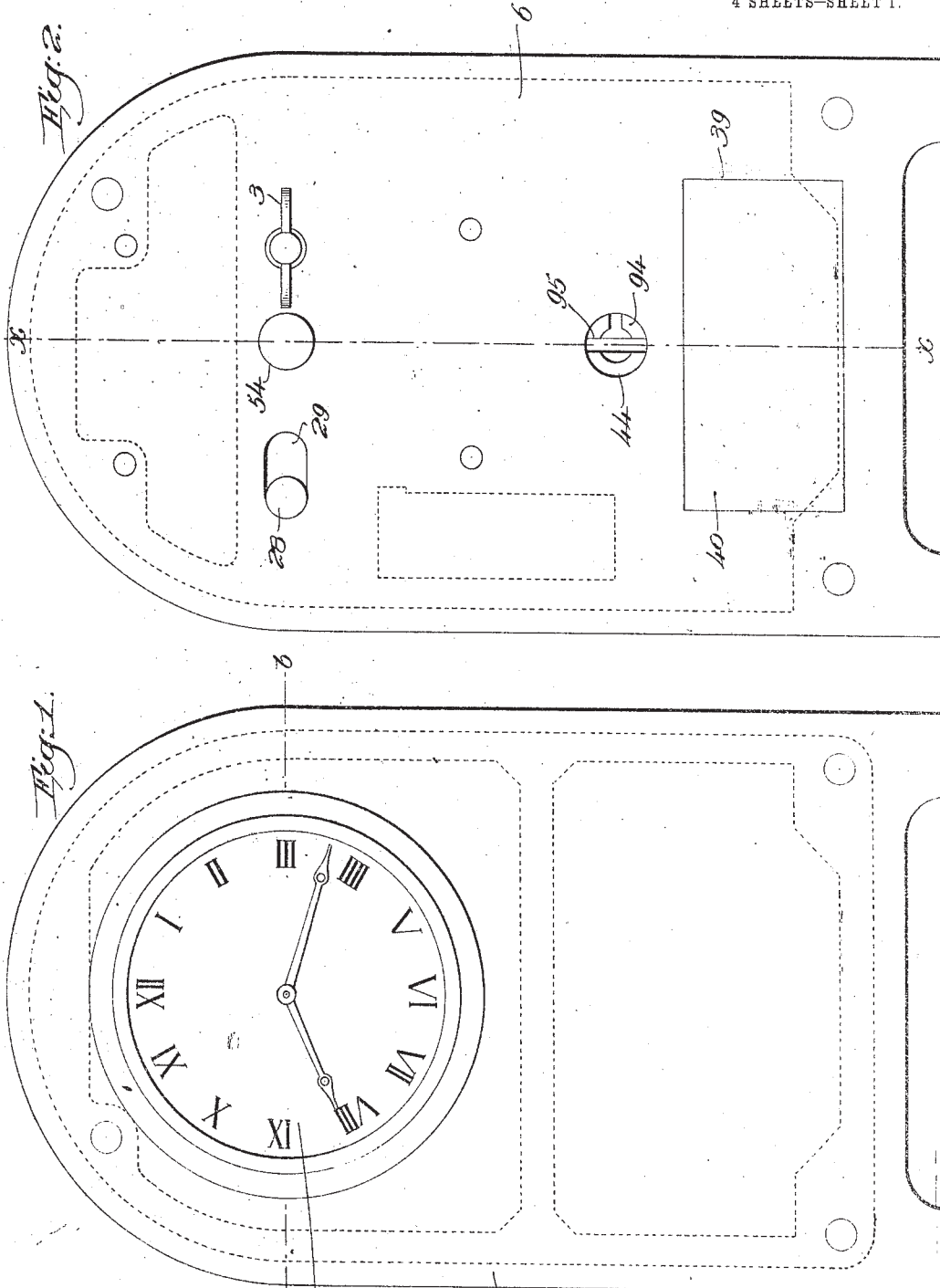


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Witnesses,  
Edward D. Allen  
Warren O. Neil.

Inventor:  
Clarence H. Kelsea.  
By Edward, Heard & Smith

Attest.

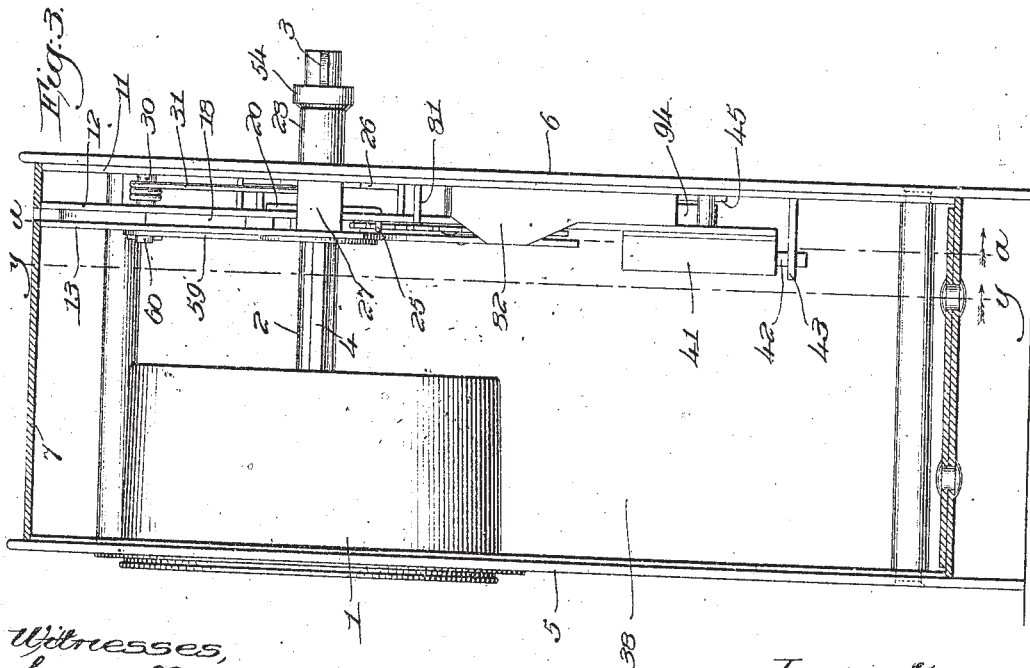
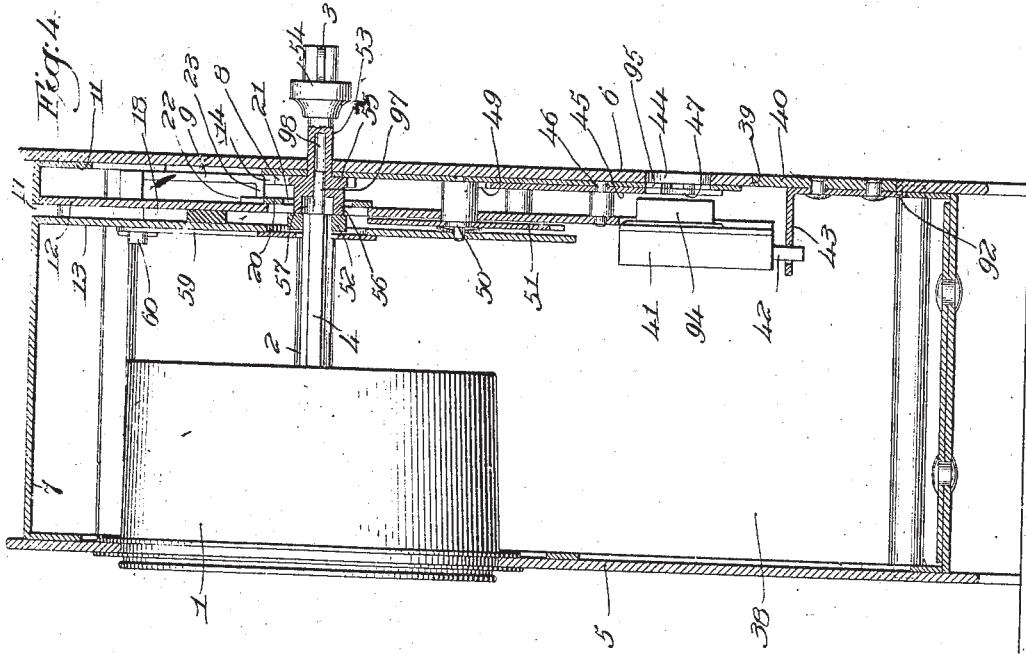
C. H. KELSEA,  
CLOCK BANK.

APPLICATION FILED OCT. 7, 1911.

Patented June 4, 1912.

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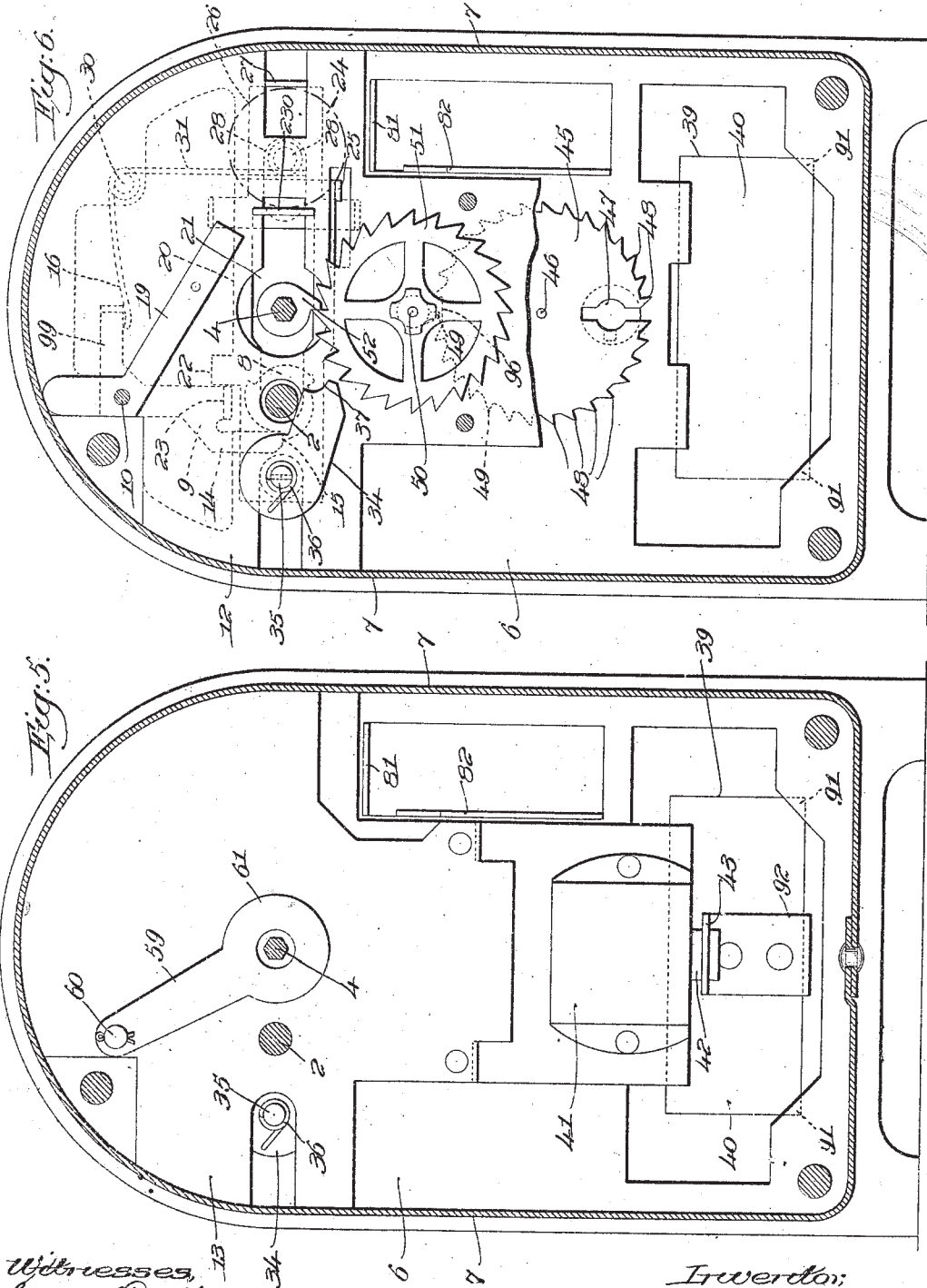
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Witnesses,  
Edward F. Allen,  
Warren Phil.

In witness whereof,  
Clarence H. Kelsea,  
by Edward H. Ward Smith.

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Witnesses,  
 Edward G. Allen.  
 Warren O'Neil.

Inventor:  
 Clarence H. Kelsea,  
 by Edward Heard Smith,

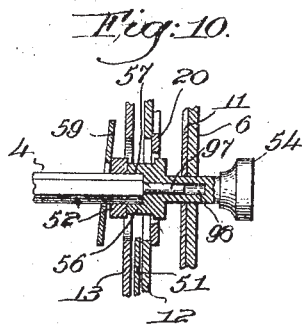
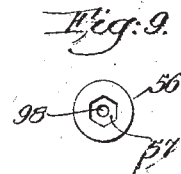
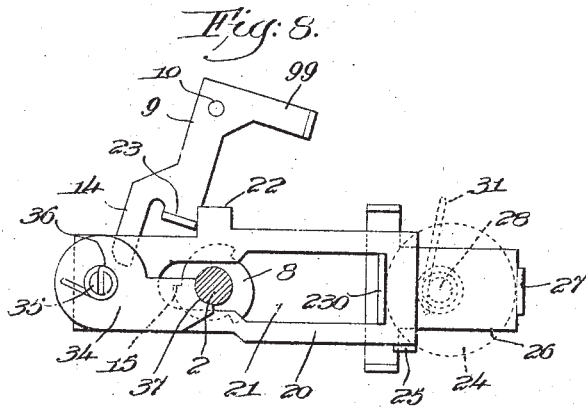
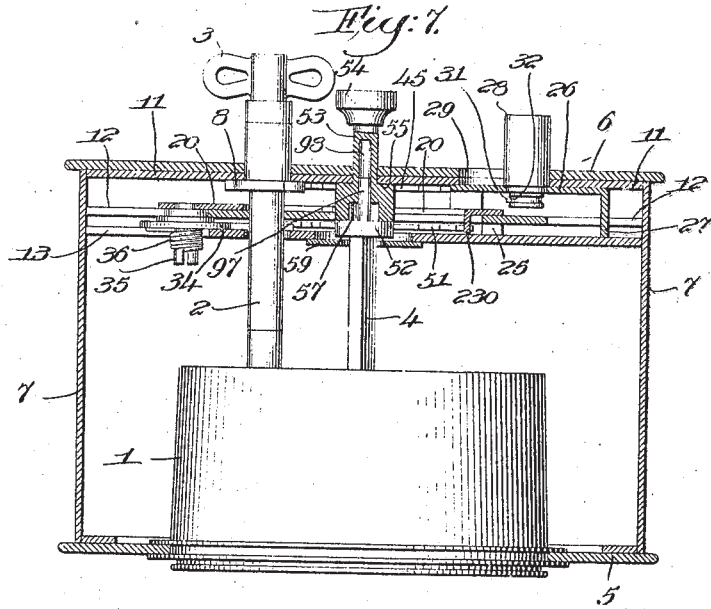
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1,028,222.

C. H. KELSEA.  
CLOCK BANK.  
APPLICATION FILED OCT. 7, 1911.

Patented June 4, 1912.

4 SHEETS-SHEET 4.



Witnesses,  
Edward G. Allen.  
Warren O'Neil.

Inventor:  
Clarence H. Kelsea,  
by Edward, Ward Smith.

Attest.

# UNITED STATES PATENT OFFICE.

CLARENCE H. KELSEA, OF LYNN, MASSACHUSETTS.

## CLOCK-BANK.

1,028,322.

Specification of Letters Patent.

Patented June 4, 1912.

Application filed October 7, 1911. Serial No. 653,326.

*To all whom it may concern:*

Be it known that I, CLARENCE H. KELSEA, a citizen of the United States, residing at Lynn, county of Essex, and State of Massachusetts, have invented an Improvement in Clock-Banks, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts. This invention relates to bank clocks of that type which requires the insertion of a coin to effect the winding thereof.

The general object of the invention is to provide a novel bank clock of this nature which has a simple coin-freed winding mechanism.

Other objects of the invention are to provide a novel time lock arrangement for the coin-receiving chamber which will permit said chamber to be unlocked only at certain intervals, and to provide simple means which will throw the time lock mechanism out of operation whenever the hands are set thereby preventing a person from advancing the hands to hasten the time when the time lock mechanism shall be operated.

In the drawings I have illustrated one embodiment of my invention which is sufficient to disclose the principle thereof, it being understood, of course, that many of the constructional details may be varied without departing from the invention.

Figure 1 is a front view of a bank clock embodying my invention; Fig. 2 is a rear view thereof; Fig. 3 is a side view with the side of the casing removed to show the interior parts in side elevation; Fig. 4 is a vertical sectional view on substantially the line  $x-x$ , Fig. 2; Fig. 5 is a vertical sectional view on the line  $y-y$ , Fig. 3; Fig. 6 is a sectional view on the line  $a-a$ , Fig. 3; Fig. 7 is a section on the line  $b-b$ , Fig. 6; Fig. 8 is a detail of the coin-freed winding mechanism; Fig. 9 is a detail of the setting device; Fig. 10 is a detail showing the operation of the setting member.

1 indicates a clock of any suitable or usual construction, it having an elongated winding stem 2 provided at its end with a thumb-piece 3 and also having an extended main arbor 4 which rotates once every hour. The clock is supported in a suitable casing which is herein shown as comprising the front plate

5, rear plate 6 and the inclosing casing 7 which is secured to the front and rear plates in any suitable way. The winding stem 2 extends through the rear casing 6 so that the head 3 is accessible. The winding stem 2 has fast thereon a toothed member 8 with which coöperates a locking pawl 9 that normally prevents operation of the winding stem. This locking pawl 9 is pivoted at 10 to a frame which supports the coin-freed mechanism and which is herein shown as comprising the three connected plates 11, 12 and 13. This locking pawl 9 has a finger or nose 14 which normally engages one of the teeth 15 on the toothed member 8 thereby to prevent rotation of said member, as shown in dotted lines Fig. 6. The locking pawl 9 is provided with an arm 99 which is acted upon by a spring 16 which tends normally to hold said pawl in its operative locking position. Coin-operated means are provided for releasing said locking pawl from engagement with the toothed member 8 whenever it is desired to wind the clock. 17 designates a coin slot formed in the casing 7 and which leads to a coin chute 18 formed between the two plates 12 and 13, and by the filling block 19 which is secured between said plates. 20 is a slide which is slidably mounted in the frame and is adapted by its movement to the left, Figs. 6, 7 and 8 to release the locking pawl 14 from the toothed member 8. Said slide is shown as having a slot 21 through which the stem or shaft 2 extends and as provided with a finger 22 which is adapted to engage the projection 23 formed on the locking pawl 14 as the slide moves. Said slide is also provided with a lateral projection 230 that is adapted to be acted upon by a coin 24 and is formed with the finger or rest 25 on which the coin is received. 26 designates a sliding actuator movably mounted in suitable ways formed in the frame and having a laterally-extending finger or projection 27 which is adapted to engage the coin and force the latter against the projection 230. The actuator 26 has connected thereto a stem or thumb-piece 28 which extends through a slot 29 formed in the back of the clock and by which the actuator can be moved. The spring 16, which is supported on a post 30, is extended to form the arm 31 which engages the inner end of the thumb-piece 28 at

32 and which normally holds the actuator in its retracted position. When a coin is inserted through the slot 17 it will gravitate through the chute 18 and will fall between the projections 230 and 27 and will rest on the rest 25, as seen in dotted lines Fig. 6. When the coin is thus positioned and the actuator 26 is moved to the left, Figs. 6 and 7, such motion is transmitted through the coin to the slide 20 and the finger 22 thereon engages the projection 23 thereby swinging the locking pawl 9 out of engagement with the tooth 15. When this has been done the winding stem 2 can be readily turned to wind the clock.

I have also provided means for holding the slide 20 in the position shown in Fig. 8 while the clock is being wound and after the actuator has been released thereby to release the coin. As herein shown this is accomplished by means of a holding pawl 34 which is pivotally mounted at 35 on the slide 20 and which normally occupies the position shown in Fig. 6, but which is adapted to be turned into the position shown in Fig. 8 by the spring 36 when the slide is retracted. When in the position shown in Fig. 8 the curved portion 37 of the holding pawl engages the stem 2 and said pawl acts as a strut to lock or hold the slide in the position shown in Fig. 8. The holding pawl 34 is released from the stem 2 by the turning action thereof as the clock runs down, for the friction between the stem and curved face 37 of the pawl is sufficient to turn the pawl into the position shown in Fig. 6 as said stem rotates anti-clockwise, and said pawl is thus swung down out of engagement with the stem.

After a coin has been inserted and the actuator has been advanced thereby to unlock the winding mechanism the release of the actuator permits the coin to drop, said coin falling into the space 38 within the casing. The coins are removed through an opening 39 which is closed by a door or closure 40. The bottom edge of the door is held from inward movement by the engagement of the corners 91 thereof with the plate 11 and from outward movement by the lip 92 which extend downward from the door and engages the inside of the back 6. The door is locked in position by any suitable lock 41 which is herein shown as provided with a bolt 42 adapted to enter an aperture in a lip 43 extending inwardly from the door. The bolt of the lock is thrown by a proper key inserted into a key-hole slot in the barrel 94 of the lock through an opening 44 formed in the back of the casing and a key-hole slot 95 formed in the plate 11. Means are provided whereby this lock cannot be unlocked except at certain definite times, say at the end of a week or a month, and this is accomplished by providing a shield which

normally covers the barrel 94 of the lock, but which uncovers and exposes said barrel at certain definite times. The mechanism herein shown is such as to expose the lock at the end of a thirty-day period. The shield is shown at 45 and is in the form of a disk rotatably mounted on a stud or pinion 46 carried by the frame, said shield having a key-hole slot 47 therein which is adapted to register with the key-hole slot 95 when the shield is in proper position. This shield is provided with a plurality of teeth 48, there being thirty teeth shown in the drawings with a space 96 between two of the teeth. This shield 45 is given an intermittent motion by means of a one-tooth member 49 rotatably mounted on an arbor 50 and having rigid therewith a twenty-four tooth member 51 which is adapted to be intermittently rotated by the single-toothed member 52 mounted on the main arbor 4. The member 52 rotates once each hour and therefore the toothed member 51 will move forward one tooth at each hour interval. Consequently, the shield 45 will be rotated one step forward during each twenty-four hour period and will make one complete rotation each thirty-day period. At the end of the thirty day period the key slot 47 of the shield is brought into alignment with the key slot 95 so as to permit the insertion of a key into the lock 41 for the purpose of withdrawing the bolt 42. When the key slots 47 and 95 are thus in register the space 96 is beneath the tooth 49, so that continued rotation of said tooth will not disturb the position of the shield.

I have provided herein means to prevent a person from shortening the thirty day period by turning the hands of the clock forwardly, and in the present embodiment of my invention this is accomplished as follows: The toothed member 52 is slidably mounted on the arbor 4, said arbor being non-circular in cross section and the member 52 having a correspondingly-shaped aperture so that it must always rotate with the arbor but can slide thereon. Means are provided whereby when the arbor 4 is turned by hand this toothed member 52 will be carried out of operative engagement with the member 51. As herein shown the back plate 6 has slidably mounted therein a setting member 53 provided with a thumb-piece 54. Said member is formed with the flange or shoulder 55 which by engagement with the plate 11 prevents the setting member from being withdrawn and said member is formed with the portion 56 having a socket 57 therein of a shape corresponding to that of the arbor 4. The arbor 4 is formed with a guiding projection 97 that is received in a recess 98 formed in the setting member. Said portion 56 rests against the member 52. When the parts are in their normal position, as shown

in Fig. 4, the setting member 53 is withdrawn from the arbor 4 and may be turned without turning the arbor 4, but when said setting member is pushed inwardly into the position shown in Fig. 10 the end of the arbor will enter the recess 57 so that turning movement of the setting member will be communicated to the arbor. When the setting member is in this position, however, the toothed member 52 has been moved laterally out of engagement with the member 51 so that the operation of the setting of the hands will not rotate the member 51. A spring arm 59 which is secured to the frame at 60 and has a portion 61 that embraces the arbor 4 serves to return the member 52 and setting member 53 to their normal position when pressure is relieved from the setting member.

81 and 82 designate deflecting flanges for the purpose of deflecting the falling coins into the compartment 88 and preventing them from dropping into the operating parts.

While I have illustrated one embodiment of my invention, I do not wish to be limited to the constructional features shown.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a clock bank, the combination with the winding shaft of a clock, of a toothed member thereon, a locking pawl normally engaging said toothed member to prevent winding movement of the shaft, a slide provided with means to engage the pawl and disconnect the same from the toothed member, and an actuator normally free to move independently of the slide but adapted to actuate the slide upon the insertion of a coin.

2. In a clock bank, the combination with the winding shaft of a clock, of a toothed member thereon, a locking pawl normally engaging said toothed member to prevent winding movement of the shaft, a slide provided with means to engage the pawl and disconnect the same from the toothed member, an actuator normally free to move independently of the slide but adapted to actuate the slide upon the insertion of a coin, and automatically-operative means to hold the slide in its retracted position after the coin has been released.

3. In a clock-bank, the combination with the winding shaft of a clock, of a toothed member thereon, a locking pawl normally engaging said toothed member to prevent winding movement of the shaft, a slide provided with means to engage the pawl and disconnect the same from the toothed member, an actuator normally free to move independently of the slide but adapted to actuate the slide upon the insertion of a coin, and means carried by the slide and adapted

to hold it in its retracted position after the coin has been released.

4. In a clock bank, the combination with the winding shaft of a clock, of a toothed member thereon, a locking pawl normally engaging said toothed member to prevent winding movement of the shaft, a slide provided with means to engage the pawl and disconnect the same from the toothed member, an actuator normally free to move independently of the slide but adapted to actuate the slide upon the insertion of a coin, and a holding pawl pivoted to the slide and adapted to engage said winding shaft when the slide is retracted thereby to hold the slide in its retracted position.

5. In a clock bank, the combination with the winding shaft of a clock, of a toothed member thereon, a locking pawl normally engaging said toothed member to prevent winding movement of the shaft, a slide provided with means to engage the pawl and disconnect the same from the toothed member, an actuator normally free to move independently of the slide but adapted to actuate the slide upon the insertion of a coin, a holding pawl pivoted to the slide and adapted to engage said winding shaft when the slide is retracted thereby to hold the slide in its retracted position, and means operated by the unwinding movement of said shaft to disengage the holding pawl therefrom.

6. In a clock bank, the combination with the winding shaft of a clock, of a toothed member thereon, a locking pawl normally engaging said toothed member to prevent winding movement of the shaft, a slide provided with means to engage the pawl and disconnect the same from the toothed member, an actuator normally free to move independently of the slide but adapted to actuate the slide upon the insertion of a coin, a holding pawl pivoted to the slide and adapted to engage said winding shaft when the slide is retracted, said pawl having a curved face to fit the shaft when it is in operative position, the friction between said shaft and face being sufficient to disengage the pawl from the shaft as the shaft unwinds.

7. In a clock bank, the combination with coin-freed winding mechanism, of a receptacle for the coins, a door leading to the interior thereof, a lock for the door, and a time-controlled shield for the lock.

8. In a clock bank, the combination with a casing, of a clock therein, coin-freed winding mechanism therefor, said casing having a removable closure, a lock for the closure on the interior of the casing, the latter having a key-hole slot leading to the lock, and a time-operated shield for said key-hole slot whereby the lock can be operated only at predetermined intervals of time.

9. In a clock bank, the combination with a casing, of a clock therein, coin-freed wind-

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ing mechanism therefor, said casing having an opening, a closure for the opening, a lock for the closure, a time shield for the lock, a normally-inoperative setting key, and means whereby the time-controlled shield is rendered inoperative when the setting key is in operative position.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

CLARENCE H. KELSEA

Witnesses:

LOUIS C. SMITH,

THOMAS J. DRUMMOND.