F. L. GRAHAM, JR.

LOCK FOR MAIL BAGS.

APPLICATION FILED JAN. 18, 1921.

1,398,638.

Patented Nov. 29, 1921.

2 SHEETS—SHEET 1.

Fig. 1.

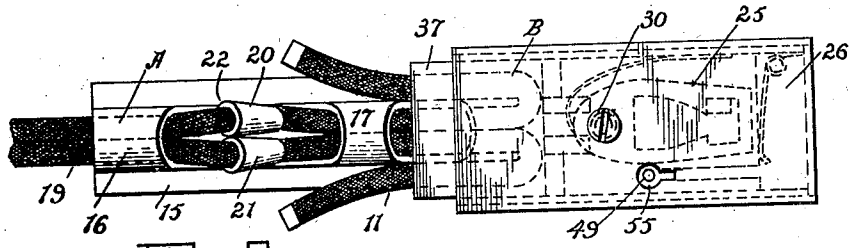


Fig. 2.

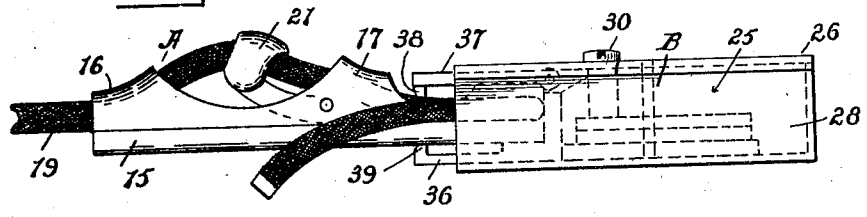


Fig. 3.

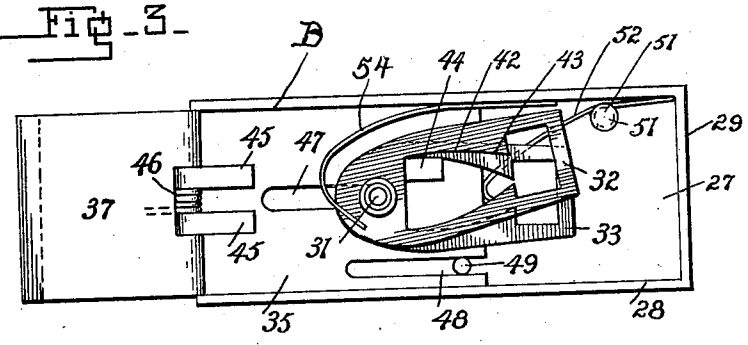
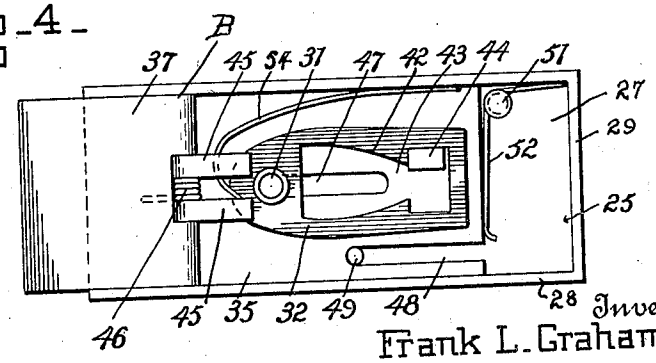


Fig. 4.



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2 SHEETS—SHEET 2.

Fig. 5.

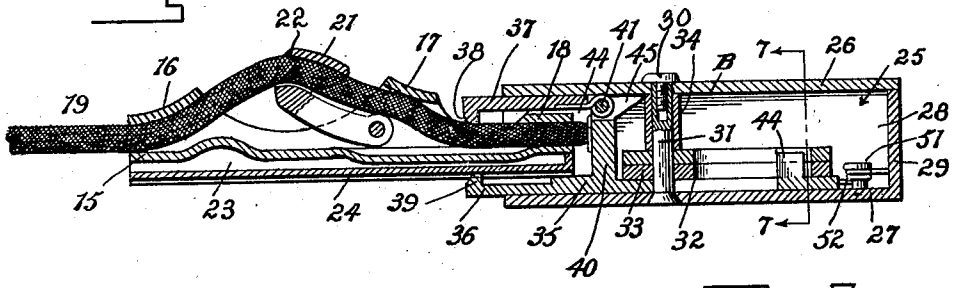


Fig. 6.

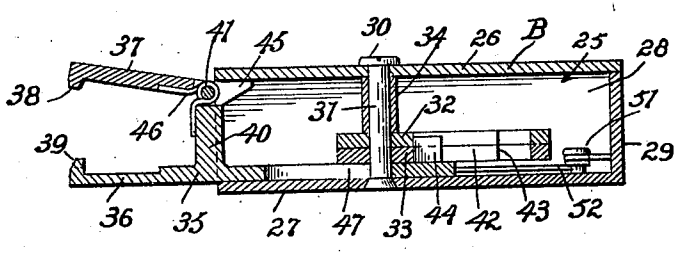


Fig. 7.

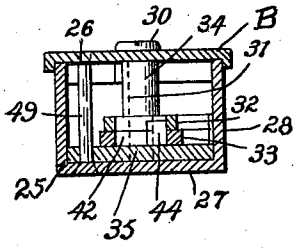


Fig. 8.

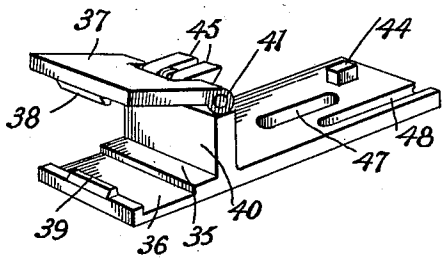


Fig. 9.

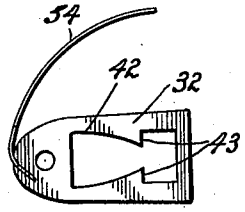
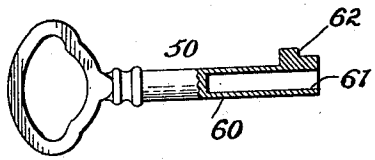


Fig. 10.



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UNITED STATES PATENT OFFICE.

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LOCK FOR MAIL-BAGS.

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Application filed January 18, 1921. Serial No. 438,137.

To all whom it may concern:

Be it known that I, FRANK L. GRAHAM, Jr., a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Locks for Mail-Bags, of which the following is a specification.

This invention relates to locks for mail bags, and one of the primary objects of the invention is to provide an improved lock which is adapted to be associated with the ordinary tie fastener used on the so-called newspaper mail bag, whereby the ordinary newspaper mail bag may be converted into what is termed as a "locked pouch."

In ordinary newspaper mail sacks, a draw string is provided for closing the top thereof and this draw string is provided with a tie fastener. No means has heretofore been contemplated for preventing the opening of the sack by unauthorized persons. It is therefore another prime object of this invention to provide an improved lock for detachable engagement with the ordinary draw string tie fastener so as to prevent the string from being drawn through the same by unauthorized persons.

A further prime object of the invention is to provide an improved means for converting the ordinary newspaper mail bag into a locked pouch in a convenient and inexpensive manner.

A still further object of the invention is to provide an improved lock for the ordinary tie fastener of newspaper mail sacks which can be easily and quickly placed in position and locked against displacement and quickly and easily unlocked and removed from the bag.

A still further object of the invention is to provide a lock for mail sacks of the above character which is durable and efficient in use, one that is simple and easy to manufacture, and one which can be placed upon the market at a reasonable cost.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described, claimed and illustrated in the accompanying drawing; forming a part of this specification, in which drawings:

Figure 1 is a plan view of the improved lock, showing the same in operative position on a tie fastener for newspaper mail sacks.

Fig. 2 is a side elevation of the same.

Fig. 3 is an enlarged plan view of the improved lock showing the cover plate thereof removed, and the locking jaws thereof in their open extended position.

Fig. 4 is a similar view showing the locking jaws in their locked operative positions.

Fig. 5 is a vertical longitudinal section through the improved lock showing the same in locked position on a tie fastener, the tie fastener being also shown in section.

Fig. 6 is a vertical longitudinal section through the improved lock showing the same removed from the tie fastener and illustrating the locking jaws in their open extended position.

Fig. 7 is a detail transverse vertical section taken on the line 7—7 of Fig. 5.

Fig. 8 is a detail perspective view of the improved locking bolt utilized and showing the locking jaws carried thereby.

Fig. 9 is a detail plan view of one of the locking tumblers employed for holding the locking bolt in its locked position, and

Fig. 10 is a detail plan view of the key employed for actuating the locking tumbler, parts of the key being shown in section.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letter A indicates an ordinary newspaper mail sack tie fastener, and B, the improved lock therefor.

As stated, the tie A is of the ordinary or any preferred construction and as shown includes the base plate 15 having the spaced guides 16, 17 and 18, formed on the upper surface thereof for slidably receiving the draw string or cord 19 which is employed for closing the upper end of the newspaper mail sack (not shown). The middle guide 17 for the draw string or rope 19 has hingedly connected thereto the usual locking members 20 and 21 which are provided with the usual bores 22 through which slidably extend the draw string. This tie is operated in the usual manner and it can be seen that when a pull is exerted on the rope or draw string 19 the locking members 20 and 21 will be moved toward the base 15, thus frictionally locking the draw string against movement. The opposite face of the base plate 15 from the guides 16, 17 and 18 is provided

with the ordinary label container 23, which as shown includes the longitudinally extending side flanges and an end flange 24.

The improved lock B for the tie fastener A consists of a substantially rectangular casing 25, and as shown this casing 25 includes the upper and lower walls 26 and 27, the side walls 28 and an end rear wall 29. These walls may be riveted or secured together in any preferred manner. As shown the upper wall 26 is removably associated with the side walls and the end wall 29 and is held in position by means of a fastening element 30 which extends into the hollow post 31, which forms a pivot pin for the tumblers 32 and 33, which are mounted in the casing and which will be hereinafter more specifically described. The post 31 also has mounted thereon the spacing sleeve 34 which is positioned intermediate the upper wall 26 and the upper surface of the tumbler 32. The provision of this spacing sleeve 34 holds the tumblers in their correct operative positions. It also can be seen that the forward end of the case is left opened and this end of the case is adapted to have slidably mounted therein the lock bolt 35. The forward end of the lock bolt 35 is provided with a rigid stationary jaw 36 and a pivoted jaw 37. The pivoted jaw 37 as shown is arranged uppermost and is provided with inwardly extending biting teeth 38 which are adapted to engage the draw string or rope 19. The lower rigid jaw 36 is provided with an inwardly extending tooth 39, which is of exactly the same width of the space intermediate the said flanges 24 formed on the label holder and this tooth is adapted to fit in between the same and prevent accidental movement of the lock on the fastener. The lock bolt 35 is provided adjacent to its forward end with transversely extending cross rib 40 which has secured thereto by means of a pivot pin 41 the inner end of the pivoted jaw 37.

The tumblers 31 and 32 are positioned in rear of the transversely extending rib 40 and slidably engage the upper surface of the locking bolt 35. Each of these tumblers 31 and 32 are provided with a gate 42 and the opposite sides of these gates 42 are provided with inwardly extending lugs 43, the inner surfaces of which are inclined to permit of the riding past the same of the upstanding post 44 carried by the lock bolt 35. This upstanding post 44 is adapted to engage behind the abrupt shoulders formed on the lug 43. As clearly shown in Figs. 6 and 8 of the drawings, the transversely extending rib 40 is also provided with rearwardly extending feet 45 which are adapted to engage the inner surface of the top wall 26 adjacent to the forward end of the same when the pivoted jaw 37 is extended entirely out of the casing. The provision of these feet 45 holds the lock bolt 35 in its correct position against displacement in the casing at all times. The pivoted jaw 37 is adapted to be normally held in a raised extended position away from the rigid jaw 36 by means of a spring 46, which is coiled around the pivot pin 41. As shown the opposite ends of this spring engage the inner faces of the cross rib 40 and the pivoted jaw 37. The locking bolt 35 is provided with a longitudinally extending slot 47 which is adapted to receive the post 31 and the post 31 forms a guide for the locking bolt in its movement back and forth in the casing 25. The rear end of the bolt 35 is also provided with a longitudinally extending slot 48 which also slidably receives a guide pin 49 which forms a pivot for the key designated by the numeral 50. The lower wall 27 of the casing carries adjacent to its rear end a headed pin 51 and this headed pin 51 supports a leaf spring 52 which is adapted to engage the rear end of the lock bolt 35 and normally tends to urge the lock bolt 35 out of the open end of the casing. Thus it can be seen that when the tumblers 32 and 33 are moved to such a position that the post 44 will have free movement therein and can slide between the lugs 42, that the post will be urged out of the casing. Each of the tumblers 32 and 33 has a leaf spring 54 attached thereto and this leaf spring engages the inner surface of one of the side walls 38 and normally tends to hold one of the lugs 43 in engagement with the post 44 and thereby prevent movement of the locking bolts 35 within the casing. It can be seen that the lugs 43 are directly opposite each other and it will be apparent that a key of the exact type will be necessary to operate the lock, inasmuch as if a key is utilized which has too long a bight portion, the tumbler would be moved too far over and thus position the opposite shoulder in engagement with the post 44. The upper wall 26 is provided with a keyhold 55 in which is adapted to fit the key 50.

The key 50, as shown, is provided with a shank 60 provided with a bore 61 for the reception of the guide post 49 and this post, as stated, forms a pivot for the key. The shank is provided with the outwardly extending bight portion 62 which is shaped so as to engage both of the tumblers 32 and 33 so as to swing the same on their pivots 31 a sufficient distance to move the shoulders formed thereon out of engagement with the post 44.

In operation of the improved lock, the tie fastener A is slid up on the draw string 19 as far as the same will go after the draw string has been drawn through the upper end of the bag to close the same. After the fastener has been positioned thus, the terminals of the draw string or rope are folded back over the base plate 15 alongside of the guides 17 and 18 after which the jaws 36

and 37 are placed over and in engagement with the fastener. As shown in Figs. 1, 2 and 5 the pivoted jaw 37 is placed so that the tooth 38 thereof will engage the draw string so as to tightly bind the same against the base plate, while the teeth 39 formed on the rigid jaw 36 engage in the slot between the side flanges of the label holder. When the jaws have been placed in correct position the casing 25 is slid up on the jaws, which will effectively hold the jaws in their correct position against accidental movement. When the casing 25 has been moved up on the locking bolt 35 a sufficient distance, the tumblers 32 and 33 will be actuated by the springs 54, and move the shoulders 43 in front of the post 44 which will effectively hold the bolt against movement. When it is desired to remove the lock tie fastener, it is merely necessary to insert the key 50 into the key hole 55 and rotate the same on the guide post or pin 49, which will actuate the tumblers as stated and permit the bolt to be moved outward of the casing by the spring 52.

From the foregoing description, it can be seen that an improved lock of exceptionally simple and durable construction has been provided for the ordinary tie fasteners now employed on newspaper mail sacks which will effectively convert the sacks into a locked pouch and thereby permit of its use, if so desired, for ordinary first class mail work.

Changes in details may be made without departing from the spirit or scope of this invention as set forth in the appended claims:

1. The combination with the ordinary tie fastener for the draw strings of a newspaper mail sack, of a detachable lock therefor including a pair of locking jaws, and a slidable casing arranged to receive the jaws, and means for preventing sliding movement of the jaws in relation to the casing.

2. The combination with the ordinary tie fastener of a mail sack, of a detachable lock therefor including a pair of locking jaws arranged to engage the tie fastener and draw string, of a sliding casing arranged to receive the jaws, and releasable key operated means for preventing movement of the jaws in relation to the casing.

3. The combination with the ordinary tie fastener of a mail sack, of a detachable lock therefor including a casing, a sliding bolt carried by the casing, a rigid and pivoted jaw carried by the bolt arranged to engage the tie cord and tie fastener, pivoted key operated tumblers arranged in the casing for engagement with the bolt to prevent movement therefor when the bolt is in its innermost position in the casing.

4. As a new article of manufacture, a lock for the tie fasteners of newspaper mail sacks comprising a casing having an open end, a sliding bolt arranged in the casing, a rigid jaw carried by the bolt, a pivoted jaw carried by the bolt and arranged to extend beyond the casing when the bolt is in its extended position, locking tumblers arranged in the casing and adapted to engage the bolt to normally hold the same in its innermost position, and means for releasing the tumblers to permit the sliding of the bolt in said casing.

5. As a new article of manufacture, a detachable lock for the tie fasteners of newspaper mail sacks comprising a rectangular casing having an open end, a bolt slidably mounted in the casing through said open end, a rigid jaw carried by the bolt, a pivoted jaw carried by the bolt and arranged to extend beyond the casing when the bolt is in its extended position, spring means for normally urging the bolt outwardly of the casing, a post carried by the bolt, locking tumblers pivotally mounted in the casing, each of the tumblers having gates formed therein arranged to receive the post, and means for actuating the tumblers.

6. As a new article of manufacture, a lock for the ordinary tie fasteners of newspaper mail bags comprising a casing having an open end, a locking bolt slidably mounted in the casing through said open end, a rigid jaw formed on the casing carried by the bolt, a pivoted jaw carried by the bolt, the pivoted jaw being adapted to extend beyond the casing when the bolt is in its extended position, a plurality of pivoted tumblers arranged in the casing, a post formed on the locking bolt and adapted to be engaged by the tumblers, the tumblers having operatively disposed shoulders formed thereon for engagement with the post, spring means for normally urging the bolt out of the casing, spring means holding the tumblers in their correct position, and a key for operating the tumblers against the tension of said spring.

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