C. U. GREELEY.

AUTOMATIC MAIL DELIVERING APPARATUS.

APPLICATION FILED AUG. 21, 1908.

945,272.

Patented Jan. 4, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

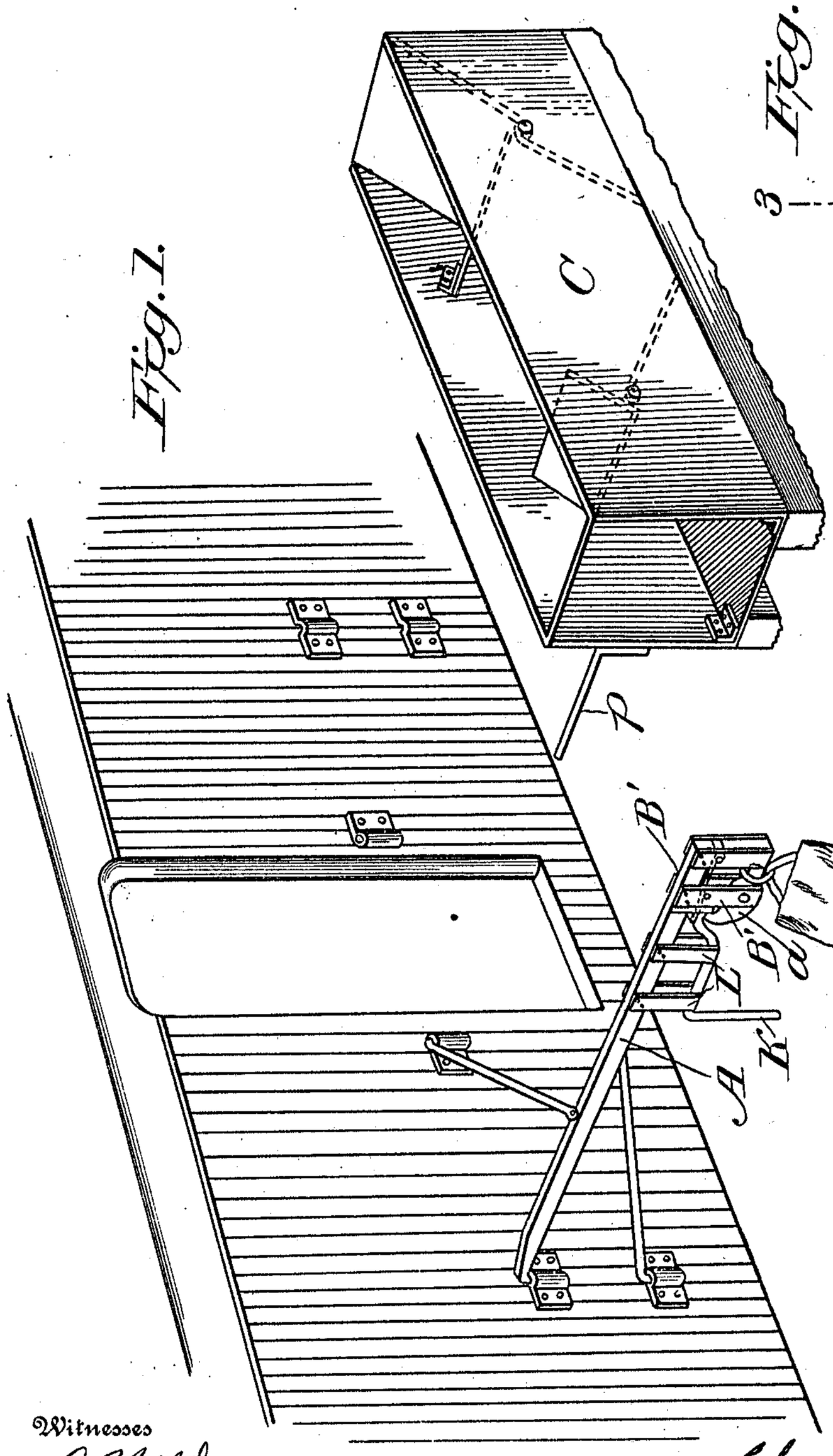


Fig. 2.

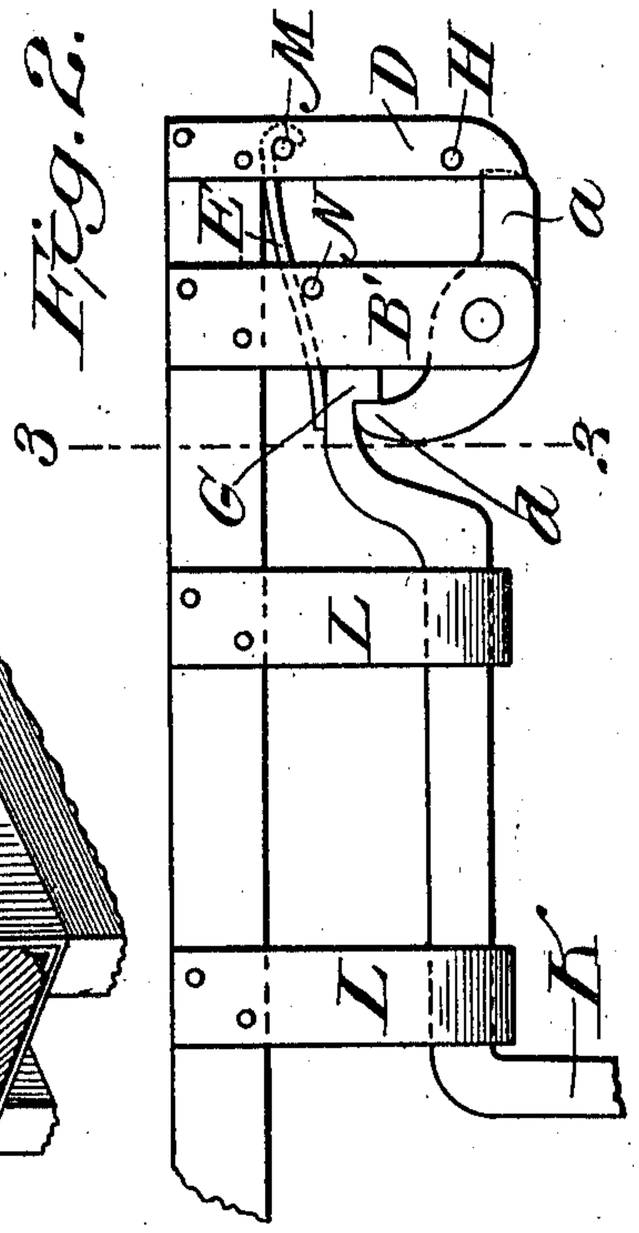
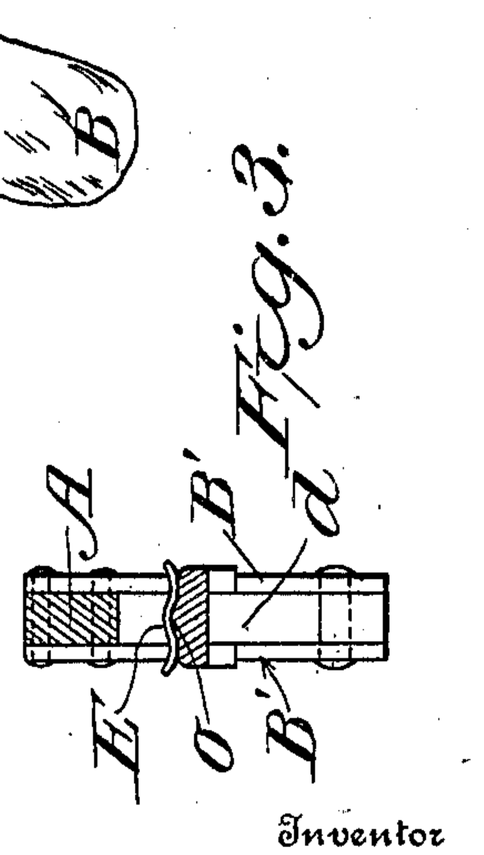


Fig. 3.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 4.

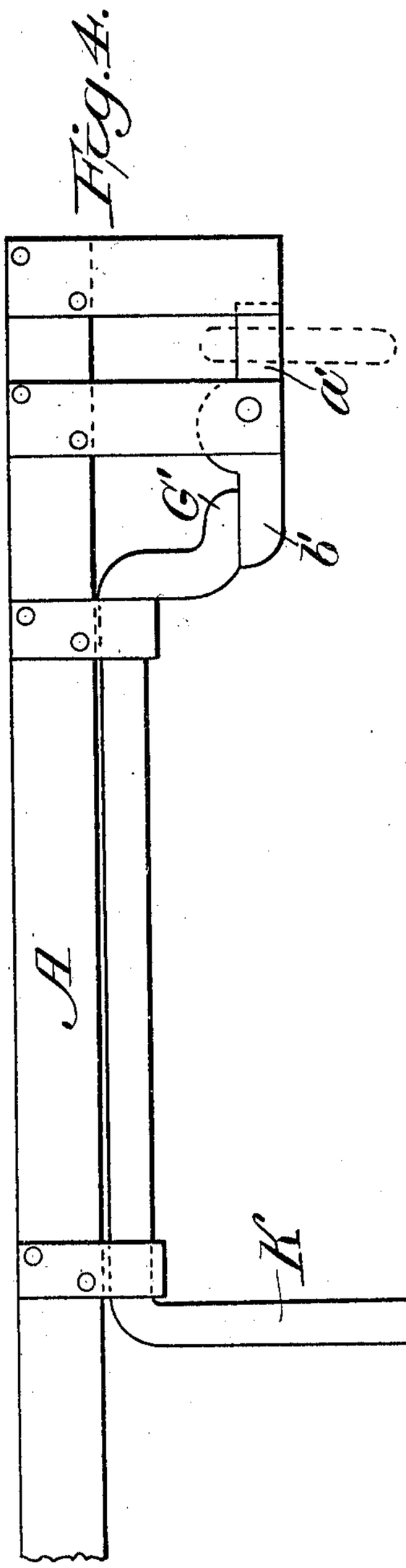

Fig. 5.

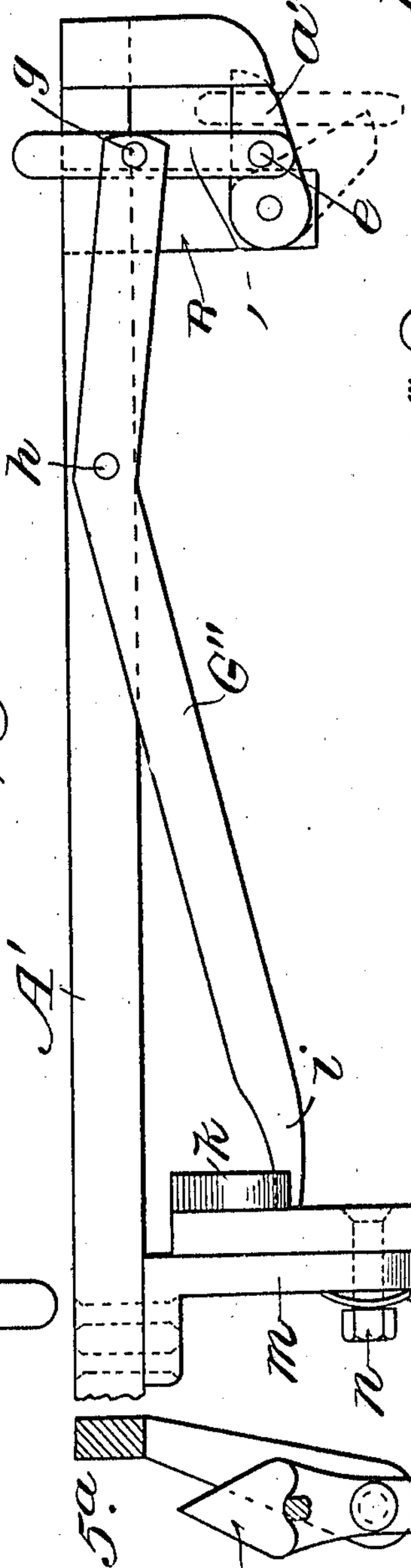

Fig. 6.

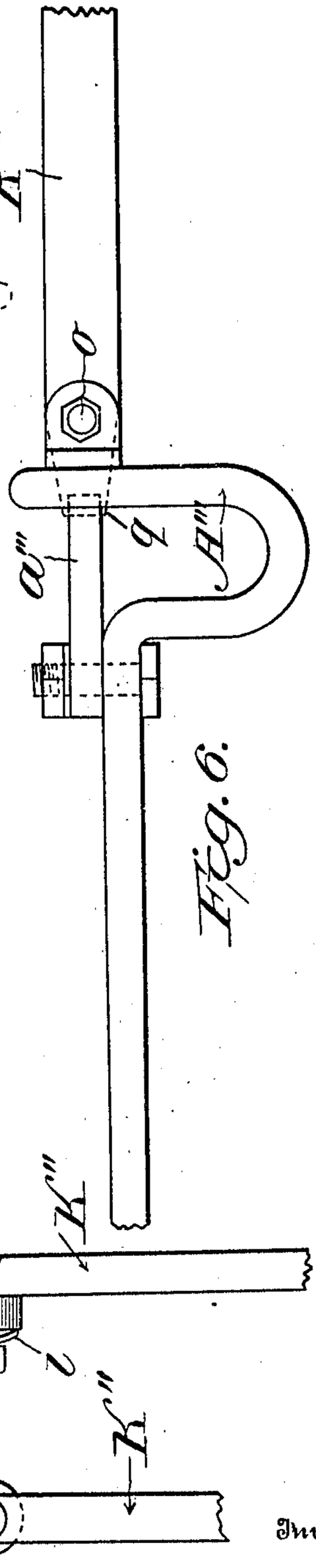

Fig. 5a.

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AUTOMATIC MAIL-DELIVERING APPARATUS.

945,272. Specification of Letters Patent. **Patented Jan. 4, 1910.**

Application filed August 21, 1908. Serial No. 449,609.

To all whom it may concern:

Be it known that I, CHARLES U. GREELEY, a citizen of the United States, residing at Bangor, in the county of Penobscot, State of Maine, have invented certain new and useful Improvements in Automatic Mail-Delivering Apparatus, of which the following is a description, reference being had to the accompanying drawing and to the letters of reference marked thereon.

My invention relates to an improvement in apparatus for delivering mail packages from moving trains. In my patent granted June 30th, 1908, No. 892,250, I have shown, described and claimed, such an apparatus, together with a special form of receptacle to be arranged on the station platform.

The present invention relates solely to the mail bag supporting and delivering or releasing device, the object being to provide a simple and effective construction to support the bag, and be released automatically at the proper time independent of the exercise of any skill or judgment on the part of the operator.

My invention may be said broadly to consist of a drop latch mechanism for holding the bag, which drop latch mechanism is automatically tripped by coming in contact with a stationary projection at the station, the weight of the bag thereupon swinging the latch and allowing the bag to drop off and be propelled by the acquired inertia into the receptacle at the station.

The invention is herein shown as embodied in various specific forms, all having the same generic or basic drop latch feature, and said invention consists in the matters hereinafter described and referred to in the appended claims.

The invention is illustrated in the accompanying drawings, in which,—

Figure 1 is a perspective view of a portion of a car, showing my apparatus applied thereto, in position for delivering a mail package, the receptacle being also shown in perspective; Fig. 2 is an elevation of my preferred form of drop latch mechanism; Fig. 3 is a section on line 3—3 of Fig. 2; Fig. 4 is a view similar to Fig. 2, of another form of my drop latch mechanism; Fig. 5 is a similar view of another modification; Fig. 5ª is a detail view of the holding cam for the tripping lever of Fig. 5; and Fig. 6 is a plan view of another modification of my drop latch mechanism.

In these drawings, A is the supporting framework for the mail bag, and B the receptacle. These are preferably of the construction set forth in my patent aforesaid, and need not be more specifically referred to.

Referring now particularly to Figs. 1, 2 and 3, the main arm or bar A has depending from it hangers B, B, between which is pivoted the drop latch *a*, which when released may tip downward toward the guard D, until its upper end *b* rests on the stop H, when it is in position to receive the ring or handle of the mail bag. K represents the handle of the operating lever, which projects downwardly in position to be engaged by the projection *p* on the receptacle C. This lever is pivoted to the hangers L, L, and its locking end G is hooked or notched to engage the upper end *b* of the drop latch, when the latter is in closed position. The end G of the lever does not engage or obstruct the drop latch in any but the closed position, but serves as a stop to prevent the backward or opposite movement of the drop latch. In loading, the drop latch is released by turning the operating lever in either direction, the bag is hung on the drop latch and the latter raised to the closed position, and the operating lever depressed to the central locked position where it is clasped at its upper or long end by the transversely broadened and hollowed end of the spring E, the hooked end of G being broadened at the extreme end thereof to overlap the edges of the hangers B, thus transferring the weight from the operating lever and its support to the edges of the hangers B, at a point close to their attachment to the main bar C. The method of producing the needed tension on the operating lever, so as to retain the same in the central locked position, but free after the same is forced only very slightly in either direction, is, as shown by the employment of the tension spring E, at the locking end of the lever. A single bolt M fastens the hooked end of said spring between the guards D, so that the same is free to work between the hangers B, the rivet N serving as a stop to determine its outward movement, and the transversely broadened flanges

of the spring at O serving both to prevent the slipping of same from place to place, and to engage the locking end G of the lever to raise the spring in passing to the central locked position. This arrangement permits the employment of a spring of any desired power, while of sufficient length to well distribute the bending thereof, and also provides lateral support for the spring, without the addition of extra parts for the purpose at the point where said support is necessary. The broadening of the operating end of the spring at O may be effected without delicate forging by simply riveting on a transverse piece of sheet metal of the requisite conformation. The guards D between which the nose of the latch swings, prevent any lateral displacement thereof. In the remaining figures of the drawing, modifications of this drop latch mechanism are shown. Referring first to Fig. 4, the drop latch a' has its end b' projecting horizontally, and the end G′ of the operating lever projects downwardly, and when the latch is in closed position rests on the top of the end b'. The striking of the handle K by the projection p moves the end G′ from engagement with b' and permits the latch to swing on its pivot and release the bag.

In Figs. 5 and 5ª, another modification is shown in which the latch a'' is pivoted between the hangers B, and is also pivotally connected at e to a link f, to which at g one end of the lever G″ is pivoted. This lever G″ is pivoted to the main bar A at h and its arm i is adapted to be engaged and held in lowered position by the notched cam k on the operating lever K″. When this operating lever strikes the projection p, the notched cam is swung to release the lever G″, and the weight of the bag draws down the latch a'' to the position shown in dotted lines in Fig. 5, and the bag drops. A spring washer l, between the supporting brackets m of the operating lever K″, and the head of the pivot bolt n of the latter, puts the operating lever K″ under proper tension to prevent accidental displacement of the end of the arm i of lever G″, from the notch in the cam k.

In Fig. 6 is shown still another modification of my invention. In this figure, which is a plan view, a yoke A‴ is formed on the end of the main bar, and the drop latch a''' is pivoted to the bar and bridges the yoke. The operating lever K‴ is horizontal, and pivoted at o, and has a ledge q, adapted to swing under the end of the drop latch and hold it. When the operating lever is struck by the projection p, which it is obvious, must be arranged in a different location from that shown in Fig. 1, the ledge q moves from under the end of the drop latch and allows the bag to drop.

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

1. In a mail bag delivering apparatus, a supporting member, a vertically swinging latch for holding the bag, means for holding the latch in horizontal position including a lever operatively engaging the latch to hold it in such position, and an operating handle or lever so arranged that when operated to disengage the holding lever from the latch as to allow the latter to drop.

2. In a mail bag delivering apparatus, a supporting member, a vertically swinging latch for holding the bag, an operating handle extending into the path of a fixed projection on the line of the track, and connections between the operating handle and the latch for holding said latch in its horizontal position, said connections including a lever resting on the latch to prevent its dropping under the weight of the bag, and said lever being arranged to swing axially when the handle is operated to release the latch.

3. In a mail delivering apparatus, the combination with a supporting member, of a vertically swinging latch, a horizontally swinging lever having one end adapted to engage and support the swinging latch in horizontal position, and means for tripping said lever to release the latch.

4. In a mail bag delivering apparatus, a supporting member, a vertically swinging latch thereon, a lever having its axis transverse to the axis of the swinging latch, and directly engaging said swinging latch to hold it in horizontal position, and means for tripping said lever to release the latch.

5. In a mail bag delivering apparatus, the combination with a supporting member, of a vertically swinging latch, a horizontally swinging lever having one end adapted to engage and support the swinging latch in horizontal position, means for tripping the lever, and a spring bearing on said lever to prevent accidental displacement thereof.

6. In a mail bag delivering apparatus, the combination with a supporting member, of a vertically swinging latch having an upturned end, a horizontally swinging lever notched or hooked at one end to engage said upturned end of the latch, and means for tripping said lever.

7. In a mail bag delivering apparatus, the combination with a supporting member, of a vertically swinging latch having an upturned end, a swinging lever notched or hooked at one end to engage said upturned end of the latch, means for tripping said lever, and a spring bearing on the notched or hooked end of said lever.

8. In a mail bag delivering apparatus, the combination with a supporting member having hangers depending therefrom, a vertically swinging latch pivoted between a pair of said hangers, a lever pivoted also to hang-

ers, and having a hooked end engaging one end of said latch, said hooked end abutting against the hangers to which the latch is pivoted, and means for tripping the lever.

9. In a mail bag delivering apparatus, the combination with a supporting member, hangers depending therefrom, a vertically swinging latch pivoted between a pair of said hangers, a lever pivoted also to hangers, and having a hooked end engaging one end of said latch, said hooked end abutting against the hangers to which the latch is pivoted, means for tripping the lever, and a spring bearing on the hooked end of said lever.

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

CHARLES ULMER GREELEY.

Witnesses:
F. E. HUTCHINSON,
C. D. CROSBY.