

(No Model.)

2 Sheets—Sheet 1.

G. B. JOHNSON.
AUTOMATIC MAIL BAG FASTENER.

No. 473,258.

Patented Apr. 19, 1892.



FIG. 1.

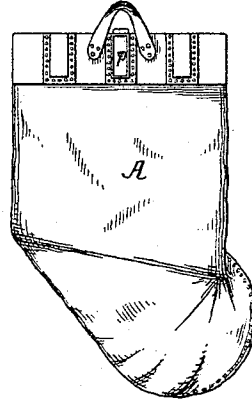


FIG. 2.

FIG. 3.

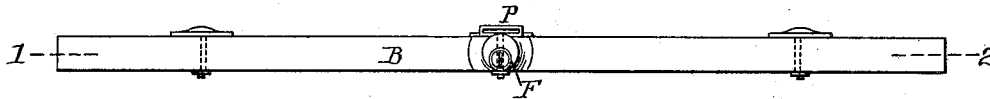


FIG. 4.

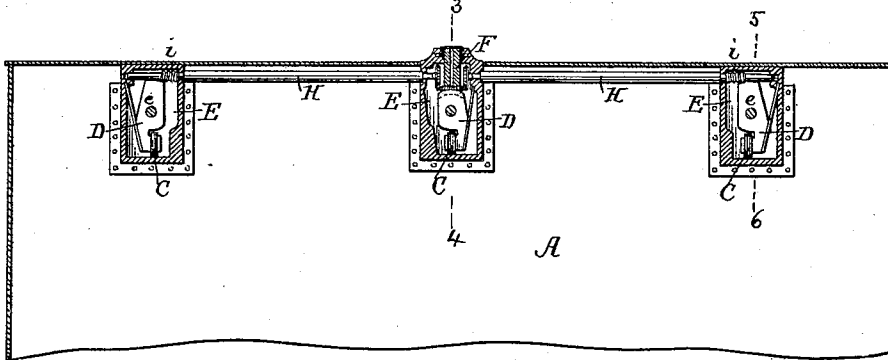
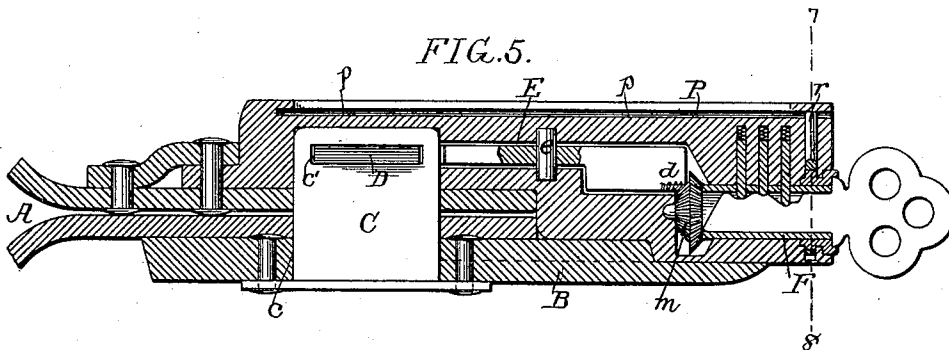


FIG. 5.



Witnesses:
Murray C. Boyer
A. V. Grouse

Inventor:
George B. Johnson
by his Attorneys
Howson & Howson

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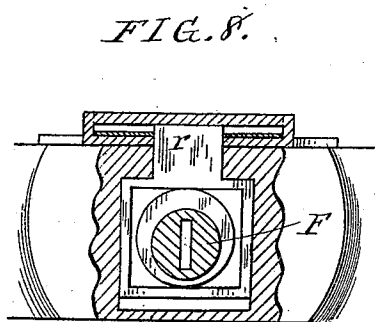


FIG. 8.

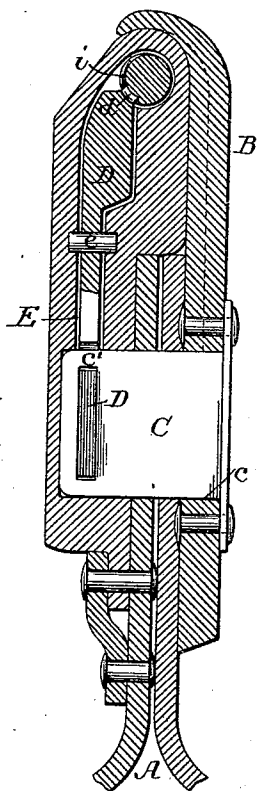


FIG. 6.

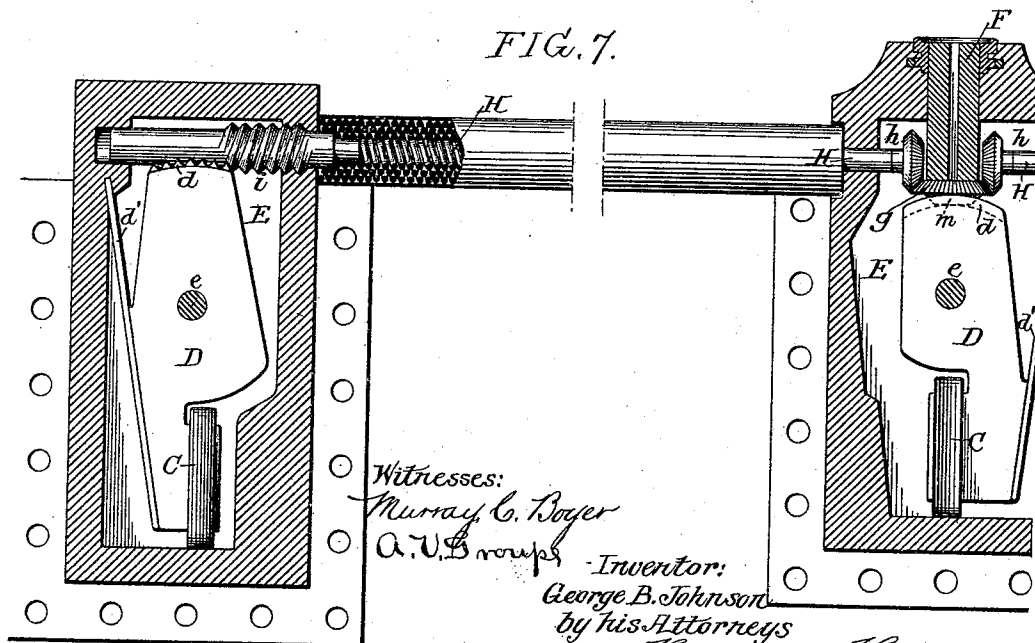


FIG. 7.

Witnesses:

Murray C. Boyer

A. V. Brown

Inventor:

George B. Johnson

by his Attorneys

Howe & Howson

UNITED STATES PATENT OFFICE.

GEORGE B. JOHNSON, OF WEST CHESTER, PENNSYLVANIA.

AUTOMATIC MAIL-BAG FASTENER.

SPECIFICATION forming part of Letters Patent No. 473,258, dated April 19, 1892.

Application filed October 6, 1891. Serial No. 407,871. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. JOHNSON, a citizen of the United States, and a resident of West Chester, Chester county, Pennsylvania, have invented certain Improvements in Automatic Mail-Bag Fasteners, of which the following is a specification.

The object of my invention is to provide for the quick and automatic closing and locking of the mouth of a mail bag or pouch, which will leave the mouth of the pouch pliable and adapted for hanging in a rack of any shape.

My invention further comprises a more convenient arrangement of the label-case and a locking device for the same.

In the accompanying drawings, which form a part of this specification, Figure 1 is a front view of the pouch as closed. Fig. 2 is a rear view of the same. Fig. 3 is a plan view of the same on a larger scale. Fig. 4 is a transverse section on the line 1 2, Fig. 3. Fig. 5 is a transverse section, on an enlarged scale, on the line 3 4, Fig. 4. Fig. 6 is a similar view on the line 5 6, Fig. 4. Fig. 7 is an enlarged view, partly in section, showing in detail the construction and arrangement of the locks and their connections; and Fig. 8 is a sectional view on the line 7 8, Fig. 5.

The method of closing the mouths of mail-bags now in use is slow and inconvenient, and the devices employed for that purpose either render the mouth of the pouch rigid, easily broken, inconvenient, and unfit for use in the ordinary post-office rack to receive mail or are not quick and automatic in the method of closing and locking them, and hence do not overcome the objections to the methods now in use for the purpose, and which it is the design of this invention to overcome.

Referring to the drawings, A is the pouch, which is of the standard construction used by the United States Postal Department, but with my improvement in the devices for closing, locking, and labeling the pouch attached thereto. The side A of the pouch is provided with a closing-flap B, which extends over the mouth of the pouch and is provided with a number of staples C, which pass through openings *c* in the pouch, the staples being each provided with an orifice *c'*, through which is adapted to pass a locking-bolt D, carried by the opposite side of the flap B. The number

of staples and locking-bolts may be varied to suit special requirements; but I have shown only three of such staples and locking-bolts, which will be sufficient for an ordinary pouch.

The locking-bolts are placed within compartments E in metallic boxes riveted at intervals to the bag and are pivoted at or about their centers upon pins *e*. The upper end of each bolt is provided with teeth *d*, by which it may be moved through gearing operated by a locking mechanism. The bolts, however, are preferably not operatively connected to the operating mechanism, except during the opening of the bag, each bolt being independent and being held in the locked position by means of a spring *d'*, secured in the box E and having its lower end acting upon the bolt, so that the bolts, being free, will automatically engage with the openings *c* in the staples C, the edge of the bolt and the end of the staple being beveled to assist in this automatic locking.

F represents a lock-barrel of any ordinary construction, and secured to or forming part of the lower end of this lock-barrel is a bevel-gear *g*, the teeth of which engage with the teeth of similar bevel-wheels *h*, mounted upon flexible shafts H, and said flexible shafts are provided at their opposite ends with worms *i*, adapted to engage with the teeth *d* in the bolts D, the flexible shaft being of any well-known pattern, preferably one of that class formed of a series of coiled springs placed one within the other, and the whole being covered by a flexible shell, which may be united to the mail-bag and be free to yield to its movement.

On the lower face of the bevel-gear *g* is a second bevel-gear *m*, the teeth of which engage with teeth *d* on the upper end of the central locking-bolt. This bevel-pinion, however, is provided with teeth for only a portion of its circumference, so that none of its teeth may be in engagement with the teeth *d* on the locking-bolt when the bag is locked.

In unlocking the bag the key is inserted and turned until by the engagement of the teeth of the bevel-wheel *m* with the teeth *d* of the central bolt and the engagement of the worms *i* with the teeth *d* of the side bolts the bolts are all forced simultaneously out of engagement with their respective staples, the worms *i* being screwed out of that side of the

compartment E with which they engage and into engagement with the teeth *d*. The flap is then thrown back and the mouth of the bag is opened to receive the letters. The key is
 5 then turned in the reverse direction until the bolts are in the first position, the springs *e* acting to keep them in such position until on the closing of the flap and the insertion of the staples the bolts are pressed back against the
 10 spring to permit the staple to enter, and are then forced into the openings *c'* in the staple, locking the bag automatically.

In Fig. 5, P represents a slide in which the label *p* is inserted at the top, and *r* is a gate
 15 adapted to close the mouth of the slide P, the said gate being acted upon by an eccentric-strap surrounding an eccentric on the barrel of the lock or being operated upon by a cam on said barrel, which will be turned when the
 20 lock is operated and will open or close the mouth of the slide P, depending upon which direction the lock-barrel is turned.

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

25 1. The combination, in a locking device for mail-bags, of a series of bolts, gear-teeth thereon, a series of staples with which said bolts are adapted to engage, flexible shafting, worms
 30 carried thereby and engaging with the teeth on said bolts, with a centrally-located locking device, said shafting comprising a series of concentric springs and having a flexible covering, the whole inclosed in a fold of the bag
 35 and capable of yielding to its movements, substantially as specified.

2. The combination of the boxes, independent bolts carried thereby, springs carried by said bolts and adapted to hold them in a locked position, a locking device normally out
 40 of engagement with said bolts, flexible shafting connecting said bolts to the locking device, and worms on the opposite ends of the shafting, adapted to engage teeth on the tops
 45 of the bolts, whereby the entire series of bolts may be acted upon simultaneously, substantially as specified.

3. The combination of the pivoted bolts, the staples with which said bolts are adapted to engage, teeth on the upper end of said bolts, worms adapted to engage with said teeth, the
 50 flexible shafts upon which said worms are mounted, bevel-gears on the opposite ends of said shafts, a lock-barrel, and a bevel-gear on the lower end of said barrel, adapted to en-
 55 gage with the bevel-wheels on the shafts, substantially as specified.

4. The combination, in a mail-bag fastening, with a label-guide, of a gate for closing the mouth of said guide, a lock-barrel, and a
 60 cam or eccentric on said lock-barrel, adapted to engage with the gate, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE B. JOHNSON.

Witnesses:

LYDIA R. PARKER,
 WILSON TOWNSEND.