave, and rope-locking means operatively connected to said lever.

8. In a carrier of the class described a main sheave, rope grips, a rope-locking lever and an elevating rope, said main sheave, rope grips and lever all arranged in the median, vertical, longitudinal plane of the carrier, said elevating rope having one end connected to said lever, said rope extending from said lever downwardly and thence upwardly, forming a fall disposed in a transverse plane, and extending over said sheave and between said rope grips, and said rope grips operatively connected to said lever.

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

LEROY S. PFOUTS.

Witnesses:
WILLIAM H. MILLER,
JOHN H. BISHOP.

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