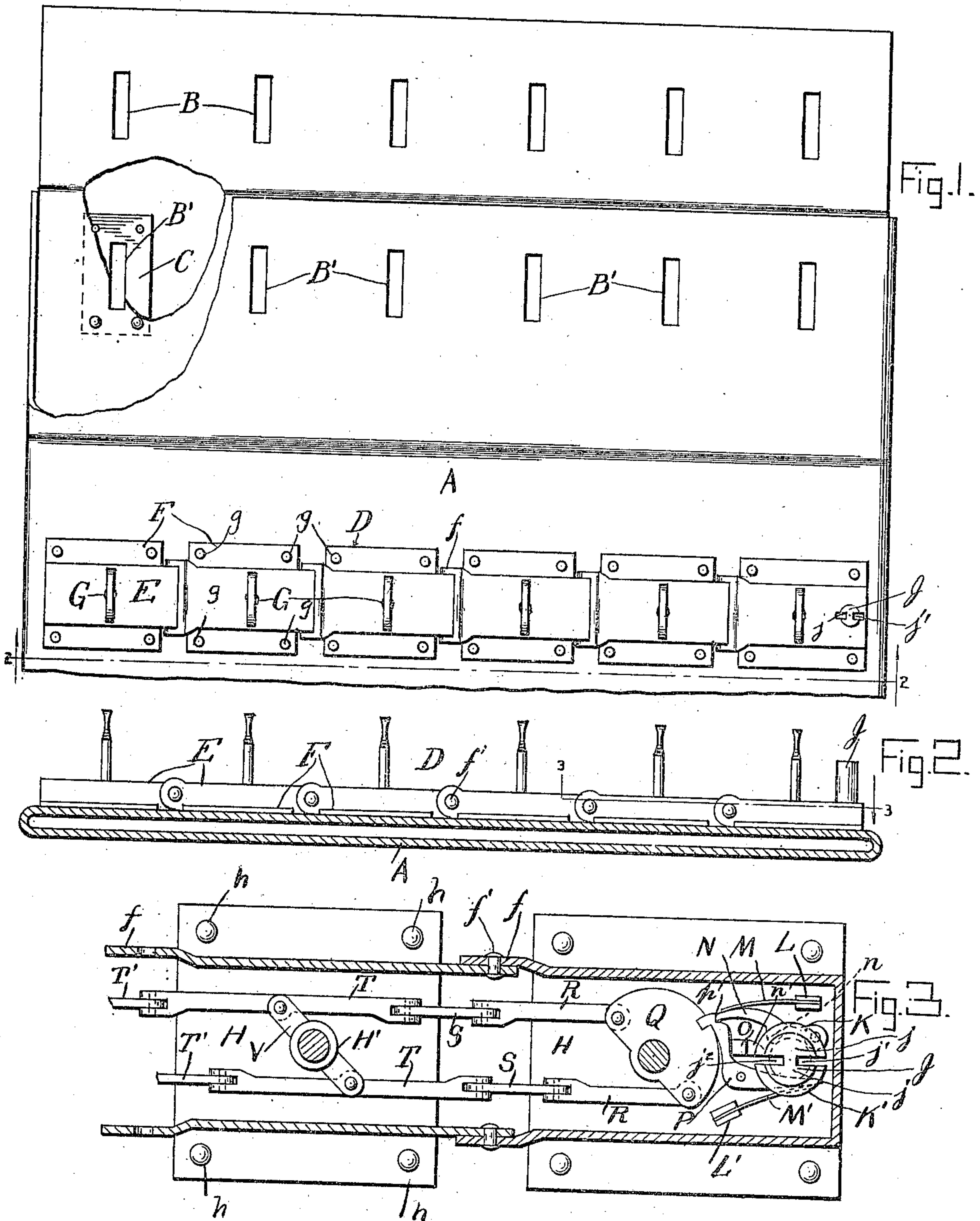


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MAIL BAG LOCK.
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948,543.

Patented Feb. 8, 1910.



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MAIL-BAG LOCK.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, SOLOMON FEHNEL, citizen of the United States, residing at Allentown, in the county of Lehigh and State of Pennsylvania, have invented certain new and useful Improvements in Mail-Bag Locks, of which the following is a specification.

My invention has relation to improvements in locks for mail bags, and operating mechanism therefor, and the invention has for its object to provide suitable locking and unlocking means through the medium of which a reciprocating or alternating motion is given mainly to a double parallel link connection from an oscillating motion given a cam; and a further object of the invention is to simplify, improve, and reduce the cost of construction of this class of bags over the existing prior state of the art.

With these and other objects in view, the invention consists in the novel construction and combination of parts as will be hereinafter more in detail described, and the asserted novelty specifically claimed.

I have fully and clearly illustrated my invention in the accompanying drawing, in which,

Figure 1 represents a longitudinal sectional view of my lock as applied to a mail bag. Fig. 2 represents an edge view of the same on the line 2—2 Fig. 1, and Fig. 3 represents a horizontal sectional view on line 3—3 Fig. 2, showing the lock operating mechanism upon an enlarged scale, a portion of the mechanism being broken away.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings: A designates a mail bag of the ordinary, or it may be of any approved construction.

B designates a series of rectangular slots formed at predetermined distances apart in the flap at the top and one side of the bag, and B' is a series of similar slots formed in the same side and at the top of the bag and in alinement with the series of slots B. This series of slots B' is provided with correspondingly slotted plates C secured to the bag for the protection of the same from wear at this point when a series of turn buttons pivotally secured in the flexible lock casing or housing is projected through these slots B and B' and through another and third series of similar slots formed in the opposite side and top of the bag, and which

also registers with the slots B and B', this third series of slots not being shown in the drawing.

D designates a metallic sectional flexible lock for mail bags, composed of a series of upper metallic plates E, each plate having flanges F parallel to said plates E and flexibly and pivotally connected together at their ends by means of off-set lugs f and pivots f', these flanges F and lug connections being formed integrally with the plates E a key-hole being formed in the locking end section for the insertion of a key more clearly shown in Fig. 2 of the drawing. The flanges of the plates E are also provided at their ends with holes g, g, g, g, these holes and the larger ones G formed centrally in the plate E are for a purpose which will be hereinafter explained.

H designates a series of lower metallic plates which are fitted within grooved channels formed upon the underside of the flanged plates E. These plates H also having holes h, h, h, h, in their ends corresponding with those holes g, g, g, g, in the flanged plates E, and which register therewith to engage the ends of a corresponding number of rivets by means of which the lock is rigidly and securely riveted to the bag. The plates H have also a larger hole H' formed centrally therein and are in alinement with the centrally formed holes G in the series of upper plates to loosely engage the corresponding number of turn buttons I which when the top of the bag is folded over they are projected through the rectangular slots therein, and in conjunction with the locking mechanism securely fasten the bag. These lower plates H which are secured to the underside of the upper flanged plates as hereinbefore described, constitute the complete casing or housing of the lock.

J designates a rotatable tumbler, rotatably secured in the end of the lower plate of the end or lock section, and is divided off into two semicircular sections j, j, by vertical grooves j', j', said sections being provided with semicircular flanges K, K'.

L, L' designate bifurcated studs, the stud L being rigidly secured to the lower plates H in juxtaposition to the tumbler on one side thereof, and the stud L' is rigidly secured to the plate H upon the opposite side at a greater distance from the tumbler, and within the bifurcations of the studs one end each of springs M, M' are rigidly secured,

the free end of the spring M bearing against the free end of a pawl N, the opposite end of said pawl being pivotally secured to the plate H. Near this end of the pawl N is a
 5 small projection *n* which contacts with a projection *n'* formed on one side of a stud O secured to the plate.

P designates a bell crank pawl pivotally secured to the plate midway its length, upon
 10 one end of which the spring M' bears. The opposite end of the pawl P has a projection on its end, and also a notch *p'* in the rear of the former, the projection formed taking in a notch in a semi-circular cam, and the free
 15 end of the pawl N takes in the notch *p'* of the pawl P.

Q designates a semicircular cam having formed in its periphery a notch above referred to. This cam is rigidly secured to
 20 the lower end of the turn-button which is projected from this the end lock section H and through the hole or opening formed in the upper flanged plate E of this section. The cam Q is slotted on its periphery a por-
 25 tion of its way to engage the ends of two parallel rods R, R, to which said cam is pivotally secured, the opposite and slotted ends of these rods R, R, are pivotally secured in turn to one end each of links S, S, the
 30 opposite ends of said links being pivotally secured to the ends of rods T, T.

To one of the turn-buttons is secured one of a series of cross arms V having its free ends slotted to pivotally engage the parallel
 35 rods T, T, one end each of links T', T' being pivotally secured to the opposite ends of said rods T, T. The same pivotal connections of rods and links prevail throughout the length of the lock.

40 A lock of the construction as herein shown and described is particularly adapted to mail bags generally as it matters not in what position the bag is placed it adapts itself to such positions and to convenience in
 45 handling the mails.

The operation of my lock will be obvious when taken in connection with the description thereof and the accompanying drawing, but may be briefly rehearsed as follows:
 50 The operator to lock the bag turns the turn-buttons in a direction at right angles to the rectangular slots in the flap and bag and locks the same. To unlock the bag the key is inserted in the key-hole and tumbler of
 55 the lock and he turns it in a direction to the right which releases the cam engaging pawl from the notch in the cam which will allow the turn-buttons to come in alinement with the rectangular slots in the flap and bag and
 60 allows said bag to open.

What I claim as new and desire to secure by Letters Patent, is;—

1. The combination with a mail bag, a flexible lock formed in sections and the sec-
 65 tions thereof secured to the bag by means of

rivets passed through the bag, and having holes formed in the flanges of said sections, upper and lower sectional plates having turn-button holes formed centrally therein, turn-buttons secured pivotally to the lower
 70 plates and projected centrally through the turn-button holes in the upper plates.

2. The combination with a mail bag, a flexible lock formed in sections, and the sections thereof secured to the bag by means of
 75 rivets riveted in the bag and passed through holes formed in the flanges of said sections, upper and lower plate sections having turn-button holes formed centrally therein, turn-buttons having their lower ends pivotally
 80 secured in the lower plates and projected centrally through the alined turn-button holes in the upper plates; of operating mechanism comprising a tumbler, pawls pivotally se-
 85 cured to the lower plate each side of the tumbler, a short stud having a small projection thereon projected from the plate and between the pawls, and short bifurcated studs secured to the plate upon each side of
 90 the pawls and tumbler, and springs secured in the bifurcated studs and bearing upon the free ends of the pawls.

3. The combination with a mail bag, a flexible lock formed in sections and the sections thereof secured to the bag by means of
 95 rivets riveted in the bag and passed through holes formed in the flanges of said sections, upper and lower plate sections having turn-button holes formed centrally thereon, turn-buttons having their lower ends pivotally
 100 secured in the lower plates and projected centrally through the alined turn-button holes in the upper plates operating mechanism comprising a tumbler, pawls pivotally
 105 secured to the lower plate each side of the tumbler, a short stud having a small projection thereon projected from the plate and between the pawls, short bifurcated studs secured to the plate upon each side of the
 110 pawls and tumbler, springs secured in the bifurcated studs and bearing upon the free end of the pawls; of a semi-circular cam secured to the lower end of one of the turn-buttons rods having one end each pivotally
 115 secured to the cam, one end each of links secured to the opposite ends each of the rods, the opposite ends each of said links being secured to one end each of another pair of rods, and one end each of another pair of
 120 links pivotally secured to the opposite end of said rods, a cross arm having its ends pivotally secured to the last mentioned rods, a turn-button pivotally secured in the lower plate for holding the rods in parallelism.

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

SOLOMON FEHNEL.

Witnesses:

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 F. T. L. KEIFER.