C. L. BECK.

LOCK.

APPLICATION FILED MAY 29, 1915.

**1,197,787.** Patented Sept. 12, 1916.

Fig. 1

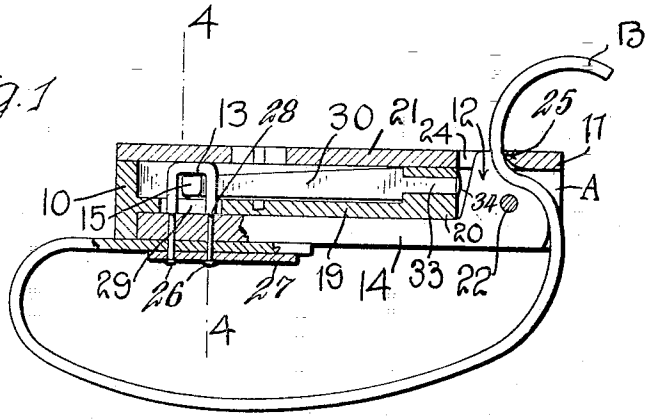



Fig. 2

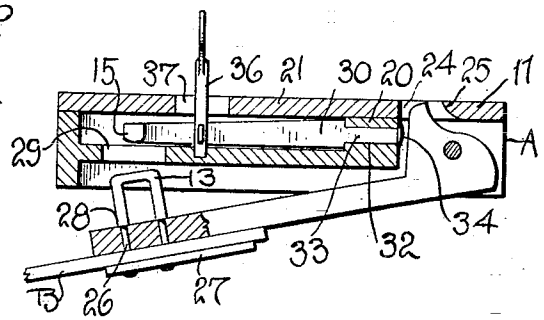



Fig. 3

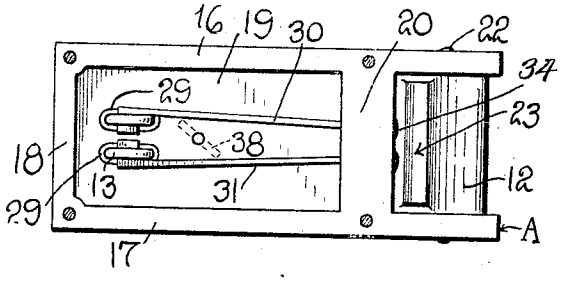
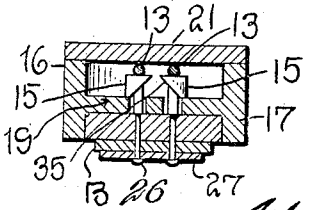



Fig. 4




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# UNITED STATES PATENT OFFICE.

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## LOCK.

1,197,787. Specification of Letters Patent. **Patented Sept. 12, 1916.**

Application filed May 29, 1915. Serial No. 31,256.

*To all whom it may concern:*

Be it known that I, CHARLES L. BECK, a citizen of the United States, residing at Rebersburg, in the county of Center and State of Pennsylvania, have invented certain new and useful Improvements in Locks, of which the following is a specification, reference being had to the accompanying drawings.

My present invention relates broadly to new and useful improvements in locks and has particular reference to an improved form of lock for securing a strap after it has been wound about the neck of a bag or similar container.

A general object of the invention is to provide a strap lock which is relatively simple in construction and may, therefore, be cheaply manufactured and one which may be readily attached to any strap and conveniently employed in securing the same about a sack or equivalent container.

A more specific object of the invention is to provide a strap lock which consists essentially in a body casing having a fixed gripping jaw and a movable gripping jaw, the jaws being adapted, when set, to grip between them the free end of the strap and to hold this free end against withdrawal from the casing, at the same time permitting the tightening of the strap about the bag.

Another object of the invention is the provision of a strap lock so constructed that the strap may be drawn through the lock in one direction to tighten the strap about a bag, the strap being held from any reverse movement, however, through the lock while the lock is in its strap locking position.

The above, and other incidental objects of a similar nature, which will be hereinafter more specifically treated are accomplished by such means as are illustrated in the accompanying drawings, described in the following specification, and then more particularly pointed out in the claims which are appended hereto and form part of this application.

With reference to the drawings, wherein there has been illustrated the preferred embodiment of this invention as it is reduced to practice, and throughout the several views of which similar reference numerals designate corresponding parts, Figure 1 is a longitudinal section taken through the casing, showing the movable jaw set in gripping relation to the fixed jaw, and with the free end of a strap engaged between the jaws; Fig. 2 is a longitudinal section taken through the lock with the movable jaw in open position; Fig. 3 is a top plan view of the lock with the cover plate removed; and Fig. 4 is a section on the line 4—4, of Fig. 1.

As best shown as an operative entirety in Figs. 1 and 2 of the accompanying drawings, the lock includes generally, a body or casing 10; a fixed jaw 11, which is formed integrally therewith; a movable jaw 12, which is pivoted therein; a pair of U-shaped keepers 13 which are carried by the lever arm 14 of the movable jaw; and a pair of yieldably mounted locking studs 15 which are arranged within the casing 10 and are adapted to hold the members 13 against withdrawal therefrom to thereby lock the movable jaw in gripping relation to the fixed jaw.

The casing 10 is in its preferred embodiment, formed as a metal casting, although it may be formed of sheet metal if desired, and includes a pair of parallel spaced side walls 16 and 17, a single end wall 18 which closes the space between the side walls 16, at one end of the casing, and a partition wall 19 which extends from the end wall 10 to a point short of the opposite end of the casing and is arranged at the approximate longitudinal center line of the side walls. A transverse block indicated at 20 is also formed as an integral part of the side walls and extends between these members at the end of the partition wall 19, being longitudinally spaced from the open end of the casing, indicated at A in Figs. 1 and 2. Upon the upper edges of the side walls and the end wall is mounted the cover plate 21 which is in length equal to the side walls and is of a width equal to the distance between the outer faces of the side walls. It will be readily observed, particularly upon reference to Figs. 1 and 2 that the top wall forms in connection with the partition wall 19, a rectangular, longitudinal chamber, wherein the locking studs 15 are disposed. It is now to be noted that the bottom of the casing is open so that the lever

arm 14 of the movable jaw may enter the bottom of the casing and engage flatly against the partition wall 19.

The movable jaw heretofore designated by the numeral 12 is pivoted upon a pin 22 which extends between the side walls of the casing, adjacent the open end thereof, as in Figs. 1 and 2. The upper end of the movable jaw is shaped, as indicated at 23 to form a transversely, relatively sharp edged rib, which is adapted to co-act with the relatively sharp edge of the fixed jaw 11, in gripping the free end of the strap B. This fixed jaw 11 is formed as an integral part of the top plate 21 and is produced by cutting a transverse opening 24 in the top plate adjacent the open end of the casing. The outer edge of this opening, indicated at 25 in Fig. 2, constitutes the gripping edge of the fixed jaw.

One end of the strap is, as shown in Figs. 1 and 2, secured to the free end of the lever arm 14, by pins or equivalent fastening devices 26. These members 26 also serve to secure the one end of the strap to the neck portion of the bag, indicated at 27. The pins 26 are preferably formed as an integral part of the U-shaped keeper 13, the arms of which member are shouldered at their lower ends, as indicated at 28 so that the arms may not be turned through the lever arm 14. The U-shaped keepers 13 are adapted, when the lever arm 14 is seated within the casing (in which position of the lever arm the movable jaw is in gripping relation to the fixed jaw) to project upwardly through the longitudinally extending, transversely spaced slots 29 formed in the partition wall 19. The upper ends of the keepers are adapted to abut against the cover plate 21, as in Fig. 1, so that there will be sufficient space between the keepers and the upper face of the partition wall for the accommodation of the locking studs 15. These members 15 are, as best disclosed in Figs. 1 and 3, preferably formed as an integral part of a pair of flat leaf springs 30 and 31. The studs may, however, be formed as separate castings and welded or otherwise secured to the free ends of the springs. The free ends of the springs are seated in receiving slots 32 formed in the block as disclosed in Fig. 2. The fixed ends of the springs are reduced in width, as indicated at 32 and are headed at their rear ends, as indicated at 34, whereby the springs are held against withdrawal from the block 20. The space between the attached ends of the springs is less than the space between the keepers 13, whereby the springs normally act to yieldably maintain the studs within the keepers 13.

Preferably the inner faces of the studs are beveled, as indicated at 35 in Fig. 4, so that when the lever arm 14 is moved upwardly to set the movable jaw 12, the keepers will on passing upwardly through the slot 29, engage with the inclined faces and thereby separate the studs against the action of the springs 30 and 31, until the keepers engage against the cover plate 21. As soon as the keepers have been moved upwardly into engagement with the cover plate, the springs act to return the studs to normal position so that they seat within the keepers and thereby prevent the withdrawal of these members from the casing and consequently prevent the movement of the movable jaw away from the fixed jaw, until a key, indicated at 36 is inserted in the key-way 37 and turned in such a manner that the webs 38 will spread the springs 30 and 31, to withdraw the studs from the keeper.

It is thought that from the foregoing description taken in connection with the accompanying drawings, the construction and operation of the lock will be apparent. It will be readily understood that the free end of the strap may be first passed about the sack to restrict the neck portion thereof and then passed through the open end A of the casing and through the jaws 11 and 12 by which members it will be held against withdrawal from the casing, after the movable jaw has been properly set.

I now desire to direct particular attention to the fact that the movable jaw is capable of a slight movement away from the fixed jaw 11, even when the studs 15 are in locking engagement with the keepers 13.

The jaw 12 extends at an angle to the lever 14 and it will be noted that the end face of the jaw 12 which confronts the jaw 11 is downwardly and outwardly curved and that the end of the lever 14 and jaw 12 is outwardly rounded reversely to the concavity of the face of the upper end of the jaw. In other words, the lever 14 projects beyond its pivot 22 and the strap B passes over this projecting portion of the lever and then inward and upward between the jaws 12 and 11. By this construction after the lever 14 is locked in position by means of the keepers 13 the strap B if drawn against the jaw 12 will cause strain to be applied upon the jaw 12 inward of its pivotal axis 22 thus causing the jaw 12 to move slightly away from the jaw 11 sufficiently so to permit the strap to be drawn through between the jaws and tightened. Any reverse strain however, will cause the strap B to bear against that portion of the lever 14 which projects beyond the pivot 22 and thus tends to shift the lever in a direction to carry the jaw 12 toward the jaw 11 and thus securely grip the strap and prevent any reverse movement. Thus after the strap is applied to the bag, or other device to which it is attached, it is possible to take up slack in the strap without releasing the lever 14.

This is of particular value in many instances. Thus in mail bags it often happens that the bag by compression eventually becomes more tightly folded up or compressed than it initially was when the lock was fastened, and under these circumstances a mail handler even though he has no key can readily tighten the strap until the bag is securely and tightly closed. The strap cannot be undone, however, until it reaches the operator who has the key fitting the lock. It is one of the important features of my invention that my improved lock permits this tightening up of the strap from time to time without the necessity of unlocking the locking levers.

In reduction to practice, it has been found that the form of this invention illustrated in the drawings, and referred to in the above description as the preferred embodiment is the most efficient and practical; yet realizing that the conditions concurrent with the adopting of this device will necessarily vary, it is desirable to emphasize the fact that various minor changes in the details of construction, proportion and arrangement of parts may be resorted to, when required, without sacrificing any of the advantages of this invention, as defined by the appended claims.

What is claimed is:—

1. In a locking device, relatively fixed and movable clamping members, the movable clamping member having a bearing face, a flexible element passing between said members and over the bearing face of the movable clamping member to cause the movable clamping member to shift away from the fixed member when the flexible element is pulled in one direction but shift toward the fixed member when the flexible element is pulled in the other direction, and means for locking the movable member in a clamping position but permitting a slight movement of the member away from the fixed member.

2. In a lock of the character described, a body, a flexible element operatively connected thereto, a fixed jaw mounted thereon, a lever pivotally mounted on the body and carrying a jaw at one end movable with relation to the fixed jaw and coacting therewith to permit the passage of the flexible element between the fixed and movable jaws, the movable jaw being formed with a bearing face with which the flexible element engages, said bearing face permitting the flexible element to be drawn between the jaws in one direction but causing the movable jaw to grip the flexible element and prevent its passage in a reverse direction upon strain being applied to the flexible element to reversely move it, and means for locking the lever in a clamping position.

3. In a lock of the character described, a flexible element, a body attached to one end of the flexible element and having a fixed jaw at one end, a lever pivoted to said body beneath said fixed jaw, said lever extending beyond such pivotal axis, the lever having an angularly disposed extension from the movable jaw coacting with the fixed jaw between which jaws the free end of the flexible element is adapted to pass, said jaw on the lever being disposed inwardly of the pivotal axis of the lever, and means for locking the lever against the body.

4. In a lock of the character described, a body having a fixed jaw at one end, a flexible element operatively connected to the body, a lever pivotally mounted at one end upon the body, said lever extending beyond the pivot of the body and beneath the fixed jaw, the lever having an angular extension projecting into the plane of the fixed jaw and forming a movable jaw, said extension being disposed inward of the pivotal axis of the lever, those faces of the extension which confront the fixed jaw and that form the outer end of the lever being reversely curved with relation to each other, and means for locking the free end of the lever to the body, said means permitting a limited movement of the lever in a direction away from the body.

5. In a device of the character described, a body having a fixed jaw at one end, a lever pivoted upon the body at one end, the lever extending beyond the pivotal axis thereof and beneath the fixed jaw, said lever inward of its pivotal axis having an angular extension forming a movable jaw and coacting with the fixed jaw, a flexible element attached to the free end of the lever and adapted to have its free end disposed over the pivotal end of the lever and between the fixed and movable jaws, and means for locking the lever to the body, said means permitting limited movement of the free end of the lever away from the body.

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

CHARLES L. BECK.

Witnesses:
W. J. CARLIN,
JAS. B. HARBACH.

**Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."**