

(No Model.)

A. W. COFFIN.
TICKET PUNCH.

No. 440,839.

Patented Nov. 18, 1890.

Fig. 1.

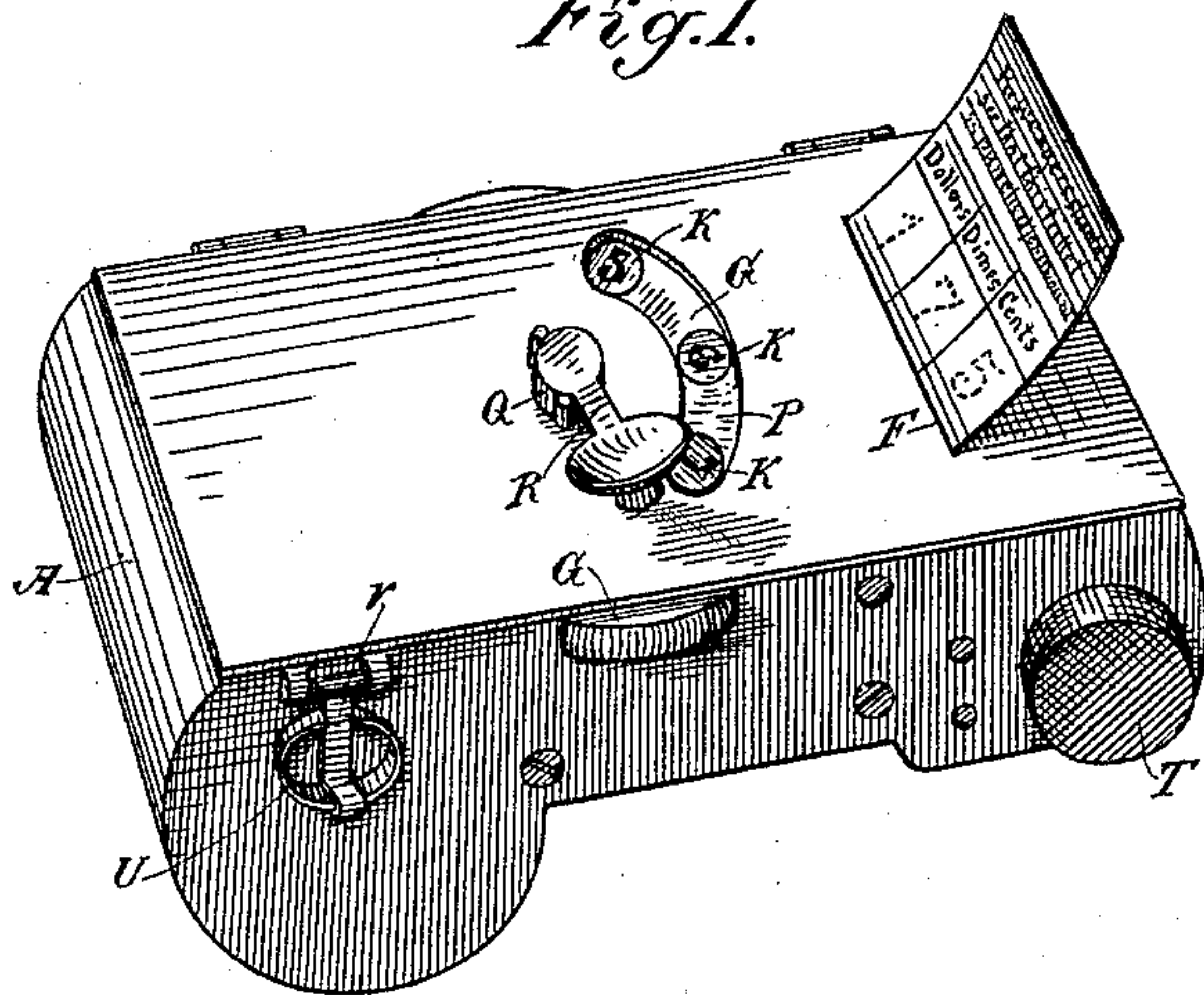


Fig. 2.

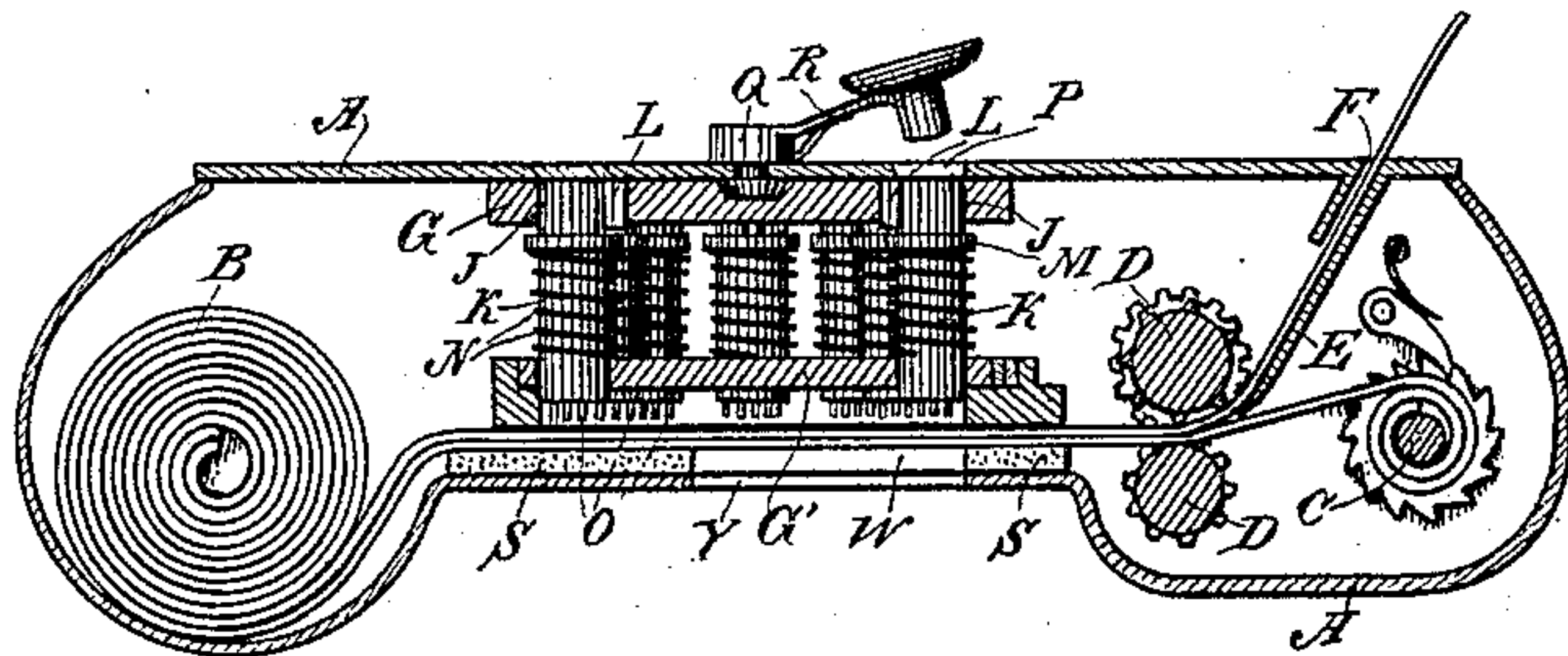


Fig. 3.

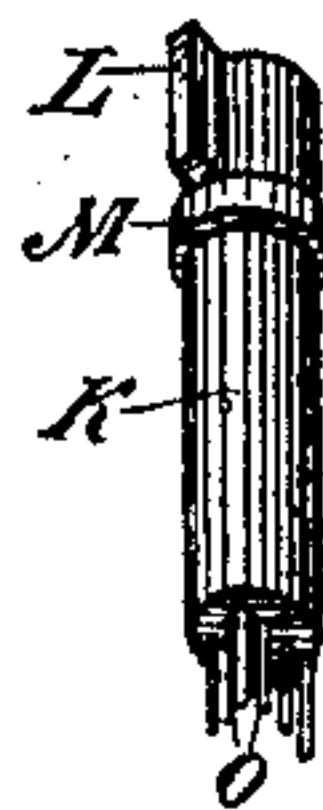
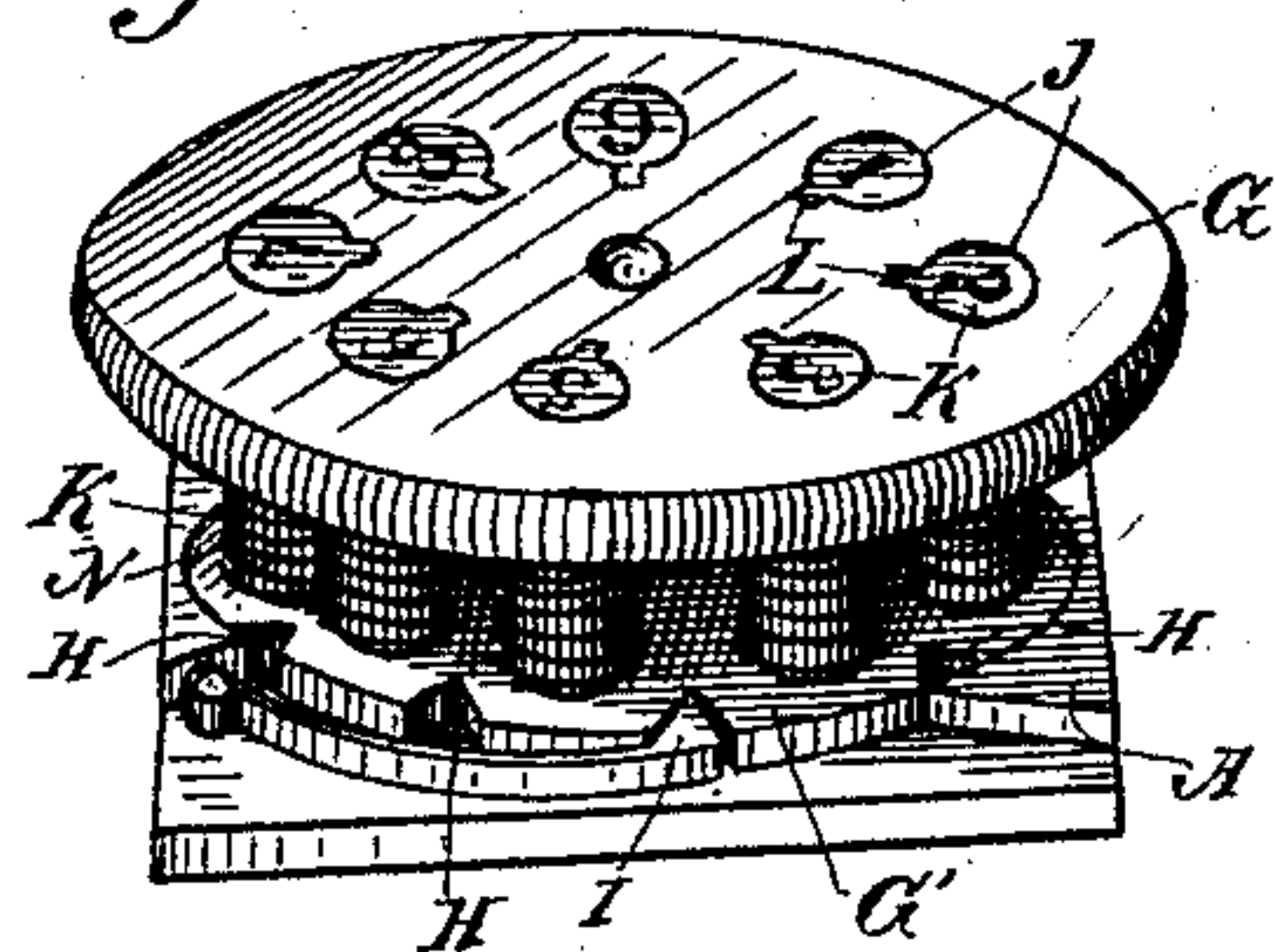


Fig. 4.

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UNITED STATES PATENT OFFICE.

ARTHUR W. COFFIN, OF SAN FRANCISCO, CALIFORNIA.

TICKET-PUNCH.

SPECIFICATION forming part of Letters Patent No. 440,839, dated November 18, 1890.

Application filed August 25, 1890. Serial No. 363,029. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR W. COFFIN, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Conductors' Ticket-Punches; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to certain improvements in punches of that class in which the amount paid by the passenger is indicated upon the ticket by means of punch-marks made by the conductor before delivering the ticket to the passenger, while a duplicate of the ticket is retained within the case of the punch as a check.

It consists of a circular support rotating within the case and having a series of punches or indicators arranged around its periphery, a means for turning this movable punch-carrier so as to bring any figures which may be desired into line above the tickets, and a lever device for depressing the desired punches so as to mark the ticket.

It also consists in certain details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a perspective exterior view of my device. Fig. 2 is a longitudinal section. Fig. 3 is a detached view of the punches and their carrying-disks. Fig. 4 is a view of one of the punches.

A is the exterior case of my punch, which is made of any convenient and suitable shape, and has a coil B, consisting of the continuous ticket-strip in one end, and in the opposite end a reel C, upon which the retained duplicate is coiled, and rollers D, between which the ticket and duplicate pass after leaving the punch. It also contains the guide E, by which the ticket is separated from the duplicate and caused to pass out through the slot F, where it can be severed and delivered to the passenger.

Between the coil B and the rollers D, and in the central portion of the apparatus, is fixed a frame consisting of the disks G and G', made of such diameter as to fit within the case and allow the upper one to project slightly through slots in the sides of the case, its edges being milled, so that it may be easily

turned by the fingers. The lower disk has its periphery notched, as shown at H, and a spring-pawl I engages these V-shaped notches with sufficient pressure to hold the rotary disks at any desired point, while at the same time allowing them to be moved by any considerable pressure of the fingers. These disks have holes or perforations made around the periphery, as shown at J, and through these holes the short vertical punch-spindles K are fitted to pass. A slot in the side of each of these perforations receives a feather L upon the punch-spindle, and thus guides it and prevents it being turned around.

Each spindle has a collar M, against which a spring N presses so as to keep the punches raised when in their normal condition. Upon the upper end of each of the spindles is marked one of the Arabic numerals, and upon the lower end of each spindle a series of needle-points O is fixed in such position as to correspond with the figure above.

In the top of the case A, and in line above the path of the ticket which is drawn from the coil B, is made a slot or channel P, through which one or more of the figures upon the upper end of the punches are exposed to view, as shown in Fig. 1.

In the cover of the case, and in the center about which the punches and their disks revolve, is pivoted a short shaft Q, which carries a spring-lever R, the outer end of which has a button which is just the same distance from the center that the punch-spindles are. This punch-lever is easily turned to any desired point, and may be pressed down so that its lower end will press upon either one of the punch-spindles and temporarily force it down. The ticket and duplicate, leaving the coil B, pass through a channel below the lower disk G' and above the rubber or elastic table S, which serves as a bed for the punch to act upon.

In the rubber bed S is made an annular hole W, and in the casing underneath a corresponding one Y, which will allow the conductor to note the starting-point and destination on the duplicate strip. It will be manifest that when the ticket is drawn along over this bed and beneath the punches the disk which carries the punches may be turned so as to expose one or more of the figures of

the punch, and by means of the lever-arm R the exposed punch or punches may be depressed so as to cause the corresponding needles at their lower ends to be forced through the ticket and duplicate at the point in line beneath the punch. It will be manifest that by simply turning the disks so that the figure representing dollars stands above the dollar-column of the ticket the figures representing dimes or tens above the corresponding column of the ticket, and the figure representing cents above the corresponding column on the ticket, and each one being depressed by means of the lever, as before described, the ticket and a duplicate will be simultaneously punched with these figures, and as the ticket is guided out through the slot F by the guide-plate E, while the duplicate is coiled upon the reel or roller C by turning the milled disk T on the outer end of its shaft, the ticket can be torn off against the edge of the slot through which it is brought out, while the duplicate is retained within the case to be afterward removed at the office and retained as a check.

The top or cover of the case is hinged, and has a locking device consisting of an annular flange U, with a hasp V, which may be turned down over it and locked so as to secure all parts in their place.

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

1. In a ticket-punch, a case adapted to contain a roll of tickets and duplicates which are coiled therein, a reel at the opposite end upon which the duplicate may be coiled, guides by which the ticket is separated from the duplicate and directed out through an opening in the top of the case, so that it may be detached, and an intermediate punching mechanism consisting of a disk or disks having vertically-moving punches arranged around the periphery thereof, an opening through which one or more of said punches may be exposed, a lever for actuating the punches, and means for rotating the disk, so as to bring any desired number or punch beneath the opening

and above the line of travel of the ticket-strip, substantially as herein described.

2. In a ticket-punch, an inclosing-case at one end within which the ticket-strip and duplicate are coiled, a reel at the opposite end upon which the duplicate is coiled as fast as it is drawn from the first chamber, and guides whereby the ticket-strip is separated from the duplicate and delivered through an opening in the top of the case, a rotary disk journaled between the ends of the case having the vertically-moving punch-stems provided with needle-points at their lower ends and corresponding figures at the upper ends, springs by which said punches are raised, a pivoted lever having a button or point at its outer end, whereby either of the punches may be depressed by bringing said point above it, a channel beneath the punches through which the ticket-strip and duplicate are drawn, and an elastic bed or surface in line beneath the punches adapted to receive the punching-points when they are depressed, substantially as herein described.

3. In a ticket-punch, an inclosing-case at one end within which the ticket-strip and duplicate are coiled, a reel at the opposite end upon which the duplicate is coiled, and a device whereby the ticket is separated from the duplicate, a rotary support journaled between the ends of the case, having punches with figures upon the upper ends and needle-points forming corresponding figures upon the lower ends, a lever for depressing the punches, an elastic bed over which the strips are drawn and upon which the needle-points of the punches are received when depressed, and an opening made through the case and bed through which the duplicate strip is exposed to be marked, substantially as herein described.

In witness whereof I have hereunto set my hand.

ARTHUR W. COFFIN.

Witnesses:

S. H. NOURSE,
H. C. LEE.