

H. W. HEWET.

Ticket-Punches.

No. 135,549.

Patented Feb. 4, 1873.

Fig. 1

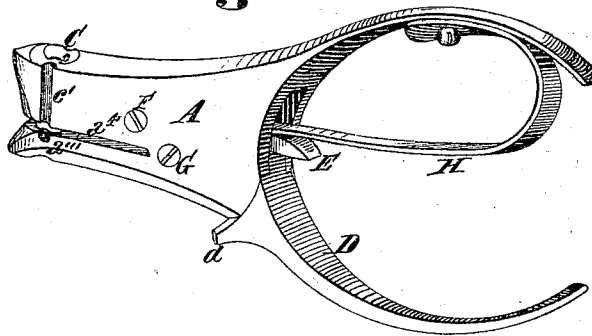


Fig. 2

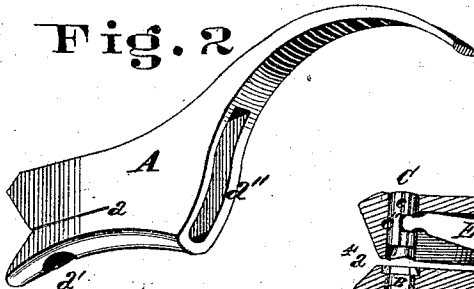


Fig. 3

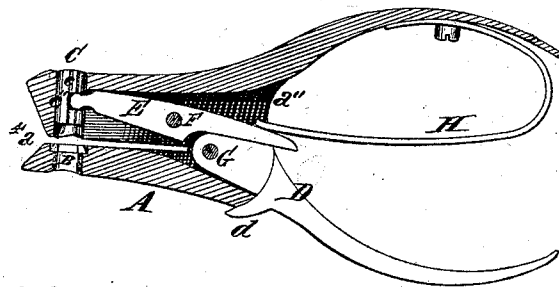


Fig. 4



Fig. 5.



Fig. 6

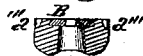


Fig. 7



Attest

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UNITED STATES PATENT OFFICE.

HENRY W. HEWET, OF CINCINNATI, OHIO, ASSIGNOR TO HARVEY MILLER,
OF SAME PLACE.

IMPROVEMENT IN TICKET-PUNCHES.

Specification forming part of Letters Patent No. 135,549, dated February 4, 1873.

To all whom it may concern:

Be it known that I, HENRY W. HEWET, of Cincinnati, Hamilton county, State of Ohio, have invented certain new and useful Improvements in Card-Punching Instruments for Railroad Conductors' Use, &c., of which the following is a specification:

Nature and Objects of the Invention.

My invention consists, first, in a certain construction of the movable main lever, by which a shield is provided to prevent dirt falling into the hole in which the said lever operates, and to prevent at the same time the possibility of the flesh of the operator's hand getting caught between the lever and lever-socket; second, in a peculiar exterior shape of the female die, in combination with a peculiar device for securing it in place within the frame of the instrument; third, in a peculiar exterior formation of the male or sliding die, in combination with a peculiar device for guiding it in operation; fourth, in a peculiar combination of levers for operating the male die; fifth, in a combination, with the compound operating-levers of a peculiarly-operating spring for retracting the punch after the operation of punching a card.

Description of the Accompanying Drawing.

Figure 1 is a perspective view of my improved punch complete. Fig. 2 is a perspective view of the main casting in the rough. Fig. 3 is a section of the punch complete. Fig. 4 is a perspective view of the male die or sliding punch. Fig. 5 is a section in the longitudinal direction of the punch, showing the shape of the female die and recess for receiving it. Fig. 6 is a section crosswise of the punch, showing the exterior shape of the female die and the device for securing it in place. Fig. 7 is a perspective view of one of the screws upon which the compound levers pivot.

General Description.

The main frame A, which incloses the levers and dies, is first cast of the form shown clearly in Fig. 2, with a mark, *a*, to guide the saw in forming the slit for the reception of the ticket or card to be punched, and hole *a'* for the slid-

ing and stationary dies formed by coring. The cavity *a''* is inclosed on the upper and lower side, as shown, to the exclusion of dirt or foreign matter liable to obstruct the proper operation of the instrument, the said cavity being open at one end only, and made by coring in such a way that the core of the male-die aperture is made to support the core of this cavity interiorly. The formation of the aperture *a'*, by coring in place of drilling, permits the iron on both sides of it to be rendered so malleable that it can be swaged in a manner hereinafter indicated, which has been found impracticable when the hole is drilled. In finishing the frame A it is bored truly at the aperture *a'* deep enough to not only give room for the operations of the sliding die, but to form a receptacle for the lower die, which is placed in from above, and held in place by indentations *a'''* in the frame A swaged in after the die B is in place. The die B is conical on its periphery, and these indentations being forced against the smallest diameter of it (which is on top) serve to retain it firmly in place. The hole in the die is of the required configuration interiorly of the figure to be punched in the card. The sliding punch or male die C is turned true exteriorly, and has two grooves, *c*, formed in the direction of its length, into which, when in place, the malleable casting of the case or frame A is forced by swaging, as shown at *c'*, Fig. 1, so as to form guides to prevent the punch twisting in place.

The dies are made of wrought-iron case hardened. A slit, *a⁴*, is sawed in the frame A for the reception of the card to be punched. The upper or male die is operated by the combined levers D E, which unite to depress the die with a powerful leverage, with but little curvature of the end of lever E, which operates the die. This end is fitted into a notch, *c''*, in the die C. The levers D E are held in place by screws F G, which, when in place, are spread at the end by a punched notch or indentation, *f*, to prevent accidental displacement. The lever D is provided with an extended or projecting shield, *d*, which serves to cover the cavity in which lever D operates at all times, whether the lever is depressed or extended, and thus prevents the

entrance of dirt or the entanglement of the flesh of the hand of the operator. A bent steel spring, H, is secured to the handle of frame A, and rests at its free end on the lever E, serving to retract the punch or male die C after it has punched a card or has been depressed for any other purpose. The spring is of peculiar formation for this use, being free to flexure from its point of support at the handle to its connection with the lever E, and having at the same time a return-bend shape to render it capable of easy extended action.

The instrument has been specified in the foregoing part of this specification as particularly intended for punching cards, tickets, &c.; but I do not wish to be confined to this use, as the instrument is equally capable of perforating other materials.

Claims.

1. The vibrating or movable lever D of a card-punching instrument, when provided with a projecting shield, *d*, extending beyond the frame A, as and for the purpose specified.

2. The conical-sided die B secured in the frame A by the swaged indentations *a'''*, substantially as specified.

3. The grooved male die or punch C *c*, in combination with the swaged indentations *c'*, as and for the purpose specified.

4. The combination, in a card-punching machine, of reciprocating punch or male die C, intermediate lever E, and handle-lever D, operating substantially as and for the purpose described.

5. In a card-punching machine, the reciprocating punch or male die C, intermediate lever E, and handle D, in combination with the bent spring H, constructed and operating substantially as and for the purpose specified.

In testimony of which invention I hereunto set my hand.

H. W. HEWET.

Witnesses:

FRANK MILLWARD,
J. L. WARTMANN.