

P. KOPAL.
 COIN FREED LOCK FOR CARETAKERS.
 APPLICATION FILED JUNE 3, 1909.

948,295.

Patented Feb. 1, 1910.

3 SHEETS—SHEET 1.

Fig.1. Fig.2.

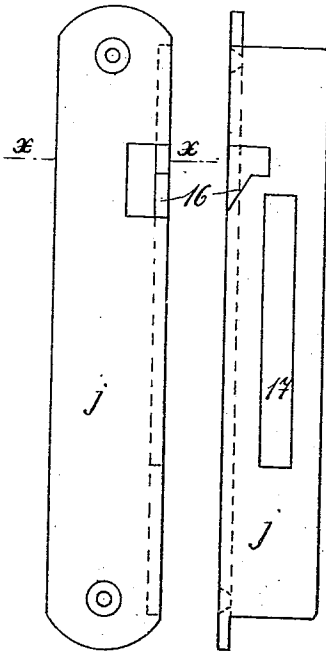


Fig.4.

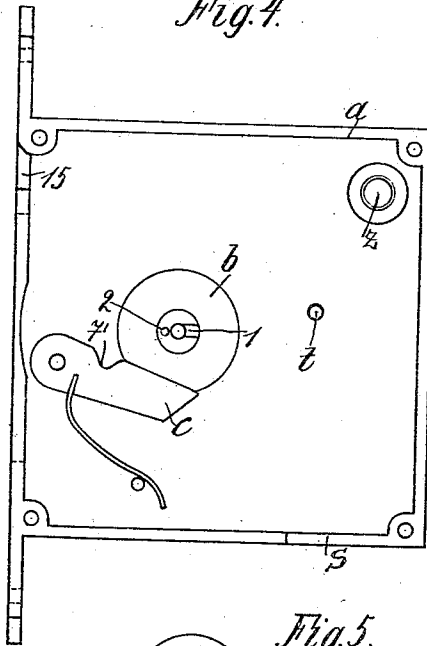


Fig.3.

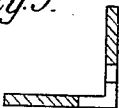


Fig.5.

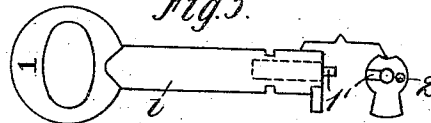


Fig.8.

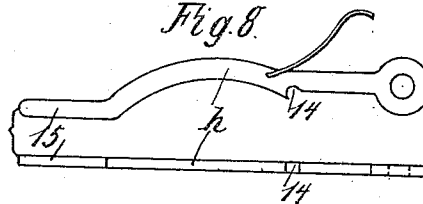


Fig.6.

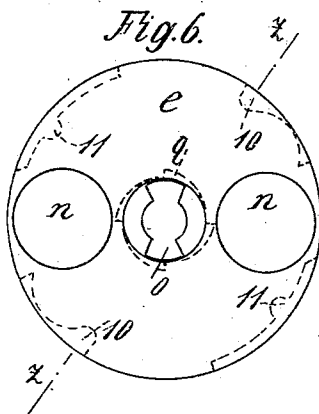
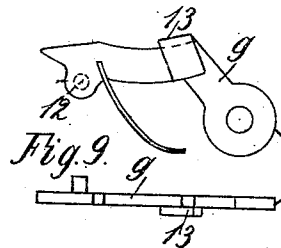
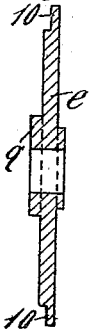


Fig.7.



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Fig. 10

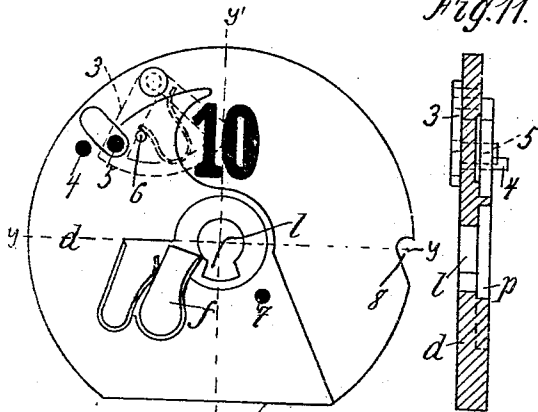


Fig. 11

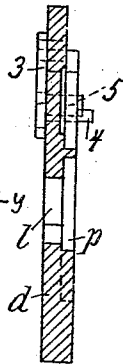


Fig. 13

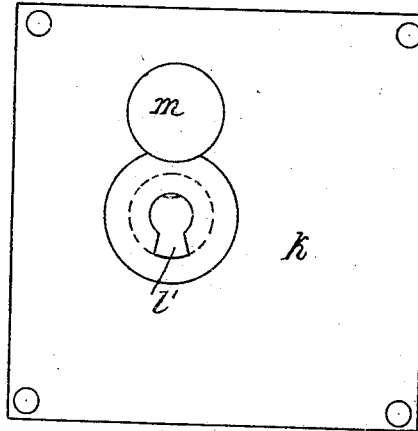


Fig. 12

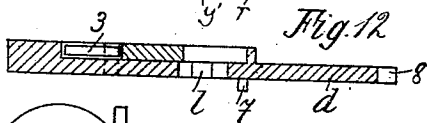


Fig. 14

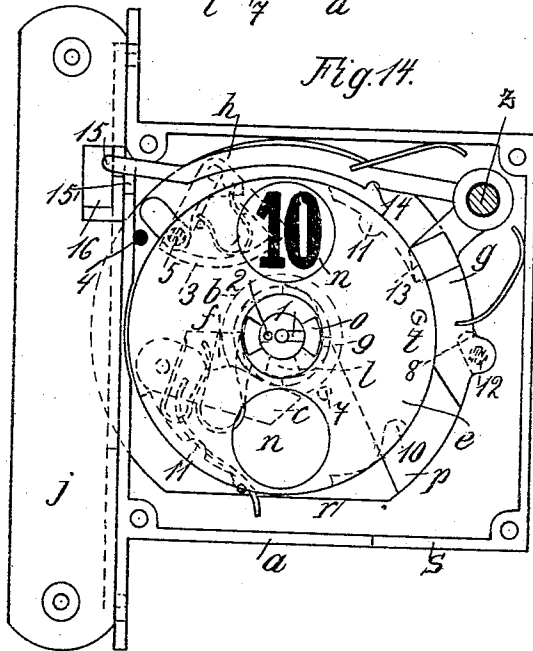
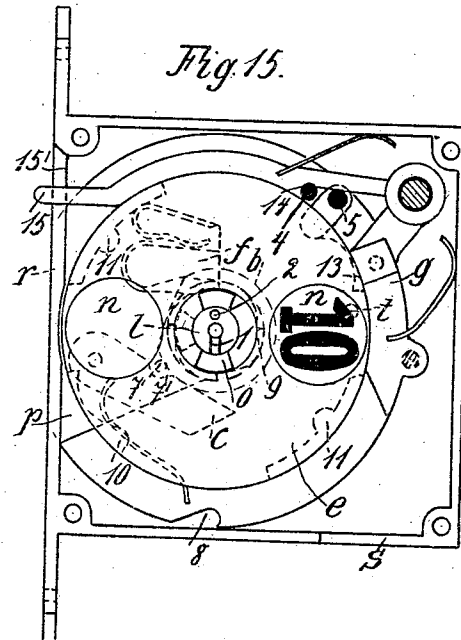


Fig. 15



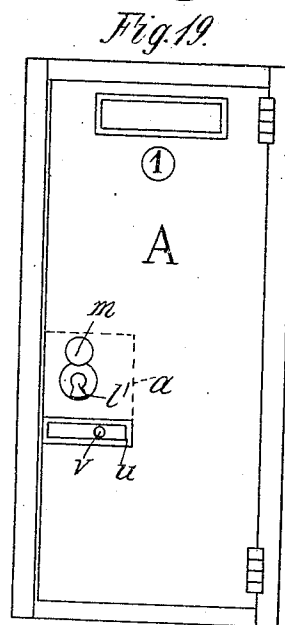
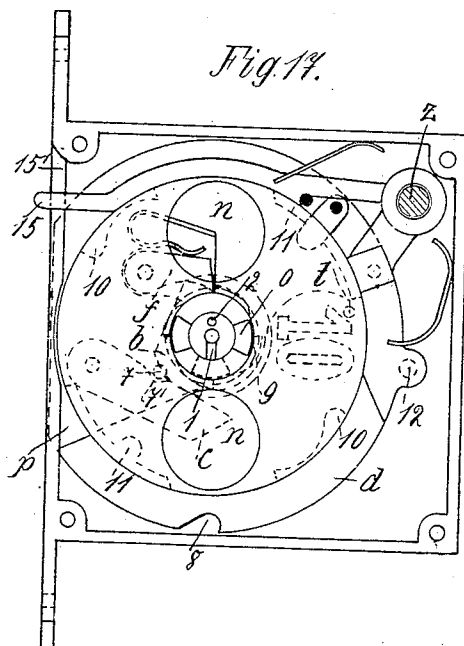
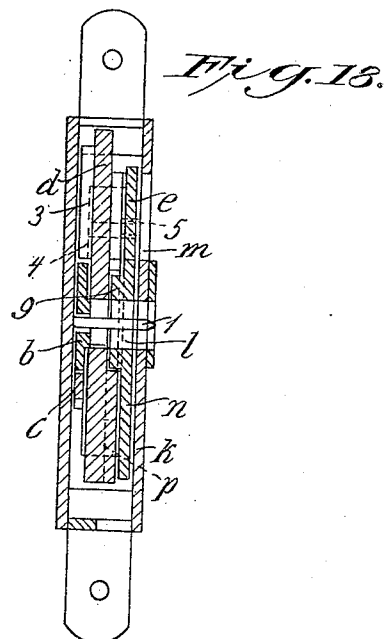
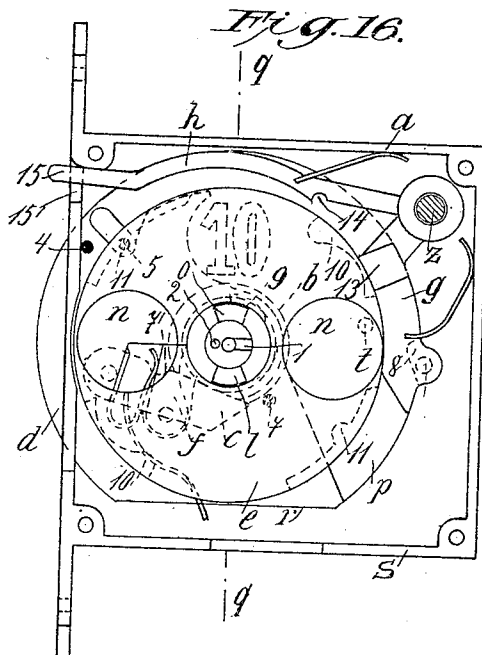
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UNITED STATES PATENT OFFICE.

PETER KOPAL, OF PRAGUE-KÖNIGL, AUSTRIA-HUNGARY.

COIN-FREED LOCK FOR CARETAKERS.

948,295.

Specification of Letters Patent.

Patented Feb. 1, 1910.

Application filed June 3, 1909. Serial No. 499,990.

To all whom it may concern:

Be it known that I, PETER KOPAL, a subject of the Emperor of Austria-Hungary, residing at Prague-Königl, Weinberge, in the Austro-Hungarian Empire, have invented certain new and useful Improvements in Coin-Freed Locks for Caretakers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has reference to caretakers for the safe custody of hats, coats, umbrellas, walking-sticks, and other property temporarily left; and it relates in particular to a coin-freed lock, having two parallel rotative disks, of which the one acts as a bolt-plate, while the other constitutes a ratchet-wheel. These disks operate in conjunction with various auxiliary mechanisms, and locking and unlocking depends upon the positions they occupy.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation, Fig. 2 a side elevation, and Fig. 3 a horizontal section of the keeper. Fig. 4 is an elevation of the lock-case with cover-plate removed. Fig. 5 shows a side and an end elevation of the key. Fig. 6 is an elevation of the ratchet wheel. Fig. 7 is a section on the line $z-z$ of Fig. 6. Fig. 8 shows an elevation and a plan of the latch. Fig. 9 shows an elevation and a plan of the tumbler. Fig. 10 shows an elevation of the bolt-plate. Fig. 11 is a section on the line y^1-y^1 of Fig. 10. Fig. 12 is a section on the line $y-y$ of Fig. 10. Fig. 13 is an elevation of the cover-plate. Figs. 14-17 show the lock (with cover-plate removed) with the parts in three successive positions. Fig. 18 is a section on the line $q-q$ of Fig. 16. Fig. 19 is an elevation of the caretaker door, drawn to a smaller scale.

I will first proceed to describe the principal parts of the new lock singly.

The keeper j (Figs. 1-3) is of angular shape and in addition to the slot 17 for the bolt-plate, it is provided with an aperture 16 in both flanges, serving to receive the latch.

The side-plate of the case a (Fig. 4) is furnished with a rotative safety-disk b adapted to receive the stem of the key i (Fig. 5) and presenting two apertures 1, 2 into which pins 1^1 , 2^1 on the key i fit. The

periphery of the disk b is removed at one part so as to present a flat surface, against which there bears a pivoted spring-actuated detent c , whereby the disk b is prevented from turning. The detent is notched at 7^1 for a purpose to be hereinafter described. The lock-case a also presents a pin 7, acting as a stop for the pivotal segment 3 of the bolt-plate d (Fig. 10).

z is a pivot serving as an axis for the tumbler g (Fig. 9) and the latch h (Fig. 8).

15^1 is an aperture on the selvage of the case a , to receive the end of the latch h .

The boss of the wheel e (Figs. 6 and 7) presents four ratchet-teeth q . On the periphery of the wheel are two pairs of grooves or recesses 10 and 11, while the center is perforated to receive the key i (Fig. 5). The wheel has also two apertures or windows n .

The latch h (Fig. 8) is spring-actuated and presents a hook 14. The tumbler g (Fig. 9) is likewise spring-actuated and has a laterally protruding pin 12 and a hook 13.

The surface of the bolt-plate d (Figs. 10, 11 and 12) is such that a coin-channel p is presented. At r a portion of the periphery is removed. To the back of the plate there is pivoted a segment 3 from which there projects a pin 5, engaging in a slot in the plate d , above whose face it slightly protrudes. In the interior of the segment is a spring which bears against a pin 6 on the plate d and presses the segment and pin 5 downward. The pin 4 serves as a stop for the plate d and also as catch for the latch h , as will be hereinafter described. The office of the pin 7 is to depress the detent c of the case a (Fig. 4). The periphery of the plate d is notched at 8 to receive the pin 12 of the tumbler g (Fig. 9).

f is a countersunk spring-actuated pawl pivoted to the plate d and adapted to engage between the teeth q of the wheel e (Figs. 6 and 7). The plate d has a hole for the key i , the recess l for the key bit being lowermost, above the flat portion r of the periphery of the plate.

k (Fig. 13) is a cover-plate, furnished with a keyhole having a recess l^1 for the bit; it has also a round slot m to receive the coin.

The various parts of the lock are assembled in the following manner. First the bolt-plate d is set in the case a , with its central aperture on the boss of the safety-disk b , which acts as pivot, the flat portion r of

the plate being below, while the number (in the present case "10"), indicating the value of the coin to be dropped in the slot, is above. The wheel *e* is then placed upon the plate *d*, with its toothed boss in the recess in the former, the pawl *f* being snapped between the teeth *g*, thus preventing the wheel *e* from turning toward the left. The tumbler *g* and latch *h* are now set upon the pivot *z* and the cover-plate *k* then screwed on (Fig. 18).

The lock operates as follows. Suppose the door of the caretaker A (Fig. 19) to be closed, the various parts of the lock occupying the positions shown in Fig. 14 and the key *i* already inserted in the lock. Since the left-hand portion of the plate *d* projects into the keeper *j* the door is locked; the plate *d* cannot turn farther toward the left owing to the pin 14 bearing against the selvage of the case *a*. The figure "10" is exhibited through the top window *n* in the wheel *e*. The latter cannot be turned to the right, owing to the pin 5 of the segment 3 engaging in the one of its peripheral grooves 10; nor can it be turned to the left, owing to the pawl *f* engaging with the toothed wheel *g*, and owing to the tooth 13 of the tumbler *g* engaging in one of the peripheral grooves 11 of the wheel. The key *i* cannot be retracted as the recess *o* of the wheel *e* is located at an angle of 45° to the recess *l* of the plate *d*. The outer end of the latch *h* reposes in the aperture 16 of the keeper *j* which it has reached by sliding up the inclined surface of the aperture on closing of the door. If now a coin is placed in the slot, it will drop down the channel *p* between the plate *d* and wheel *e*. At the same time the key must be turned toward the right, so that the shoulder of the plate *d* will bear upon the spring-actuated tumbler *g* and will lift the tooth B from the groove 11 in the wheel *e* (Fig. 15). The plate *d* and wheel *e* will thus have advanced through 45° and the pawl *f* will engage between the teeth 9 of the wheel *e* in substantially horizontal position. Since in this position of the parts the flat part *r* of the bolt-plate *d* registers with the selvage of the case *a*, lying opposite the keeper *j*, the door can be opened. During the rotation of the parts *d* and *e* the safety-disk *b* will also have turned to the right, the pin 7 of the plate *d* having depressed the detent *c* and snapped into the notch 7¹ (Fig. 15) thus preventing backward rotation of the plate *d*. This prevents the lock being opened with a false key or picklock. In this position of the parts the tooth 13 of the tumbler *g* engages in the one groove 10 of the wheel *e* and thus firmly holds the latter. The latch *h* has fallen and its hook 14 grips the pin 4 of the plate *d*, preventing rotation of the latter. Thus neither of the parts *d* and *e* can be

turned; nor can the key be withdrawn or turned in either direction, since the recesses *o* and *l* lie at an angle of 45° to each other. If, however, the door is closed again, the latch *h* will slide up into the aperture 16 of the keeper, releasing the pin 4 from the hook 14, so that by turning the key the plate *d* can be rotated toward the left. Since, however, the tooth 13 of the tumbler *g* engages in the groove 10 of the wheel *e* the latter will not rotate with the plate *d*. The caretaker is now locked. This position of the parts is shown in Figs. 16 and 18, in which all the instrumentalities occupy the same position as in Fig. 14, with the exception of the wheel *e*, which lies with its windows *n* horizontal. The recesses *l* and *o* thus coincide, so that the key can be withdrawn from the keyhole. On the lock being opened again with the key *i*, both members *d* and *e* will be turned toward the right, the parts then occupying the positions shown in Fig. 17. On locking the empty caretaker only the plate *d* will be turned toward the left, since the tooth 13 of the tumbler *g* engages in the groove 11 of the wheel *e* and prevents its rotation. The mechanism has now resumed the initial position again and can only be opened with the aid of a coin, as before (Fig. 14).

The door is provided with a closable glass receptacle *u*, so as to enable display of the coin *v* which has been dropped into the slot *m*.

Having thus described my invention, I declare that what I claim is:—

A coin-freed lock for caretakers, comprising the following instrumentalities, an angular keeper whose corner presents an aperture for a latch and whose face presents an aperture for a bolt-plate; a case presenting a rotative disk having apertures for a key, a spring-actuated notched detent controlling said disk, and a stop; a circular bolt-plate rotatably mounted in the case and having a keyhole, and whose periphery presents a flat portion and a notch, and whose face presents a coin-channel, a pivoted spring-actuated pawl, a slot, a stop adapted to engage the detent of the case, and a stud adapted to engage the selvage, and whose back presents a pivotal spring-controlled segment engaging said stop of the case and having a pin projecting through said slot; a rotative disk presenting a keyhole and two windows, and whose boss is toothed and fits into said bolt-plate and is engaged by said pawl of the bolt-plate and whose periphery presents four grooves; a spring-actuated latch pivoted to the case and presenting a hook adapted to engage said stud of the bolt-plate, and whose end fits the corner aperture of the keeper, and which is adapted to be raised by said segment-pin; a spring-actuated tumbler pivoted to the

case and presenting a pin adapted to engage
in the peripheral notch of the bolt-plate,
and a tooth adapted to engage in the peripheral
grooves of the disk; a cover-plate pre-
5 senting a coin-slot and a keyhole; and a
key fitting the said keyholes; all operating
substantially as described.

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

PETER KOPAL.

Witnesses:

ADOLPH FISCHER,
RICHARD MÖLLER.