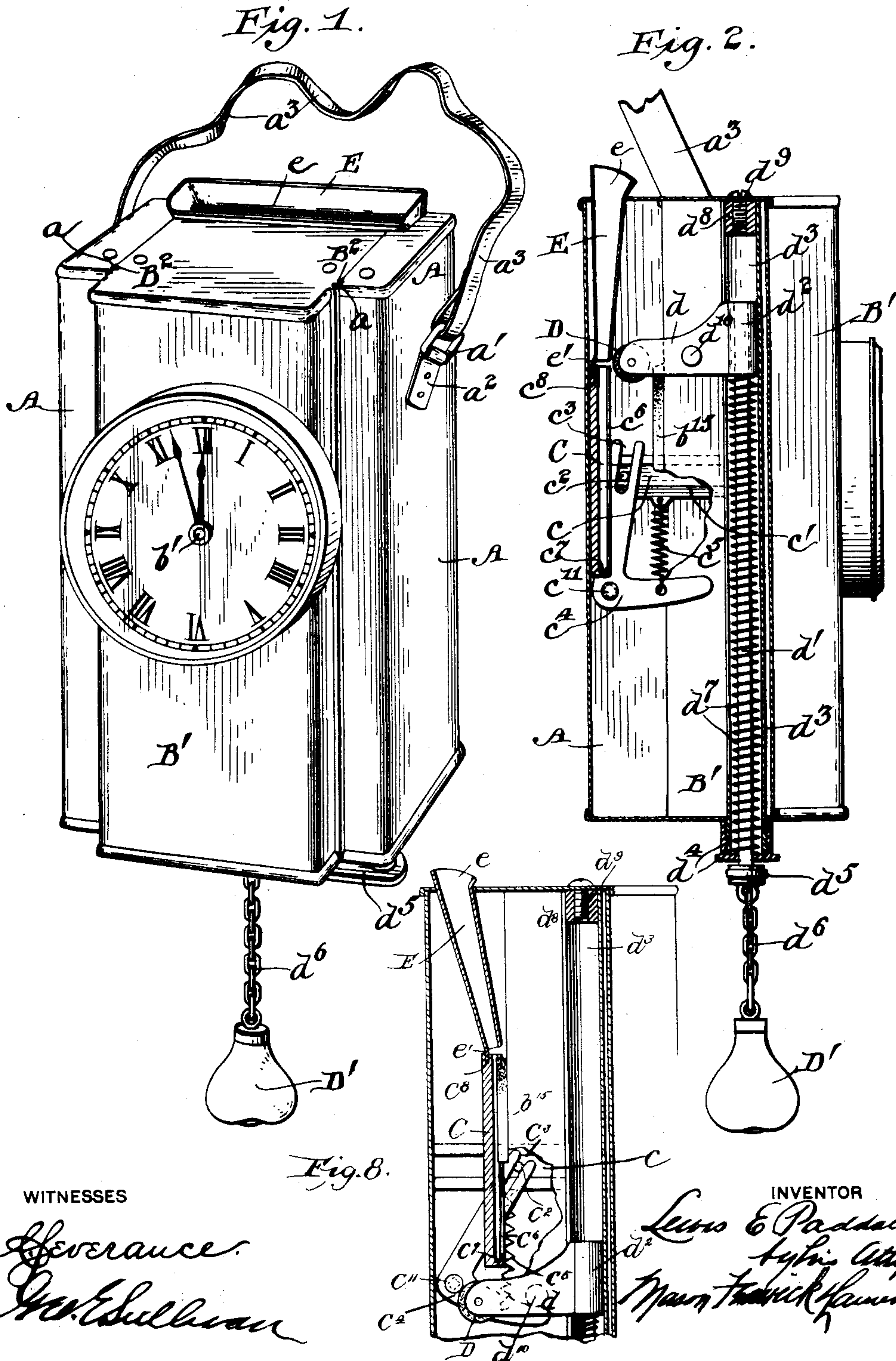


L. E. PADDACK.
TIME RECORDER.

(Application filed Aug. 26, 1897.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES

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No. 610,496.

Patented Sept. 6, 1898.

L. E. PADDACK.
TIME RECORDER.

(Application filed Aug. 26, 1897.)

(No Model.)

3 Sheets—Sheet 3.

Fig. 4.

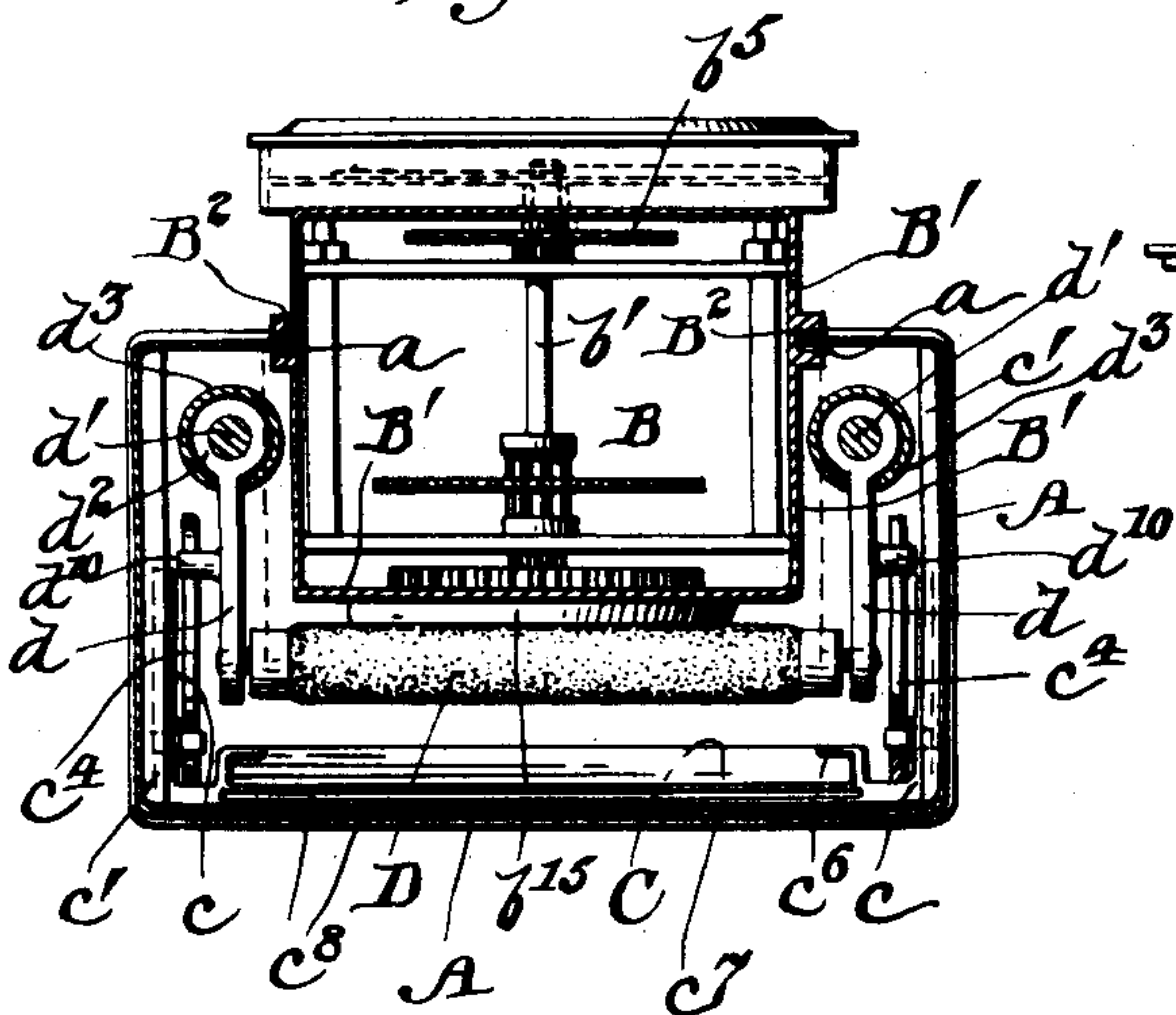


Fig. 6.

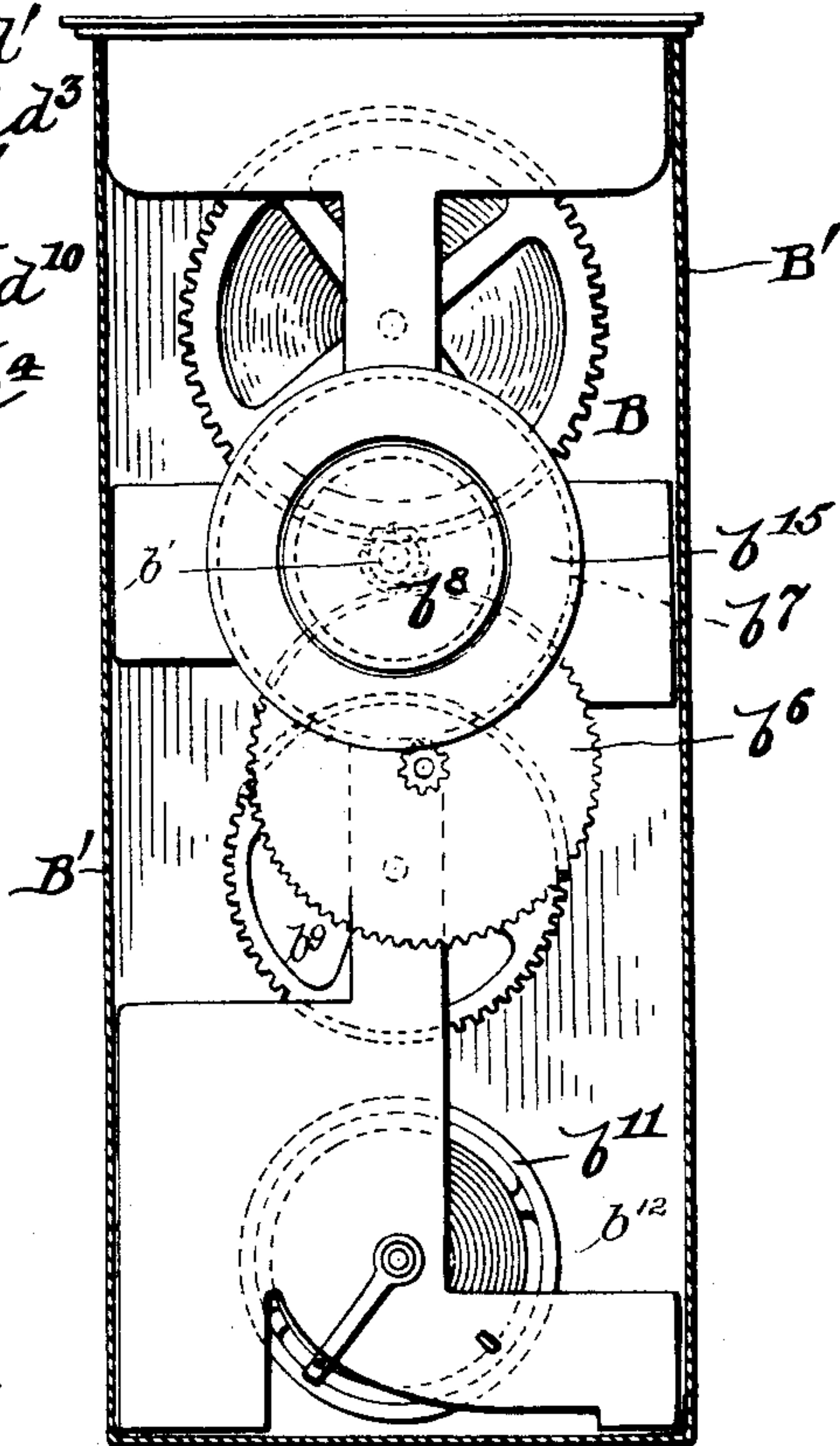
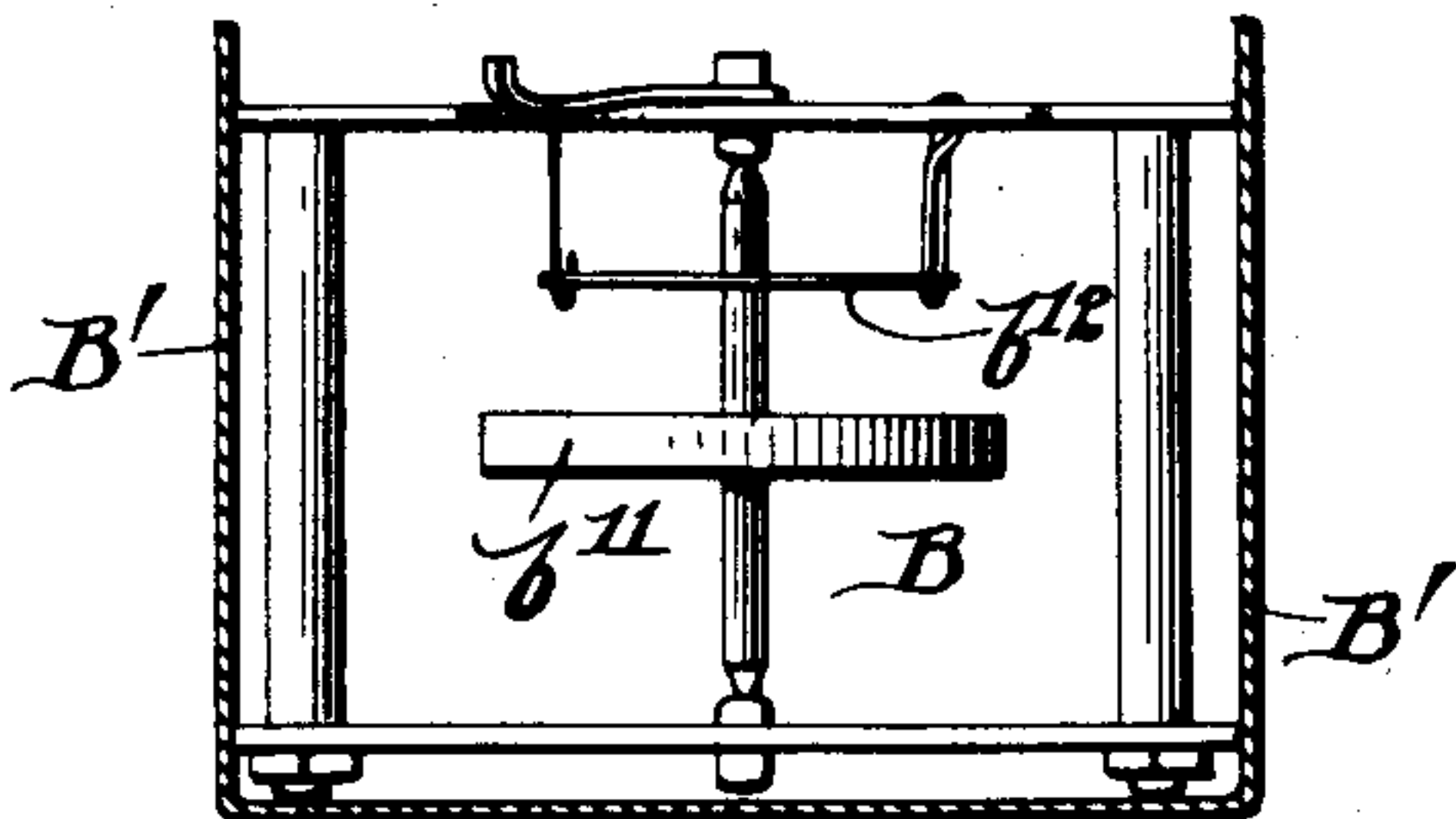


Fig. 7.



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UNITED STATES PATENT OFFICE.

LEWIS E. PADDACK, OF DULUTH, MINNESOTA.

TIME-RECORDER.

SPECIFICATION forming part of Letters Patent No. 610,496, dated September 6, 1898.

Application filed August 26, 1897. Serial No. 649,577. (No model.)

To all whom it may concern:

Be it known that I, LEWIS E. PADDACK, a citizen of the United States, residing at Duluth, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Time-Recorders; 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 relates to improvements in time-recorders, and more particularly to that class of devices which are designed to be used in stamping tickets to record the time when stamped upon them.

It also consists in certain novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 represents a perspective view of my improved time-recorder. Fig. 2 represents a vertical transverse section through the same. Fig. 3 represents a vertical longitudinal section of the time-recorder, the recording means being shown in elevation. Fig. 4 represents a horizontal transverse section through the time-recorder. Fig. 5 represents a detail side elevation of the clock mechanism. Fig. 6 represents a rear elevation of the same, and Fig. 7 represents a bottom view of the said clock mechanism. Fig. 8 represents a detail sectional view through the platen and hopper, showing the platen in its forward position.

A in the drawings represents an inclosing case, B a clock mechanism, and C a platen.

In carrying out my invention I contemplate constructing a device which shall have a time-stamping mechanism operated by a suitable clock mechanism and yet which will be capable of pointing out the time upon a face-dial similar to an ordinary clock. The indication of the time upon the said dial will therefore always show what time is stamped upon the tickets or other similar slips upon which it is desired to indicate a certain time. In constructing a clock mechanism suitable for such a purpose I mount in a suitable frame *b* certain arbors and gear-wheels which are adapted to move the stamping means as desired. Of this mechanism the minute-arbor *b'* is mount-

ed in the frame *b* and receives movement through the ordinary gear mechanism from the mainspring *b²*. This minute-arbor extends outside the frame *b* at both ends and upon one end carries a gear-wheel *b³*, which meshes with another gear-wheel *b⁴*, which carries a pinion, the said pinion engaging an hour-wheel, as *b⁵*. The hour-wheel carries the usual sleeve, to which the hour-pointer is attached, as in the ordinary clock mechanism. To the same end of the minute-arbor *b'* is attached a minute-hand, and this, together with the hour-hand, travels over the ordinary clock-face, as shown in Fig. 1 of the drawings. The opposite end of the minute-arbor *b'* carries a minute-stamping disk *b⁸*. Just inside of this disk, between the same and the frame *b*, is mounted a pinion which meshes with a gear-wheel *b⁶*. The gear-wheel *b⁶* carries a pinion meshing with another gear *b⁷*, to which is attached an hour-stamping disk, as *b¹⁵*. Suitable gearing of any ordinary and usual type, as indicated at *b⁹*, connects the said minute-arbor with suitable balancing and regulating means, consisting of the pallet *b¹⁰*, the balance-wheel *b¹¹*, hair-spring *b¹²*, and connecting means, as in usual and ordinary constructions of clocks. It will thus be seen that the hands upon the face of the clock will indicate the time to any one looking at it, whereas the same mechanism will also carry the stamping-dials to stamp a corresponding time upon tickets inserted in the ticket-casing. This time mechanism B is preferably inclosed in a casing B', as indicated in the drawings, which serves to protect the mechanism and keep out dust, dirt, and all foreign substances. Partially surrounding the casing B' is the casing A of the improved recorder. These casings may be constructed of any suitable material, but are preferably formed of light metal, so as to give it a neat appearance and make a desirable instrument of the recorder. The casing B' is preferably provided with ways, as B², upon its sides, which are adapted to engage projecting edges *a a* of the casing A. It will thus be seen that the casing B' may be easily separated from the casing A when desired, and when slid in place upon the projections *a a* the stamping-faces of the clock mechanism are in proper position within the casing

A to make the desired impression upon the tickets or other similar slips.

In order to ink the stamping means, I provide an inking-roller, as D, which is pivotally mounted at its ends in arms d , which are carried by vertical rods, as d' . The ends of the arms d , which are secured to the rods d' , are enlarged to form suitable eyes to receive the said rods, as at d^2 . These enlargements d^2 slide in cylindrical guides, as d^3 , mounted in the casing A, the lower ends of said guides d^3 extending through the bottom of the casing A. Sleeves or hollow nuts d^4 engage the lower ends of the said guides exteriorly of the casing A and lock the guides in place. The rods d' have a bearing in an aperture formed in the said nut d^4 and extend through the same, and a cross-bar or plate d^5 connects their lower ends, as clearly indicated in Fig. 3 of the drawings. An operating-handle, as D', may be connected to the said bar d^5 by means of a cord or chain d^6 . A coil-spring, as d^7 , is mounted in each of the guides d^3 and interposed between the eyes or enlargements d^2 and the nuts d^4 , so as to normally hold the arms d and the roller D in their uppermost position. The upper ends of the guides d^3 are preferably secured to the casing A by means of suitable washers d^8 and screws d^9 . The roller D is preferably provided with a rubber, cloth, or textile covering suitable for holding ink, and the said roller is so arranged as to pass across the face of the time-indicating stamps upon the rear of the clock mechanism. It will be apparent from the above description that by pulling downwardly upon the handle or knob D' the roller will be caused to pass downwardly over the face of the stamping-dies and supply the same with ink for stamping the tickets.

The platen C is so constructed as to carry tickets placed therein against the faces of the stamping-dies and for this purpose is mounted in slides in the casing A. As indicated in the drawings, the platen C is provided with side arms c , adapted to move in guides c' , attached to the side of the casing A. The arms c , working in the guides c' , not only support the platen C, but guide it in its movement. In order to actuate the platen at the proper time, studs, as c^2 , are secured to the arms c and engage the bifurcated ends c^3 of bell-crank levers c^4 , as clearly seen in Fig. 2 of the drawings. The bell-crank levers are preferably pivoted upon a cross-shaft, as c^{11} , pivotally mounted in the casing A, and in order to secure unison of movement of the two levers at each end of the said pivot the same may be squared, so as to engage square apertures in the said levers, whereby the levers will be caused to move together. The other arms of the bell-crank levers c^4 are connected by means of a spring c^5 with the casing A and tend to normally hold the platen C in its retracted position.

It is desirable to construct a device of this character in such a way that when the type

or stamping faces are inked the platen will also be drawn forward to receive the impression. In order to accomplish this result, I secure studs, as d^{10} , upon the arms d , which carry the roller D. These studs d^{10} are adapted to strike the free ends of the bell-crank levers c^4 when the roller is depressed, and thus actuate the platen, so as to press it against the printing-surfaces upon the rear of the clock mechanism. The platen is provided with side retaining-flanges, as c^6 , which hold one or more tickets or slips of paper which may be placed therein in place. The platen is also closed at the bottom, as at c^7 , so as to support the tickets placed therein. In order to deliver the tickets to the platen, a hopper E is mounted in the casing A and is provided with a flaring mouth at its upper end, as at e . The lower end of the hopper is slightly contracted and leads to a point directly above the platen C. As the platen C is movable and changes its position when operated, the hopper is also preferably made movable, being capable of a rocking movement in the top of the casing A, while the lower end is provided with a depending flange, as e' , which is adapted to engage a recess c^8 , formed in the upper edge of the platen C. The flange e' is made to fit loosely in the said recess c^8 , so that it is allowed considerable range of movement. It will thus be seen that the delivery end of the hopper will always be held so as to direct tickets or slips of paper or cardboard to the flanges c^6 of the platen C. The hopper and platen are preferably made so as to be capable of receiving a number of tickets, cards, or slips of paper at a time, it only being necessary to remove the front one after each operation of the device, so that the next ticket will be left in position to receive the proper stamp.

In order to carry the device, suitable rings, as a' , may be secured by metallic straps a^2 or otherwise to the sides of the casing A. These rings may have a carrying-strap secured to them or a band of any desired material, as a^3 , to form a handle by which the mechanism may be carried.

The stamping-faces mounted on the clock mechanism B may be so arranged as to indicate twelve hours, but are preferably provided with figures indicating a twenty-four-hour movement, as illustrated in Fig. 3 of the drawings, and in this instance twelve of these figures may be arranged to indicate "A. M." and the other twelve "P. M." hours. For this purpose the gearing which transmits the motion to the hour-disk b^{15} from the arbor b' is so constructed and arranged that the said disk b^{15} will revolve only half as fast as the hour-hand on the front of the clock. This will be apparent by examining Fig. 5 of the drawings, in which it will be observed that the intermediate pinion b^6 is twice as large as the intermediate pinion b^4 , the pinion moving the disk b^{15} being also correspondingly larger than the pinion b^5 , which actuates the

hour-pointer. The stamping-face may always be provided with loose dies, as f , which may be changed to indicate different dates. Other dies may be used, as at f' , to indicate different stations where tickets are to be issued or different roads upon which the time-recorders are employed. The time of the printing-dial is always read with reference to a fixed indicator-type, as f^2 , preferably placed at the foot of the dial, as shown in Fig. 3 of the drawings. The minute-dial, which is inclosed within the hour-dial, is preferably marked so as to indicate sixty minutes and revolves once every hour. The recorder first has its clock mechanism wound and set. This will be sufficient to run the clock mechanism for a day or more, as may be desired. The casing carrying the clock mechanism is then inclosed in the outer casing of the device and suitably fastened in place. When the conductor or other person using the device wishes to stamp tickets, it is only necessary for him to place one or more of them in the hopper E, when by pulling upon the knob D' the said ticket or tickets are forced against the stamping-disks, after which they may be removed and others put in their place. When a number of tickets are inserted in the hopper at a time, after stamping the one next to the clock mechanism it is removed and the next one is left in position to be stamped. This operation is repeated until all the tickets in the hopper have been stamped and given out. The tickets will of course be made of sufficient length, so that when they are inserted in the hopper they will project above the same, whereby they may be easily removed from the hopper when they have been given the proper impression by the stamping-dies.

In constructing a time-recorder in accordance with my invention it will be seen that it can be made in a form very convenient for pocket use or so that it can be carried on the person by means of a strap or sling, as above described. It can be made light and compact and is of such a simple construction that it must be very effective. It is not liable to get out of order easily, as the parts can all be strongly made and are not complicated.

It will be apparent that my improved time-recorder may be used for other purposes than stamping tickets or transfers upon cars.

Having now described my invention, what I desire to claim and secure by Letters Patent is—

1. In a time-recorder, the combination with stamping-dies, of mechanism for actuating the same, a casing for completely inclosing the said mechanism, an auxiliary casing for inclosing the said stamping-dies and the rear portion of the said mechanism-inclosing casing, and means interposed between the said casings for inking the said dies and taking an impression therefrom, substantially as described.

2. In a time-recorder, the combination with

stamping-dies, of mechanism for actuating the same, a casing for inclosing the said mechanism, the said casing being provided with engaging means upon its sides, exteriorly thereof, an auxiliary casing adapted to removably engage the said engaging means, for inclosing the said dies and the rear portion of the casing which incloses the actuating mechanism, an inking-roller and a platen, and means for operating the same interposed between the two casings, substantially as described.

3. In a time-recorder, the combination with stamping-dies, of mechanism for actuating the same, a casing for inclosing the said mechanism, but leaving the dies exposed, the said casing being provided exteriorly with guide-grooves, a second casing open at the front and having free edges adapted to engage the said grooves for removably securing it in place upon the first-mentioned casing so as to inclose the said stamping-dies, and means for inking and taking an impression from the same, substantially as described.

4. In a time-recorder, the combination with stamping-dies, of mechanism for actuating the same, a casing inclosing the said mechanism, a second casing adapted to inclose a portion of the first casing so as to cover the stamping-dies, tubes mounted in the second casing having longitudinal slots formed therein, arms projecting from the said slots and carried by rods working in the said tubes, an inking-roller for connecting the outer free ends of the said arms, means for holding the roller normally in its upper position, and means for taking an impression from the dies, substantially as described.

5. In a time-recorder, the combination with a suitable casing, of stamping-dies mounted therein, movable arms mounted in the said casing, an inking-roller connecting the said arms, engaging means mounted on the said arms, a platen also mounted in the said casing and provided with laterally-extending arms adapted to engage grooves formed interiorly of the casing, and bell-crank levers connected to the said arms, one end of each of the said levers being extended into the path of the engaging means upon the roller-supporting arms, the construction being such that upon the roller descending below the stamping-dies the bell-crank levers will be actuated to force the platen against the said dies, substantially as described.

6. In a time-recorder, the combination with a suitable casing, of an inking-roller provided with laterally-extending engaging means, a platen also mounted in the casing having laterally-extending arms adapted to engage grooves formed interiorly of the said casing, bell-crank levers pivotally mounted in the casing and adapted to engage the said arms at one of their ends and having their other ends extending into the path of the said engaging means connected with the inking-roller, springs for returning the bell-crank

levers to their normal position, and a hopper for delivering tickets to the said platen, substantially as described.

7. In a time-recorder, the combination with
5 a suitable recording mechanism, of means for inking the same, a platen adapted to carry tickets placed therein, a hopper for delivering the tickets or cards to the said platen, the said hopper being mounted so as to rock
10 in the casing whereby it can accommodate itself to the movement of the platen, and means for moving the platen against the said recording mechanism substantially as described.

15 8. In a time-recorder, the combination with a suitable time - indicating mechanism, of means for inking the same, a platen provided with retaining-grooves for receiving tickets

or cards, a hopper mounted in the upper part of the casing of the time-recorder having a
20 flange at its lower end, the said flange engaging a recess in the platen whereby the lower end of the said hopper is adapted to move with the platen, bell-crank levers mounted in the casing and engaging studs upon the
25 said platen, springs for normally holding the levers and platen in their retracted positions, and means for actuating the said levers to force the platen forward, substantially as described.

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

LEWIS E. PADDACK.

Witnesses:

JAMES T. WATSON,
N. A. GEARHART.