

(No Model.)

A. W. COFFIN.
TICKET PUNCH.

No. 480,560.

Patented Aug. 9, 1892.

Fig. 1.

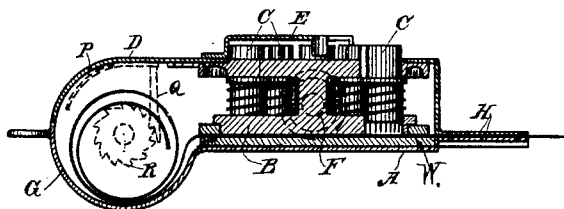


Fig. 2.

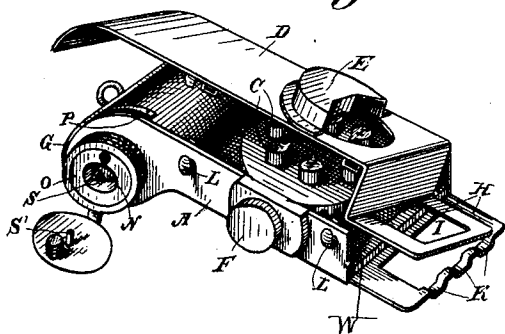


Fig. 3.

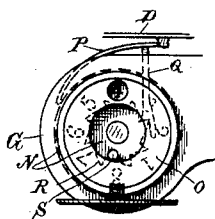
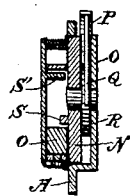


Fig. 4.



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UNITED STATES PATENT OFFICE.

ARTHUR W. COFFIN, OF SAN FRANCISCO, CALIFORNIA.

TICKET-PUNCH.

SPECIFICATION forming part of Letters Patent No. 480,560, dated August 9, 1892.

Application filed April 19, 1892. Serial No. 429,784. (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 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 conductors' ticket-punches.

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

Figure 1 is a longitudinal cross-section through the punch. Fig. 2 is a perspective view of the same. Fig. 3 is an exterior view of the registering device. Fig. 4 is a vertical cross-section through the same.

My present invention is an improvement upon patent which was issued to me November 18, 1890, No. 440,839; and it consists in certain details of construction, whereby the operation of the punch is rendered more convenient, accurate, and safe.

A is the outer case, having a horizontally-rotating punch-carrier B, fitted to turn within it, as shown. This carrier has the punches from 1 to 9, inclusive, fitted to move vertically through it, and the upper ends of the punch-stems project above the surface of the carrier B, as shown at C. The top of the cover D is cut away for a portion of its circumference to expose these punch-shanks, which are at the front, while the remainder pass beneath the segmental cap or housing E, which is secured to the cover D, projecting slightly above the level of its surface, as shown. By this construction I am enabled to do away with the spring-lever shown in my former apparatus, and the operator can depress any one of the punches by simply pressing the finger upon the top of it.

In order to revolve the punch-carrier I have in the present case shown the upper disk of the carrier through which the stems of the punches pass having a downwardly-turned toothed flange around its periphery in the form of a crown-wheel. Upon the side of the box is journaled a shaft having a milled head F, projecting outside of the box and by which the shaft is turned. Upon the inner end of

this shaft is a pinion, which engages the teeth of the crown-wheel, and by this means the punch-carrier is turned to bring any one of the numbers which may be desired to the front.

The lower disk of the turret or punch carrier has indentations, and a spring-actuated pawl falls into these and retains the turret sufficiently to steady it when any set of figures are in position. The lower ends of the punch-stems have sharp points arranged upon them corresponding with the numbers upon the upper ends of the stems, and when the stems are depressed the points will punch a figure in the paper beneath corresponding with the figure upon the head of the stem.

The tickets are coiled upon a shaft or roll within the enlarged cylindrical end G of the case and, extending over any well-known form of elastic impression-bed W beneath the punches and carrier, they pass out between the two parts of a table H, the lower part of which is formed by an extension from the lower part of the box A, approximately in line with the impression-table, and the upper part is formed as an extension of the turned-down portion of the cover D, which projects outwardly over the stationary part. Through the center of this table is made an opening, as shown at I, and this enables the operator, by turning the punch over, to write the passengers starting-point and destination on the back of the exposed duplicates and to take hold of the ticket which projects into this opening and draw it forward until the rear edge of the ticket corresponds with the front edge of the two jaws which thus hold it, so that the tickets may be torn off in a straight line. By thus drawing the tickets out together they are always kept in register, so that one is exactly in line beneath the other and the number which is stamped upon the upper ticket is correspondingly stamped through the lower one. One of the tickets is given to the passenger and the other is retained to be turned in at the auditor's office.

The lower part of the table H has depressed channels formed in it, as shown at K, these channels being in line with that portion of the ticket which lies beneath the punches, so that after the figures are stamped in the ticket and the ticket drawn out between the jaws

these punch-marks will pass through the depressions, and will thus be protected from injury by reason of their being drawn between the jaws.

5 The punch-cover D is hinged upon one side and has spring-latches upon the opposite side, so that it is easily closed and latched. By pressing projecting knobs L the cover is released from these latches and allowed to open.
 10 The object of this is to enable the ticket-taker to introduce a new roll of tickets whenever one has been exhausted, and in order to register the number of times that the cover has been opened, so that it may be known at the office, I have shown a device consisting of a
 15 registering-dial N, contained within a circular case O, projecting from the side of the main case A. This case is locked by any suitable combination or other lock, so that it cannot be opened except at the office.

20 Within the main case A is a spring-arm P, upon which the cover D of the case presses whenever it is closed. This arm carries a pawl Q, which acts upon the teeth of a ratchet R, fixed to the indicator-disk N, so that the
 25 latter is rotated with the ratchet whenever the ratchet is moved, and is thus advanced a single figure.

The operation will then be as follows: The
 30 apparatus being given to the operator with a roll of tickets in place and the cover closed, the register at zero, when these tickets have been exhausted, the operator opens the cover, places a new roll of tickets within the case,
 35 and when the cover is closed and latched it depresses the arm P and with it the pawl Q, which, engaging the ratchet-teeth of R, move them and with them the dial forward one point, showing that the cover has been
 40 opened and closed once. Each time when the cover is opened and closed it will move the dial forward one point until it has made a revolution, there being as many figures upon the dial as is considered necessary to allow the
 45 box to be opened as many times as desired. When a complete revolution of the dial has been made, it is desirable to prevent any further movement taking place. This is effected by means of a short pin S, projecting from the
 50 face of the dial within the hollow interior of the lock. This pin comes in contact with a corresponding pin S', fixed within the lock, and when the dial has been rotated to the last figure the two pins will come in contact, and
 55 it will then be impossible to shut the cover D of the exterior box, as the pin prevents the further rotation of the dial, and consequently prevents the arm P from being depressed.

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

1. In a ticket-punch, an exterior case adapted to contain tickets which are coiled therein, a horizontal rotating carrier contained within
 65 the case, punches the shanks of which pass through the upper disk of the carrier, said shanks projecting above the upper disk, and

a segmental housing E, inclosing the rear portion of the carrier, projecting above the surface of the cover, and exposing the punch-shanks at the front, substantially as herein
 70 described.

2. In a ticket-punch, the exterior casing, with its hinged cover, a revolving carrier rotatable within the casing, the punches carried
 75 thereby, a toothed flange around the periphery of the carrier, a shaft journaled in the side of the case, having the pinion engaging the teeth of the carrier, and a milled head F upon the outer end, whereby the carrier is ro-
 80 tated to bring either of the punches into position, substantially as herein described.

3. In a ticket-punch, the exterior case and hinged cover, a carrier rotatable within the case and provided with punches, projecting
 85 jaws extending outwardly from the front end of the punch-case, and the cover between which the tickets pass from the punches, and an opening I through the jaws by which the tickets may be grasped by the thumb and finger
 90 and drawn forward from the case through the jaws, substantially as herein described.

4. In a ticket-punch, the case, the rotary carrier provided with punches, the jaws between which the tickets pass after leaving
 95 the punches, consisting of the movable portion projecting from the hinged cover of the box and the stationary portion fixed to the body of the box having the opening I through the two parts for the purpose of grasping and
 100 moving the tickets, and the channels K in the lower jaw, whereby the figures imprinted upon the tickets are protected from injury while the ticket is being drawn out of the case, substantially as herein described.

5. In a ticket-punch, the case, the revolving carrier provided with punches, a chamber within which tickets are contained, a hinged cover by which the case may be closed, an inclosed
 110 registering-dial, a ratchet connected therewith, an arm projecting so as to be depressed by the cover when the latter is closed and carrying a pawl which engages the teeth of the ratchet so as to revolve the dial one point at each time the cover is closed, sub-
 115 stantially as herein described.

6. In a ticket-punch, an exterior case for containing tickets, a rotary carrier beneath which the tickets are advanced to be punched, the punches, a hinged cover to the case, an
 120 inclosed registering-dial with a ratchet and pawl, a spring-arm by which the pawl is depressed and the dial is moved forward one point at each closing of the box-cover, in combination with a stop, whereby the dial is pre-
 125 vented from making more than a single rotation, substantially as herein described.

In witness whereof I have hereunto set my hand.

ARTHUR W. COFFIN.

Witnesses:

S. H. NOURSE,
 H. F. ASCHECK.