

H. K. SMITH & A. McQUEEN.  
Mail Bag Delivery Apparatus.

**Patented Feb. 22, 1881.**

[illegible]

Fig. 1 is a technical drawing of a mechanical linkage system. It features a curved lever arm on the left, pivoted at a central point. The lever arm has several points labeled with Greek letters:  $\pi'$  at the top left,  $\tau$  at the bottom left, and  $\sigma$  at the pivot point. A vertical rod connects the lever arm to a central pivot mechanism. This mechanism consists of a circular base with a central pivot point labeled  $S$ . A handle labeled  $M$  is attached to the right side of the pivot mechanism. The handle has a series of circular holes along its length. The entire system is shown in a side view, with the lever arm and handle extending horizontally.

John A. Eells.  
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# UNITED STATES PATENT OFFICE.

HORACE K. SMITH AND ALLAN McQUEEN, OF BATAVIA, NEW YORK.

## MAIL-BAG-DELIVERY APPARATUS.

SPECIFICATION forming part of Letters Patent No. 238,172, dated February 22, 1881.

Application filed December 18, 1880. (Model.)

*To all whom it may concern:*

Be it known that we, HORACE K. SMITH and ALLAN McQUEEN, of Batavia, in the county of Genesee and State of New York, have invented a new and valuable Improvement in Means for Delivering Mail-Bags from Moving Trains; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a perspective view. Fig. 2 is a top view with parts removed. Fig. 3 is a section.

This invention relates to mail-bag dischargers, or devices for taking mail-matter automatically from the cars while they are in motion.

The invention consists in a swinging bracket of peculiar construction located upon the side of the car, and a receiver of novel form located upon the side of the track, all as hereinafter fully described.

In the drawings hereto annexed, A is the side of the car, projecting from which are the eyes B B. In said eyes, by pins *a a*, are hinged the lugs *b b* of right-angled frame C. Upon the upright D of said frame is placed a slider-bar, E, held by an eye or loop, F, and kept in any desired position by a spring, G.

H is a coiled spring, fastened to the upper end of frame C by a pin, *h*, and bearing with its end *h'* against the side of the car.

Top bar, I, and slider-bar E are parallel, and have their ends beveled off in the same direction at *f* and *e*, slider-bar E also being curved up at the end.

K is a post, located upon the side of the track, consisting of an upright, L, and a top bar, M. Placed at the end *m* of said top bar, M, are two plates, N and P, the lower one, N, having a flange, *n*, and a body, *n'*, the upper, P, being made flat and the same thickness throughout. These plates are bolted together and to the end *m* of top bar, M, so as to bring the thick portion of body *n'* between said plates, leaving a space, R, between flange *n* and plate P; or the two plates may be made alike and a block inserted between them. S

is a stud passing through these plates and space R.

T T' are two spring-arms, whose coil *t* surrounds stud S, and V is a toggle-brace, whose arms *v v* are jointed to said arms and connected together by a cam-joint, *v'*.

The mail-bag to be discharged is placed on the bracket at the side of the car, its bottom on curved end of slider-bar E, its top against top bar, I, the slider-bar E being adjusted to suit different lengths of bag. The position of the bracket on the car is such that the thrust is received by the spring H. The post K is placed by the track and the spring-arms T T' held open by toggle-brace V, the position of said arms with relation to the path of bracket on the car being such that as said bracket passes the bag is received between these arms and drawn from the bracket, the bevels facilitating this action. The impact of the bag loosens the toggle-brace, and the spring-arms, coming together, gripe the bag. The shock of the bag striking the receiver causes the arms to swing around in the space R, the shape of the latter being such as to allow this movement, and danger of breakage is avoided.

To lock the arms T T' a pin can be inserted through holes *y y* in plates N and P.

What we claim is—

1. The combination of frame C, having upright D and top bar, I, slider-bar E, and spring H with a car.

2. The herein-described receiver for mail-bags, consisting of the post K, arm M, and the plates N P, bolted together and having the space R, in combination with the pivoted spring-arms T T', provided with the toggle-joint V *v v v'*, constructed and operating substantially as and for the purposes set forth.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

HORACE <sup>his</sup> × K. SMITH.  
mark.

ALLAN <sup>his</sup> × McQUEEN.  
mark.

Witnesses:

H. F. TARBOX,  
S. A. SHERWIN.