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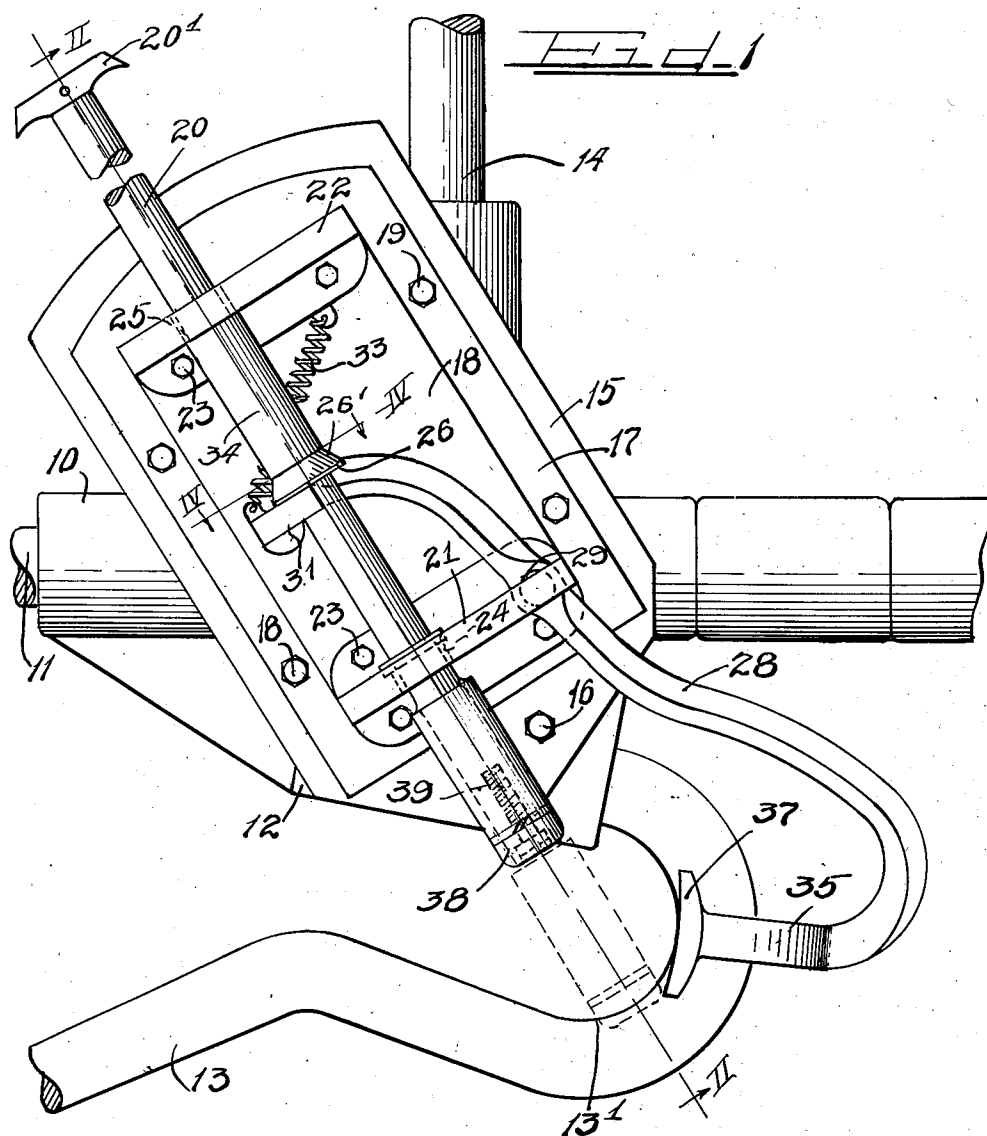
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MAIL POUCH CATCHER

Filed Nov. 18, 1936

2 Sheets-Sheet 1



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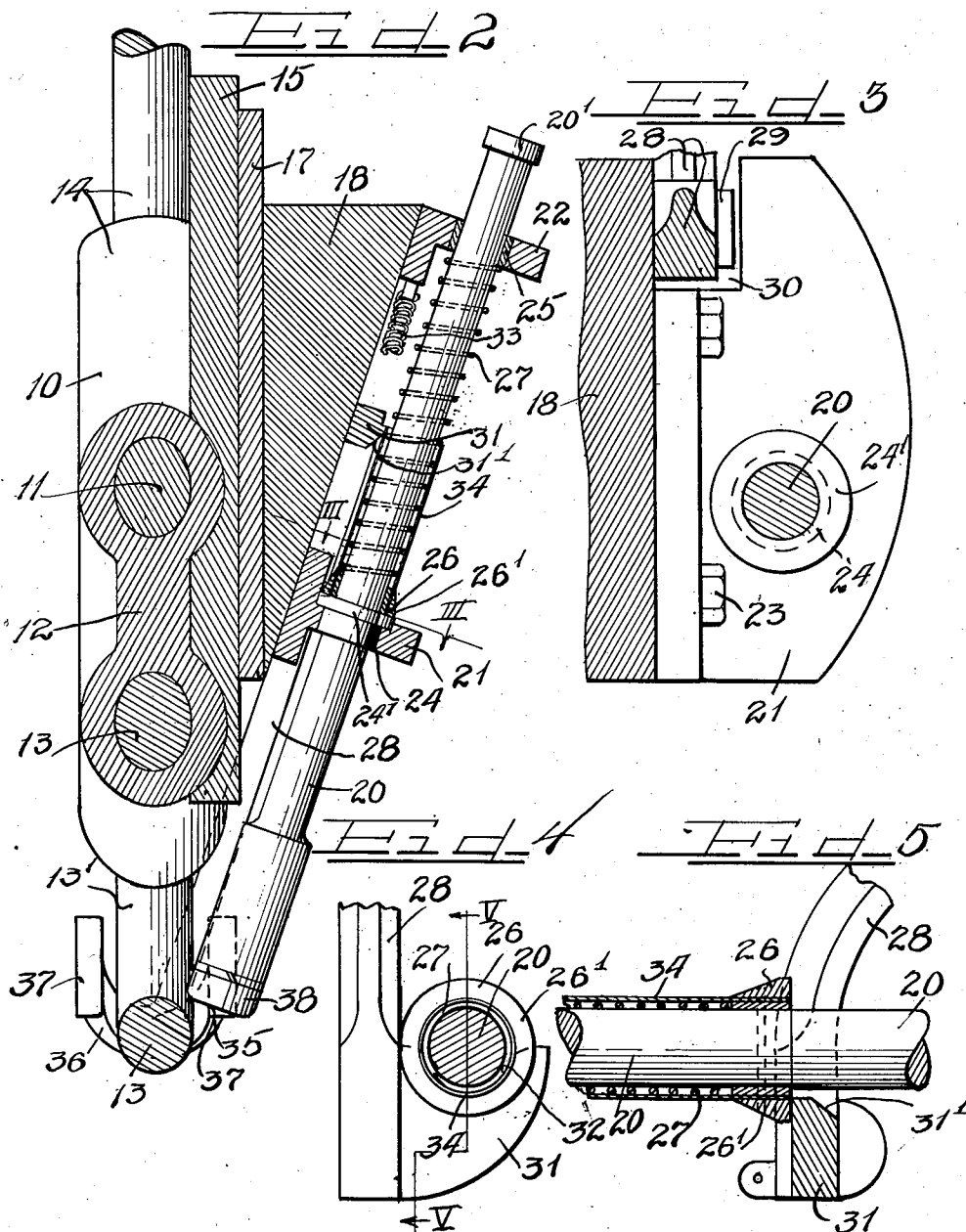
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MAIL POUCH CATCHER

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12 Claims. (Cl. 258—22)

My invention relates to mail pouch catchers and particularly improved means thereon for insuring the retention of a mail pouch after it has been caught by the catcher arm, my invention being particularly designed to increase the efficiency of mail pouch catchers on high speed trains.

As is well understood in the art, a mail pouch is suspended between the upper and lower horizontal arms of a mail crane alongside the track to be caught by the catcher on the train, the pouch being strapped in the middle with the mail therein presumably evenly divided above and below the strap, the engagement of the catcher arm with the pouch being at the middle thereof. Under the heavy impact of the catcher with the pouch, the pouch might slip through the goose-neck or crook of the catcher arm unless suitable retention means are provided. To provide simple and efficient retention means is, therefore, the purpose of this invention.

An important object of the invention is to provide retention means in the form of an attachment which may be readily applied to existing types of mail pouch catchers on trains.

A further object is to provide retention means which will not interfere with the usual manner of reception or catching of a pouch by the catcher but which will become automatically effective to engage with a caught pouch and to retain it against rebound, slippage, or accidental release from the catcher arm.

Another important object of the invention is to provide retention means comprising a retention plunger normally held cocked away from the catcher crook, together with trigger means in position to be engaged by a received pouch and operated to release the plunger for spring projection thereof for both pressure and friction engagement of its end with the pouch at the crook to hold and retain the pouch against accidental displacement or fall from the catcher arm.

The above enumerated and other features of my invention are incorporated in the structure disclosed on the drawings, on which drawings:

Figure 1 is a plan view of a carrier and the retention means thereon, in pouch receiving position.

Figure 2 is a section on plane II—II Figure 1; Figure 3 is an enlarged section on plane III—III, Figure 2;

Figure 4 is an enlarged section on plane IV—IV, Figure 1; and

Figure 5 is an enlarged section on plane V—V, Figure 4.

On the drawings, I have shown a standard type of mail pouch carrier comprising a sleeve 10 mounted on a bar 11 which is extended across the doorway of a mail car, the block 12 extending from the sleeve to support the catcher arm 13, and a handle structure 14 extending laterally from the sleeve 10 by means of which the catcher structure is rotated to bring the catcher arm in proper position for catching a suspended mail pouch. I have shown my improved retention attachment applied to this type of catcher.

As the blocks of different pouch catchers may have somewhat different shapes, I first provide a base plate 15 shaped on its rear side to fit the side of the block to which my retention means is to be applied, the plate being secured as by means of bolts 16, and the base plate may be a casting of suitable metal.

The retention attachment structure comprises a rectangular base 17 from which an angle boss or block 18 extends forwardly and presents an outer face in a plane inclined at an angle with the base 17 and extending through the crook 13' of the catcher arm 13. The base 17 is seated against the outer face of the base or seat plate 15 and is secured to the plate 15 by means of bolts or screws 19. The plate 15 and base 17 thereon are positioned with their longitudinal axis inclined and projecting across the crook of the catcher arm at one side thereof. A retention plunger or bar 20 is axially shiftable in inner and outer bearing standards 21 and 22 secured against the outer inclined face of the block 18 as by means of bolts or screws 23, the bar axis being shown as being parallel with the outer face of the block 18 and parallel with but a distance to one side of the longitudinal median line of the face. In its normal position, as shown on Figure 1, the bar is withdrawn with its outer end adjacent to the inner side of the catcher arm crook 13' and at one side of the plane of the catcher arm, and when the rod is shifted forwardly in its plane which is at an angle with the plane of the catcher arm, its end will approach the opposite side of the arm crook and will be partially within the crook, as shown on Figure 2, and the dotted lines on Figure 1.

In order that the plunger rod may slide easily, bearing bushings 24 and 25 of suitable metal are provided therefor in the bearing standards 21 and 22.

Secured to the plunger rod at a point between the bearing standards is the abutment collar 26 for one end of the spring 27 which encircles the rod and abuts at its other end against the bearing

standard 22, the spring tending to shift the plunger rod forwardly until the abutment collar 26 reaches the bearing standard 24, and to soften the blow, a rubber buffer washer 24' may be seated in the bearing standard 24 for engagement by the abutment collar 26. The plunger rod is held in its withdrawn, normal position by a trigger lever 28 pivoted intermediate its ends on a pin 29 extending from the base 17, the bearing standard 21 being recessed, as indicated at 30 to accommodate the lever and the pivot pin. At its inner end the lever 28 extends between the base 18 and the plunger rod and terminates in a hook or trip plate 31 presenting a substantially semi-cylindrical recess 32 on its inner side around the side of the plunger rod in front of the abutment collar 26 when the plunger lever is in its withdrawn position as shown on Figure 1. In this withdrawn or normal position the lever end 31 is held in front of the collar by the force of a spring 33 so that the plunger rod will be held in its withdrawn position against the effort of the spring 27. When the trigger lever is rotated in counter-clockwise direction, the tripping end 31 will be withdrawn from in front of the abutment collar 26 and the spring 27 may then shift the rod to its outer position shown in Figure 2. The plunger rod is provided with a handle 20' whereby it may be reset to normal position, and when the rod is pulled back toward normal position the outer inclined or cam surface 26' of the abutment collar will engage with the beveled face 31' surrounding the lower end of the recess 32 in the trigger plate 31 and the trigger lever 28 will be cammed to rotate in counter-clockwise direction for passage of the abutment collar and for re-engagement with the under side thereof against the trigger plate 31 when the trigger lever has been swung back in clockwise direction to normal position by the spring 33, and upon release of the handle 20' the rod will again be held in its retracted normal position. In order to prevent interference of the trigger or trip plate 31 with the spring 27 and to insure smooth action of the plunger rod, a shield in the form of a tube 34 is provided for the spring 27, and this tube may be secured to the abutment collar 26 as shown in Figure 2. With this arrangement, the recess 32 of the trip plate 31 will engage the shield tube and a smooth bearing will be provided for the plate 31 after tripping of the plunger rod and during return thereof to normal position.

The outer portion of the trigger lever 28 extends a distance behind the crook of the catcher arm 13, its end being bent to extend toward the catcher arm crook and being forked to provide the arms 35 and 36 at opposite sides of the crook bend and terminating in abutment feet 37 adjacent to the rear wall of the crook space.

The operation is as follows:

When it is desired to catch a mail pouch, the mail catcher structure is swung into horizontal position by means of the handle 14, and the plunger rod is pulled by means of its handle 20' to be set and held in its normal position by the trigger mechanism. The structure is now in the position shown in Figure 1, the trigger structure feet 37 being adjacent to the rear end of the catcher arm crook space, and when a mail bag is caught and received in the crook space it will strike the trigger lever feet 37 and the lever will be rotated for withdrawal of the tripper plate 31 from in front of the abutment collar 26 and the spring 27 will then shoot the retainer rod forwardly and with its end against the mail pouch to hold the pouch against accidental rebounding or slipping out of

the catcher arm crook. In order that the plunger may obtain a better hold on the caught pouch a friction tip 38 of rubber or other suitable material may be applied to the end of the plunger and secured in any suitable manner as by means of a screw 39. The pressure and frictional engagement of the plunger with the pouch will then assure retention of the pouch in the crook of the catcher arm. Upon withdrawal of the retainer rod and resetting thereof to normal position, the caught pouch may be readily withdrawn from the catcher arm.

With my improved retention arrangement, the catcher arm crook passageway is substantially entirely open for the ready reception of a mail pouch and then before the pouch can slip or rebound the tripped plunger rod will be in secure retaining position.

My improved retention attachment comprises only simple, economically manufactured and assembled parts, and the structure can be readily adapted for efficient application to an operation in connection with the various types of catcher arms employed on railroad postal cars.

I have shown a practical and efficient embodiment and application of my invention but I do not desire to be limited to the exact construction, arrangement and operation shown and described as changes and modifications may be made without departing from the scope of the invention.

I claim as follows:

1. Retention means for a railway mail catcher comprising a retention bar shiftable axially toward the bottom of the mail pouch receiving crook of the catcher arm by spring means, and trigger mechanism normally set to withhold the movement of said bar by said spring means and located to be in the path of a caught pouch for actuation thereby to release said bar for shift by said spring means to retain the caught pouch in the catcher arm crook.

2. Retention means for a railway mail catcher arm comprising a retention bar mounted on said arm to be shiftable axially across and toward the bottom of the mail pouch receiving crook of the catcher arm by spring means, a trigger lever normally engaging said bar to hold it in withdrawn position, and an extension on said lever disposed in the path of a caught pouch for engagement thereby to effect movement of said lever for release of said bar and shift thereof by said spring means into retaining engagement with the pouch.

3. Retention means for a railway mail catcher arm having a supporting block, comprising a support adapted to be secured to the catcher block, a retention rod mounted on said support for axial shift and with its longitudinal axis inclined to the plane of the catcher arm and directed diagonally toward the bottom of the catcher arm crook whereby when said rod is shifted forwardly it will project diagonally into and toward the bottom of the crook, spring means tending to project said rod, and trigger means mounted on said support to be normally set to hold said rod withdrawn and located in the path of a caught pouch to be actuated thereby to release the rod for projection thereof by said spring means into retaining pressure engagement with the caught pouch.

4. Retention means for a railway mail catcher arm, comprising a retention bar mounted adjacent to the arm for axial shift, the shift axis of said rod being inclined laterally and forwardly relative to the crook of the catcher arm whereby when said rod is projected it will extend diag-

onally into the catcher arm crook, spring means tending to project said bar, a trigger lever having one end cooperable with said bar to normally hold it withdrawn and having its other

5 end in the path of a caught mail pouch for engagement thereby and for operation of the lever to trip said bar for projection by its spring into the catcher arm crook for retention engagement with the caught pouch.

10 5. Retention means for a railway mail catcher structure, comprising a support attached to said structure, a retention bar mounted on said support for axial shift diagonally into and toward the end of the catcher arm crook, spring means

15 tending to project said bar, and a trigger lever pivoted intermediate its ends on said support, one end of said lever being cooperable with said rod to hold it normally set in withdrawn position, the other end of said lever terminating

20 adjacent the inner end of the catcher arm crook for impact by a caught mail pouch and rotation of said lever for release of said bar and projection thereof by its spring means for retention engagement with the caught pouch.

25 6. An attachment for a railway mail catcher arm and its supporting block, comprising a support adapted to be secured to the catcher arm block, a retainer plunger shiftable on said support to enter the crook of the catcher arm, spring

30 means tending to project said plunger, an abutment on said plunger, a trigger lever pivoted on said support, one end of said lever being normally in engagement with said abutment to hold said plunger withdrawn, and the other end of said

35 lever being in the path of a mail pouch caught by said arm to be engaged thereby for operation of said lever away from said abutment and thereby release of said plunger for projection thereof by said spring means into retention engagement with the caught pouch.

40 7. In a mail pouch catcher structure, a catcher arm having a pouch receiving crook, a support for said arm, a retainer member mounted on said support for axial shift toward and away from

45 the catcher arm crook, spring means tending to shift said retainer member into the crook, and trigger mechanism mounted on said support and normally set to extend into the path of a pouch received by the hook and in position to hold said

50 retainer member withdrawn from said crook against the force of said spring whereby to be operable by contact therewith of a caught pouch to release said retainer member for projection against the pouch to retain the pouch against

55 rebound or slippage from the crook after catching thereof.

8. In a railway mail catcher, the combination with the mail catcher arm and its supporting structure, of a retention member mounted on

60 said structure for shift in a plane at an angle with the plane of the catcher arm, spring means tending to shift said retention member for projection of its end toward the bottom of the catcher arm crook, and trigger mechanism

65 mounted adjacent to the arm and normally set to engage and hold said retention member withdrawn and having a part located at the inner end of the crook to be operable by engagement therewith of a caught mail pouch for movement

70 of the trigger mechanism to release said retention member for shift thereof by its spring into retention engagement with the pouch.

9. Retention means for a railway mail catcher comprising a retention bar shiftable axially toward the bottom of the mail pouch receiving crook of the catcher arm, a spring tending to shift said bar to retention position, an abutment

5 on said bar, a detent normally set to engage said abutment to hold said bar withdrawn, a spring tending to hold said detent in set position, and releasing means for said detent normally

10 located in the path of a pouch caught by said arm to be actuated by the pouch to release said detent on said abutment for projection of said bar by its spring to its retention position against the pouch.

10. Retention means for a railway mail catcher arm structure comprising a retention bar

15 mounted at one side of said structure to be shiftable diagonally toward the crook of the catcher arm, a spring tending to shift said bar to project into the arm crook, latch mechanism co-

20 operable with said bar for normally withholding it withdrawn against the force of said spring, and release means for said detent means normally located in the path of a pouch received

25 in the arm crook to be actuated by the engagement of the pouch therewith to release said detent means for projection of the bar by said spring into detent engagement with the caught pouch.

11. Retention means for a railway catcher

30 arm structure comprising a retention bar mounted at one side of said structure for axial shift to move its end into and out of the catcher arm mail pouch receiving crook, a spring tending to shift said bar to project its end into the

35 hook, trigger mechanism mounted on said structure and located to be in the path of a pouch caught in the crook, means providing a detent connection between said trigger mechanism and said bar for normally holding said bar withdrawn

40 from the crook against the action of its spring, the arrangement being such that upon engagement of a caught pouch with the trigger mechanism said detent connection will be broken for

45 release of the bar and projection thereof by said spring into retaining engagement with the caught pouch.

12. Retention means for a railway catcher arm structure comprising a retention bar

50 mounted at one side of said structure for axial shift to move its end into and out of the catcher arm mail pouch receiving crook, a spring tending to shift said bar to project its end into the hook, trigger mechanism mounted on said structure and located to be in the path of a pouch

55 caught in the crook, means providing a detent connection between said trigger mechanism and said bar for normally holding said bar withdrawn from the crook against the action of its spring, the arrangement being such that upon

60 engagement of a caught pouch with the trigger mechanism said detent connection will be broken for release of the bar and projection thereof by said spring into retaining engagement with the caught pouch, and means for automatically restoring said detent connection and resetting the trigger mechanism when said bar is withdrawn

65 to release the pouch.