(No Model.)

H. A. STEVENS

MAIL CATCHER.

No. 468,607. Patented Feb. 9, 1892.

Fig. 1.

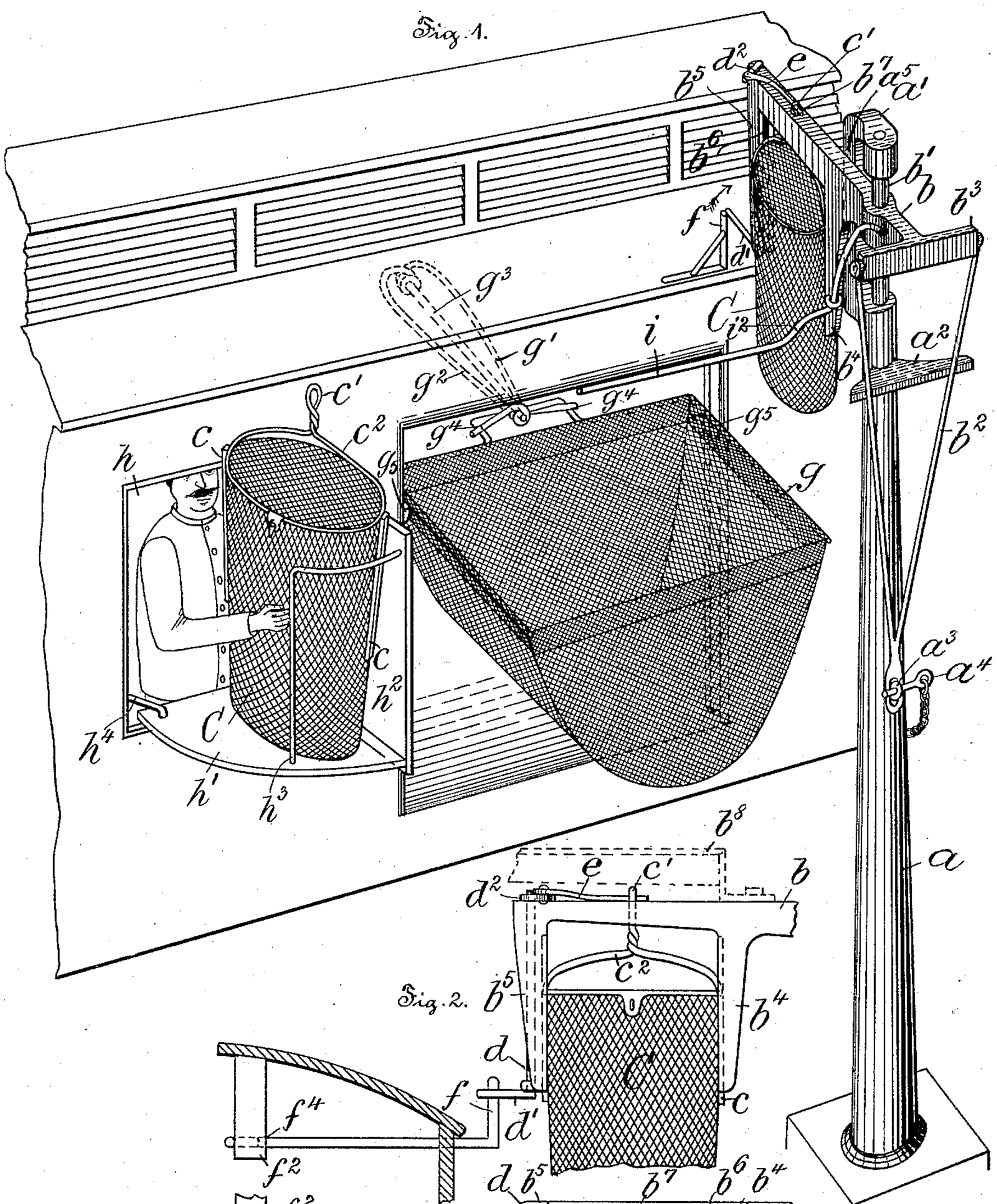

Fig. 2.

Fig. 3.

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MAIL-CATCHER.

SPECIFICATION forming part of Letters Patent No. 468,607, dated February 9, 1892.

Application filed September 14, 1891. Serial No. 405,609. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. STEVENS, a citizen of the United States, residing at Norristown, in the county of Montgomery and State of Pennsylvania, have invented certain new and useful Improvements in Mail-Catchers, of which the following is a specification.

The principal objects of my present invention are, first, to provide a simple, yet strong and durable, mail-catcher that will operate accurately not only under favorable conditions of weather, but also when exposed to gales or heavy wind-storms; second, to provide a mail-catcher with means for positively locking the mail-receptacle in position until a passing train automatically releases the locking devices and permits the mail-receptacle to be taken up by the moving train; third, to provide means for guiding the mail-receptacle after its release into a scoop connected with the moving train, and, fourth, to provide means for facilitating the operation of taking a mail-receptacle from a moving train.

In my invention use is made of a vertical post or pillar located adjacent to the railway-track and provided with a cross-arm having a locking device attached thereto and guides depending therefrom, in connection with a mail-car provided with a key adapted to release said locking device and with a scoop adapted to project beneath the cross-arm. The mail-matter, either loose or contained in bags or pouches, is placed in a strong steel wire or other basket placed in guides depending from the cross-arm and then secured to place by means of the locking device. The mail-car in passing the vertical post automatically releases the mail-basket by causing the key to contact with and release the locking device and also presents the scoop for the reception of the mail-basket, and the depending guides direct the mail-basket and insure its delivery into the scoop.

My invention consists of the improvements hereinafter described, and pointed out in the claims.

The nature and objects of my present invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is a perspective view of a mail-catcher embodying features of my invention and showing a vertical post provided with a cross-arm having a locking device and a receiving-rod connected therewith and having guides depending therefrom, and also showing a mail-car provided with a key, a scoop, and a platform. Fig. 2 is a detail view of the locking device illustrated in Fig. 1, and showing a modified form of the key for operating the same; and Fig. 3 is a top or plan view of the cross-arm.

In the drawings, a is a vertical post or pillar provided with a bracket a', a bridge-piece a^2, a staple a^3, and a pin a^4.

b is a cross-arm pivotally supported in the bracket a' by means of a vertical axis b' in such manner that the cross-arm b may be rotated in a horizontal plane, and contacts with the bracket a' when it is disposed transversely of the direction of motion of the train, as shown in Fig. 1.

b^2 is a yoke pivotally connected with trunnions b^3, ranging transversely of the cross-arm b and adapted to engage with the staple a^3 and bridge-piece a^2.

b^4 and b^5 are guides depending from the cross-arm b and provided, respectively, upon their interior faces with ways b^6, adapted for the reception of feathers c, attached to the sides of the respective mail-baskets C.

b^7 is a slot cut or otherwise formed in the arm b and adapted for the reception of an eye c', connected with the bail c^2 of each of the mail-baskets.

d is an operating-lever pivotally connected with the guide b^5 and provided at its respective extremities with arms d' and d^2, disposed at right angles to each other.

e is a draw or shot bolt pivotally connected with the arm d^2 and adapted to engage with the portion of the eye c' of the mail-basket that projects through the slot b^7 above the arm b.

f, Fig. 1, is a key projecting from the top of the car and adapted to engage with the arm d' of the operating-lever d. This key may be rigidly secured to the top of the car,

as shown in Fig. 1, or it may be located within the car, as shown in Fig. 2, and allowed a range of end-play in suitable bearings f^2 and provided with a hook-shaped shank f^3, adapted to engage with apertures f^4, so that the attendant in the car may shift the key toward the left and turn it out of or into operative position and then shift it toward the right and lock it to place.

The mail-baskets C may be constructed of steel wire or other suitable substance or material and are adapted for the reception of mail-matter, either loose or contained in bags or pouches.

g is a scoop adapted to project from the side of the mail-car beneath the cross-arm b. This scoop g may be constructed of stiff canvas, leather, wire-netting, or other preferred material, and is preferably connected with a folding frame, so that it will not occupy an undue amount of space in the mail-car. In the present instance this folding frame comprises two arms g' and g^2, journaled upon a spindle g^3 and provided with stops g^4 for preventing the scoop from being accidentally closed in an upward position.

g^5 are brackets connected with the jambs of the car-door and adapted to support the scoop in operative position.

h is a window or small doorway formed in the side of the mail-car.

h^2 is a shutter pivotally attached to the front jamb of the window h and provided with a platform h' and a guard h^3 for supporting a mail-basket, which latter is also retained in position by the hand and arm of the mail-clerk.

h^4 is a hook or catch for retaining the shutter h^2 in open position.

i is a receiving-rod connected with the cross-arm b and adapted to pass under the bail c^2 of the mail-basket, and thus lift the same off the moving train. This receiving-arm i is preferably provided with a curved shank, as at i^2, in order to gradually check the motion or momentum of the mail-basket C and in order to permit of its convenient adjustment.

b^8, Fig. 2, is a roof or housing connected with the cross-arm b and adapted to protect the locking device from exposure to the weather.

The mode of operation of the hereinabove-described apparatus is as follows: The attendant in charge of the station turns the cross-arm b by means of the yoke b^2 about the axis b' until it occupies a position above a suitable platform, which is not shown in the drawings, but which is located adjacent to the tracks, and then places the mail-basket C, in position with the feathers c, in engagement with the grooves b^6 of the guides b^4 and b^5. The mail-basket C is then secured or locked to place by passing the eye c' of the bail c^2 through the slot b^7 of the cross-bar b and inserting the draw or shot bolt e through the portion of the eye that projects above the slot b^7. The cross-arm b is then turned by means of the yoke b^2 into contact with the vertical arm a^5 of the bracket a', and is thus brought into a position at right angles with the direction of motion of the train. The cross-arm b is locked in such position by passing the lower extremity of the yoke b^2 over the staple a^3 and then inserting the pin a^4 through the staple, it being understood that the upper portion of the yoke b^2 bears against the bridge-piece a^2 and thus braces the whole structure and renders it very firm and stable. Moreover, the guides b^4 and b^5 and feathers c prevent oscillations of the mail-basket due to wind-storms or other causes, and the draw or shot bolt e prevents the mail-basket from being accidentally released or detached from the cross-arm b. On approaching the station the mail-clerk in charge of the mail-car unfolds the scoop g and places it in the doorway of the mail-car in engagement with the brackets g^5, and also shifts the key f, Fig. 2, into operative position. Of course when a rigid key, as shown in Fig. 1, is employed this last operation is dispensed with. If it is desired to leave a mail-basket from the postal-car, as well as to take one on the same, the mail-clerk locks the shutter h^2 in open position by means of the catch h^4 and places the mail-basket C to be deposited at the station upon a platform h' behind the guard h^3 and with the bail c^2 thereof ranging transversely of the direction of motion of the train. The shutter h^2 of course shields the mail-basket from the wind caused by the motion of the train and the guard h^3 supports it from falling outward; but in most instances the clerk will support the basket in the rear thereof with his hand and arm in the manner shown in Fig. 1. However, a spring may, if preferred, be employed to support the basket upon the rear thereof. When the mail-car passes the station, the key f contacts with the arm d' of the operating-lever d and rotates it in the direction indicated by the arrow in Fig. 1, and this motion of the operating-lever causes the arm d^2 to withdraw the draw or shot bolt e from the eye c' and thus releases the basket C, whereupon the latter falls by gravity or is propelled by a spring downward through the guides b^4 and b^5 into the scoop g, with which it is subsequently taken into the mail-car. The receiving-rod i passes under the bail c^2 of the basket on the platform h', and the advancing motion of the train causes the basket to be lifted from the platform h' and left suspended upon the receiving-rod i, from which it may be subsequently removed by the station-master. After the train has passed the station the scoop g is drawn into the car, folded up, and put away, and the shutter h^2 is closed. If a movable key, as shown in Fig. 2, is employed, it is also turned into inoperative position, and thus all the parts of the mail-catcher that are connected with the car may, when not in use, be put away and concealed.

It will be obvious to those skilled in the art

to which my invention appertains that modifications may be made in the details thereof. For example, the shutter h^2 and receiving-rod i may be omitted without departing from the spirit of the invention, and hence I do not limit myself to the exact construction and arrangement of the parts of said mail-catching apparatus hereinabove explained; but

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

1. In a mail-catcher, a bolt for engaging a mail-receptacle, mechanism for shifting said bolt, and a key connected with a car and adapted to operate said bolt-shifting mechanism, substantially as and for the purposes set forth.

2. In a mail-catcher, a bolt for engaging a mail-receptacle, guides engaging said receptacle, mechanism for shifting said bolt, and means connected with a car for operating said bolt-shifting mechanism, substantially as and for the purposes set forth.

3. In a mail-catcher, a cross-arm connected with a post or pillar, a mail-receptacle, means for locking and unlocking said receptacle to and from said arm, and guides depending from said arm for steadying and delivering the mail-receptacle, substantially as and for the purposes set forth.

4. In a mail-catcher, a cross-arm, a mail-receptacle provided with an eye, a shot-bolt for engaging said eye and locking said receptacle to said support, mechanism for releasing said shot-bolt, and means connected with a car for operating said bolt-releasing mechanism, substantially as and for the purposes set forth.

5. In a mail-catcher, a cross-arm, guides depending from said arm, a mail-receptacle adapted to slide in said guides, mechanism for locking said receptacle to place in said guides, and means connected with the car for unlocking said mechanism and releasing said receptacle, substantially as and for the purposes set forth.

6. In a mail-catcher, a cross-arm, guides depending from said arm and provided with ways, a mail-receptacle provided with feathers working in said ways, mechanism for locking said receptacle to place in said guides, and means connected with the car for unlocking said mechanism and releasing said receptacle, substantially as and for the purposes set forth.

7. In a mail-catcher, a pillar or post, a cross-arm connected with said post and adapted for revolution in a horizontal plane, a yoke connected with said arm, and means for connecting said yoke and support, substantially as and for the purposes set forth.

8. In a mail-catcher, a pillar or post, a cross-arm pivotally connected with said post and adapted for revolution in a horizontal plane, and a stop attached to said post for limiting the range of motion of said arm, substantially as and for the purposes set forth.

9. In a mail-catcher, a pillar or post, a cross-arm pivotally connected with said post, a yoke connected with said arm, a bridge-piece connected with said post and adapted to engage said yoke, and means for connecting said yoke and post, substantially as and for the purposes set forth.

10. In a mail-catcher, locking mechanism for supporting a mail-receptacle, and a rotatable key connected with a car and adapted to unlock said mechanism, substantially as and for the purposes set forth.

11. In a mail-catcher, a pivotally-supported operating-lever provided with arms, a shot-bolt pivotally connected with one of said arms, and a key connected with a car and adapted to contact with the other of said arms, substantially as and for the purposes set forth.

12. In a mail-catcher, a post provided with locking mechanism for supporting a mail-receptacle, a key pivotally connected with a car and permitted a range of end-play, and a hook-shaped shank connected with said key and adapted to engage in a retaining-aperture, substantially as and for the purposes set forth.

13. In a mail-catcher, the combination of a post, a mail-receptacle, mechanism for locking said receptacle to said post, a car, means connected with said car for releasing said locking mechanism, and a scoop projecting from said car for receiving said mail-receptacle, substantially as and for the purposes set forth.

14. In a mail-catcher, the combination of a post, a mail-receptacle, mechanism for locking said receptacle to said post, a car, means connected with said car for releasing said locking mechanism, a scoop projecting from said car for receiving said mail-receptacle, and guides connected with said post for directing said receptacle to said scoop, substantially as and for the purposes set forth.

15. In a mail-catcher, the combination of a mail-receptacle provided with a bail, a car provided with a door having means for detachably supporting said receptacle upon the rear face thereof, and a post provided with a receiving-rod for engaging said bail and detaching the mail-receptacle from the rear face of the door, substantially as and for the purposes set forth.

In witness whereof I have hereunto set my signature in the presence of two subscribing witnesses.

HENRY A. STEVENS.

Witnesses:
THOMAS M. SMITH,
RICHARD C. MAXWELL.