

No. 736,116.

PATENTED AUG. 11, 1903.

R. J. KRAUTHEIM.
CONDUCTOR'S PUNCH.

APPLICATION FILED FEB. 11, 1903.

NO MODEL.

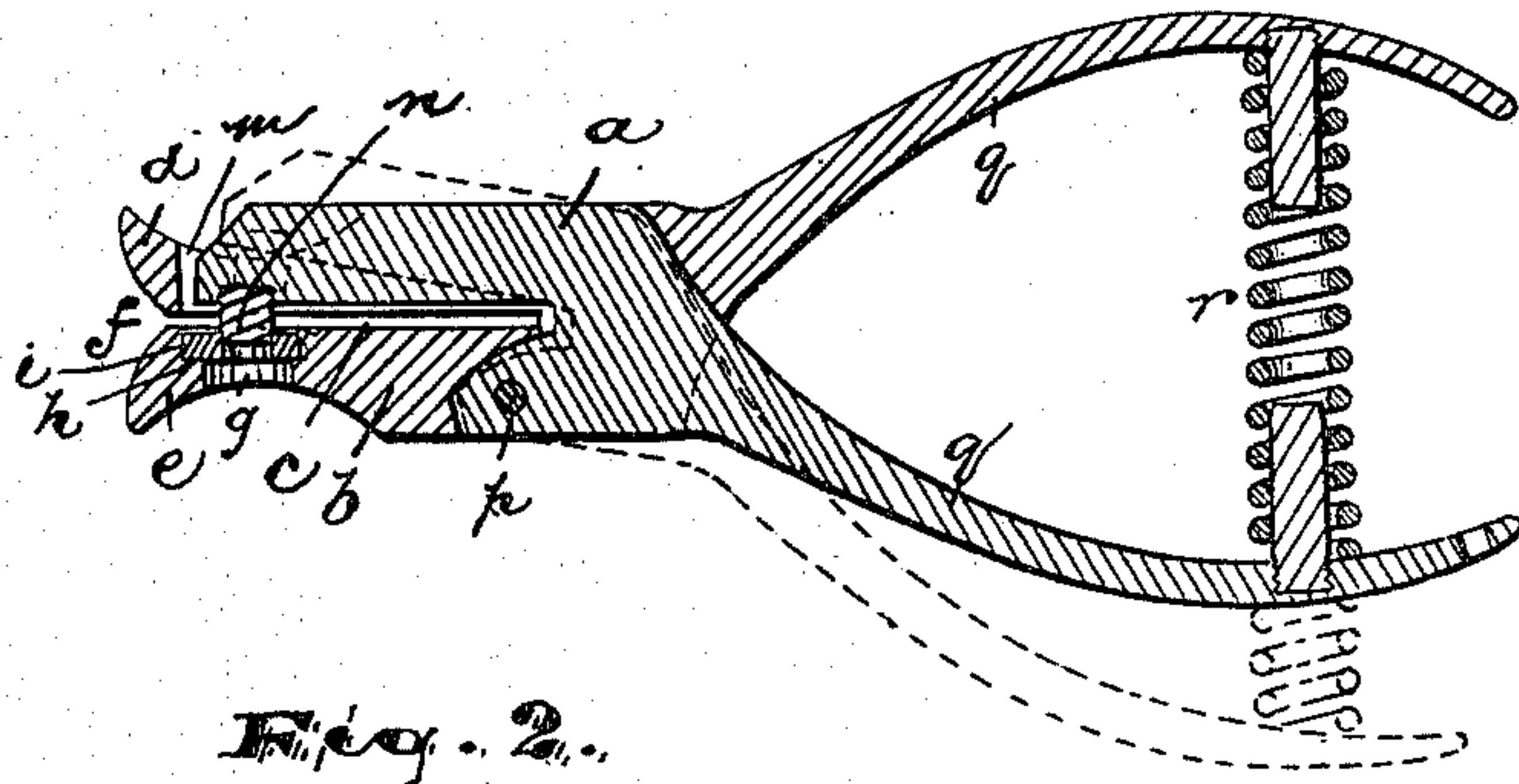


Fig. 2.

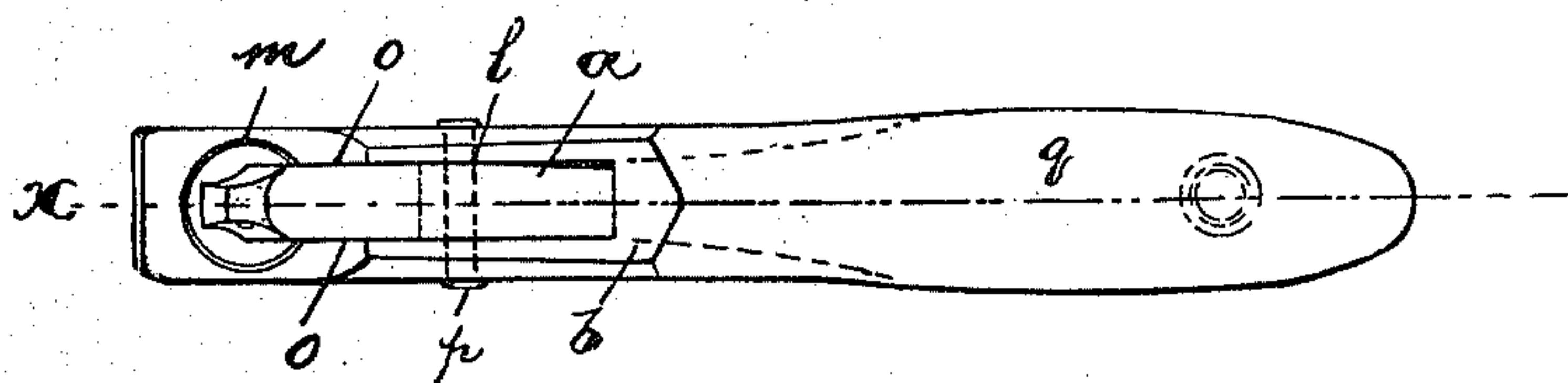


Fig. 1.

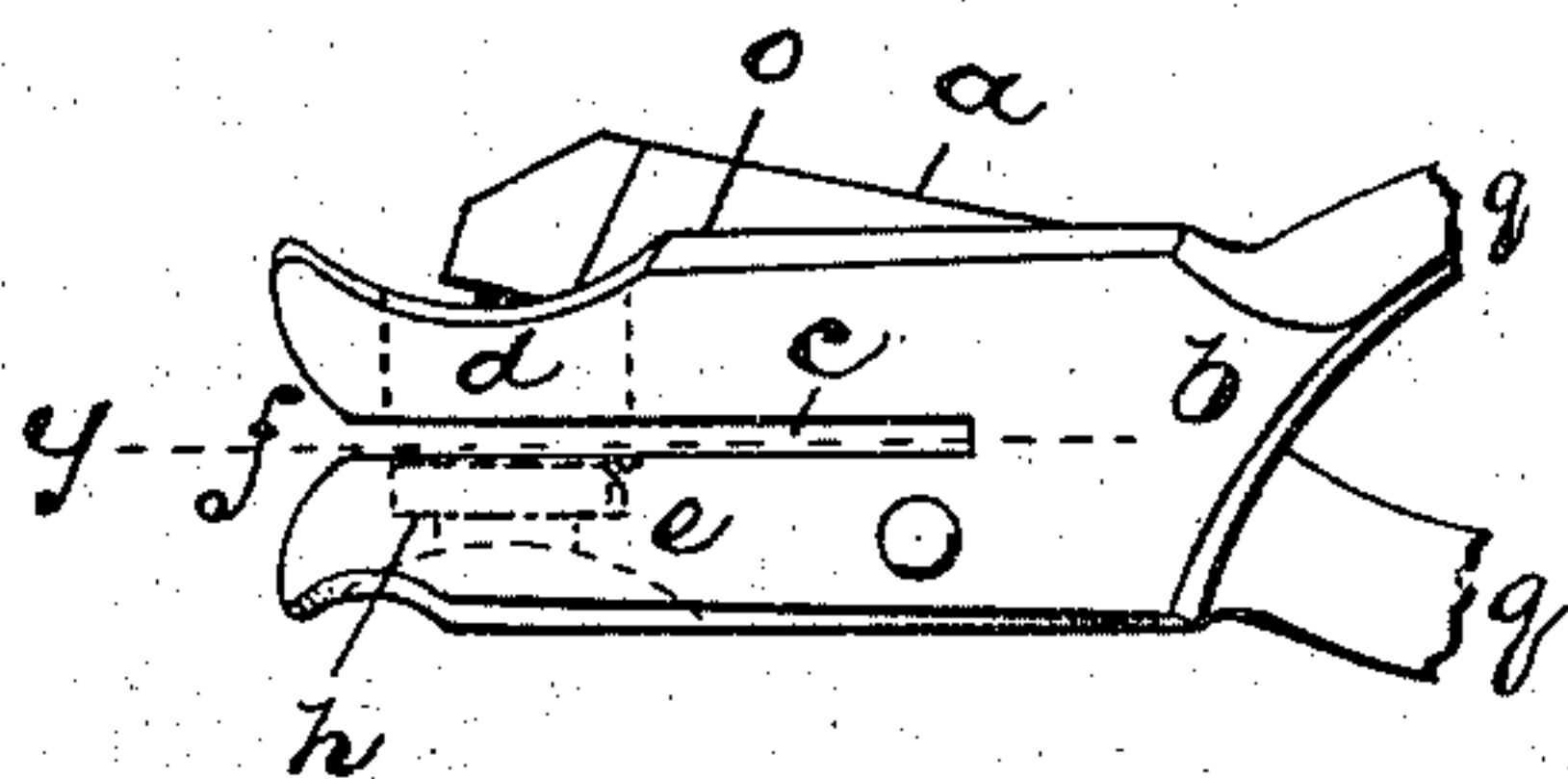


Fig. 3.

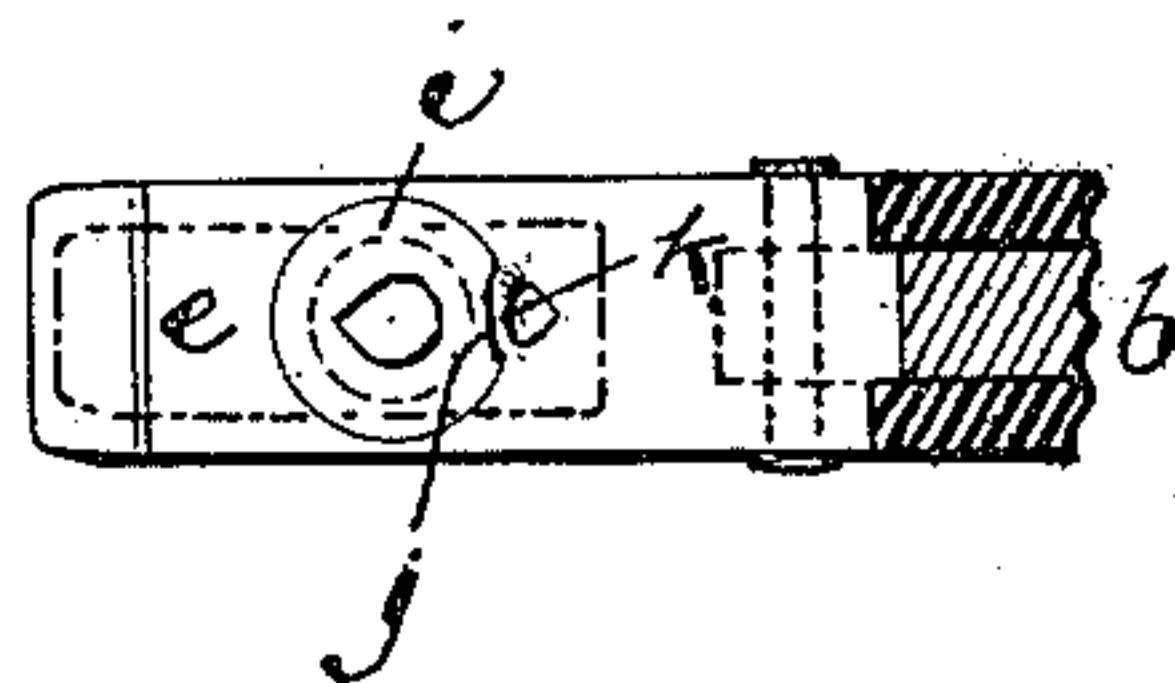


Fig. 4.

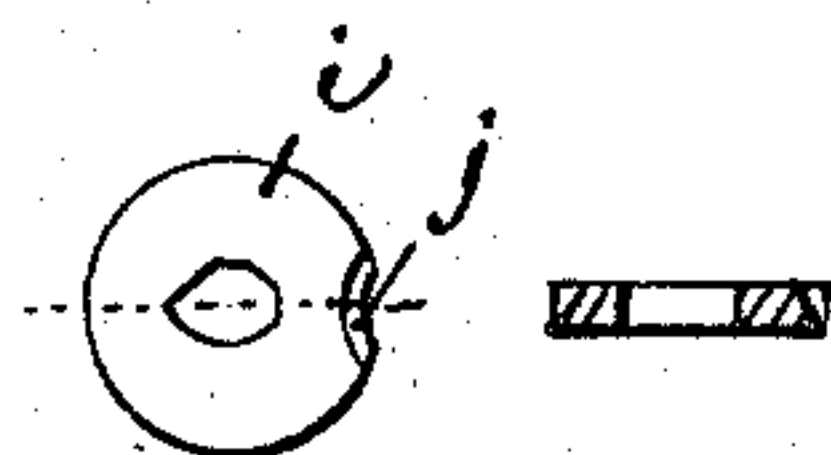


Fig. 5.

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UNITED STATES PATENT OFFICE.

RICHARD J. KRAUTHEIM, OF NEWARK, NEW JERSEY.

CONDUCTOR'S PUNCH.

SPECIFICATION forming part of Letters Patent No. 736,116, dated August 11, 1903.

Application filed February 11, 1903. Serial No. 142,840. (No model.)

To all whom it may concern:

Be it known that I, RICHARD J. KRAUTHEIM, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented and produced a new and original Improvement in Conductors' Punches; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The objects of the invention are to increase the durability of a punch and to render the same more positive in its action, to facilitate the construction and to reduce the cost thereof, and to secure other advantages and results, some of which may be referred to hereinafter in connection with the description of the working parts.

The invention consists in the improved conductor's punch and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several figures, Figure 1 is a plan of the improved punch. Fig. 2 is a section of the same, taken at line *x* of Fig. 1. Fig. 3 is a side elevation of a forward part of said punch; and Fig. 4 is a sectional detail taken at line *y*, Fig. 3. Fig. 5 is a plan and section of a female die-section.

In said drawings, *a* and *b* indicate, respectively, the male and female members of the punch, of which the female member *b* consists of a casting which is horizontally cut by a saw or otherwise split, as at *c*, to provide a narrow receptacle for the ticket or card to be punched, in which said ticket may be held close to the female die during the punching operation. Of the female cut or slit part, *d* *e* are the two prongs walling the split *c*, which prongs flare oppositely at their forward extremities to form a V-shaped aperture *f*, in or through which the ticket is directed into the split or receptacle *c*. The lower prong *e* is vertically perforated, as at *g*, and is counter-sunk on the upper side, and thus provides a

seat *h* for the female die *i*, the seat being formed, as shown in Fig. 4, by boring into the upper side of the prong to form a round aperture, into which is fitted the said die member. The said female die *i* is disk-shaped and recessed at one side, as at *j*, and is fastened into the boring or aperture by forcing the metal *k*, forming the side walls of the aperture, into the recess *j*, as indicated in Fig. 4. The inner wall of the recess is inclined, as shown in Fig. 5. By this construction the said female die is seated with great exactness and security and at a comparatively small expense of time and labor.

The prong *d* is slotted vertically to receive the section or member *a*, the slot *l* being enlarged near the forward extremity of the prong, as at *m*, to provide a round sight-opening, by means of which the conductor can see the position of the card or ticket to be punched with relation to the dies. Heretofore this sight-opening *m* has been extended at the sides of the male member *a* to a point distant a half-inch from the male die *n*. In the present case the side walls *o o* of the slot *l* extend parallel and in contact with the member *a* up to a point vertically in line with the inner part of the male die *n*, of the punch, and thus there is no chance of the handled member *a* at its forward extremity springing laterally when punching, and thus preventing a proper entrance of the male die into the female die to effect an exact and perfect punching operation, and, furthermore, because of the long bearings for the forward extremity of the member *a* there is less opportunity to wear the said side walls of the member *b* away, and thus permit a lateral looseness of the members inimical to a proper punching operation.

The members *a* and *b* are pivoted or fulcrumed together by the pin *p* and are provided with handles *q q* and a spring *r* for holding the dies normally apart in any suitable manner.

Having thus described the invention, what I claim as new is—

1. The improved punch herein described, comprising pivoted and handled members *a*, *b*, provided with punching-dies, the male member being arranged in a slot in the female member, the walls of the slot extending

at the sides of, and in contact with the male member to the line of the die thereof, and, at said line, the said slot being laterally enlarged to form a sight-opening around the
5 extremity of the male member to permit the entrance of light to the ticket as the same is about to be punched, substantially as set forth.

2. The improved punch herein described,
10 comprising the pivoted and handled members, each provided with a punching-die, the male member having a slot with a round enlargement at its forward end, the said enlargement forming a sight-opening, and the
15 parallel-sided side walls of the slot extending along the sides of and in contact with the male member up to the sight-opening immediately

around the punching-dies, substantially as set forth.

3. The improved punch, comprising the 20 pivoted male and female members having co-operating punching-dies, one of said members being bored out to receive a discous female die which fits the boring and has a recess at one side, the wall of the boring being 25 forced into said recess to retain the female die in place.

In testimony that I claim the foregoing I have hereunto set my hand this 23d day of January, 1903.

RICHARD J. KRAUTHEIM.

Witnesses:

CHARLES H. PELL,
C. B. PITNEY.