

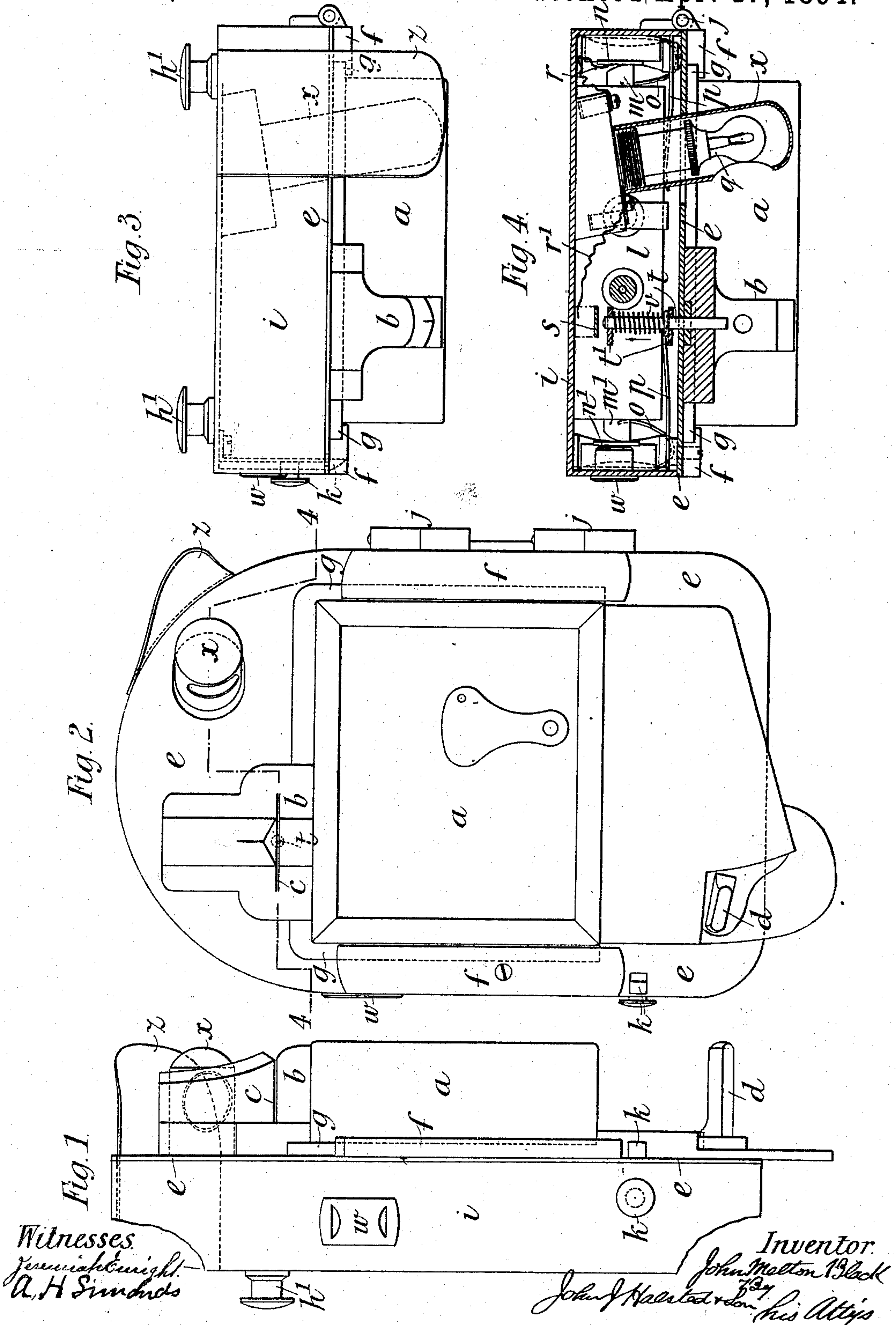
(No Model.)

3 Sheets—Sheet 1.

J. M. BLACK.
TICKET PUNCH.

No. 518,518.

Patented Apr. 17, 1894.



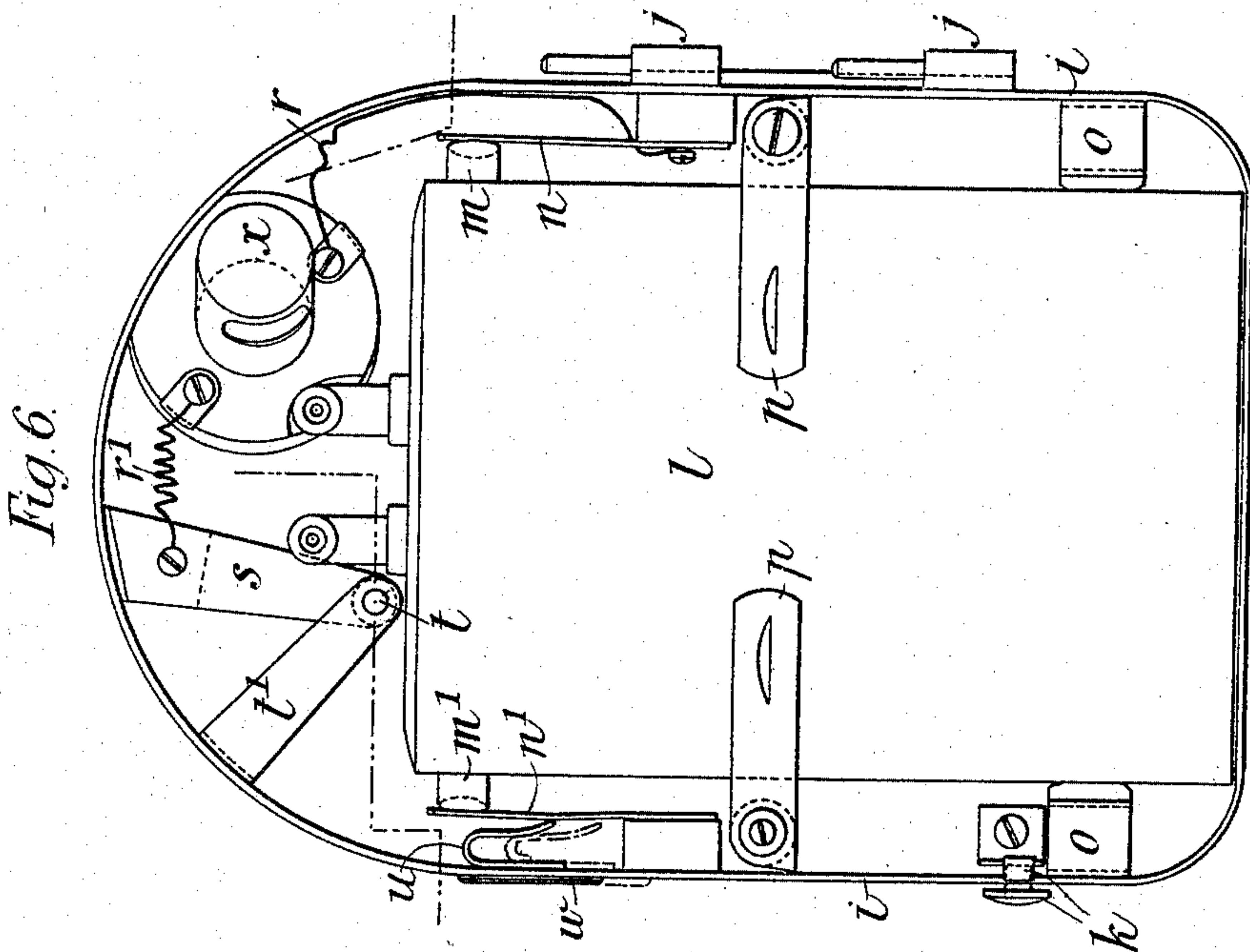
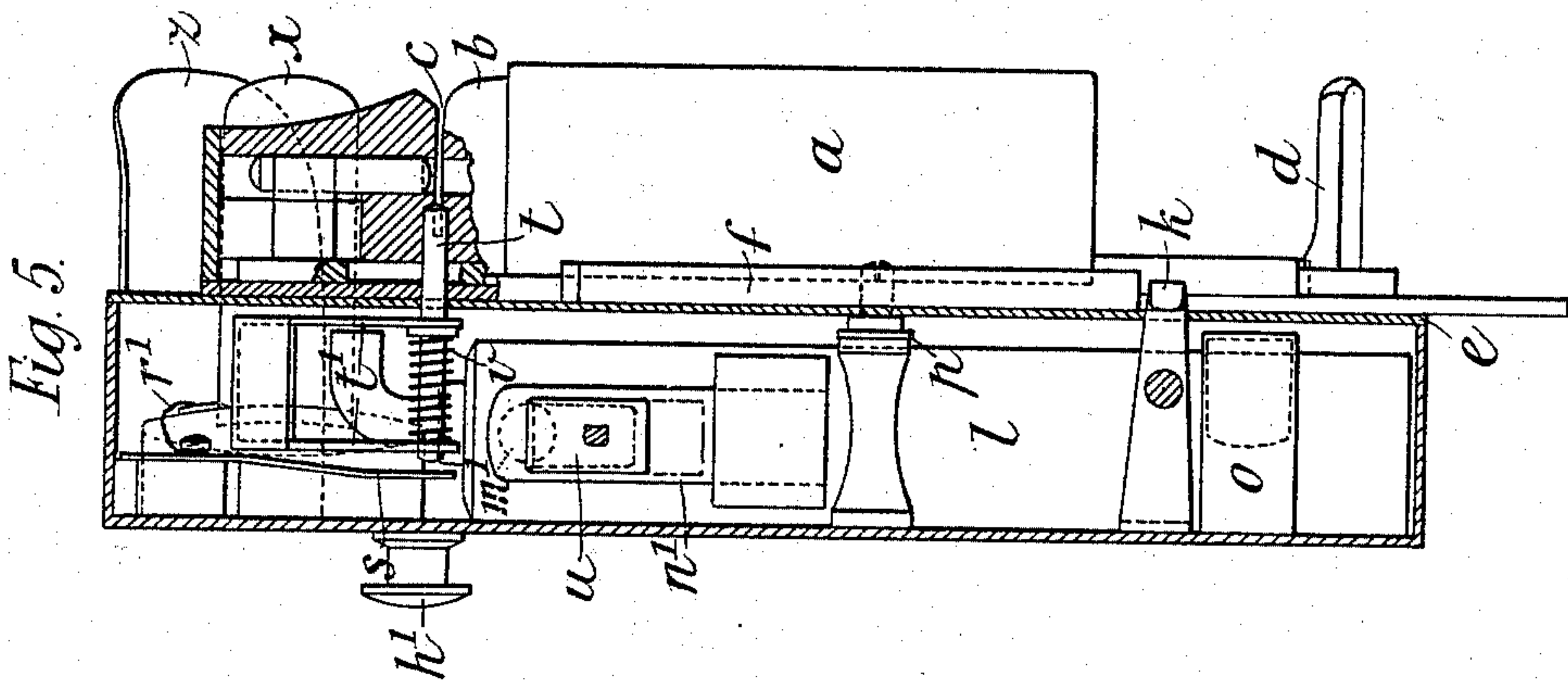
(No Model.)

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TICKET PUNCH.

No. 518,518.

Patented Apr. 17, 1894.



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Inventor.
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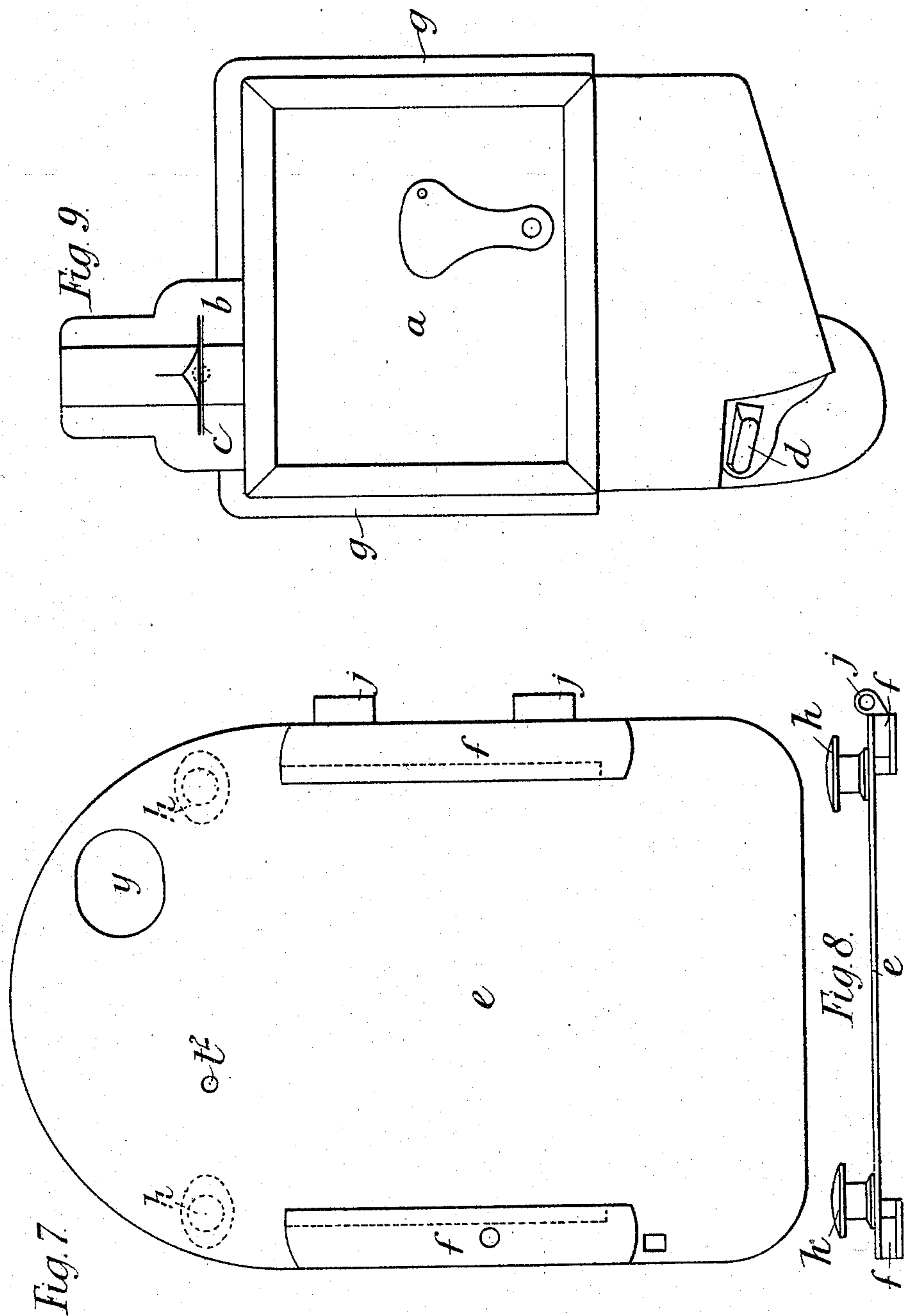
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J. M. BLACK.
TICKET PUNCH.

No. 518,518.

Patented Apr. 17, 1894.



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UNITED STATES PATENT OFFICE.

JOHN MELTON BLACK, OF LONDON, ENGLAND.

TICKET-PUNCH.

SPECIFICATION forming part of Letters Patent No. 518,518, dated April 17, 1894.

Application filed March 23, 1893. Serial No. 467,279. (No model.)

To all whom it may concern:

Be it known that I, JOHN MELTON BLACK, a subject of the Queen of Great Britain, residing at London, England, have invented new and useful improvements in or connected with apparatus for checking the receipt of money from persons riding in public vehicles and for similar purposes, of which the following is a specification.

This invention relates to apparatus used by the conductors of public vehicles for the purpose of punching, and retaining the punched-out pieces of tickets given in exchange for the fares received from the passengers; or used by persons employed in the collection of the fares or tolls of steam boats, ferries, piers or the like, or of admission money to places of recreation or amusement. My invention, however, especially relates to that class of such apparatus in which means are provided for illuminating the punching platform or the ticket thereon by means of electricity stored in an accumulator or storage battery. Hitherto the illuminating apparatus of such a punch has been so arranged as to require a separate or independent operation from that of issuing the ticket for the purpose of lighting the lamp.

Now the object of my invention is to provide means whereby the act of introducing the ticket into the usual slot in the punching platform will cause an electric lamp to be rendered incandescent, thereby effecting a considerable saving of electricity as compared with the old method.

In carrying out my invention I employ a casing adapted to have the punching apparatus removably applied thereto and to this casing I fix a small incandescent electric lamp suitably protected by a shield which also serves as a reflector in such a manner that when the illuminating apparatus is applied to the punching mechanism the lamp will be in proximity to the punching platform. In the said casing I place an electric accumulator or accumulators the terminals of which make contact with two springs connected to the circuit wires of the lamp. In the said casing is a rod so arranged as to project into the said slot of the punching platform under the action of a light spring and adapted at its rear end to complete the electric circuit of

the lamp so that when a ticket is introduced into the slot of the punching platform the spring-rod will be pushed backwardly to complete the circuit so that the lamp will be rendered incandescent and the ticket illuminated, thereby enabling the conductor or other person to place the ticket so that it can be punched in the required position.

To enable my invention to be fully understood I will describe the same by reference to the accompanying drawings, in which—

Figures 1, 2 and 3 are a side elevation, front elevation and plan respectively of a ticket-punching apparatus having adapted thereto my apparatus for causing the illumination of the ticket. Fig. 4 is a section on the line 4—4, Fig. 2. Fig. 5 is a side elevation partly in section and with part of the casing removed in order to show the parts within the same. Fig. 6 is a front elevation of the casing containing the accumulator removed from the punching mechanism. Fig. 7 is an elevation of the plate closing the front of the casing shown in Fig. 6 and serving to carry the punching mechanism; and Fig. 8 is a plan of the same. Fig. 9 is an elevation of the punching mechanism detached from the said plate.

a indicates the casing of the punching mechanism, *b* the punching platform having the slot *c* for the insertion of the ticket; *d* the handle or lever for operating the punch, and *e* the plate upon which the punching mechanism is carried by means of the guide-pieces *f, f* forming grooves in which flanges *g, g* upon the casing *a* engage, the said plate *e* being provided with studs *h, h*, as shown in Figs. 7 and 8, to which a strap, for suspending the punching apparatus around the neck of the conductor or other person using the said apparatus, is attached, when not used in conjunction with my illuminating arrangement. These parts, however, are all of well known construction and therefore require no further description.

i is the casing for containing the electric accumulator or accumulators, this casing being preferably attached to the plate *e* at one edge by a hinge *j* and secured at the other edge by means of a spring-catch *k*. Studs *h', h'* similar to the studs *h, h* are secured to the back of the casing *i* for the purpose of suspending the apparatus when the punching

mechanism is used in conjunction with the lighting mechanism.

7 is the electric accumulator which is of any suitable construction and provided with two studs m, m' forming the terminals. The studs are rounded or inclined or beveled, as shown most clearly in Fig. 4, in such a manner that when the accumulator is placed in the casing i the said studs will impinge against two contact springs n, n' and force the same apart so as to insure a good contact without the necessity of employing screws or other devices for completing the circuit.

o, o are two clip-springs or packing-pieces for holding the lower end of the accumulator in its proper position, and p, p are pivoted plates which, after the accumulator is introduced into the casing i , are turned to the position shown in Fig. 6 to prevent the said accumulator from becoming displaced.

q is the electric lamp which is suitably secured to the casing i and connected to the contact spring n by the wire r and by a wire r' to a contact plate s insulated from the casing i .

t is the rod which projects into the slot c of the punching platform b . This rod slides in the two arms t', t' of a bracket secured to and in electrical contact with the casing i and in such a manner that when the said pin t is pushed inwardly it will make contact with the plate s . The spring n' is in electrical contact with the casing i through the bent arm u , so that when the said rod t is in contact with the plate s the current will flow from the accumulator through the terminal m , the spring n and the wire r to the lamp, and thence through the wire r' , the plate s , the rod t , the arms t', t' , the casing i , the bent arm u and the contact spring n' to the terminal m' of the accumulator thereby completing the circuit.

v is the spring which surrounds the rod t and at one end bears against a collar thereon while the other end bears against one of the arms t' so that normally the said rod t will be projected into the slot c out of contact with the plate s . This spring is made as weak as possible so that, when a ticket is introduced

into the slot c to be punched, the rod t will be pushed back without any effort on the part of the operator in order to complete the circuit of the lamp and illuminate the ticket.

To prevent the depression of the pin t from causing the lighting of the lamp except when desired I attach the spring-arm u , which establishes communication between the contact spring n' and the casing i , to a slide w in the side of the said casing i , as shown most clearly in Fig. 1, and I simply bend the lower part of the contact spring n' so that, when the slide is moved down from the position shown in the full lines in Fig. 6 to the position shown in dotted lines, the said spring-arm u will be out of contact with the spring n' , thereby breaking the electric circuit.

x is a tubular shield screwed over the lamp q , as shown most clearly in Fig. 4, to protect the same, the said shield having an opening in one side through which the light of the lamp is directed onto the ticket. When the casing i is applied to the plate e the lamp with its shield x projects through a hole y therein and the rod t through a hole t^2 as shown.

z is a shield secured to the plate e for affording an additional protection to the lamp.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

The combination with a ticket-punching apparatus of an electric lamp and an accumulator carried in a casing adapted to be connected with and disconnected from the casing of the punching apparatus, and a spring-rod projecting into the ticket-slot of the punching apparatus and adapted, when pressed by the introduction of a ticket into the said slot, to complete the circuit of the lamp, substantially as described.

JOHN MELTON BLACK.

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