Sept. 20, 1932. A. E. BANASIK 1,878,362

LOCK FOR BOXES

Filed Feb. 16, 1931

Fig. 1.

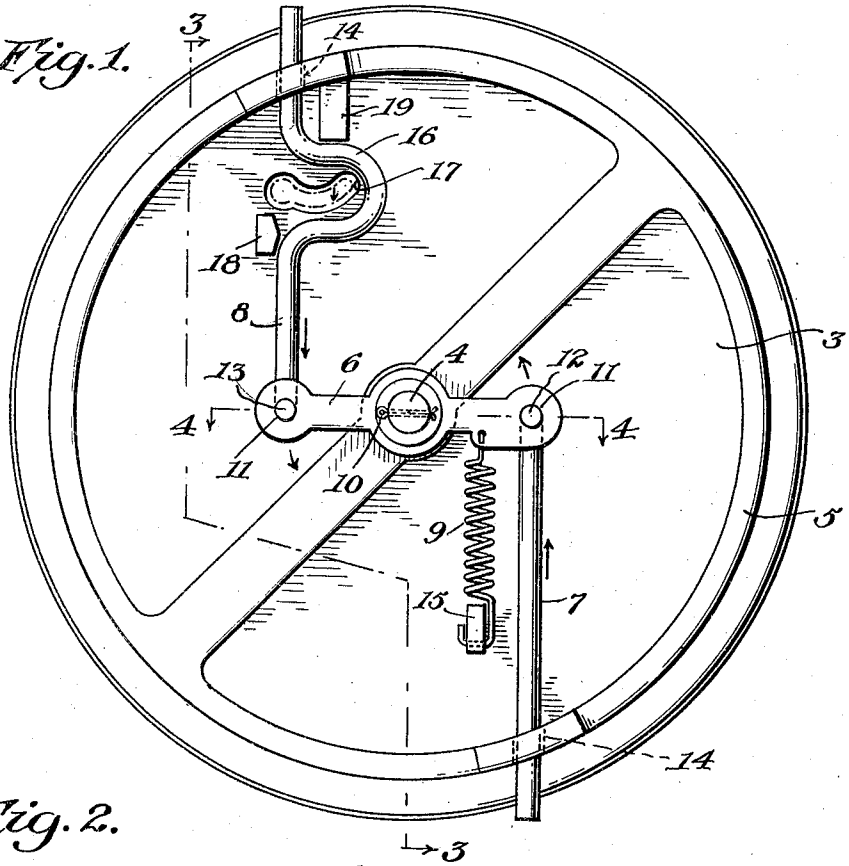


Fig. 2.

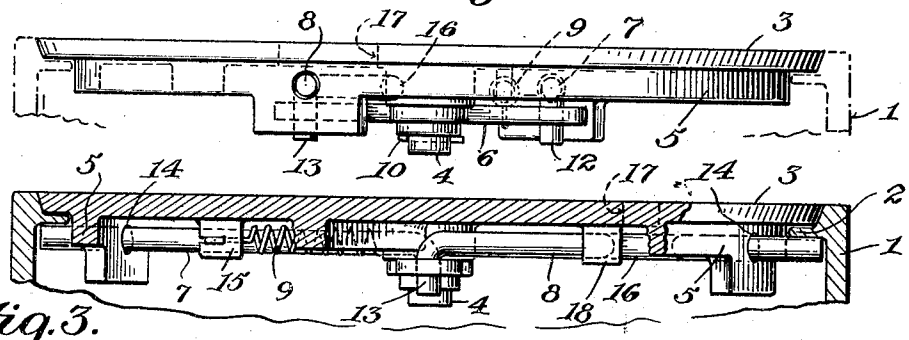
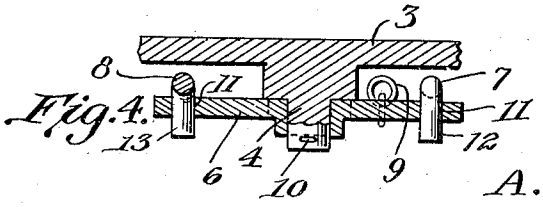


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE

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LOCK FOR BOXES

Application filed February 16, 1931. Serial No. 516,121.

This invention relates to locks of more or less general application but is especially intended for use in securing the lids on meter boxes, and is designed to be operated by a key so as to prevent unauthorized tampering with the meters.

An object of the invention resides in the construction of a lock of extremely few parts and yet which is strong and reliable in operation and can be manufactured at low cost.

A further object of the invention consists in so designing the lock as to avoid the necessity of casting lugs or the like on the lid to secure the bolts in place.

A still further object of the invention resides in the provision of a key-operated lock of this type in which the key cannot be withdrawn until the bolts of the lock have moved to locking position.

Other objects and advantages of the invention will be apparent from the following description when taken in connection with the accompanying drawing, in which

Figure 1 is a bottom plan view of a meter box lid with the novel locking construction mounted thereon.

Figure 2 is a side elevational view of the lid mounted on the meter box, the upper portion of the latter being indicated in dotted outline.

Figure 3 is a vertical sectional view through the lid, taken on line 3—3 of Figure 1; and

Figure 4 is a detail sectional view taken on line 4—4 of Figure 1.

Referring to the drawing in more detail the numeral 1 indicates a conventional type of meter box provided with an inwardly directed flange 2 on which the lid 3 is seated. In the particular construction shown the effective ends of the locking bolts are received under the flange 2 when the bolts are in locking position, but it is to be understood that the flange is not essential to the invention since the ends of the bolts could as well be projected into openings in the side wall of the receptacle.

The lid 3 in the construction shown herein is provided with a central boss or post 4 on its under side and also an annular flange 5, which elements serve to support the locking mechanism on the under side of the lid.

This locking mechanism consists essentially of four parts, namely, a link 6, two bolts 7 and 8, and a tension spring 9. The bolts 7 and 8 are preferably made of bronze or cold rolled galvanized steel, while the link 6 is preferably made of brass, and the spring 9 of any preferred non-corrosive metal. By constructing the several parts of the locking mechanism of these metals or their equivalent, the possibility of the formation of rust which would tend to render the lock inoperative, is eliminated.

The link 6 is pivotally mounted on the central boss or post 4 and is retained thereon by means of a cotter pin 10. The opposite ends of the link are provided with apertures 11, and in these apertures are received the downturned ends 12 and 13 formed on the inner ends of the bolts 7 and 8. The opposite ends of the bolts are preferably extended through apertures 14 formed in the flange 5 of the lid, and it will thus be apparent that the bolts 7 and 8 are supported at their inner and outer ends by the link 6 and the flange 5, respectively. The spring 9 which serves to normally project the bolts into their locking position, has one end anchored to the link 6 and its opposite end anchored to the under side of the lid as by means of the apertured lug 15.

In order to make use of a key in moving the bolts 7 and 8 to inoperative position, the bolt 8 is provided with a substantially U-shaped key receiving bend 16 substantially midway between its ends. The lid 3 is provided with a key slot 17 substantially in alignment with the U-shaped bend in the bolt 8 and with stops 18 and 19 mounted on the under side of the lid to limit the movement of the key in one direction and the bolt 8 in the opposite direction. It will be apparent, therefore, that by the insertion of a key in the slot and a slight turning movement thereof, the bolt 8 will be forced inwardly against the tension of spring 9, and that the key cannot be removed until the bolt is again moved outwardly to its locking position so as to bring the key into alignment with the slot 17.

In the operation of the device the movement of the key to withdraw the bolt 8 causes a similar movement of the bolt 7 by reason of its connection with the link 6. This movement of the bolts withdraws the same from beneath the flange 2 of the receptacle and thus permits the lid to be readily removed. When it is desired to replace the lid the key must be again operated to withdraw the bolts to permit the passage of their ends downwardly past the flange 2 of the receptacle. If the key is now released the spring 9 will project the bolts outwardly until the U-shaped portion 16 engages the lug 19 on the under side of the lid, in which positions the bolts are engaged under the flange 2 to lock the lid in place. When the bolts 7 and 8 are thus positioned the operating key is returned into alignment with the slot 17 and can therefore be removed.

From the foregoing description taken in connection with the accompanying drawing it will be apparent that I have devised an exceedingly simple construction of closure lock composed of only four elements; that the construction is capable of being manufactured at a relatively low cost; that it is strong and durable in operation; that by reason of the particular design of the lock the necessity for casting lugs or other supporting means on the lid is entirely eliminated; that the lock is so constructed as to prevent the withdrawal of the key unless the locking bolts are first moved to locking position; and that while the lock is shown as cooperating with a flange formed on the receptacle, it is also intended for general application.

In accordance with the patent statutes I have described what I now believe to be the preferred form of the invention, but inasmuch as various minor changes may be made in the details of construction without departing from the spirit of the invention, it is intended that such changes be included within the scope of the appended claims.

What I claim is:

1. In a device of the class described, a lid, a flange on the under side of the lid, a pair of bolts having their outer ends extending through openings in said flange, a pivotally mounted link on the under side of the lid, the inner ends of said bolts being pivotally connected to the ends of said link, a U-shaped key-receiving bend formed in one of said bolts, said lid provided with a key-receiving slot in alignment with said key-receiving bend.

2. In a device of the class described, a lid, a flange on the under side of the lid, a pair of bolts formed with downturned inner ends and having their outer ends extending through apertures in said flange, a pivotally mounted link on the under side of the lid provided with an aperture in each end thereof, a spring having its ends secured to said lid and link respectively, the downturned end of each bolt being located in one of said apertures, a U-shaped key-receiving bend formed in one of said bolts, and said lid provided with a key-receiving slot in alignment with said key-receiving bend.

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