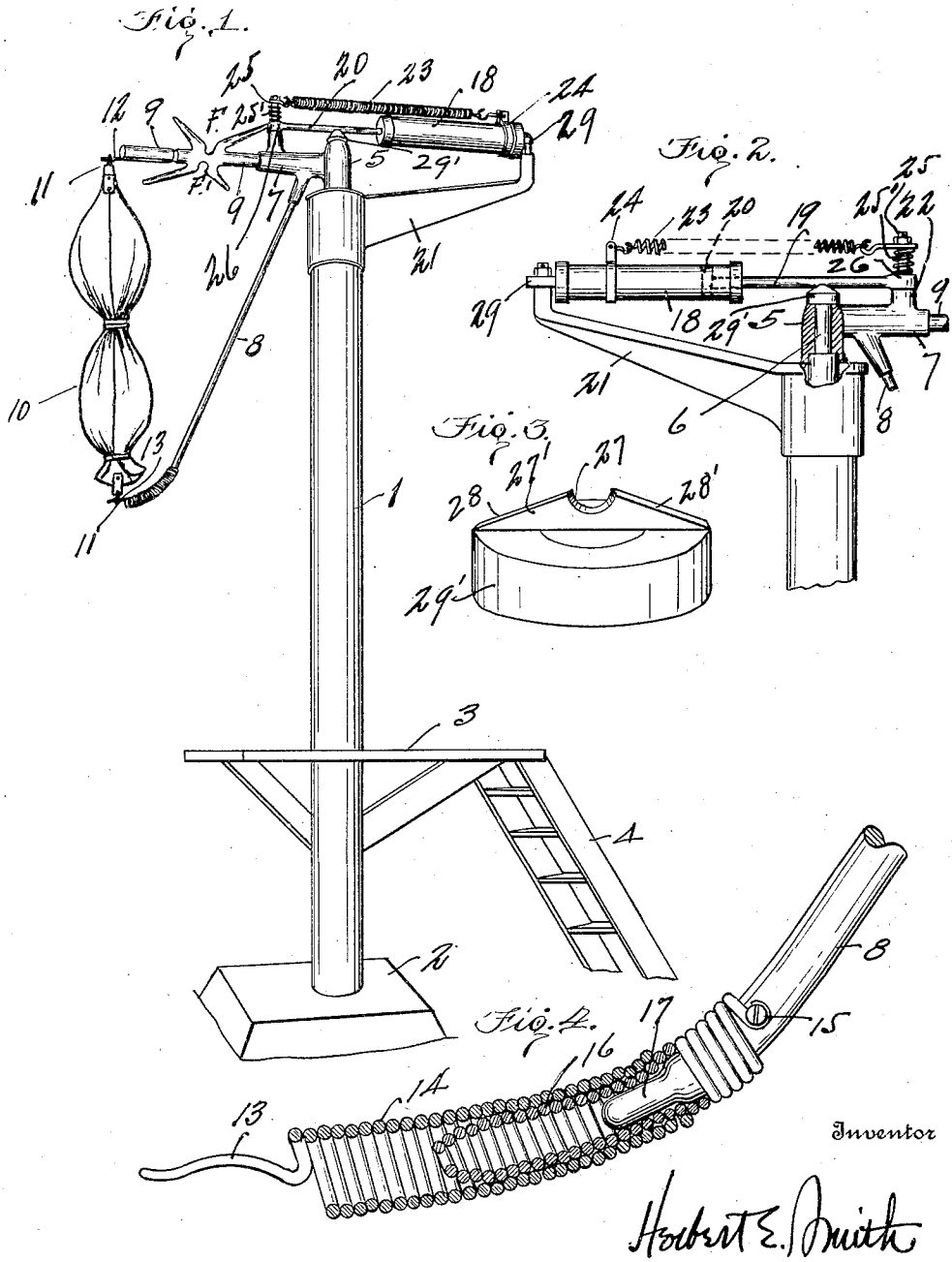
H. E. SMITH.

RAILWAY MAIL DELIVERY.

APPLICATION FILED JULY 28, 1919.

1,363,366. Patented Dec. 28, 1920.



UNITED STATES PATENT OFFICE.

HERBERT E. SMITH, OF SPOKANE, WASHINGTON, ASSIGNOR TO SPOKANE MAIL EQUIPMENT COMPANY, OF SPOKANE, WASHINGTON.

RAILWAY MAIL DELIVERY.

1,363,366. Specification of Letters Patent. Patented Dec. 28, 1920.

Application filed July 28, 1919. Serial No. 313,935.

To all whom it may concern:

Be it known that I, HERBERT E. SMITH, a citizen of the United States, residing at Spokane, in the county of Spokane and State of Washington, have invented certain new and useful Improvements in Railway Mail Delivery, of which the following is a specification.

The present invention relates to improvements in railway mail delivery and particularly to the station apparatus or equipment for receiving the mail pouches from a passing train and delivering other pouches to the passing train, the primary object of the invention being the provision of an apparatus that is simple in construction and operation, comparatively inexpensive in cost, durable, and well qualified for the efficient and accurate performance of its required functions.

In the accompanying drawings one complete embodiment of the invention is illustrated, the parts exemplifying the device as in actual and successful operation for exchanging mail matter on the railroads, and the invention consists in the novel combinations and arrangements of parts whereby the device accomplishes its purpose and attains its objects.

Figure 1 is a perspective view showing the device installed alongside the railway and having a mail pouch supported thereby ready for exchange with a passing train.

Fig. 2 is an enlarged detail, side elevation of the operating parts of the device, at the top of the pedestal or support, showing the apparatus, as in Fig. 1, with the parts retained in proper position for exchange.

Fig. 3 is a perspective view showing the cap, with its retaining recess, at the top of the standard for holding the apparatus in projected position.

Fig. 4 is a side view of the flexible, resilient, support for the lower end of the pouch when held as in Fig. 1.

The apparatus as in actual use is depicted in the drawings and the operating parts are supported at the upper end of a metal pipe or hollow standard 1 preferably supported and embedded in the concrete base 2 situated at proper distance from the outer rail of the track, and the final adjustment of the operating parts, with relation to the passing cars for clearance, is provided for in the station equipment as will be hereinafter pointed out. A platform 3 and steps 4 are provided to give access to the elevated parts of the device so that the device and mail pouches may be handled with facility when preparing for exchange of mails.

At the upper end of the hollow standard a revoluble head 5 is provided that may oscillate or swing on the post 6 which projects up above the top of the standard and is rigidly and securely supported within the standard as seen in Fig. 2 to provide a base of operation for the mail exchanging apparatus, and it will be understood that the exchange apparatus may swing on the post, through the medium of the head, to projected or operative position, or be retracted to inoperative position.

The rotatable head is fashioned with an integral forked bracket 7 in which the lower arm 8 and the upper arm 9 are adjustably secured in order to adapt the apparatus at the required distance from the passing railroad cars, and as seen in Fig. 1 the lower arm extends downwardly and outwardly while the upper arm extends out horizontally from the standard to support a mail pouch that is to be exchanged and delivered to the passing train.

The mail pouch 10 is of usual standard design having the reduced waist, and at the upper and lower ends is fashioned with the customary retention ring 11 fitting over the hook 12 of the upper arm and over the hook 13 of the lower arm in which the pouch is supported. In Fig. 4 especially it will be observed that the lower hook 13 is fashioned at the end of a coiled spring 14, and the opposite end of this spring is fastened by the screw 15 over the end of the arm 8, the spring being extended a sufficient distance over the end of the arm to insure a stable support thereon. A reinforcing spring 16, shorter than the spring 14, is located within the latter spring and secured over the horn 17 at the extremity of the arm, and the tendency of both springs is to turn downwardly. Thus, the pouch, with the apparatus in projected position, has its rings slipped over the upper and lower hooks 12 and 13, and while the upper hook 12 may be rigid, it will be apparent that the lower hook 13 is resiliently attached to its arm, so that when the pouch is doubled-up by the impact of the receiving fork on the car, an upward pull is permitted on the spring 14

and it is bent upwardly allowing the ring 11 to slip freely over the end of the hook 13. The springs 14—16 however have sufficient tension to hold the pouch in proper supported position between the two arms while awaiting the transfer to the forked receiver on the car, which receiver may be of the type shown at F and F′ in Fig. 1 and forming part of the upper supporting arm 9.

The delivery device described is oscillatable on its axis 6 and is spring-actuated to return it to retracted position and to hold it there, but is equipped with a pneumatic device for absorbing the shock of impact from the passing train, the pneumatic device including the cylinder 18, the stem 19 and piston or plunger 20 inside the piston, the parts being suspended between the outwardly projected bracket arm 21, and the post 22 on the bracket arm 7 of the delivery device. The cylinder has the usual small ports to permit slow escape of air, and the air absorbs the power of the moving parts due to impact, as the plunger compresses the air within the cylinder in usual manner, the area of the plunger head being of such proportion to the escape port in the end of the cylinder as to insure the proper operation of this pneumatic device when the delivery arms are swung on their pivot head, as to stop its movement at the proper time.

A contractile spring 23 is stretched between the adjustable clamp ring 24 on the cylinder and the rigid part 25 on the post 22 to urge the delivery device always to retracted position with relation to the car door, and the stem 19 which has an eye 26 slipped over the post portion 25 performs the function of a latch in the retention of the projected delivery device, to hold it against the pressure of the wind or against air currents created by passing trains. To this end a spring 25′ is employed about the post 25 to bear upon the eye 26 of the stem and hold the latter in a notch or recess 27 of the keeper 27′ so that the delivery device cannot swing or be moved laterally except under excessive pressure as from the impact of the exchanging of mail. The latch keeper is fashioned with a pair of cam edges 28 and 28′ along which the latch (stem) may ride to and from the notch and it will be apparent that the spring 25′ on the pin 25 will permit the upward movement of the latch which moves bodily with the piston and cylinder, the latter swinging upward on the pivotal point 29 on the end of the bracket arm 21.

The latch keeper is fashioned as a flange or web on the cap 29′ which is secured at the top of the post 6 and not only performs the functions of a keeper but holds the rotatable head of the delivery device down in position to oscillate or swing.

From the above description taken in connection with the drawings it is obvious that the equipment which includes the pouch supporting and delivery device, the shock absorbing means, the automatic release mechanism of which the plunger stem forms the latch, and the retracting, spring actuated arrangement of parts all combine to form an effective, but simple instrumentality for delivery of the mail pouch from the station apparatus to the passing mail car, and provision is also made for receiving mail from the passing car, this latter mail receiving means forming the subject matter of a contemporary application for patent. The mail exchange device carried by a railway car, to co-act with this delivery device from the station, also forms the subject matter of a contemporary application for patent.

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

1. The combination in a mail delivery device with the rotatable head, of a rigid, upper horizontal arm projecting from said head, and a lower, rigid, diverging arm on said head, means for retracting the arms, means for absorbing the shock of impact, and means coöperating with the shock absorbing means for holding the arms in projected position.

2. The combination with the rotatable head and supporting arms thereon, of a pneumatic cylinder, piston and stem for absorbing the shock of impact, means for retracting the arms, and a cap on the head having a depression co-acting with said piston stem for retaining the arms in projected position.

3. The combination with the rotatable delivery device and its supporting standard, of a pneumatic device for absorbing the shock of impact, and means co-acting with said pneumatic device for retaining the delivery device in projected position.

4. The combination with the rotatable delivery device and its supporting standard, of a coöperating cylinder and piston suspended between said device and standard, and means co-acting with the piston for retaining the delivery device in projected position.

5. The combination with the rotatable delivery device and its standard and a keeper on the standard, of a coöperating cylinder and piston and stem suspended between said members to receive shock of impact, and means for holding said stem in the keeper for retaining the delivery device in projected position.

6. The combination with the rotatable delivery device, the standard and a notched keeper thereon formed with oppositely arranged cam faces, of a coöperating cylinder, piston and its stem suspended between said

device and the standard to receive shock of impact, and resilient means bearing on the stem to cause it to co-act with said cam edges, and engage the notched keeper to retain the delivery device in projected position.

7. The combination with the rotatable delivery device and a suitably supported contractile spring for holding the device in retracted position, a supporting standard for the device and a notched keeper thereon having opposite cam faces, a coöperating cylinder, piston and stem suspended between the standard and device to receive the shock of impact, a suitable supported spring bearing on the stem to cause it to co-act with said cam edges, and engage the notched keeper to retain the delivery device in projected position.

8. The combination with the standard and rotatable delivery device including the head and bracket thereon, of a pair of rigid diverging pouch supporting arms projecting from the bracket, a pouch hook on the upper arm, and a resilient end hook on the lower arm adapted to support the pouch, and to release it under pressure.

In testimony whereof I affix my signature.

HERBERT E. SMITH.