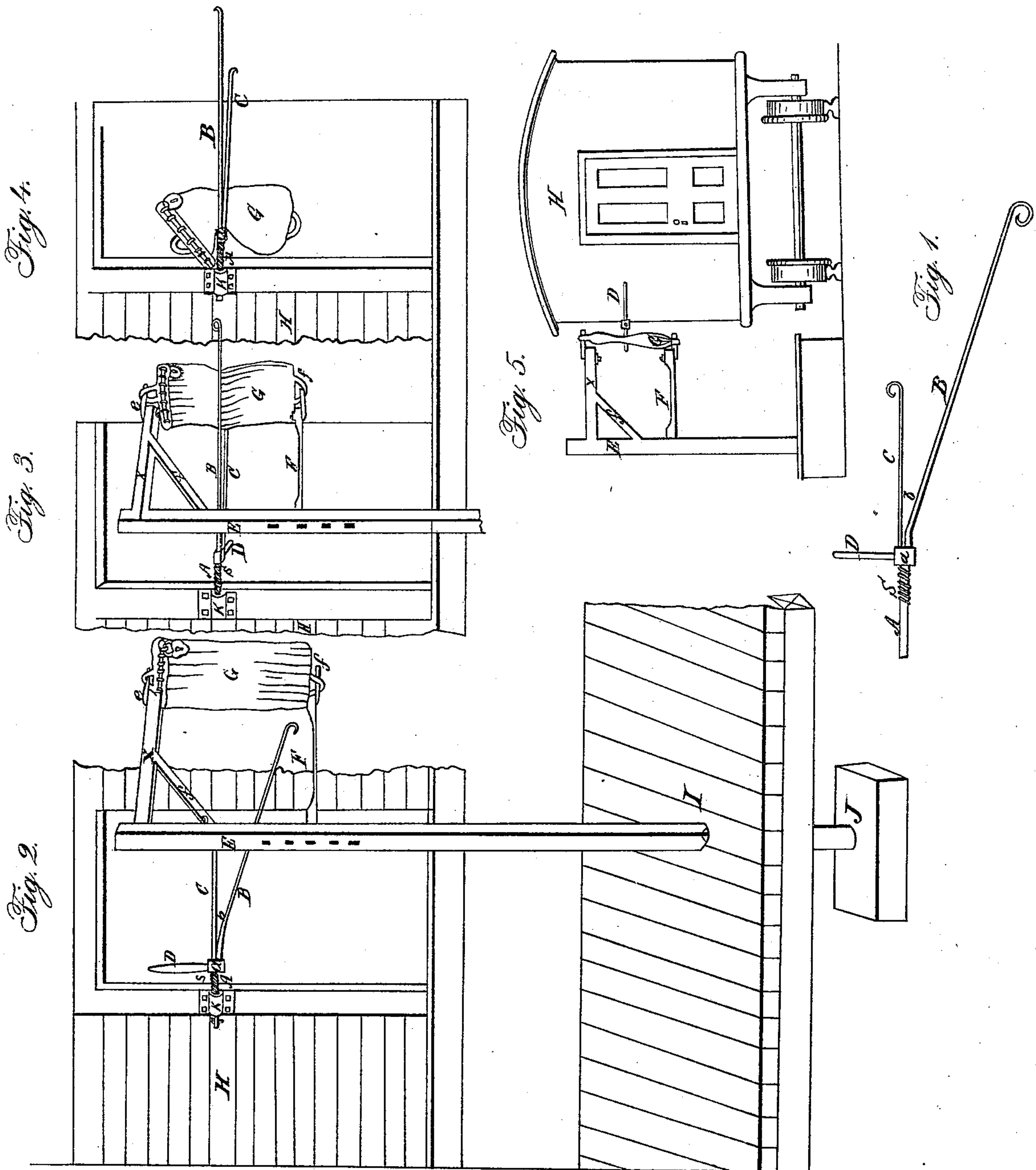


L. F. WARD.
Mail-Bag Catcher.

No. 61,584.

Patented Jan. 29, 1867.



Witnesses:

L. B. Smith
S. M. B. Smith

Inventor:

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United States Patent Office.

L. F. WARD, OF ELYRIA, OHIO.

Letters Patent No. 61,584, dated January 29, 1867.

IMPROVED MAIL-BAG CATCHER FOR RAILROAD CARS.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, L. F. WARD, of Elyria, in the county of Lorain, and State of Ohio, have invented a new and useful Machine for Catching Mail-Bags on express trains on railroads, when the cars are in rapid motion, without stopping or checking the motion of said train; and I do declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a representation of the "catcher" apart from its attachments.

Figure 2 is a perspective view of the side of the postal car, machine, crane on which mail-bag is hung, and holding spring.

Figure 3 is a perspective view of the same parts, the catcher just in the act of taking the mail-bag from the crane and spring.

Figure 4 is a front view of car and catcher after the mail-bag is caught; and

Figure 5 is a cross-section of the car, "catcher," mail-bag, crane, and spring.

The catching machine, fig. 1, consists essentially of a stem, A, about one inch in diameter when made of iron, (a little more or less is not material,) and about one foot, or a little more, long, one end of which is enlarged so as to receive the arms B and C. This stem has a mortise through the end opposite the enlarged end, to key it into the socket K, fig. 2. On the stem A slides a helical or coil spring, the use of which will be hereinafter explained. The arms B and C are firmly inserted in or united with stem A at the enlarged end *a* of the same. The arm or rod C is in line with the stem A, and passes nearly across the door of the postal car. The arm B is four or five feet long, and is bent from the line of the stem or rod A to a deflection from said stem until it subtends an angle of twenty degrees, more or less, with the arm C, so as to present an acute angle at *b*. The arms B and C may be made of brass, iron, steel, or other material, and may be tapered from the point *b* to the point. When made of steel, five-eighths or three-fourths of an inch will give abundant strength for the arm B, and may be tapered to three-eighths of an inch at the point. The arm C may be about one-fourth smaller than the arm B. D is a handle inserted or attached to the stem A for adjusting and using the catcher. The socket or holder K is made of cast or wrought iron, or of other material, and is fixed about breast high on the outside of the door-jamb of the postal car. The crane is of ordinary construction, excepting for the ordinary cross-pin is substituted an iron knee, to be presently described. E, fig. 2, is the upright of the crane, framed through the platform I and on to the bed timber J. X is an arm with its brace, *x'*. F is a representation of a spring, made of elastic wood or metal, and inserted in one of the several square mortises in the upright post E, in the ends of horizontal arm of crane and end of the spring. An iron knee is inserted by a hole bored vertically through the ends of the crane and spring so as to turn freely in a horizontal direction, but to resist vertical strain or motion in that direction. These irons are shown at *e* and *f*, and are secured in their places by nuts and washers.

I will now proceed to describe the mode of operation of my machine, reference being had to the accompanying drawings. The mail-bag G, figs. 2, and 3, and 5, is hung on the knee iron *e* by its upper loop or handle, (said iron being set in line with the arm X; the bag is suspended so as to hang within about one foot of the side of the car,) and the lower loop or handle hung or slipped on the knee iron *f*, the spring F inserted in such a square mortise as will give tension enough to hold the bag against the wind of the train, or the lower end of the mail-bag may be held by the messenger of the postmaster of the locality. In fig. 2 is shown the side of postal car, H. K the socket or holder attached to side of door. The catching machine is represented as riding or resting by the side of the car B, being kept by gravity by the side of the car, and C forming an excellent guard across the door of the car. The mail-bag is hung by the post office messenger of the locality, as described, and the train approaching from left to right, the bag to be so arranged that its centre shall be of the same height as the catcher stem and socket K. The route agent on the train, when near the suspended bag, takes hold of the handle D and brings it in and down to a horizontal position, which brings up the arm B into the same position, and it then presents an inclined plane to the line of motion. The inclined arm B strikes the mail-bag G, as represented in fig. 3, near the middle of the arm, along which it slides freely into the acute angle or pinch between the arms B and C, in which angle the bag becomes wedged and held fast until the same is removed. When the mail-bag is first struck, the momentum of the machine overcomes a part of the inertia of the mail-bag, and the remainder is overcome when the bag slips into the pinch, by pushing the whole machine back in the socket K and against

the coil or helical spring S, which, reacting instantly, brings mail-bag and machine into equable motion with the train. When the mail-bag is caught, the handle D is released. The arm B, by its own gravity, drops beside the car, where it rides securely and is entirely out of the way, as the doors of the car may be closed and it may ride securely until wanted to be used. Four of the sockets or holders, K, are an outfit for a single car, one on each door post, so as to catch mails on each side of railroad, and in running in each direction, without turning the car. The machine may be shifted from side to side with the utmost facility by simply removing the key from the stem A, and moving to the new position, the whole operation occupying only four or five seconds of time. This machine, from its construction, will always catch a properly suspended bag, when the motion of train shall reach eight miles per hour, and the greater speed the more perfectly it operates, as may be readily seen by inspecting its form and mode of operating. It may be used when steam, smoke, and cinders are flying to such an extent as would render it impossible for a route agent to catch a mail-bag, or even to see it. It renders what has been a very dangerous and unpleasant part of the service easy, safe, and pleasant.

What I claim, and desire to secure by Letters Patent, is—

1. The construction and arrangement of mail-bag catchers, when attached to a railroad car, in the manner and for the purpose herein set forth.
2. The combination of the arms B and C with the stem A, helical spring S, and handle D, in the manner and for the purpose set forth.
3. The arrangement of the mail-bag supporter, consisting of the crane-stem E, braces X and x', spring F, and irons e' and f', in the manner and for the purpose herein set forth.

L. F. WARD.

Witnesses:

L. B. SMITH,

S. M. PARMELY.