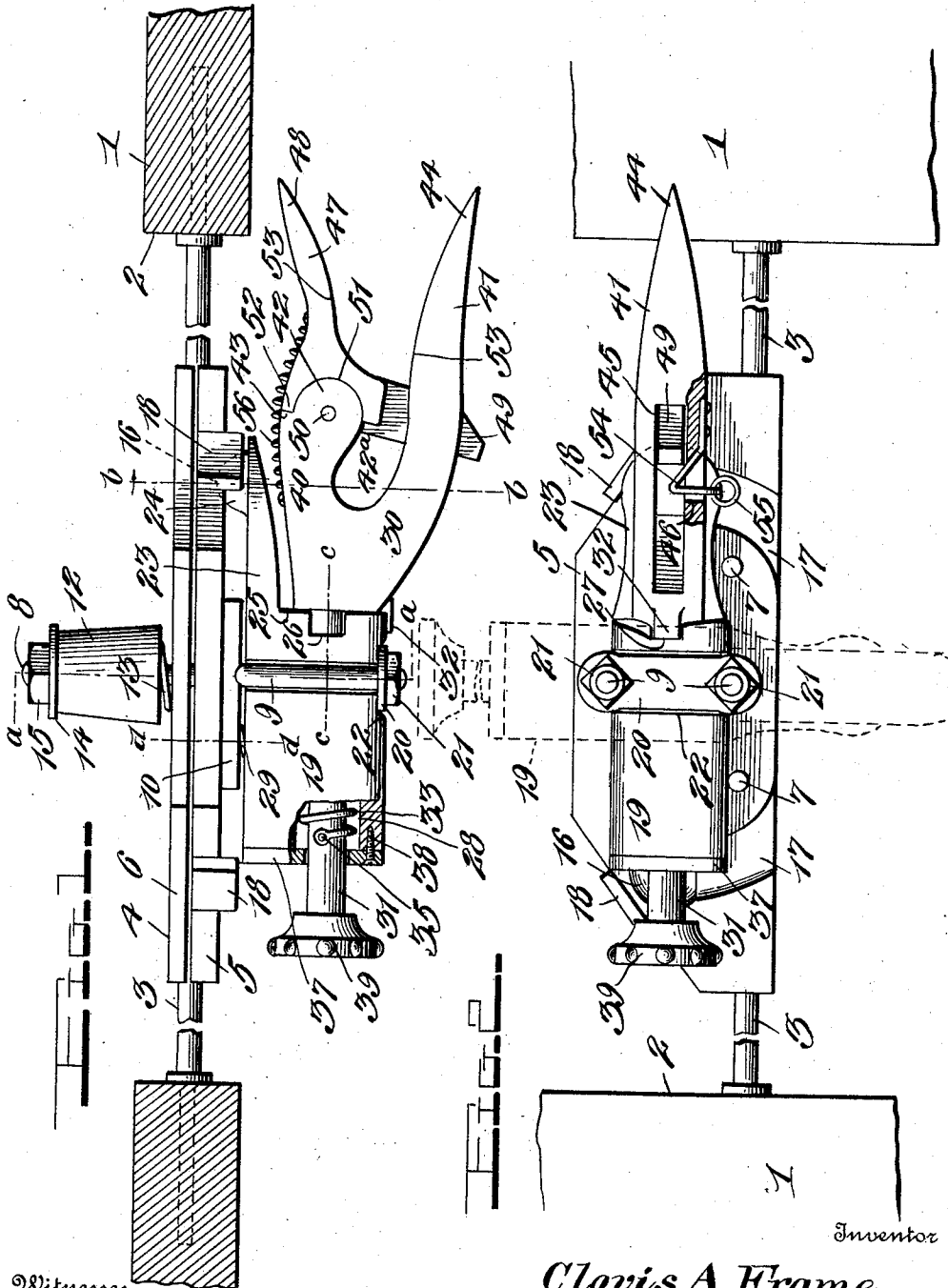


C. A. FRAME.  
MAIL BAG CATCHER.  
APPLICATION FILED MAR. 9, 1911.

994,308.

Patented June 6, 1911.

2 SHEETS-SHEET 1.



Witnesses

Chas. L. Gristauer.  
L. H. Ellis.

Inventor

Clovis A. Frame,

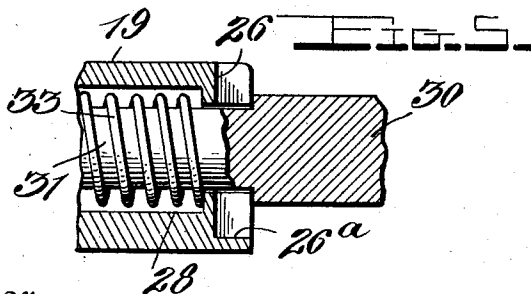
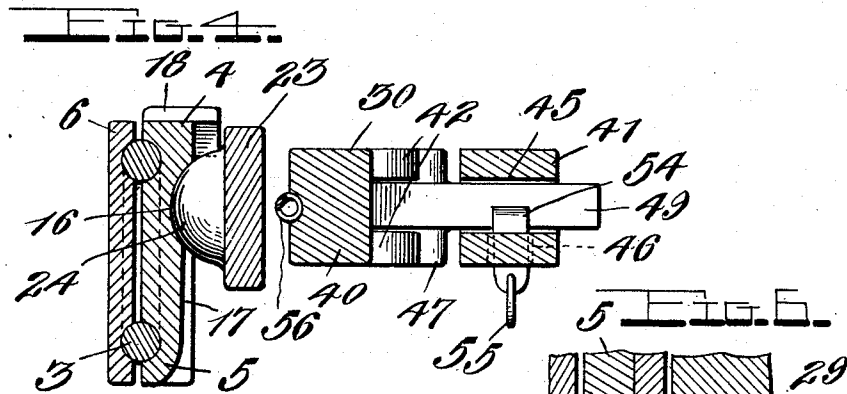
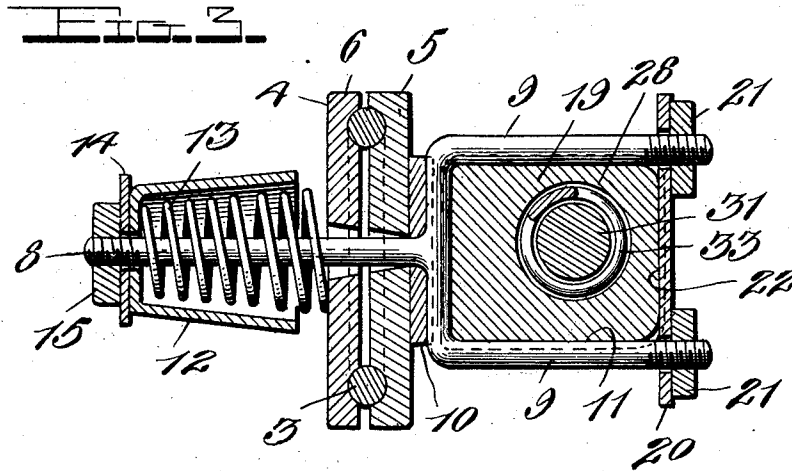
By Watson E. Coleman.  
Attorney

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# UNITED STATES PATENT OFFICE.

CLOVIS A. FRAME, OF CAMBRIDGE, OHIO.

MAIL-BAG CATCHER.

994,308.

Specification of Letters Patent.

Patented June 6, 1911.

Application filed March 9, 1911. Serial No. 613,239.

*To all whom it may concern:*

Be it known that I, CLOVIS A. FRAME, a citizen of the United States, residing at Cambridge, in the county of Guernsey and State of Ohio, have invented certain new and useful Improvements in Mail-Bag Catchers, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention is an improved mail bag catcher for use on a mail car to take on sacks of mail at the stations, the invention consisting in the construction, combination and arrangement of devices hereinafter described and claimed.

15 The object of my invention is to provide an improved device of this character which is compact, may be manufactured at slight cost, is very strong and durable, is not likely to get out of order, and which operates automatically to engage a mail sack as the car passes the station, and may be then turned so as to allow the mail sack to be readily taken into the car.

25 In the accompanying drawings—Figure 1 is a side elevation of a portion of a mail car provided with a mail bag catcher constructed in accordance with my invention, and showing the catcher in full lines, in position to and in the act of catching a mail bag, and also showing the catcher in dotted lines in lowered vertical position to enable the mail bag to be detached therefrom and taken into the car. Fig. 2 is a plan of the same showing the catcher in one position in full lines, and in the reverse position in dotted lines, portions of the device being broken away and shown in section. Fig. 3 is a transverse sectional view of the same on the plane indicated by the line *a—*a** of Fig. 1. Fig. 4 is a detail sectional view of the same on the plane indicated by the line *b—*b** of Fig. 1. Fig. 5 is a detail sectional view on the plane indicated by the line *c—*c** of Fig. 1. Fig. 6 is a similar view on the plane indicated by the line *d—*d** of Fig. 1.

45 For the purposes of this specification, I show a portion of a mail car at 1, and provided with the usual door-way 2 in one side of the car.

50 In accordance with my invention, I provide a supporting bar 3, which extends across the door-way, and the ends of which are secured in the jambs or sides of the door frame. This bar is disposed at a suitable height above the car floor. A base 4 which

comprises a front plate 5 and a rear plate 6 has the said plates disposed on opposite sides of the bar and secured thereto by means of bolts 7, which clamp the plates together. The said plates lie in vertical planes and also extend longitudinally of the bar.

60 A pivot bolt 8 extends through openings in the centers of the said plates. The opening in the rear plate 6, is slightly larger than that in the front plate 5, so that the said pivot bolt is enabled to rock to some extent in the said openings. The front end or outer end of the pivot bolt is provided with a pair of forked arms 9. At the base of the fork is a turning plate 10, which bears against the outer plate 5 and has an opening through which the main shank of the bolt 8 extends, and is also provided on its outer side with a transverse groove 11, which forms a seat for the reception of the base of the fork. A cylindro-conical cap 12, which is closed at its rear end excepting for an opening through which the stem of the bolt 8 extends, incloses that portion of the bolt which extends rearwardly from the base plate 6, and in the said cap is a coiled extensible spring 13, which bears against the plate 6, and also against the head or closed end of the cap. A washer 14 is placed on the rear end of the cap and a nut 15 is screwed on the projecting end of the bolt. Hence the tension of the spring may be varied by turning the nut. It will be understood that the action of the spring is to securely hold the bolt 8 in place and yet adapt it for rotation, and also for slight longitudinal movement, the base of the fork of the bolt being by the action of the spring, held in the groove 11 of the turning plate 10. The plate 5 of the base is provided at a suitable distance from its ends, and equi-distant from the bolt 8, with a pair of substantially semi-spherical sockets 16. Curved cam grooves 17, which are concentric with the bolt 8, lead from the lower sides of these sockets to the lower edge of the said plate 5, and deepen downwardly. Above each socket 16 is a stop flange 18, which projects from the outer side of the plate 5.

105 A head 19 is secured in the fork of the bolt 8 by a clip bar 20, which bears on the outer side of the head and is provided with openings for the reception of the arms of the fork, and nuts 21 which are screwed on the threaded ends of the arms of the fork. The base of the fork fits in a groove 22 in

the inner side of the head. This head is provided at one end with an arm 23, which has a substantially semi-spherical stop element 24 on its inner side, near its outer end, which stop element may be engaged with either of the sockets 16. At the same end, the head is provided with a shoulder 25 which projects laterally from the arm 23, and is provided on two of its sides at right angles to each other, with notches 26, 27, the notch 27 being on the outer side of the head. The head is also provided with a longitudinal bar 28. A spring 29 is secured to the rear side of the head at a point opposite the stop element, 24, and bears between the head and the turning plate 10, its function being to admit of slight flexibility and movement between the head and the turning plate. I also provide a catch 30 which has a stem 31 that extends through and is adapted to turn and to also move longitudinally in the bore of the head, and also has a locking flange 32 which may be engaged with the notch 26 or the notch 27 at will. A coiled extensile spring 33 is fitted in a counter-bore in one end of the head 19, and has its outer end secured as by a stop pin 35, to the stem 31, it being the function of this spring while permitting longitudinal movement of the stem 31, to hold the stop flange 32 in engagement either with the notch 26 or the notch 27 as the case may be.

A cap 37 is secured by screws 38 to the end of the head 19, opposite the notches 26, 27 and covers the counter-bore and the last named spring. The extreme end of the said stem is rectangular or of other polygonal form cross sectionally, and is provided with a hand wheel 39 which enables the catch to be moved longitudinally against the tension of its cushioning spring, and to be also turned from one position to another, to engage its locking flange 32 with the notch 26 or the notch 27. The catch has an inner stub jaw 40 and an outer jaw 41, the way 42 between the said jaws extending diagonally and toward the inner side of the catch as shown. The stub jaw is provided with a pair of spaced lugs 42, and with shoulders 43 at one side of said lugs. These lugs have semi-circular outer portions. The jaw 41 which terminates in an outwardly and laterally inclined and outwardly tapering point 44, is also provided with a longitudinal slot 45, disposed in a common plane with the space between the lugs 42, and in one side or wall of said slot is an opening 46. I also provide a pivoted jaw 47, the outer portion of which forms a laterally extending outwardly tapering point 48. This pivoted jaw has an arm 49 which operates in the slot 45, and extends through the space between the lugs 42, and is pivoted between said lugs by a pin 50, the arm 49 being integral with the pivoted jaw. The latter has at its base on op-

posite sides of the arm 49, substantially semi-circular recesses 51, to receive the lugs 42, the said recesses at the outer side of the base of the said pivoted jaw forming stop shoulders 52 which by engagement with the shoulder 43, are adapted to limit the pivotal movement of the jaw 47 from the jaw 41. The front end of the slot 45 when the same is engaged by the arm 49, also limits the opening movement of the jaw 47. The jaws 41 and 47 are hollowed on their opposing sides as at 53, to provide a space for the reception of a mail bag, gripped between the said jaws, and in rear of the points 44, 48 of the said jaws. A spring catch 54 which is secured to one side of the jaw 41, operates in the opening 46, and is provided at its outer side with a ring 55. When the jaw 47 is in closed position, with its point 48 bearing against the point 44 of the jaw 41, the said spring catch engages the front side of the arm 49 so as to lock the said jaw 47 in this position, and thereby cause the said jaws to clamp a mail bag between them. A spring 56 operates to open the jaw 47 when the arm 49 is released by the catch 54.

The operation of my invention is as follows: In order to take on a mail bag at a station, the head 19 is turned so as to dispose the jaws of the catch in the required direction, and the said catch is disposed with its jaws in a horizontal plane, the locking flange 32, in engagement with the notch 27, and the jaw 47 in open position. The mail bag to be taken on is suspended at the required elevation and position from a crane such as is ordinarily employed, and as the car passes the station, the mail bag enters the space between the jaws 41, 47 and strikes the arm 49, thereby causing the jaw 47 to close and clamp the mail bag between it, and the jaw 41, the jaw 47 being as hereinbefore described, held in closed position by the engagement of the spring catch 54 with the front side of the arm 49. The attendant in the car then turns the head 19 and the catch to a vertical position with the jaws of the catch extending downwardly, as indicated in dotted lines, in Fig. 1, this being accomplished, by first engaging the locking element 24, from the front socket 16. When the head and the catch have been thus turned to vertical position, the attendant then grasps the hand wheel 39 and moves the catch downwardly so as to disengage the locking flange 32 from the notch 27, and he then partly turns the catch so as to engage the said locking flange with a recess 26<sup>a</sup> which is opposite the notch 26, thereby disposing and locking the catch with its jaws parallel with the side of the car, and close to the lower portion of the door-way. This enables the attendant to readily grasp the ring 55 and release the spring catch 54 from the arm 49 of the pivoted jaw, he having previ-

ously caught hold of the mail bag, and hence the mail bag is released from the catch and may be readily taken into the car. When the device is not in use, the head and the catch are disposed in a horizontal position and the catch is turned so as to engage its locking flange 22 with the notch 26, and thus lock the catch with its jaws in a vertical plane and near one side of the car.

While I have herein shown and described what I now consider a preferred embodiment of my invention, I would have it understood that minor changes in the form, proportion and construction of the several parts may be made within the scope of my invention, as defined by the appended claims.

I claim:—

1. In a mail bag catcher, the combination of a base element having sockets on its outer side and cam grooves leading to said sockets, a pivot element mounted in the base element and having a fork, a head mounted in the fork of the pivot element and having means to engage the sockets of the base element, a spring acting on the pivot element to yieldingly hold the head in engaged position on the base element, a turning plate on the pivot element interposed between the base element and the head and engaged by the fork of the pivot element, a spring between the head and the turning plate and cushioning the head on the turning plate and a catch carried by the head and having mail bag clamping devices.

2. In a mail bag catcher, the combination of a base element, a head pivotally connected to the base element for angular movement in a vertical plane, said head and base element having means to secure the head in

adjusted position, and said head being provided at one end with notches arranged at angles to one another, and a catch having a stem extending through and having axial and slight longitudinal movement in the head, said catch having a locking flange for engagement with either of the notches of the head and being also provided with mail bag clamping devices.

3. In a mail bag catcher, the combination of a base element, having sockets and cam grooves leading to said sockets, a pivot element mounted in the base element, a head connected to the base element by the pivot element, and having means to engage the sockets of the base element, a spring acting on the pivot element to yieldingly hold the head in engaged position on the base element, and a catch carried by the head and having mail bag clamping devices.

4. In a mail bag catcher, the combination of a base element, a head pivotally connected thereto for angular movement in a vertical plane, said head and base element having co-acting devices to secure the head in adjusted position, and a catch connected to the head for axial movement, and slight longitudinal movement, said head and catch having co-acting means to secure the catch to the head at any desired angle with respect thereto, said catch having mail bag clamping devices.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

CLOVIS A. FRAME.

Witnesses:

J. W. GARNER,  
GEO. S. LIVINGSTON.