W. H. SMITH.

COVER FASTENING AND RELEASING DEVICE.

APPLICATION FILED MAR. 1, 1913.

1,083,378. Patented Jan. 6, 1914.

Fig. 1.

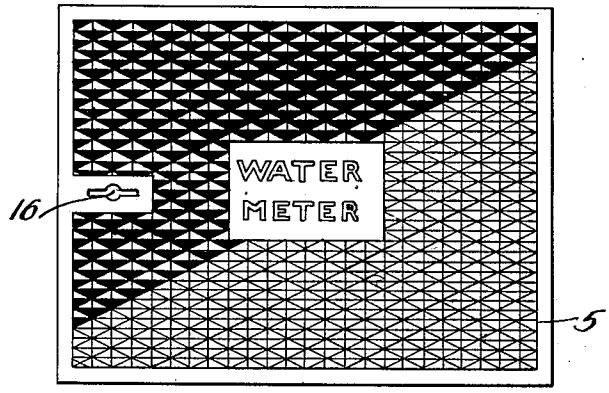



Fig. 2.

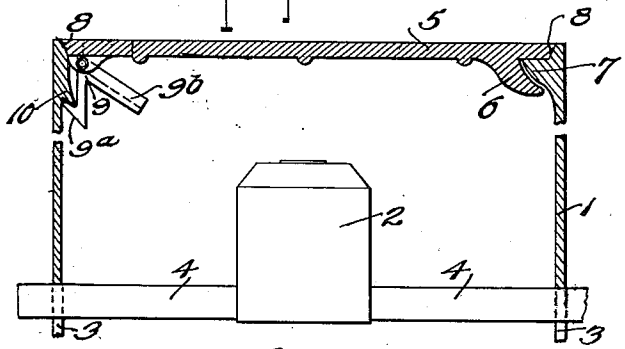



Fig. 3.

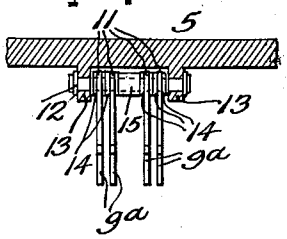



Fig. 4.

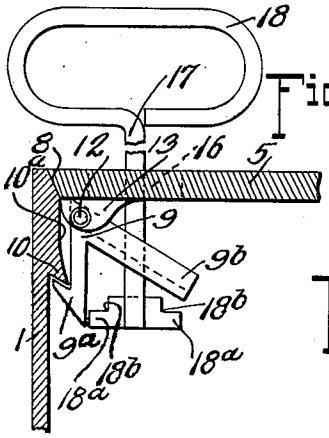



Fig. 5.

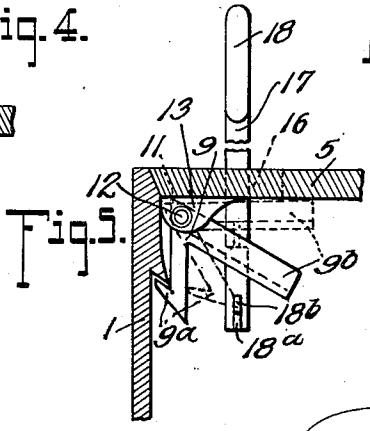
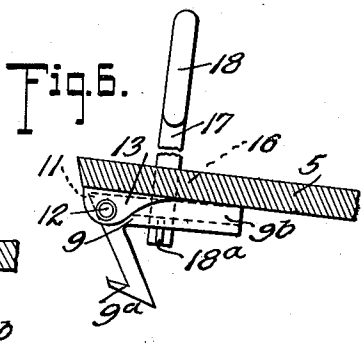



Fig. 6.




Witnesses

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## COVER FASTENING AND RELEASING DEVICE.

1,083,378. Specification of Letters Patent. Patented Jan. 6, 1914.

Application filed March 1, 1913. Serial No. 751,616.

*To all whom it may concern:*

Be it known that I, WADE HAMPTON SMITH, a citizen of the United States, residing at Macon, in the county of Bibb and State of Georgia, have invented certain new and useful Improvements in Cover Fastening and Releasing Devices, of which the following is a specification.

In Letters Patent Number 1,029,405, issued to me June 11, 1912, are described certain improvements in cover fastening and releasing means designed particularly for meter boxes, and the present invention represents additional improvements in the subject-matter of the said Letters Patent.

The essential idea of the patented invention aforesaid is the employment of a cover having fastening means in the form of latches engageable with a keeper on the box, and the provision of a handle, operating member, lever, or equivalent device, initial movement of which is adapted to release the latches from the box, and subsequent continuous movement of which will raise the cover to an open position.

I have now somewhat modified the form of the latches in my previous invention, as well as the handle, key or actuating means for releasing the cover and moving the same bodily.

A thorough comprehension of this invention and its practical advantages will be had on referring to the accompanying drawings, in which—

Figure 1 is a plan view of a meter box such as is useful for housing water meters, or the like. Fig. 2 is a sectional view of the same arranged in operative relation with respect to the meter. Fig. 3 is a fragmentary sectional view showing more clearly the mounting of the latches on the cover, and Figs. 4, 5 and 6 are fragmentary sections of the cover and side of the box, illustrating the manner of introducing the key or handle member into operative relation with respect to the latches, and lifting the cover by a continuous movement of said key that initially releases the cover and subsequently moves the same bodily.

Like reference characters refer to like parts throughout the drawings in which—

1 denotes the box or housing for the meter 2, said box being customarily bottomless and formed with end slots 3 to engage over the pipes 4 which lead to the meter 2. The cover 5 of the box 1 is formed adjacent to one edge with a downwardly and outwardly curving locking flange 6 that projects from the under side of the cover into engagement with a corresponding flange 7 extending inwardly from an end wall of the box 1. As is customary in devices of this class, a suitable seat 8 for the cover 5 is formed on the walls of the box 1. The locking flanges 6 and 7 afford a hinge-like connection between the cover and the box, permitting, of course, entire removal of the cover from the receptacle.

The fastening or cover securing means comprises a plurality of latches 9 which latches are pivotally carried on the under side of the cover 5 at the free edge of the latter opposite to that having the interlocking connection with the flange 7. These latches 9 are of peculiar form, being angular and each comprising an approximately vertical arm having a nose $9^a$ to engage a keeper 10 on the adjacent end wall of the box 1, a tail or arm $9^b$ projecting inwardly from the first mentioned arm. The arm or tail $9^b$ of each latch 9 is sufficiently heavy to cause a gravitative movement of the latch to engage its nose $9^a$ with the keeper 10. The extent of gravitative movement of the latch is limited, however, when the cover is upraised, by a shoulder or stop 11 which is adapted to abut with the under side of the cover 5, for the purpose mentioned. The shoulder or stop 11 is formed at the angle at which the arms of the latch are integrally connected. The several latches 9 are secured to the cover 5 by a pivot 12 passing through lugs 13 depending from the under side of the cover, said pivot being common to the latches. Two pairs of latches 9 are preferably employed for engagement with the keeper 10, the latches of each pair being spaced by washers or equivalent members 14, and each pair of latches being spaced from the other pair by a bushing 15, the washers and bushing being carried by the pivot 12.

The means for operating the latches and the cover will now be described. Formed in the cover 5 is a keyhole 16 located practically in vertical alinement with the space between the two pairs of latches 9. Through this keyhole 16 a key, operating member or equivalent device 17 is insertible, the same being formed with a suitable handle and having a shank provided with a head 18 detachably connected therewith. The head 18 is elongated and virtually forms oppositely

extending bits $18^a$, each of which has a shoulder $18^b$. The shouldered or upper portion of the head 18 is of a length practically equal to the distance between the two pairs of latches 9, and the head 18 is of a size adapted to readily pass downwardly through said space to a point beneath the tails or gravitative arms $9^b$ of the latches.

Figs. 4 to 6 exemplify the manner of insertion and engagement of the key 17 with the latches in the operation of releasing and raising the cover. The first step in said operation is to insert the head 18 of the key 17 into the box 1 through the keyhole 16, the key being lowered until the handle nearly touches the cover, whereupon the head 18 will be arranged in a horizontal plane below the tails $9^b$ of the latches 9. The key is then turned a half rotation until the head 18, previously located in parallel relation to the latches, assumes a position traverse thereto. If the key 17 is now raised the shoulders $18^b$ of the bits $18^a$ will pass upwardly between the two pairs of latches 9 and said bits $18^a$ will engage the tails of the latches, imparting a rocking movement to the latter that will disengage the noses $9^a$ from the keeper 10. The cover 5 is now released and further upward movement of the key, being a continuation of the cover releasing action, will cause the tails $9^b$ to abut with the under side of the cover and the latter will then be lifted into the open position moving hingedly on the box. The cover is now free to be removed entirely or supported in the open position, according to the desire of the operator. If the key 17 be removed from the cover when the box or housing 1 is open, as the cover drops in place on its seat, in closing, it will be apparent that the stops 11 of the latches will prevent the same from moving any farther than to assume positions in which their noses are adapted to ride along the curved guide $10^a$ afforded by the outer surface of the keeper 10, until said noses interlock with the keeper as the cover becomes fully seated.

While one only of the latches 9 might be used within the purview of the invention, it is preferred to employ a plurality of said latches to increase the security of the fastening means, liability of unauthorized opening of the box or housing being thus decreased. Furthermore, the employment of more than two latches in spaced relation subserves the protective features of the device in that a key not having the requisite number of bits $18^a$, or whose bits are not of the requisite length, will be ineffective to release the fastening means even though it might assume a correct position to accomplish the end in view.

It may be noted that when the lifting of the cover 5 is being performed according to the illustration in Fig. 6, the key 17 by its bearing against the cover and the latches has a sort of leverage that renders it very effective to loosen the cover from its seat on the box when said cover has become stuck or tight as is often the case under actual conditions of service.

It is contemplated that modification in the detail features of this invention, especially in regard to the exact form of the latches, number and arrangement thereof, may be made without departing from the essential principle of construction and operation of the several parts.

Having thus described the invention what is claimed as new is:—

The combination with a housing, of a cover plate therefor having a keyhole therethrough, a keeper on the housing, latches engaging said keeper for locking the cover plate in position, said latches being arranged in spaced pairs, the latches of each pair being also spaced from one another, and the space between the pairs of latches being opposite the keyhole, arms projecting from the latches, a pivot connecting the latches with the cover, and a key comprising a head insertible through the keyhole, said head being so formed as to provide oppositely extending bits, and an intermediate shouldered portion adapted to fit between the pairs of latches so that initial withdrawal movement of the key releases the latches from the keeper, and subsequent movement of the key in the same direction will lift the cover bodily from the housing.

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

WADE HAMPTON SMITH.

Witnesses:
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W. C. BRANDON.