(No Model.) 2 Sheets—Sheet 1.

C. K. JARDINE.

ELECTRIC TIME CHECK RECEIVER.

No. 545,696. Patented Sept. 3, 1895.

Fig 1.

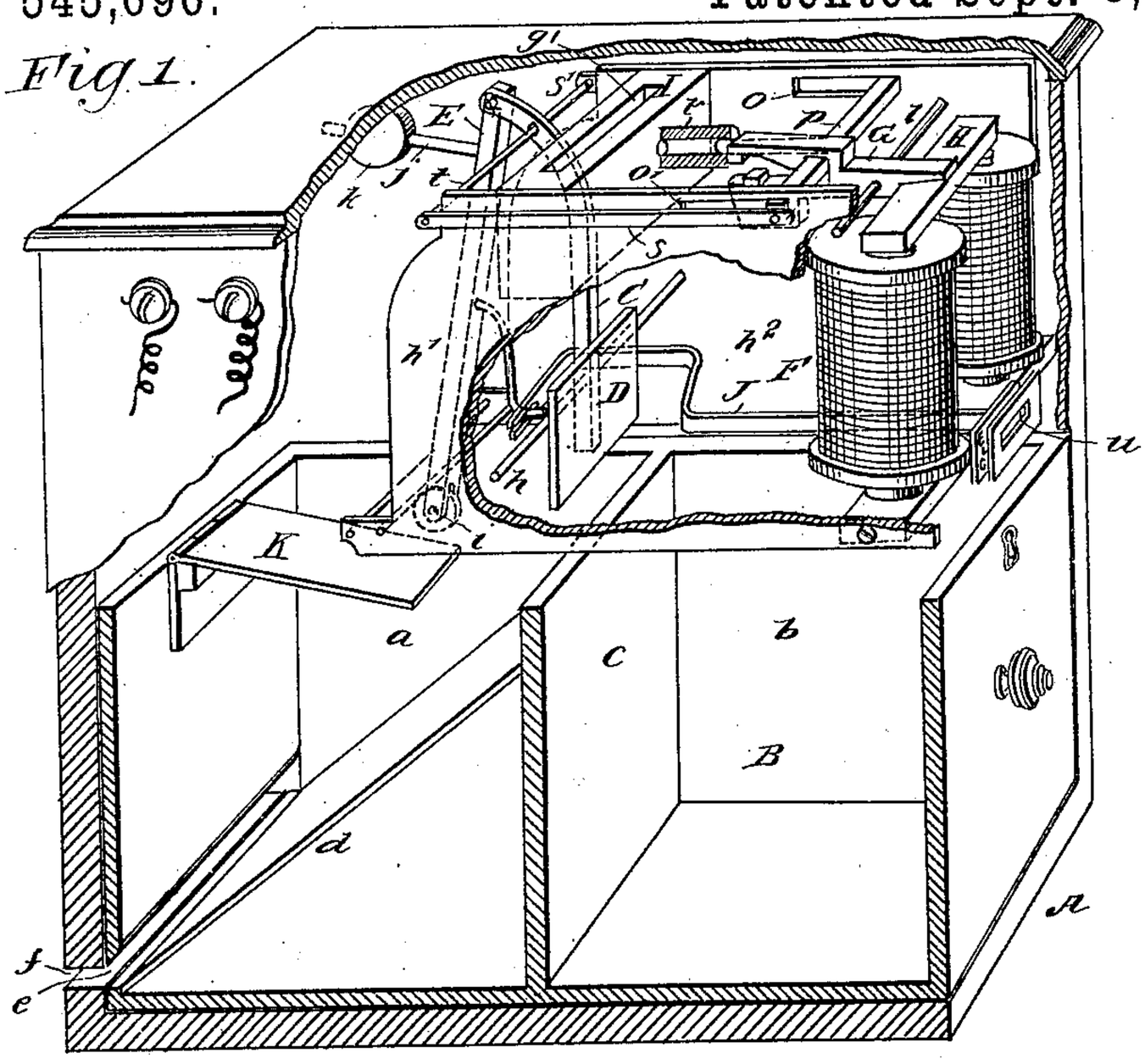

Fig. 2.

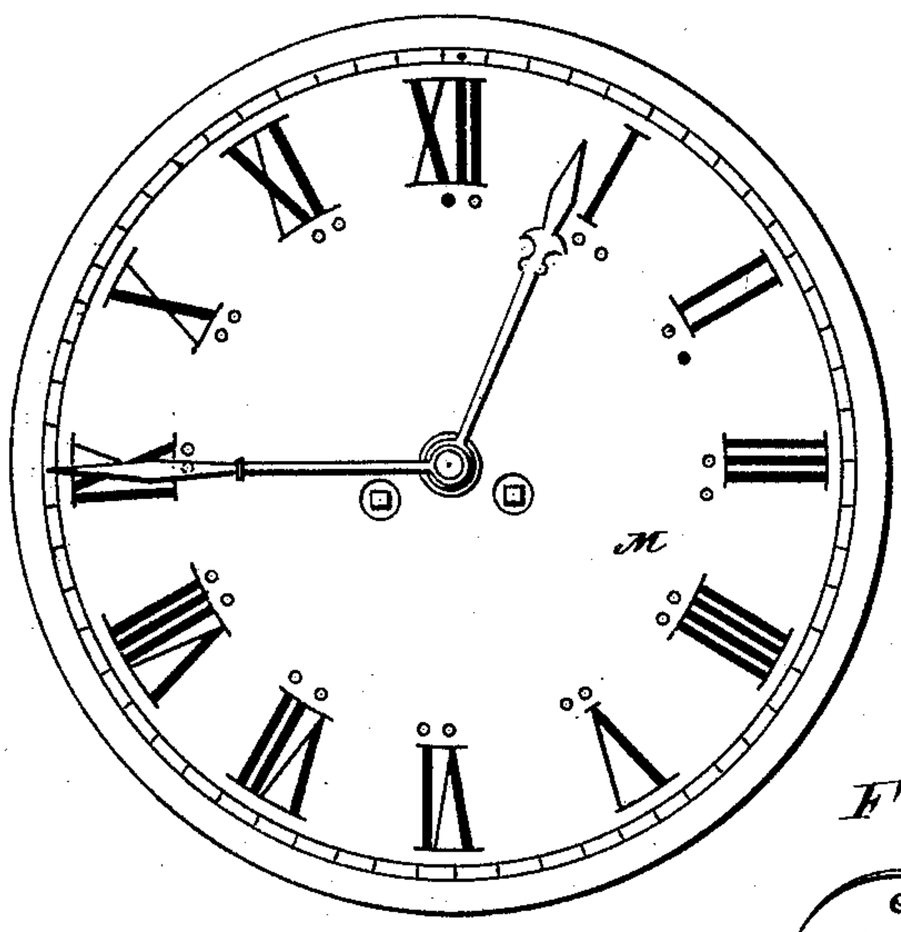

Fig. 3.

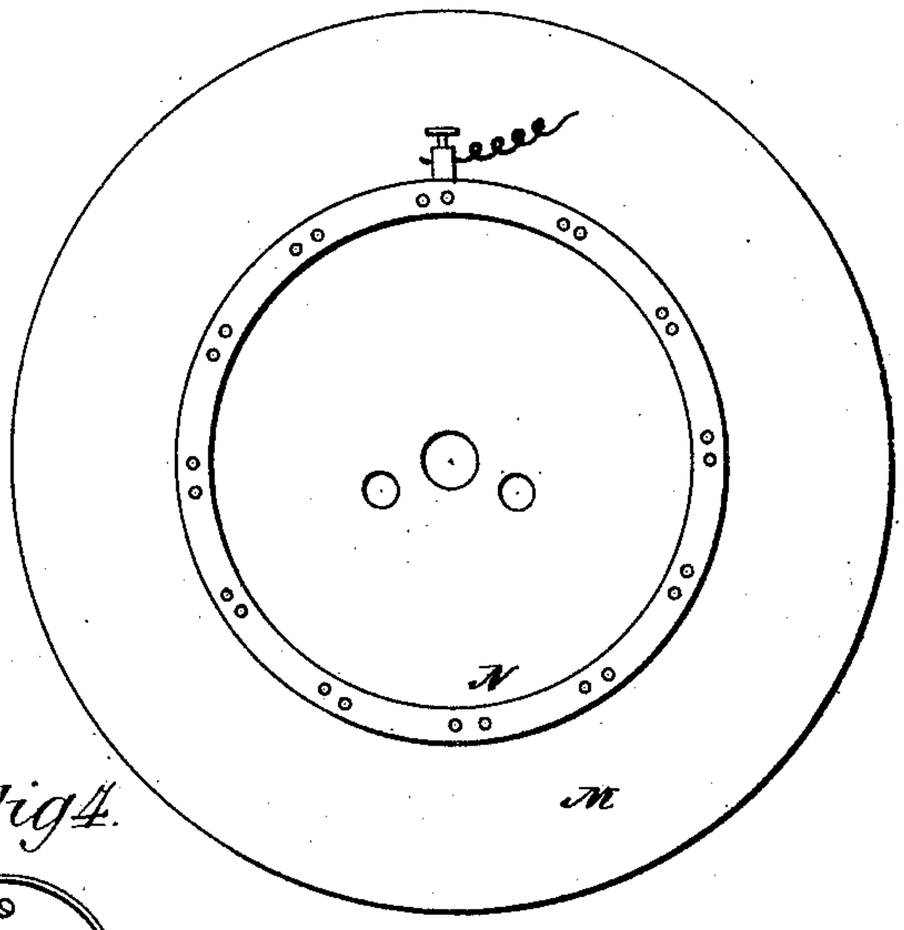

Fig 4.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 5.

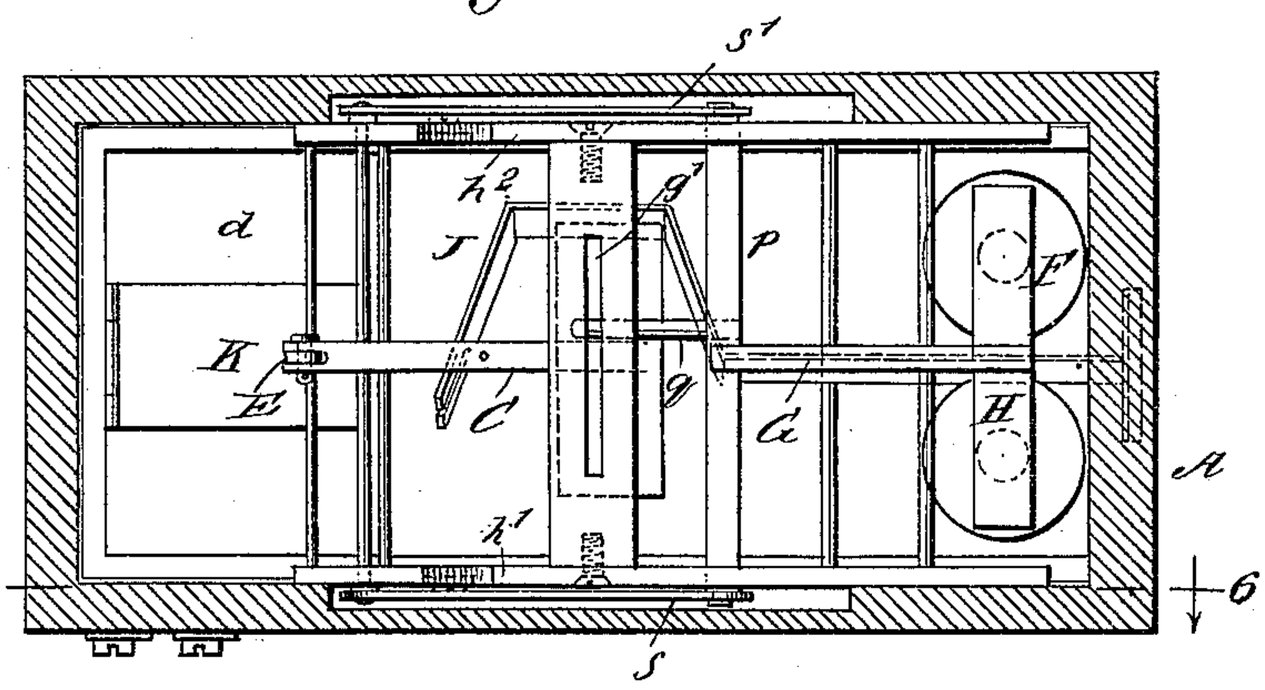


Fig. 6.

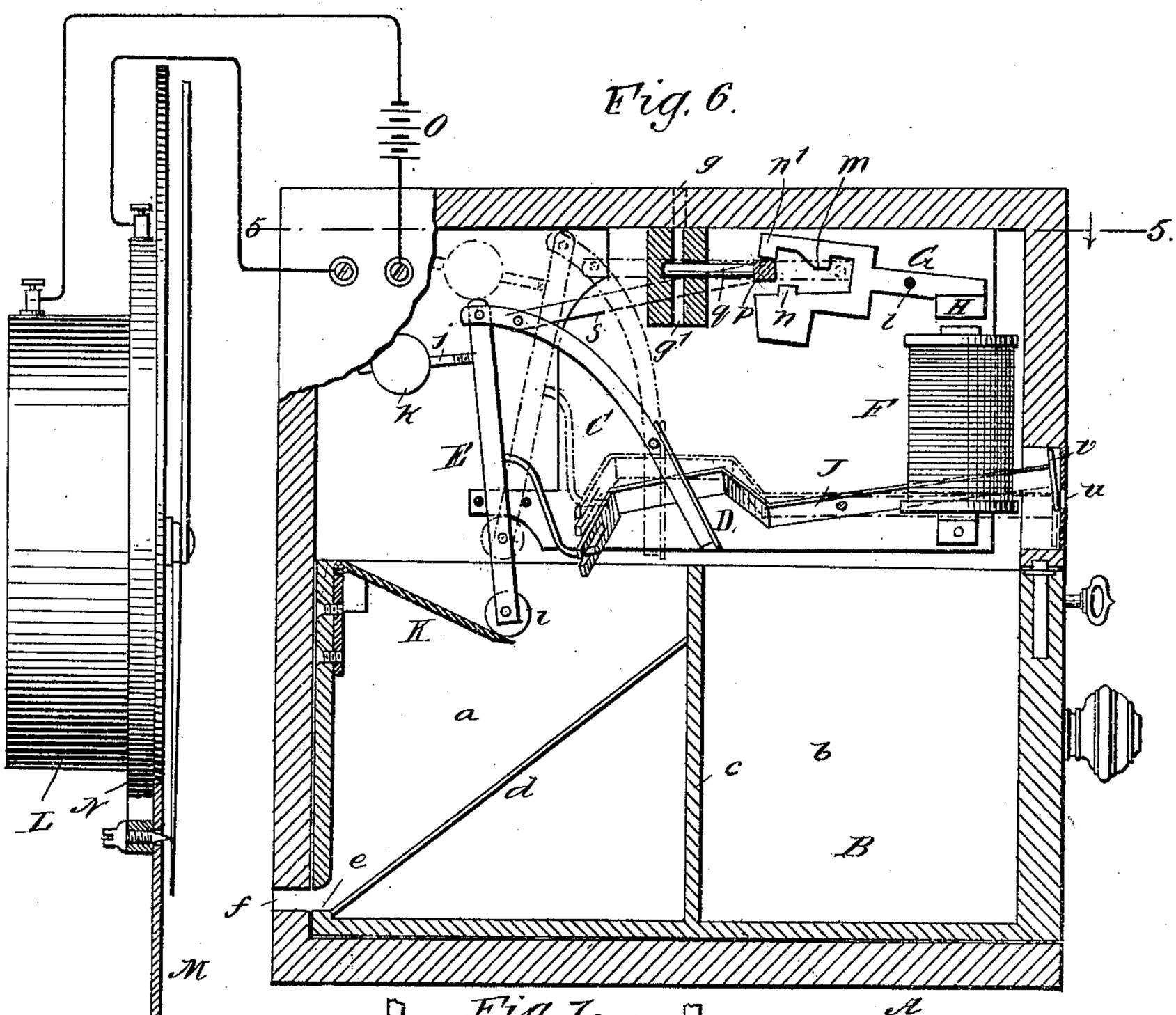
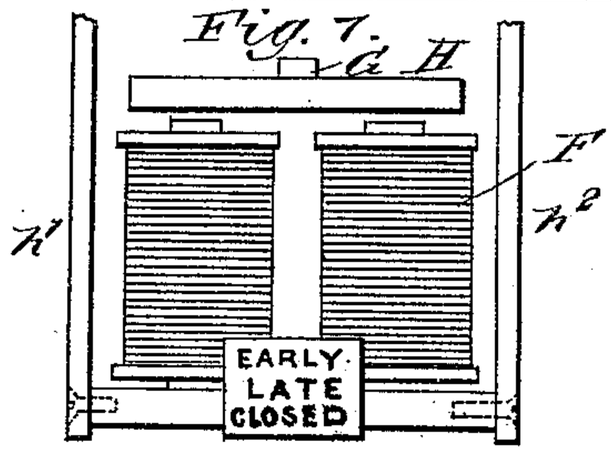


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES KENNEDY JARDINE, OF GEORGETOWN, BRITISH GUIANA.

ELECTRIC TIME-CHECK RECEIVER.

SPECIFICATION forming part of Letters Patent No. 545,696, dated September 3, 1895.

Application filed March 26, 1895. Serial No. 543,232. (No model.)

To all whom it may concern:

Be it known that I, CHARLES KENNEDY JARDINE, of Georgetown, Demerara, British Guiana, have invented a new and Improved Automatic Electric Time-Check, of which the following is a full, clear, and exact description.

The object of my invention is to construct an automatic electric time-check for receiving the checks or tickets of employes in manufacturing establishments, offices, &c.

My present invention is an improvement upon the automatic electric time-check for which Letters Patent of the United States, No. 475,566, were granted to me May 24, 1892.

My invention consists in the combination and arrangement of parts, as hereinafter described.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view, partly in section, of my improved time-check. Fig. 2 is a detail view of the front of the clock-dial. Fig. 3 is a rear view of the dial. Fig. 4 is a detail view of one of the checks used in connection with the apparatus. Fig. 5 is a horizontal section taken on line 5 5 in Fig. 6. Fig. 6 is a vertical transverse section taken on line 6 6 in Fig. 5, and Fig. 7 is a detail view of the electromagnet and indicator.

The lower part of the box A is provided with the drawer B, divided into two compartments *a b* by a partition *c*. The compartment *a* is provided with an inclined chute *d*, leading from the upper part of the compartment at the partition *c* to a slot *e* in the lower part of the rear end of the drawer B. The slot *e* of the drawer coincides with the slot *f* in the rear of the box A. In the top of the box A, above the compartment *a* of the drawer B, is formed a slot *g* for receiving the time-check shown in Fig. 4, the said slot being placed in such relation to the compartment *a* as to allow the check to drop into the compartment behind the partition *c*, so that it falls on the chute *d*.

In the box A, above the drawer B, is pivoted a lever C on the rod *h*, which is supported by plates *h' h²*, attached to the walls of the box. To the lower end of the lever C is attached a plate D, and to the rearwardly-curved upper end of the said lever is pivoted a bar E, which extends downwardly and is provided at its lower end with a roller *i*. In the bar E is inserted a rod *j*, which projects rearwardly and receives a counterweight *k*. An electromagnet F is supported by the plates *h' h²* in the box A, and the armature-lever G is provided with a shaft *l*, journaled in the plates *h' h²*, and the said armature-lever carries upon one end an armature H within the field of the magnet F, and the opposite end of the armature-lever is slotted and furnished with two lugs *m n*, projecting rearwardly, as shown in Fig. 6, the lug *m* having its rear side beveled. In slots *o o'* in the plates *h' h²* is placed a bar *p*, which extends through a slot in the armature-lever G, and the said bar *p* carries a bolt *q*, fitted to a guide *r*, projecting from the slotted bar I. The said bar I is provided with a slot *g'*, corresponding with the slot *g* in the top of the box A. The ends of the bar *p* are connected by means of connecting-rods *s s'* with the rod *t*, passing through the curved upper portion of the lever C.

In the front of the box A is formed a slot *u*, and in the box is pivoted a lever J, carrying on the end adjoining the front of the box a plate *v*, upon which is engraved or printed the words "Early," "Late," "Closed," one above the other in the order named. The inner end of the lever J is offset to allow it to reach around the plate D, and the extremity of the lever is slotted to receive a curved wire projecting from the bar E.

To the inner surface of the rear end of the drawer B is secured an inclined plate K, which is capable of engaging the roller *i* as the drawer is pulled out. A clock L, placed in any convenient location, is provided with a dial M, in which are formed holes for receiving contact-pins which pass through the holes and into corresponding holes in an insulated ring N, secured to the back of the dial, the holes in the dial being of sufficient size to permit of the insertion of the pins in the ring N without making an electrical contact with the dial. One hole is formed opposite each hour-mark and another placed fifteen minutes beyond the hour-mark, so that pins inserted through these holes into the ring N may be touched by the hour-hand. The ring N and

the movement of the clock are connected electrically with the magnet F and battery O.

The operation of my improved apparatus is as follows: When the parts are in the position shown in Fig. 1, and the pins are inserted in the dial in the manner described, a check dropped into the slot *g* passes through the slot in the bar I and falls into the compartment *a* of the drawer B upon the chute *d*, which delivers it to a receptacle placed outside the box A. When the hour-hand of the clock arrives at the hour at which work begins, it forms a contact with the first of the contact-points in the dial and closes the circuit of the magnet F, thus causing its armature to be drawn down, liberating the bar *p* and the lug *m*, when the weight *k* drops, moving the said bar *p* forward, allowing the bar to come into contact with the lug *n'*. At the same time the said weight tilts the lever C, throwing the plate D across the path of the check dropped through the slot *g*, so that the check is deflected and made to fall into the compartment *b* of the drawer B. The indicator, which before the operation of the magnet exhibited the word "Early" through the slot *u*, shows the word "Late" through the said slot, and all the checks deposited in the machine after this has taken place are made by the plate D to fall into the compartment *b* of the drawer B.

When the armature of the magnet is released after the breaking of the circuit by the clock, the bar *p* moves rearward into contact with the lug *n'* on the armature-lever G, where it remains until the circuit is again closed by the hour-hand of the clock as it comes into contact with the second contact-point, which occurs fifteen minutes after the first contact. This again liberates the bar *p*, when the weight *k*, through the bar E, lever C, and connecting-rods *s s'*, is made to move rearward, so that the bolt *q* extends across the slot *g'* in the bar I, and thus prevents the insertion of a check. At the same time it shifts the position of the lever J so as to exhibit the word "Closed" through the slot *u*. The apparatus remains in this condition until it is reset by restoring the parts to their original position. This is done when the drawer B is drawn out of the casing by the engagement of the roller *i* with the inclined plate K.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In an automatic electric time check, the combination of the box A provided with a slot *g*, the comparted drawer B, the chute *d*, the electro-magnet F, armature lever G carrying the armature H and provided with a slot having lugs *m*, *n*, *n'*, the bolt *q*, bar *p*, and means for moving the bar and bolt forward when released from the lugs of the armature lever, substantially as specified.

2. In an automatic electric time check, the combination of a comparted box, provided with a slot for receiving the check, an electro-magnet, an armature operating therewith, a lever connected to the armature and having a lug thereon, a bolt capable of locking with the lug on the lever and having a tendency to project across the opening for receiving the checks, and clock mechanism for closing the circuit of the electro-magnet, substantially as described.

3. The combination of a comparted box having a slot for receiving a time check, a lever fulcrumed within the box, a weight connected to the lever, a bolt capable of projecting across the slot and closing the same, means for connecting the bolt and lever, an electro-magnet, an armature operating therewith, a lever fixed to the armature and having a lug thereon, capable of connection with the bolt and of holding it away from the slot, and clock mechanism capable of closing the circuit of the electro-magnet, substantially as described.

4. The combination with a comparted box having a slot for receiving a time check, of a bolt, a transverse bar fixed to the bolt, a lever provided at one end with an enlargement having a slot formed therein, the said slot having on its upper side a lug projecting downwardly and capable of engaging with the bar of the bolt, an electro-magnet, an armature operating therewith and fixed to the lever, and clock mechanism for closing the circuit of the electro-magnet, substantially as described.

5. The combination with a box or casing, of an electro-magnet, clock mechanism for periodically closing the circuit thereof, an armature operating with the magnet, a lever fixed to the armature and having two lugs thereon, a second lever provided at one end with a plate, the box or casing having a slot through which portions of the plate may be seen, the said second lever having a tendency to a certain position, and means connected to the second lever and controlled by the lugs of the armature lever, whereby upon the operation of said armature lever the second lever or that having the plate may move according to the engagement of the lugs on the armature lever, substantially as described.

6. The combination with a box or casing, a lever fulcrumed within the box and having a plate on one end, the box or casing having an opening through which portions of the plate may be seen, a second lever connected to the first lever, a weight affixed to the second lever, a bar pivotally connected to the second lever, an electro magnet, an armature operating therewith, a lever fixed to the armature and having its free end enlarged and slotted and provided in the slot with two downwardly-projecting lugs capable of respectively engaging with the bar and of holding the lever carrying the plate against its tendency, and clock mechanism for acting on the circuit of the electro-magnet, substantially as described.

7. The combination, of a box having a slot therein, a drawer located within the box and having an inclined surface thereon, a lever located below the slot, a deflector plate moved

by the lever, a rod pivoted to the lever and capable of engagement with the inclined surface of the drawer, a weight actuating the rod, an electro magnet, means capable of holding the lever against the tendency of the weight and controlled by the magnet, and clock mechanism for acting on the circuit of the magnet, substantially as described.

8. The combination, of a box having a slot therein, a drawer in the box and having an inclined surface thereon, a lever in the box, a rod pivoted to the lever and capable of engaging with the inclined surface, a weight actuating the rod, a deflector plate moved by the lever, a transverse bar connected to the lever, an electro magnet, an armature therefor, a second lever actuated by the armature and having a lug thereon capable of locking with the transverse bar, and clock mechanism for acting on the circuit of the magnet, substantially as described.

CHARLES KENNEDY JARDINE.

Witnesses:
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D. M. SEMPLE.