

J. B. BUNDREN & J. W. HEDGES.
BAG LOCK.

No. 530,011.

Patented Nov. 27, 1894.

Fig. 1.

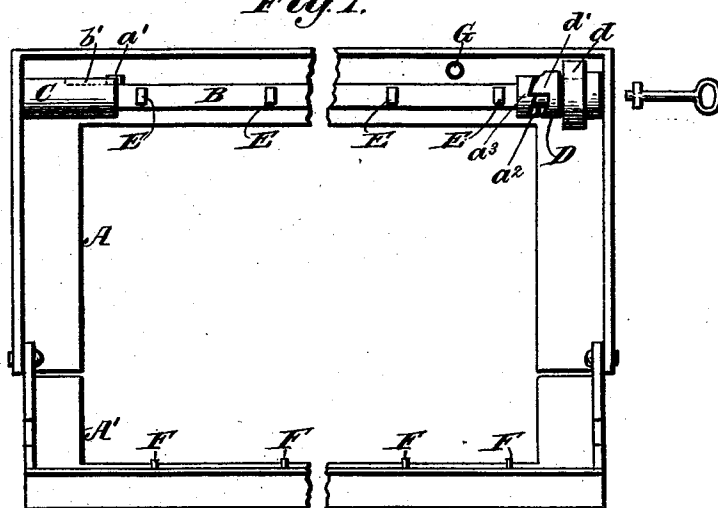


Fig. 2.

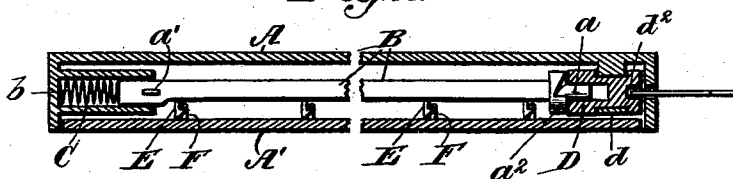
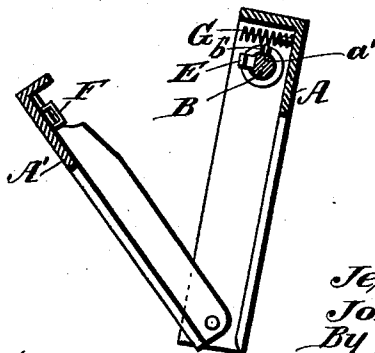


Fig. 3.



Witnesses.

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Fig. 4.

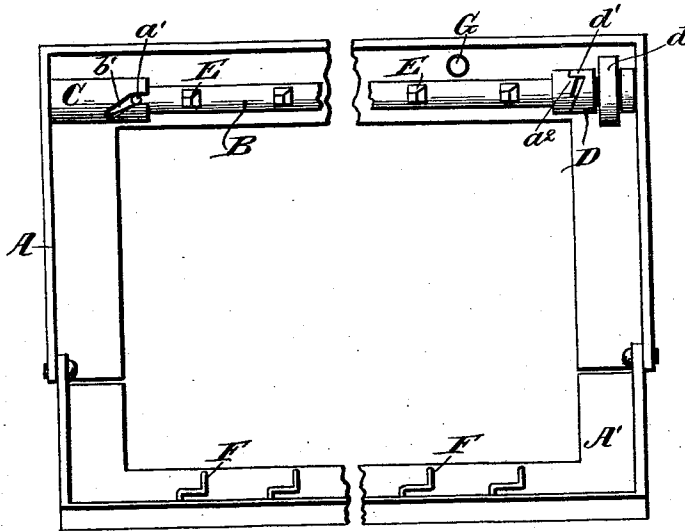
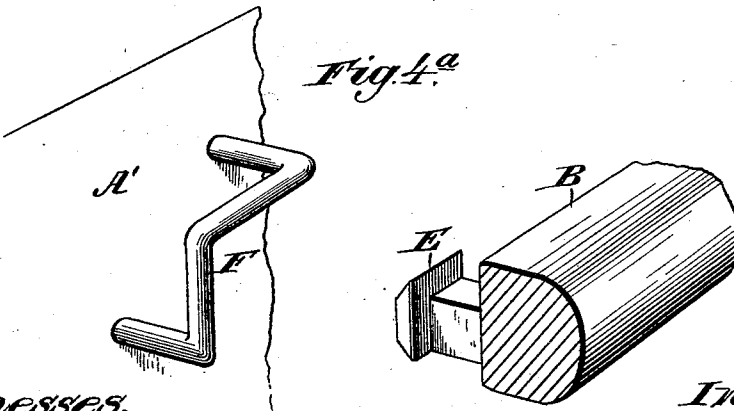


Fig. 4a



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(No Model.)

3 Sheets—Sheet 3.

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Fig. 5.

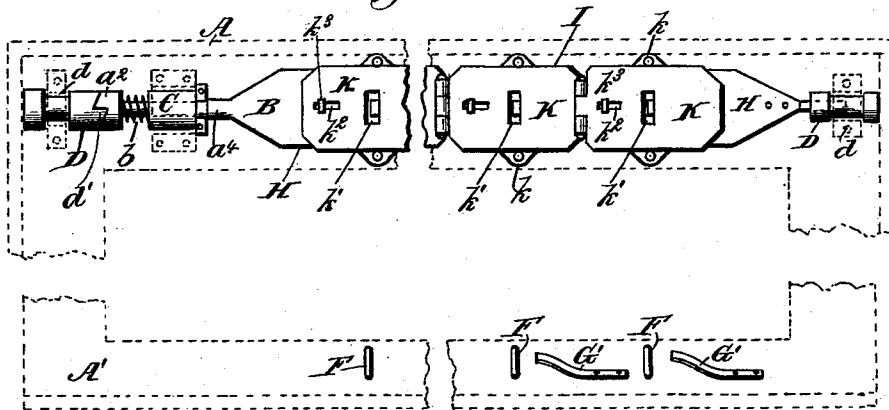


Fig. 6.

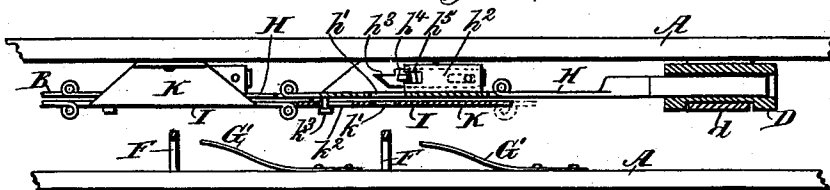


Fig. 7.

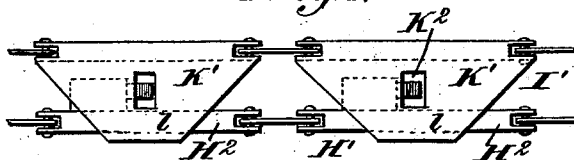


Fig. 8.



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UNITED STATES PATENT OFFICE.

JESSE B. BUNDREN AND JOHN W. HEDGES, OF DANVILLE, KENTUCKY.

BAG-LOCK.

SPECIFICATION forming part of Letters Patent No. 530,011, dated November 27, 1894.

Application filed May 10, 1894. Serial No. 510,776. (No model.)

To all whom it may concern:

Be it known that we, JESSE B. BUNDREN and JOHN W. HEDGES, citizens of the United States, residing at Danville, in the county of Boyle and State of Kentucky, have invented new and useful Improvements in Bag-Locks, of which the following is a specification.

Our invention relates to new and useful improvements in locks, and is more especially designed for use in connection with mail pouches, satchels, sacks, and the like, but which may also be employed for locking purposes in general.

The object of our invention is to produce a lock combining great simplicity and effectiveness with ease and rapidity of operation, and it consists in the novel construction, arrangement and combination of parts hereinafter described and definitely pointed out in the claims following the description, due reference being had to the accompanying drawings forming part of this specification, wherein—

Figure 1 is a front elevation of our improved lock, showing the same open. Fig. 2 is a longitudinal section thereof showing the lock closed. Fig. 3 is a vertical cross-section thereof. Fig. 4 is a front elevation of a modified form of lock wherein the locking bar has a combined longitudinal and partial rotary movement; Fig. 4^a, a perspective view of one of the hooks or catches to be used in conjunction with the locking bar shown in Fig. 4. Fig. 5 is a front elevation of another modified form of lock showing the same open. Fig. 6 is a top plan view thereof, partly in section, showing the lock partially closed. Fig. 7 is a top plan view of a third modification, and Fig. 8 a similar view of a fourth modification.

Referring to Figs. 1, 2 and 3 of the drawings the letters A, A', indicate two hinged sections that are to be locked together and that are here shown merely to illustrate one method of applying the lock. Such form of lock may conveniently be used for satchels and like articles. To the section A is secured the locking mechanism and to the section B are secured the staples or hasps to be engaged thereby, and which we will now proceed to describe.

B indicates a longitudinally movable locking bar journaled at one end in a barrel or hollow bearing C and at its other end is pro-

vided with a reduced portion *a*, that is journaled in the locking cylinder D that in turn is journaled in a bracket *d* secured to the section A. Arranged within the barrel C behind the end of the locking bar B is a spiral spring *b* which acts to throw said locking bar outward from the barrel for the purpose hereinafter described, and said locking bar is provided with a pin *a'* that travels in a slot *b'* formed in one side of the barrel and prevents the locking bar from turning. The locking bar is provided with a series of beveled hooks or catches E that are adapted to engage hasps or staples F secured to the section A', and is also provided with a double cam faced shoulder *a*² that engages the double cam-faced end *d'* of the locking cylinder D. The cylinder in its outer end is provided with a key-hole recess *d*² of any suitable or desirable configuration and is adapted to be engaged by a key of the proper form for turning the cylinder in its bracket. To one of the sections, as A, is secured one end of a coiled spring G, the other end of which bears against the section A' when the two sections are closed and acts to throw the two sections apart when the lock is opened or unlocked.

The operation of our improved locking device will be readily understood. To lock the two sections it is merely necessary to press them together, when the staples F will engage the beveled ends of the hooks or catches E and force the locking bar B to one side against the tension of the spiral spring *b* in the barrel C, until the staples have passed behind the hooked ends of said catches E when the spring *b* will immediately force back the locking bar causing the hooks or catches to engage and hold the staples. To unlock the sections the key is inserted in the key hole recess *d*² and the cylinder D given a partial rotation, which causes the cam faced end *d'* of said cylinder to ride over the cam-faced shoulder *a*² of the locking bar B, forcing said bar to one side against the tension of the spring *b*, thus causing the hooks or catches E to disengage the staples F, when the coiled spring G will immediately force the two sections A and A' apart. At times it may be desired to close the two sections without locking them, and to permit this being done we provide one of the cam faces *a*²

on the locking bar B with a notch or recess a^3 , and by giving the cylinder D a slight rotation the highest point of one of the cams d' on the cylinder will rest within said notch or recess and hold the locking bar in position to keep the hooks or catches out of engagement with the staples until the cylinder is given a further partial rotation by means of the key.

In a lock constructed as above described it will be apparent that should the locking bar B be moved back longitudinally against the force of the spring b by accident or otherwise, the lock would immediately open, and while such a displacement of the locking bar is extremely improbable, nevertheless under some circumstances it is important that such a result be rendered impossible and we have therefore devised the modified form of locking bar shown in Fig. 4, wherein in order to disengage the locking bar from the hasps or staples it will be necessary to give to said bar a combined longitudinal and partial rotary motion. As shown in said Fig. 4 all the parts, excepting the barrel C and the hooks or catches E, are constructed in the same manner as before described and as shown in Figs. 1, 2, and 3. To give to the locking bar B a partial rotary, as well as a longitudinal movement, we make the slot b' in the barrel C oblique, instead of straight as before described, that is to say, the slot is formed at an angle or incline to the longitudinal axis of the barrel C and locking bar B, so that, when the bar is forced back by the cam cylinder D the pin a' on the locking bar is forced to one side by the walls of the slot b' , partially turning or rotating the said bar. The catches or hooks E carried by the locking bar are constructed in the same manner as that before described, excepting that said catches or hooks in addition to being recessed and beveled on that side next adjoining or facing the staples F, are similarly recessed and beveled on their upper sides, as clearly shown in Fig. 4^a, to engage either the top or bottom leg of the staple F, according to which direction the bar is caused to turn. It will thus be seen that the hooks or catches E engage both the top and side of the staples, so that in order to open the lock the locking bar must be given a partial rotary movement to cause the hooks or catches to disengage the legs of the staples, and a longitudinal movement to cause them to disengage the tops of the staples, thus making it impossible to unlock the lock by simply moving back the locking bar longitudinally.

In Figs. 5 and 6 we have shown a modified form of lock especially designed for use in connection with mail pouches, sacks, and similar articles, wherein it is desirable that the lock may possess a certain degree of flexibility. As shown in said figures A indicates one side or section of the mouth of the pouch and A' the other side or section. To the section A, and at one side thereof is secured in

a bracket d a locking cylinder D, similar in all respects to that before described, that engages a double faced cam a^2 carried by a spindle a^4 that is journaled in a barrel C, a coiled spring b being arranged in said barrel and acting to force the double faced cam a^2 into engagement with a similar cam d' on the cylinder D. B indicates the locking bar which in this instance is in the nature of a flexible strip composed of rigid links H hinged together. Each of said links is composed of a rectangular piece of sheet metal bent at its opposite ends to form hinge eyes h , the eye of one link registering with the eye of the next adjoining link and jointed thereto by means of a pin or pintle after the manner of an ordinary leaf hinge. The end links are secured one to the spindle a^4 , and the other to a spindle a^5 , journaled in a bearing D' secured to the section A of the pouch. Each of the links H is provided with a central slot or aperture h' to permit the passage therethrough of one of the fastening staples F and to its under side is secured a barrel h^2 within which is arranged a sliding bolt h^3 having a beveled end and provided with feathers h^4 that slide in slots h^5 formed in the sides of the barrel, and which prevent the bolts turning. I indicates a fixed bar composed of a series of plates or links K hinged together in the same manner as the links H and each provided with upturned flanges k which are riveted to the section A. The links K are each provided with a slot k' that registers with the slot h' of one of the links H and is also provided with an elongated slot k^2 through which passes a headed pin k^3 that is carried by one of the links H, and by means of which the bars H and K are secured together while permitting a longitudinal movement of the locking bar H. To the section A' are fastened the staples F, said staples preferably having their ends bent in reverse directions and passed through the section A' and clinched thereon. A series of leaf springs G' are secured to the section A', one of said springs being preferably arranged in proximity to each staple, the free ends of said springs bearing against the links K of the fixed bar I when the lock is closed and acting to force the sections A and A' apart when the lock is unlocked. By forming the bars B and I of hinged links said bars will yield laterally to afford flexibility to the mouth of the sack or pouch, this being necessary in mail pouches to permit of the pouch being stretched on the assorting frames commonly employed in distributing the mail in all large post-offices. The operation of this form of lock is similar to that previously described the cylinder D being given a partial rotation by means of a key which causes the double faced cams a^2 and d' to force back the locking bar against the tension of the spring b , thus disengaging the spring bolts h^3 from the staples F. To lock the pouch it is only necessary to close the sections A and A' together, when the sta-

ples F will engage the beveled ends of the spring bolts h^3 and force them back until the staples have passed behind the latter when they will immediately be shot into engagement with said staples.

In Fig. 7 we have shown another modification wherein the lock is made laterally yielding in a direction at right angles to that shown in Figs. 5 and 6. As thus constructed the locking bar H' and fixed bar I' are composed of links H^2 , K' , the links K' being provided with downwardly projecting flanges l within or between which is adapted to slide the locking bar H' . The links K' are each riveted or otherwise suitably secured to the section A by means of one of the flanges l and are hinged or jointed together by means of metallic straps m pivotally secured at their opposite ends to the adjoining ends of the links I' . The metallic straps m are in practice, somewhat loosely pivoted to the links to permit a slight play between said links when the bar is flexed. The locking bar H' is composed of a series of links H^2 each consisting of a metallic strip or bar jointed together in the same manner as the link K' and each provided upon its upper side with a spring bolt h^3 similar in all respects to that before described. One of the side flanges l of each of the links K' is provided with a slot K^2 through which one of the staples F is adapted to pass to engage the spring bolt. The locking bar H' is operated by a cam faced cylinder similar in all respects to that heretofore described. It will be apparent that the lock thus constructed will have a yielding movement at a right angle to the lock shown in Figs. 5 and 6 and also a slight yielding movement in the same direction as said lock.

Instead of providing the locking bar H' with spring bolts for engaging the staples we may employ spring fingers for the purpose, as shown in Fig. 8. Referring to said figure H^2 indicates one of the links of the locking bar, K' one of the links of the fixed bar and N the spring fingers. Said fingers are composed of resilient rods one of which is secured to the base of the link K' and the other to the link H^2 of the locking bar, the two rods or fingers being bent inwardly and then toward each other in opposite directions across the aperture K^2 . The free ends of said fingers are beveled on the sides adjoining the section A' carrying the staples and when the latter are pressed against said fingers the latter yield and permit the passage between them of the staples, the fingers immediately springing back into their normal positions and engaging the staples. To unlock the device the locking bar is forced to one side by the means and in the manner heretofore described, carrying with it the fingers secured thereto and permitting the staples to be withdrawn.

Any ordinary or well known locking safe-guards may be employed to prevent unauthorized persons from having access to the

locking cylinder, but as this forms no part of our present invention it is unnecessary to show or describe any particular means for accomplishing the result.

Having described our invention, what we claim is—

1. In a lock, the combination with a movable locking bar carrying catches, of a spring for moving said bar in one direction, a rotatable cam cylinder abutting against the end of the locking bar and operating to move it in the opposite direction, and a series of hasps or staples for engaging said catches, substantially as described.

2. In a lock, the combination with a movable locking bar carrying catches, a spring for moving said bar in one direction, a rotatable cam cylinder abutting against the end of the locking bar and operating to move it in the opposite direction, a series of hasps or staples for engaging said catches, and a spring for forcing said hasps or staples out of engagement with the catches, substantially as described.

3. In a lock, the combination with a movable locking bar carrying catches, and provided at one end with a cam a^2 , a rotatable cylinder D provided with a cam face d' engaging the cam a^2 for moving said bar in one direction, a spring for moving said bar in the opposite direction, and hasps or staples for engaging said catches, substantially as described.

4. In a lock, the combination with a movable locking bar carrying catches, and provided at one end with a cam a^2 having upon its face a notch or recess a^3 , a rotatable cylinder D provided with a cam face d' engaging the cam a^2 for moving said bar in one direction, a spring for moving said bar in the opposite direction, and hasps or staples for engaging said catches, substantially as and for the purpose specified.

5. In a lock, the combination with a movable locking bar carrying catches and provided at one end with a cam a^2 , a rotatable cylinder D having a key-seat d^2 in its outer end and provided at its other end with a cam face d' engaging the cam a^2 to move said bar in one direction, a spring for moving said bar in the opposite direction, and hasps or staples for engaging said catches, substantially as described.

6. In a lock, the combination with the movable locking bar B carrying beveled hooked catches E, and journaled at one end in a barrel C, a coiled spring b arranged in said barrel and bearing against said bar, the other end of said bar being provided with a double cam faced shoulder a^2 and journaled in a rotatable cylinder D provided with a double cam face d' engaging the cam a^2 , means for turning said cylinder, and hasps or staples for engaging said catches, substantially as described.

7. In a lock, the combination with the mov-

able locking bar B carrying beveled hooked catches E, and journaled at one end in a slot-
ted barrel C, said locking bar being provided
with a pin a' sliding in the slot of the barrel
5 C, a coiled spring b arranged in said barrel
and bearing said bar, the other end of said
bar being provided with a double cam-faced
shoulder a^2 and journaled in a rotatable cyl-
inder D provided with a double cam face d'
10 engaging the cam a^2 , means for turning said

cylinder, and hasps or staples for engaging
said catches, substantially as described.

In testimony whereof we have hereunto set
our hands and affixed our seals in presence
of two subscribing witnesses.

JESSE B. BUNDREN. [L. S.]

JOHN W. HEDGES. [L. S.]

Witnesses:

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C. P. TERHUNE.