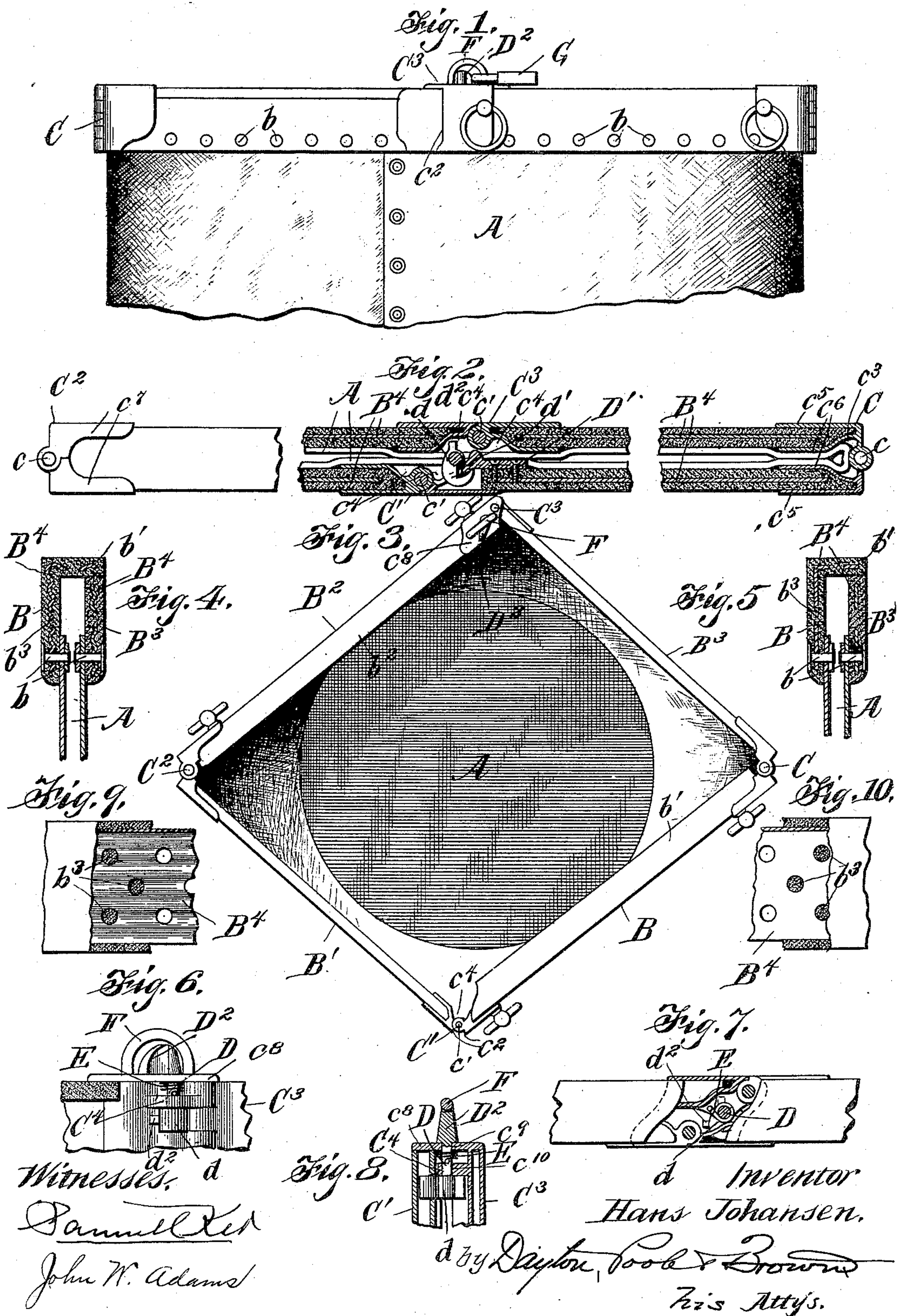


(No Model.)

H. JOHANSEN.  
MAIL BAG.

No. 533,174.

Patented Jan. 29, 1895.





# UNITED STATES PATENT OFFICE.

HANS JOHANSEN, OF CHICAGO, ILLINOIS.

## MAIL-BAG.

SPECIFICATION forming part of Letters Patent No. 533,174, dated January 29, 1895.

Application filed April 13, 1893. Serial No. 470,148. (No model.)

*To all whom it may concern:*

Be it known that I, HANS JOHANSEN, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Mail-Bags; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in mail bags and it has for its object to provide improved means for closing and locking the open ends or mouths of such bags.

The invention consists in the features of construction hereinafter set forth and claimed.

In the accompanying drawings a mail bag embodying this invention is fully illustrated.

Figure 1 is a side view of the upper part of a mail bag embodying the invention, the bag being closed and locked. Fig. 2 is a top view of the bag, also when closed, shown partly in plan view and partly in horizontal section. Fig. 3 is a top plan view of the bag, showing it open. Figs. 4 and 5 are partial vertical sectional views through the parts forming the mouth of the bag, the bag being closed, said views illustrating alternative methods of construction. Figs. 6, 7 and 8 are details of the locking mechanism. Figs. 9 and 10 are views showing in detail the method of constructing the frame plates.

As shown in the drawings, A, represents the body of a mail bag, which may be made of any suitable material and of any approved construction.

To the top margin of the body of the bag are secured four frame pieces or bars, B, B', B<sup>2</sup> and B<sup>3</sup>, in any suitable manner, as by rivets, b.

The adjacent ends of adjacent frame pieces are connected by means of hinges, C, C', C<sup>2</sup>, C<sup>3</sup>, so as to form a frame extending completely around the top or mouth of the bag, and which is adapted to form a four-sided figure, when the bag is open, as shown in Fig. 3. The relative length of said frame pieces is such that the combined length of two of said frame-pieces, as of B and B', will be equal to the combined length of the other two oppo-

site frame pieces B<sup>2</sup> and B<sup>3</sup>; thus rendering it possible to close and lock said bag by folding together the pairs of adjacent frame pieces B B<sup>3</sup> and B' B<sup>2</sup>, so as to bring the frame pieces B B<sup>3</sup> in alignment with the frame pieces B' B<sup>2</sup> in the manner shown in Figs. 1 and 2. Preferably, these frame-pieces will not all be equal in length, but will be made in sets, comprising a long frame-piece and a short one; the frame-pieces forming opposite sides of the quadrangle formed when the bag is open, being, preferably, of the same length. The object of constructing the frame in this manner is to enable the frame-pieces, when opened, to form a rectangular figure, of greater length than width, to correspond with the shape of the racks or supports upon which mail bags of the kinds heretofore commonly used, are hung for distributing mail matter therein.

The opposite frame-pieces, B and B<sup>3</sup>, have flanges, b' and b<sup>3</sup>, at their upper edges, which flanges are made integral with the frame plates on which they are formed and the inner sides thereof are adapted to fit snugly over the exposed upper edges of the frame pieces B' and B<sup>2</sup> when the bag is closed, thus securing close joints between the parts to prevent access of water or moisture to the bag when closed.

The construction of these frame-pieces are important features of the present invention and will now be described.

All of the frame pieces B, B', B<sup>2</sup>, and B<sup>3</sup> are compound in structure, consisting of suitable shaped bars or masses of soft vulcanized rubber, in which are embedded sheet metal strips, B<sup>4</sup>, of suitable size and thickness to give desired stiffness and strength to said pieces. The metal strip in the flanged frame pieces will be flanged to correspond with the external form of the same, so as to give proper form and support thereto.

As a further improvement the strips B<sup>4</sup> are perforated or apertured throughout, as clearly seen in Figs. 4 and 5. The object of so perforating the strips is to allow the formation, in casting, of pieces b<sup>3</sup>, formed integral with the parts of the rubber sheathing on opposite sides of said strips so as to form a structure of which the parts are closely bound together



and in which the rubber sheathing cannot be separated from the inclosed sheet metal strips by rough handling or continued wear.

To afford the desired stiffness, without undue weight, these sheet metal strips  $B^4$  are made of metal which is corrugated longitudinally, as shown in Figs. 4 and 9. This construction makes the frame-pieces of ample strength and stiffness, while they may at the same time be economically and easily manufactured.

The hinges  $C$  and  $C^2$  are so constructed as to allow the frame-pieces connected thereby to be closed or folded together or parallel with each other; the pivots  $c$  connecting the leaves of said hinges being for the purpose located approximately in alignment with the inner faces of the frame-pieces to which they are attached. In the case of the intermediate hinges  $C'$  and  $C^3$ , the pivots  $c'$  thereof are arranged near the outer line of the frame-pieces so that they will not interfere with the closing together of the ends of the frame-pieces, abutting shoulders  $c^2$  being provided outside of the said pivots in position to come in contact with each other and arrest further flexure of the frame-pieces when they are straightened out, or brought into alignment with each other in closing the bag. Said shoulders obviously serve to give stiffness or rigidity to the frame as a whole, when the frame-pieces are closed together and the bag is locked.

For the purpose of affording room for the folds of the bag, where the latter is attached to the frame-pieces adjacent to the hinges  $C$  and  $C^2$ , the latter are provided at the inner faces of their parts or leaves adjacent to their pivots, with vertical recesses  $c^3$  extending to the lower edges of the said leaves. The presence of these recesses gives room for a wide or rounded bend or fold in the bag when the bag is closed, thereby avoiding a sharp bend or crease, which would tend to injure the cloth or leather forming the bag, while at the same time insuring the proper folding together of the frame-pieces, notwithstanding the presence of a surplus quantity of leather or cloth adjacent to the joint, which, in the absence of any such recesses to receive it, would become jammed between the frame-pieces and prevent the same from closing. The recesses  $c^3$  are located outside of or beyond the ends of the frame-pieces to which the hinges are attached, the spaces thus afforded at the ends of the frame-pieces being utilized for said recesses. The hinges  $C'$  and  $C^3$  are also shown as provided with similar but shallower recesses  $c^4$  to give additional room for the folds of the bag adjacent thereto when the bag is opened, but these are not essential inasmuch as the folds at this place will not interfere materially with the flexing of the hinges.

The hinges may be attached to the frame-pieces in any manner found convenient or desirable, but as herein shown, the leaves or

parts of the several hinges are formed by parallel inner and outer integral plates  $c^5$   $c^6$  which are adapted to receive between them the ends of the frame-pieces, the leaves being secured to the frame pieces by rivets passing through both plates of each leaf and the intermediate metal strips and inclosing rubber of the compound frame-pieces.

For the purpose of protecting the rubber of the frame pieces, and to give additional strength to the frame, the end hinges  $C$  and  $C^2$  are desirably provided with flanges  $c^7$  extending over the upper surfaces of the frame-pieces to which said hinges are secured. One of the intermediate hinges  $C'$  is shown without any such flange but that part of the hinge,  $C^3$ , attached to the flanged frame-piece  $B^2$  is desirably provided with a flange  $c^8$  extending entirely across or over the top surface of the flange of said frame-piece. This flange  $c^8$  thus arranged, is conveniently used for giving support to parts of a locking device hereinafter described.

Locking devices for holding closed the mouth of the bag are made as follows: Through the flange  $c^8$  of the hinge  $C'$  is formed a hole,  $c^9$ , in vertical alignment with a second hole  $c^{10}$ , in a lug,  $C^4$ , cast integral with the inner surface of the side plate of the hinge. Into these holes is fitted a pivot or rock-shaft,  $D$ , to the inner end of which is secured a hooked detent,  $d$ , which extends inwardly from the inner face of the frame-pieces to which the hinge is attached and is adapted to engage a hook,  $d'$ , formed on a plate,  $D'$ , rigidly attached to the frame-piece  $B$ . The detent  $d$  is held normally in position for engagement with the hook  $d'$  by means of a coiled spring,  $E$ , attached at one end to the rock-shaft  $D$ , and at its other end to the lug  $C^4$  in which the main shaft is mounted. A lug or rearward extension,  $d^2$ , formed on the detent  $d$  is adapted to strike the inner surface of the hinge plate and thus prevent the spring from rotating the said detent so far as to prevent its engagement with the hook  $d'$ . The portions of the detent  $d$  and hook  $d'$  which strikes each other when the bag is closed are curved or beveled (Fig. 2.) so that as said surfaces come into contact with each other, the detent  $d$  will be forced back against the action of the spring,  $E$ , until the detent passes the end of the hook, at which time the spring will cause the engagement of the detent and hook and lock the bag.

The outer end of the rock-shaft  $D$  projects above the outer surface of the frame-piece, and an actuating lever,  $D^2$ , is secured thereto by means of which the detent  $d$  may be disengaged from the hook  $d'$  in unlocking the bag.

Rigidly secured to the frame-piece, preferably by attachment to the flange of the hinge through which the rock shaft  $D$  passes, is a staple,  $F$ . This staple is so situated relatively to the rock-shaft and the actuating lever  $D^2$  as not to interfere with the movement of said act-



uating lever, incident to the opening and closing of the bag, while at the same time allowing the shackle *f* of a padlock *G* to be inserted therein, when the bag is closed, so as to prevent movement of the actuating lever necessary to disengage the hooks. Thus the bag having been closed and the detent engaged with the hook and a padlock fastened in said staple, the bag will be locked.

Preferably, and as shown in the drawings, the ends of the staple and the rock-shaft will be in alignment, the pivot being nearer one side of the staple than the other, so that the actuating lever may swing through the space between the ends of said staple. In its normal position also, which is substantially that which it will occupy when the bag is closed and the hooks are in engagement, the actuating lever will extend obliquely through the opening of the staple, in such position that the shackle of a padlock secured to said staple will come between one side of the staple and said actuating lever and will prevent movement of said actuating lever in a direction tending to disengage the hooks.

As shown in Figs. 5 and 10, the metal strips *B*<sup>4</sup> are made of flat or sheet metal without corrugations. While this construction is a practical one, that shown in the other figures of the drawings in which said strips are longitudinally corrugated, is preferred for reasons heretofore stated.

While the parts of the locking mechanism are shown as mounted on one of the hinge plates yet this construction is obviously not essential inasmuch as supporting plates or bearings for the locking device may be secured in any desired manner to the frame-pieces. As, for instance, the part herein called the flange *c*<sup>3</sup> may consist of a plate separate from the hinge instead of being integral with one of the parts or leaves thereof.

I claim as my invention—

1. A frame for the mouth of a mail bag consisting of a plurality of frame-pieces hinged together, each frame-piece consisting of a strip of metal embedded in vulcanized rubber, substantially as described.

2. A frame for the mouth of a mail bag, consisting of a plurality of frame-pieces hinged together, each plate consisting of a perforated strip of sheet metal embedded in vulcanized rubber, substantially as described.

3. A frame for the mouth of a mail bag, consisting of a plurality of frame-pieces hinged together, each frame-piece consisting of a strip of corrugated sheet metal embedded in vulcanized rubber, substantially as described.

4. A frame for the mouth of a mail bag, consisting of a plurality of frame-pieces hinged together, one of each pair of opposing frame-pieces being provided with a flange adapted to overlap the top edge of the other frame-piece, the said frame-pieces each consisting of a strip of metal embedded in vulcanized rubber, substantially as described.

5. A frame for the mouth of a mail bag, consisting of four frame-pieces hinged together at their ends, the hinges at the outer ends of the frame being provided at their inner faces with vertical grooves or recesses to afford space for the folds of the bag, substantially as described.

6. A frame for the mouth of a mail-bag consisting of four frame-pieces each consisting of a strip of metal embedded in a recess of vulcanized rubber, and separate metal hinges secured to the said metal strips and connecting together the ends of the said frame-pieces, substantially as described.

7. A frame for the mouth of a mail-bag, consisting of four frame-pieces each consisting of a metal strip embedded in a mass of vulcanized rubber, and separate metal hinges connecting the said frame pieces, said hinges being provided with vertical grooves or recesses to afford space for the folds of the bag, substantially as described.

8. A frame for the mouth of a mail-bag, consisting of frame-pieces hinged together at their ends, combined with a locking device consisting of a pivoted hook mounted on the inner face of one of the frame-pieces at one side of the mouth of the bag, and a stationary hook similarly mounted on the inner opposite side of the mouth of the bag, said hooks being adapted to engage each other when the bag is closed, substantially as described.

9. A frame for the mouth of a mail-bag consisting of frame pieces hinged together at their ends combined with a locking device consisting of a pivoted hook or detent mounted on the inner face of one of the frame-pieces at one side of the mouth of the bag, a stationary hook similarly located at the other side of the mouth of the bag, and a spring for actuating the said detent, substantially as described.

10. A frame for the mouth of a mail-bag consisting of frame-pieces hinged together at their ends, combined with a locking device consisting of a detent and hook, located at the inner faces of the frame-pieces, a spring to actuate the detent, an actuating lever located on one of the frame-pieces and connected with the said detent, and a rigid staple extending over the said lever whereby the latter may be held from turning by a piece or part inserted through the staple, substantially as described.

11. A frame for the mouth of a mail-bag, consisting of frame-pieces hinged together at their ends, combined with a locking device consisting of a detent and hook located at the inner faces of the frame-pieces, a spring to actuate the detent, an actuated lever located on one of the frame-pieces and connected with the said detent, a rigid staple extending over the said lever, and a padlock shackle or other device inserted between the staple and the said lever to hold the same from turning, substantially as described.

12. A frame for the mouth of a mail-bag consisting of frame-pieces hinged together at



their ends, combined with a locking device consisting of a detent and hook on the inner faces of the frame-pieces, and means located on the outer face of one of the frame-pieces  
5 and connected with said detent for locking the same from movement, substantially as described.

13. A frame for the mouth of a mail-bag consisting of frame-pieces hinged together at  
10 their ends, combined with a locking device consisting of a detent and hook on the inner faces of opposite frame-pieces, a rock-shaft attached to the detent and extending to the

outer surface of the frame-piece on which the detent is mounted, and a locking device connected with the rock-shaft for holding the detent from movement, substantially as described. 15

In testimony that I claim the foregoing as my invention I affix my signature in presence  
20 of two witnesses.

HANS JOHANSEN.

Witnesses:

TAYLOR E. BROWN,  
ALBERT H. GRAVES.