

(No Model.)

3 Sheets—Sheet 1.

F. E. ZSCHERNIG.
COIN FREED LATCH.

No. 502,898.

Patented Aug. 8, 1893.

Fig. 1.

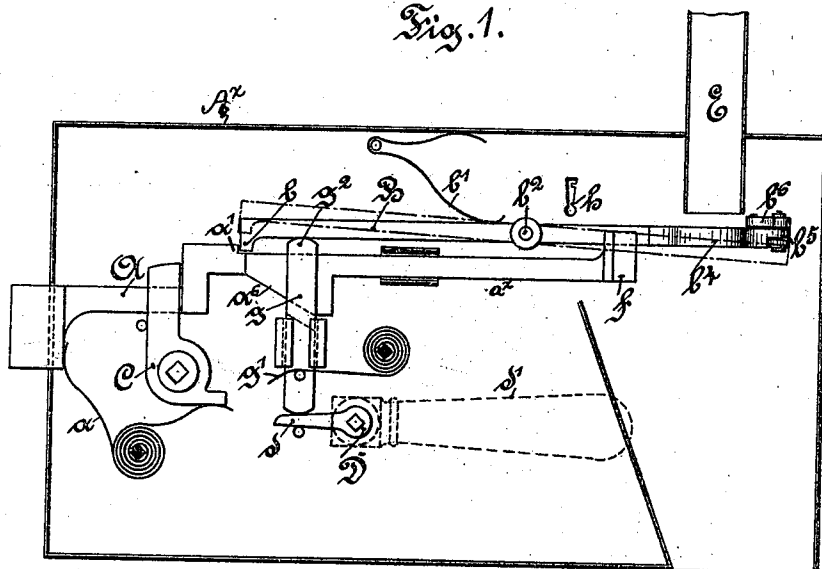
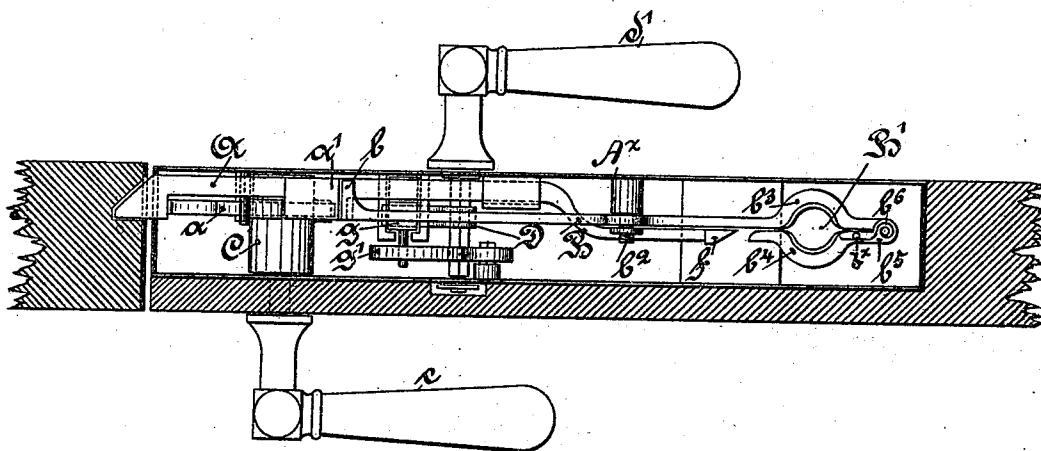


Fig. 2.



Witnesses:

Augustin
R. Böhm

Inventor:

Friedrich E. Zschernig
by his attorney Wm. E. Fowler

(No Model.)

3 Sheets—Sheet 2.

F. E. ZSCHERNIG.
COIN FREED LATCH.

No. 502,898.

Patented Aug. 8, 1893.

Fig. 3.

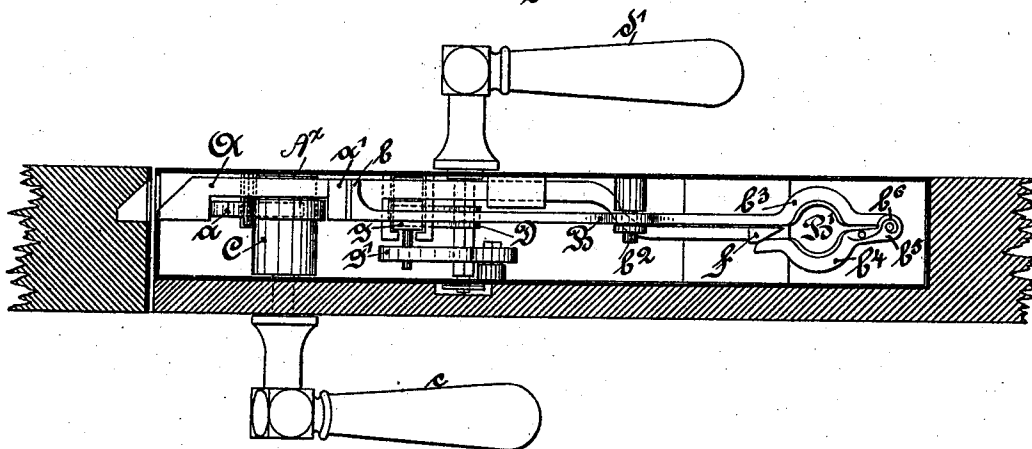


Fig. 4.

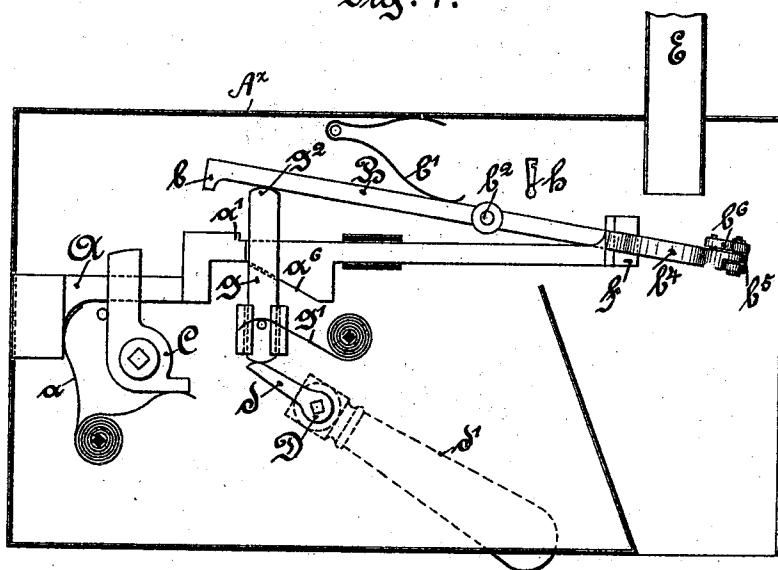
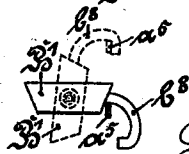


Fig. 8.



Witnesses:
Augustin
A. Böhm

Inventor:
Friedrich E. Zschernig
by his attorney
Wm. E. Souther

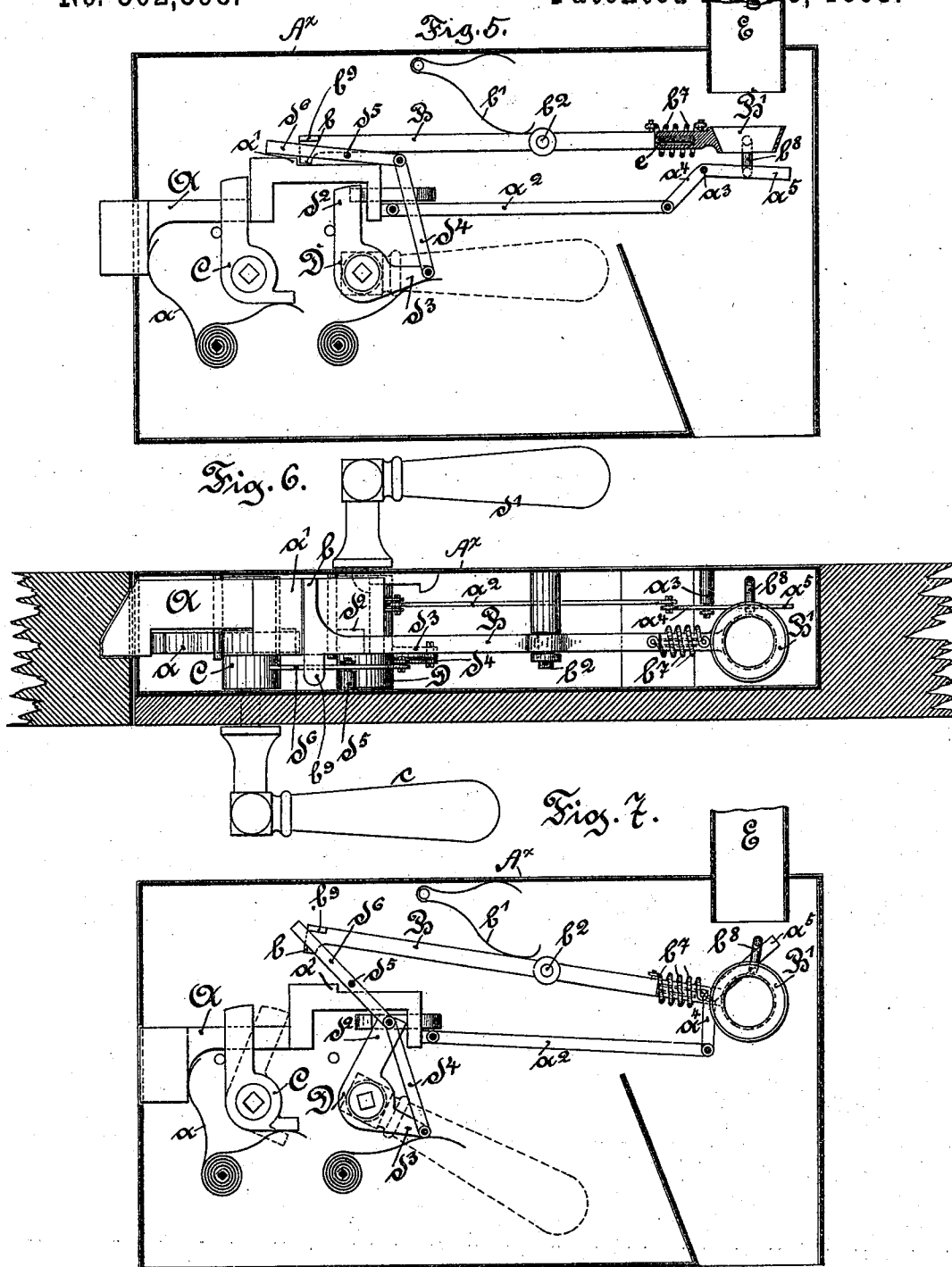
(No Model.)

3 Sheets—Sheet 3.

F. E. ZSCHERNIG.
COIN FREED LATCH.

No. 502,898.

Patented Aug. 8, 1893.



Witnesses:

Angedrummer
R. Böhm

Inventor:

Friedrich E. Zschernig.
by his attorney J. C. Poulter.

UNITED STATES PATENT OFFICE.

FRIEDRICH EDMUND ZSCHERNIG, OF DRESDEN, GERMANY, ASSIGNOR TO
AUGUST KARL MARIA HERMANN EVLER, OF SAME PLACE.

COIN-FREED LATCH.

SPECIFICATION forming part of Letters Patent No. 502,898, dated August 8, 1893.

Application filed March 6, 1893. Serial No. 464,839. (No model.) Patented in Germany January 25, 1891, No. 60,537, and July 8, 1891, No. 62,436; in France March 28, 1891, No. 212,404, and in Austria-Hungary September 15, 1891, No. 15,636 and No. 36,764.

To all whom it may concern:

Be it known that I, FRIEDRICH EDMUND ZSCHERNIG, a subject of the King of Saxony, residing at Dresden, Saxony, Germany, have
5 invented certain new and useful Improvements in Coin-Operated Locks, (for which Letters Patent have been granted in Germany, dated January 25, 1891, No. 60,537, and patent of addition, dated July 8, 1891, No. 62,436;
10 in France, dated March 28, 1891, No. 212,404, and in Austria-Hungary, dated September 15, 1891, No. 15,636 and No. 36,764,) of which the following is a full, clear, and exact description.

The object of this invention is to enable a door or the like to be unlocked after the insertion of a coin or equivalent. The latch or bolt is freed or released by the insertion of a coin, and may then be withdrawn to open the door by means of a handle operated from outside.
15 In doing this, the coin which has been introduced is set free, and the coin-lever, adapted to arrest or lock in position the said latch or bolt, is made to engage with the same again. To open the lock from within, another
20 handle is arranged to be operated from the interior. It is only necessary to turn this, to lift the coin lever out of engagement, after which the bolt or latch is withdrawn.

The characteristic feature of the improved
30 lock is, that it comprises two handles, one of which enables the latch to be withdrawn from the outside after the coin lever has been freed by the insertion of the coin, while the other serves to open the lock from within without
35 the insertion of a coin, and in moving, raises the lever out of engagement.

The invention will be best understood by reference to the accompanying drawings.

Figure 1 is an elevation of the lock with the
40 cover or lid removed, and the mechanism in the "closed" or locked position. Fig. 2 is a horizontal section of the lock and door the position of the parts being the same as in Fig. 1. Fig. 3 is a similar section of the lock when
45 opened or unlocked from the outside. Fig. 4 is an elevation similar to Fig. 1 but showing the position of the parts while the lock is being opened from the inner side. The remain-

ing figures illustrate a modification of the lock, Fig. 5 being a view of the closed lock
50 with the cover removed; Fig. 6 a horizontal section of Fig. 5; Fig. 7 a similar view to Fig. 5 showing the lock while it is being opened from the inside, and Fig. 8 is a side view of the coin-receiving cup or dish.

Like letters indicate like parts in all figures.

A^x is the lock case.

A is the latch or bolt.

B is the coin-lever adapted to lock latch A
60 in position; C the lever arm whereby the latch or bolt from the outside of the door is drawn into the lock casing, D being a similar lever arm for performing the same function from the inside of the door.

E is a chute for the insertion of the coin.
65 The bolt or latch A is acted upon by the spring *a*, tending to retain it always in the "closed" or locked position. In both forms of lock here shown, the latch A has a projection or
70 shoulder *a'* at its back or upper part, whereby it engages with the front end or nose *b* of the coin lever B. The nose *b* drops into engagement either by the weight of the arm of B
75 which carries it, or by the action of a spring *b'*.

*b*² is the pivot on which the coin lever B turns. The coin inserted through chute E
80 first drops into the dish or equivalent mounted on the coin lever B which dish or equivalent preferably as shown in Figs. 5 to 8 has the shape of a circular ring, conically contracting in the downward direction, so as to allow coins of smaller than the standard size to fall through without effect, while coins of the pre-
85 determined size are retained in the cup B' and lift the nose *b* out of engagement with shoulder *a'*, after which it is only necessary to depress the external handle *c* attached to the
90 tumbler C to withdraw the latch or bolt A; while this is being done a mechanism connected with the latch, releases the coin.

In the form represented by Figs. 1 to 4 the coin-dish consists of two parts, one of which, *b*³ is rigidly connected to or formed integral with B, while the other *b*⁴ is connected with
95 part *b*³ by a joint *b*⁵. A spring *b*⁶ acting upon

pin b^x tends to keep together the two parts, so that they jointly form one complete and substantially unbroken ring. The latch or bolt A carries a rod a^x on the back portion of which there is a wedge-shaped piece f . When the latch or bolt is withdrawn this wedge f enters between parts b^3 and b^4 and presses part b^4 outward which has the effect of expanding or widening the cup B' to an extent sufficient to allow the coin to fall through (Fig. 3).

In the modified arrangement shown in Figs. 5 to 8, the cup or dish B' is adapted to turn on a spindle e provided on the lever B. A spring b^7 tends to retain the cup or dish in the horizontal position. Cup B' carries a bent pin b^8 (Fig. 8). By means of a link a^2 the latch or bolt A is connected with a bell-crank or bent lever $a^4 a^5$ pivoted at a^3 , and the arm a^5 of which, when the latch is drawn back by the action of the lever arm C and its handle c , is caused to engage with the pin b^8 so as to upset or tilt over the coin-dish B' as shown in Fig. 7, and in dotted lines in Fig. 8, and eject the coin, the tappet b in the meantime being above the projection a' . The coin dish B' whether arranged to open as in Figs. 1 to 4 or to be tilted as in Figs. 5 to 8 for the purpose of releasing the coin, is (as illustrated in Figs. 4 and 7) acted upon in an identical manner when the lock is opened from within or without; only in the former case it, of course, throws out no coin.

To unlock the latch or bolt A from the inside, the incline a^6 of the latch (as shown in Figs. 1 to 4) is made to engage with a slide g provided with a corresponding incline, and resting upon the lever arm d of the spindle barrel D. A spring g' is arranged to lower the slide when the handle d' is released. Barrel D may be operated by means of a suitable handle d' , or equivalent, provided at the inside of the door. Before the slide g can meet the incline a^6 , the projection g^2 or top of the slide g must raise nose b out of engagement with shoulder a' . It will thus be seen that the lock may be opened at any time from within, without the insertion of a coin.

In the form shown in Figs. 5 to 7, the opening operation from within is performed by the arm d^2 of barrel D, the other arm d^3 of which is connected by a link d^4 with the lever d^6 swinging on the pivot d^3 which is secured to the lock casing. Before arm d^2 touches bolt A, the lever d^6 , by engagement with a projection b^9 on the coin lever B, lifts nose b out of engagement, so that here, too, there is nothing to prevent the lock being opened from within whenever required.

To enable the legitimate owner or occupier and other authorized persons to open the lock from the outside also, without the use of a coin, a key hole h (Figs. 1 and 4) may be provided above the coin-lever B for the introduction of a suitable key the bit of which is adapted to move the coin-lever out of engagement either directly or indirectly.

It will be understood that the details of the lock-mechanism may be varied without departure from the principle of the invention.

I claim and desire to secure by Letters Patent—

1. In a lock of the character described, the combination, of a latch or bolt, a lever adapted to engage with the same to lock it when projected outwardly, and to release the said latch when tilted, an arm and an operating handle therefor adapted to be operated to withdraw the latch when released, and a second arm and an operating handle for the same also adapted to be operated to tilt the lever and withdraw the latch, as and for the purpose specified.

2. In a lock of the character described, the combination of a sliding latch or bolt, a pivoted locking lever adapted to engage at one end the said latch to lock it when projected outwardly, and at its opposite end adapted to be acted upon by a coin to release the latch, an oscillating arm mounted upon one end of a spindle, an operating handle mounted upon the other end of said spindle and adapted to operate the said arm to cause it to engage the latch when released by the lever and withdraw it, a second arm mounted upon a spindle, and an operating handle mounted also upon said spindle and adapted to cause the said second arm to tilt the lever and withdraw the latch inwardly, as described.

3. In a lock of the character described, the combination of a latch or bolt, a lever adapted to engage at one end said latch to lock it when projected outwardly, said lever being also adapted to release the latch when acted upon by a coin, an incline on said latch, a sliding bolt or arm also provided with an incline adapted to bear against the incline on the latch, said sliding bolt bearing at its upper end against the lever, and an oscillating arm adapted to operate the said sliding bolt to cause it first to tilt the lever and release the latch, and then to retract the latter, as and for the purpose specified.

4. In a lock of the character described, the combination of a latch or bolt, a locking lever adapted to engage at one end with the latch to lock it when projected outwardly, an expansible coin-receptacle at the other end of the lever, means for tilting the locking lever to free the latch and for withdrawing the same inwardly, and means carried by the latch adapted to expand the coin receptacle to release a coin when said latch is withdrawn as described, for the purpose specified.

5. In a lock of the character described, the combination with a sliding latch or bolt, of a locking lever adapted to engage at one end the latch to lock it when projected outwardly, said lever being provided at its opposite end with an outwardly-curved integral arm, a like arm pivoted to the same, a spring adapted to maintain said arms normally together, a wedge on the rear end of the latch adapted to spread the arms apart when the latch is

withdrawn inwardly, and means for operating the latch when released by the locking lever in the manner described, for the purpose specified.

- 5 6. In a lock of the character described, the combination with a sliding latch or bolt provided with a shoulder, of a locking lever adapted to engage at one end with said shoulder to lock the latch when projected outwardly, a
10 coin receptacle carried by the said lever at its other end, a vertically-arranged sliding bolt bearing at its upper end upon the locking lever, an inclined surface on the latch, an inclined surface on the sliding bolt adapted to
15 engage with the incline of the latch, an arm mounted upon a spindle and adapted to raise

the sliding bolt, an operating handle also mounted upon said spindle a second arm mounted upon a spindle and adapted to engage the latch to withdraw the same when released by the locking lever, and an operating handle also mounted on the latter spindle, as and for the purpose specified.

In testimony whereof I have hereunto set my hand in the presence of the two subscribing witnesses.

FRIEDRICH EDMUND ZSCHERNIG.

Witnesses:

OTTO WOLFF,
HUGO DUMMER,
Both of Dresden.