

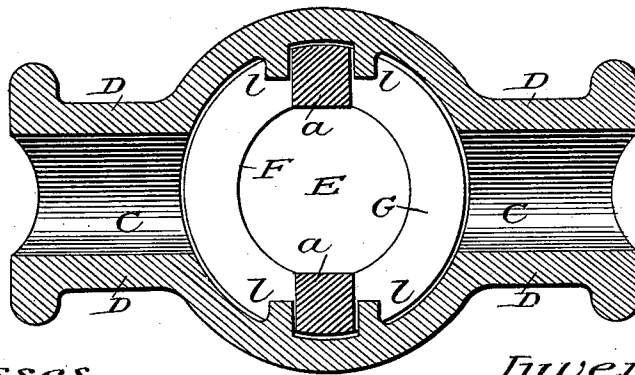
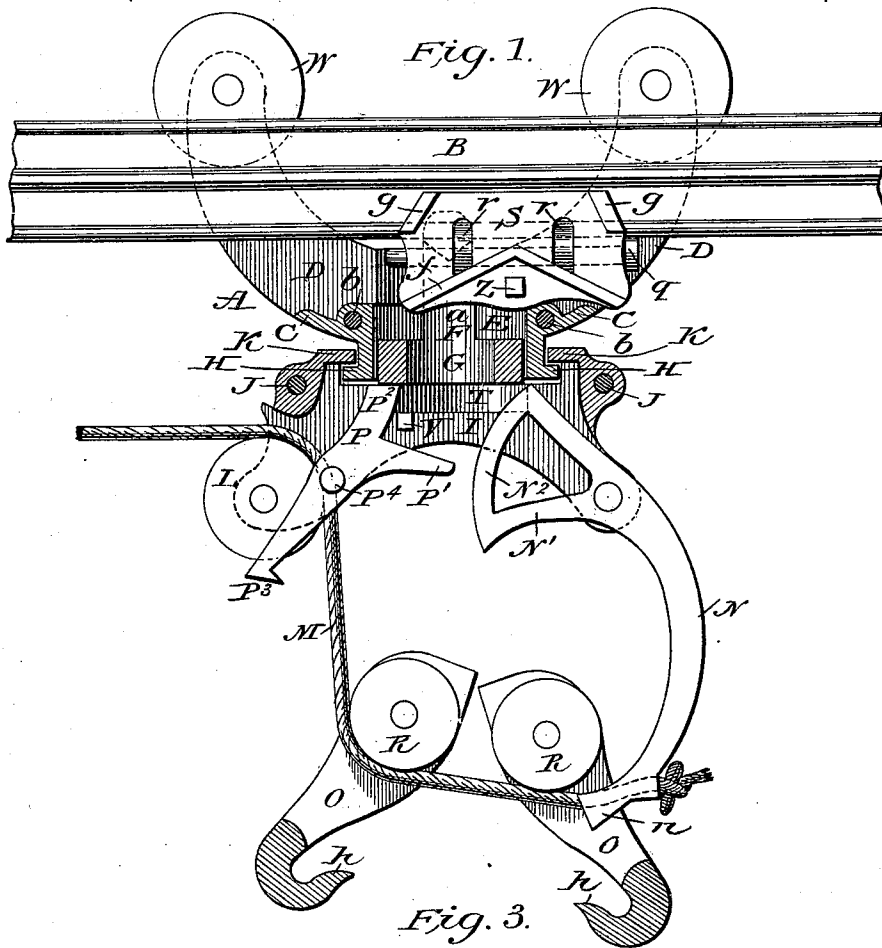
(No Model.)

2 Sheets—Sheet 1.

W. LOUDEN.
HAY CARRIER.

No. 555,605.

Patented Mar. 3, 1896.



Witnesses.

W. H. Bartholomew
Frank H. Higby

Inventor.

William Loudon.

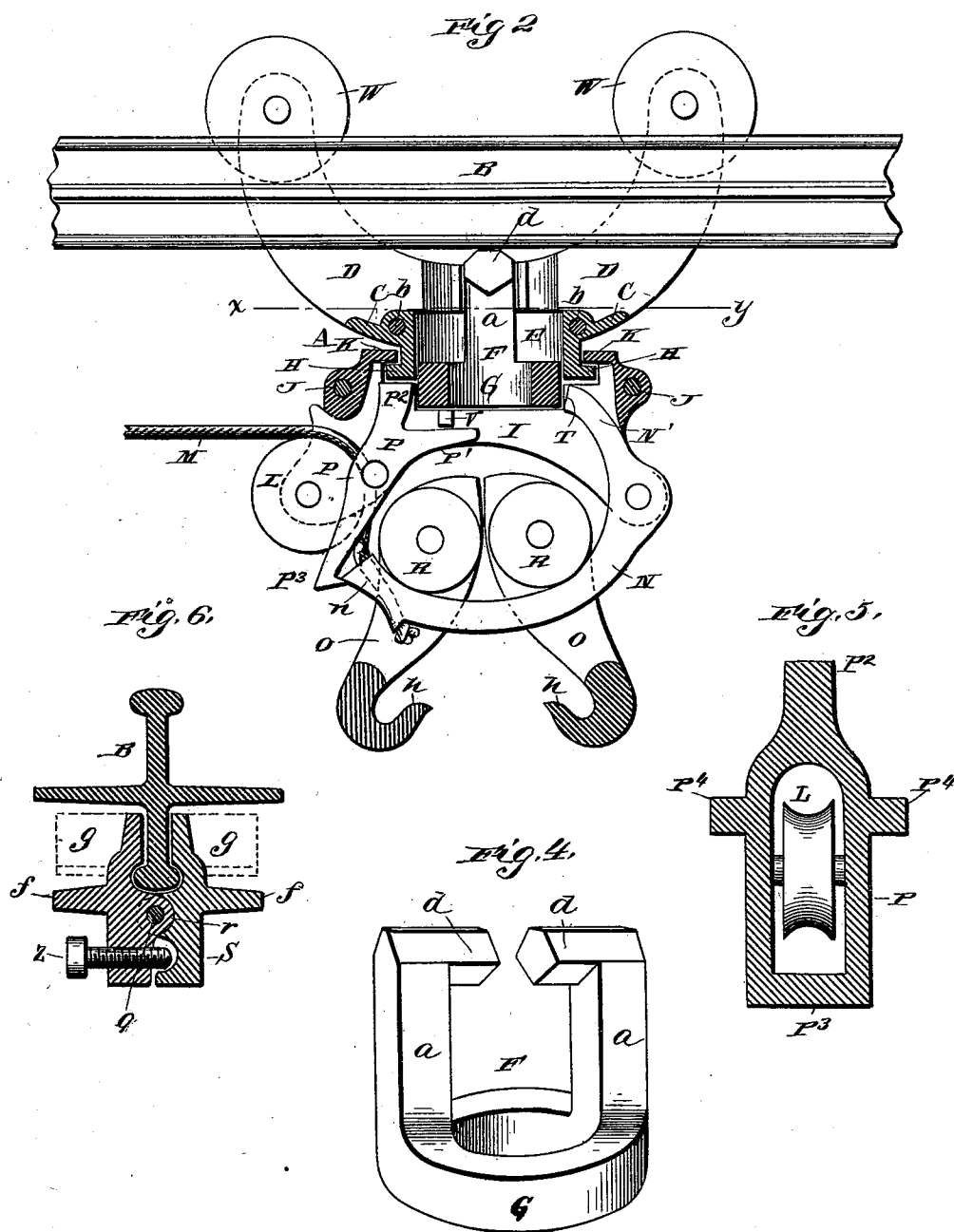
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2 Sheets—Sheet 2.

W. LOUDEN.
HAY CARRIER.

No. 555,605.

Patented Mar. 3, 1896.



Witnesses:

C. J. Fulton
R. B. Ladd

Inventor:

William London,

UNITED STATES PATENT OFFICE.

WILLIAM LOUDEN, OF FAIRFIELD, IOWA.

HAY-CARRIER.

SPECIFICATION forming part of Letters Patent No. 555,605, dated March 3, 1896.

Application filed April 18, 1893. Serial No. 470,923. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LOUDEN, a citizen of the United States, residing at Fairfield, in the county of Jefferson and State of Iowa, have invented a new and useful Improvement in Hay-Carriers, of which the following is a specification.

This invention relates to certain improvements in the mechanism of hay-carriers and stops therefor; and it consists of the parts and combinations of parts which are set forth in the specification and particularly pointed out in the claims.

In the accompanying drawings, representing the invention, Figure 1 is a side view showing the carrier in the position of elevating its load, the front sides of the carrier and pulley-frames being removed to show the working parts. Fig. 2 is the same, showing the carrier as it traverses the track. Fig. 3 is a horizontal section drawn on the lines *xy* of Fig. 2. Figs. 4 and 5 are detail views. Fig. 6 is a cross-section of the track-rail and stop secured thereto.

A represents the carrier, and B the track which it traverses. The style of the carrier is that commonly known as a "swivel," which is provided with an upper and a lower frame swiveled together. The upper frame is provided with arms or brackets D, which are fitted with wheels W to run upon the edges of the track-rail in the usual manner. The upper frame may be all cast in one piece, in which case the arms on opposite sides of the track will be joined together by the parts C, or it may be made in two separate pieces and be joined together by the bolts or rivets *b*. In the central part of the upper frame is a vertical opening E, in which is fitted a vertically-sliding dog F, (most plainly shown in Fig. 4 in perspective,) consisting of two upwardly-extending arms *a*, secured to an annular lip or base G, and each arm carrying a laterally-projecting lug *d*. A stop S is secured to the track-rail B and is provided with inclines or cam-faces *f* and laterally-projecting lugs *g*. The lugs *d* of the dog F are adapted to slide up the inclines *f* and to catch against the lugs *g* of the stop S, while the annular lip or base G will be free to engage a pulley catch or hook at any point on its circumference, as will be hereinafter explained.

The lower frame of the carrier is made in two parts I, (one of the parts only being shown in the drawings,) which are joined together by the bolts or rivets J, and are provided on the inner sides of their upper edges with semi-circular lips or flanges K. The upper frame of the carrier is provided on its lower outside edge with an annular lip or flange H, and the lips or flanges K are adapted to catch over and turn upon the lip or flange H, thus permitting the position of the lower frame to be reversed with regard to the upper frame and to the track.

In the lower frame I a sheave L is journaled, and over this sheave a hoisting-rope M is passed. A bent arm or hook N is pivoted in the opposite end of the lower frame I, and to the outer end, *n*, of this arm the rope M is connected. The upper end N² of this arm or hook N is made concentric with its pivot, and is adapted to support the dog F in elevated position, while its upper end is presented to the annular base of the dog. Upon the loop of the rope M, between the sheave L and the arm N, pulleys O are mounted, and are fitted with hooks *h* or other equivalent means to hold the load to be elevated. A catch P may also be pivoted in the end of the lower frame adjacent to the sheave L, the office of which will be hereinafter explained.

The operation is as follows: The carrier being in the position shown in Fig. 1, with the concentric end of the arm N bearing against one side of the under edge of the annular base G, the dog F will be held in elevated position, and its lugs *d* will be held in engagement with the lugs *g* of the track-stop S, and the carrier will be held stationary upon the track. The catch P being used, its upper end P² will stand under the opposite edge of the annular base G, and will also support the dog F in its elevated position. Power being applied to the free end of the rope M, the arm N will be drawn into the frames of the pulley-blocks O, as shown in Fig. 2, and at the same time the concentric end of the arm N will be drawn from under the annular base G. The pulley-block O, being drawn against the arm P' of the catch P, will push its upper end P² from under the base of the dog F and allow it to drop between the arm N and the catch P and release the carrier

from the stop S, the annular base of the dog at the same time holding the arm N and catch P in the position shown in Fig. 2, thus supporting the pulley-block O in position. The carrier being drawn back to the stop, the dog will be lifted by the cam *f*, and the arm N and catch P will again assume the position in Fig. 1.

The principal office of the catch P is to support the lower end of the arm N and prevent it from giving way under the strain of a heavy load. It is so arranged that after the arm N has been drawn up by the hoisting-rope its lower end, P³, will catch under the projecting end, *n*, of the arm *n* and hold it in position. It also aids in holding the dog F in elevated position and helps to equalize the strain upon the dog while the carrier is supporting the load.

Fig. 5 is an elevated section of the catch P showing a construction whereby it may partially straddle the sheave L and be supported by stud-pins P⁴, pivoted in the frame of the carrier.

In Fig. 2 the concentric part of the upper end of the arm N is omitted, in which case the catch P is depended upon entirely to hold the dog F in elevated position.

It is evident that the swiveling of the lower frame I will not in the least interfere with the operation of the dog F. Whatever may be the relative positions of the upper and lower frames in respect to each other the annular lip G will always be in the proper position for the engagement of the arm N and catch P. In case the catch P should be discarded and the strain all placed upon one side of the dog the opening E in the upper frame of the carrier is made circular to fit and support the base G, and the dog may be further held in position by means of the flanges *l* at each side of the arm *a*, as shown in Fig. 3.

It is evident that the dog F with its annular lip G may be used with any kind of pulley-supporting hook or catch adapted to co-operate with said annular lip, and therefore in the use of said dog I do not wish to be limited to the exact form of pulley-support herein set forth. Either one or two pulley-blocks may be used with my invention as required by the nature of the load to be elevated.

The track-rail shown consists of an upper beaded web for the connection of suspending means, horizontal flanges for the wheels of the carrier to run upon and a lower beaded web for the attachment of the stop-block S. The stop S is made in two parts adapted to embrace the lower web of the rail, as more particularly shown in Fig. 6, which is a cross-section of the track-rail and the central part of the stop. Each part is fitted with intersecting lugs *r*, each lug having a hole in alignment with the others into which a pin *q* is driven to clamp them upon the bead of the rail, and the grip is further increased by means of a set-screw *z*. As constructed, the lugs *g* are extended above the lower bead of

the rail, thus economizing space by permitting the arms of the dog to pass up above the lower edge of the track-rail and in close proximity to the wheel-supporting flanges.

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

1. The combination of an upper frame adapted to run on a track, a lower frame swiveled to the upper frame and carrying pulley-supporting mechanism, and a dog having an annular lip adapted to engage said mechanism at any point on its circumference.

2. The combination of an upper frame adapted to run on a track, a lower frame swiveled thereto and carrying pulley-supporting mechanism, a dog having upwardly-extending arms and an annular lip adapted to engage said pulley-supporting mechanism at any point on its circumference, and a stop to engage the upwardly-extending arms, substantially as set forth.

3. The combination of an upper and a lower frame swiveled together, a dog mounted in the upper frame and having an annular lip, and a hook or arm pivoted in the lower frame and adapted to engage the lip of the dog at all points on its circumference, substantially as and for the purpose set forth.

4. The combination of an upper and a lower frame swiveled together, a sheave journaled in said lower frame, a rope passed over said sheave so as to form a loop, a pulley-block hung in said loop, a pivoted hook or arm to engage and support said pulley-block, and a dog having an annular lip adapted to hold the hook or arm in engagement with the pulley-block at all points on its circumference, substantially as set forth.

5. The combination of an upper and a lower frame swiveled together, a dog having an annular lip, a pivoted arm adapted to engage the lip of the dog at one side, and a catch to engage the lip of the dog on the opposite side and hold it in elevated position, substantially as set forth.

6. The combination of a sheave pivoted in the frame of a hay-carrier, a rope connected to said carrier and passed over said sheave so as to form a loop, a pulley-block hung in said loop, a pivoted arm adapted to pass through said pulley-block, and a catch to engage and support the projecting end of the arm, substantially as shown and described.

7. The combination of an arm pivoted in the frame of a hay-carrier, a rope connected to said arm and passed through the carrier so as to form a loop, a pulley-block hung in the loop and adapted to be drawn on to said arm, a dog adapted to hold the arm in support of the pulley-block, and a pivoted catch adapted at one end to engage the dog and at the other to support the projecting end of the arm, substantially as set forth.

8. The combination of a carrier-frame having a circular opening, and a dog having an annular lip adapted to fill said opening and

have vertical movement therein, the part of the carrier-frame surrounding said annular lip holding the dog in proper position, substantially as set forth.

- 5 9. The combination with a track-rail of a stop-block composed of two members arranged face to face and adapted to embrace the edge of the track-rail between them, each member having lugs intersecting the other
10 and having holes in alignment, a pin passing through said holes and a set-screw passing through the outer edge of one of the members and bearing against the other, substantially as shown and described.

10. The combination with a track-rail having a depending web below the wheel-supporting flanges, of a stop-block embracing said web and having lugs extending above the lower edge of said web, and adapted to engage the dog of a hay-carrier, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLIAM LOUDEN.

Witnesses:

J. E. SHINHLAN,
W. H. PENCE.