(No Model.)

C. W. KUEN.

TICKET PUNCH.

No. 472,793. Patented Apr. 12, 1892.

Fig. 1.

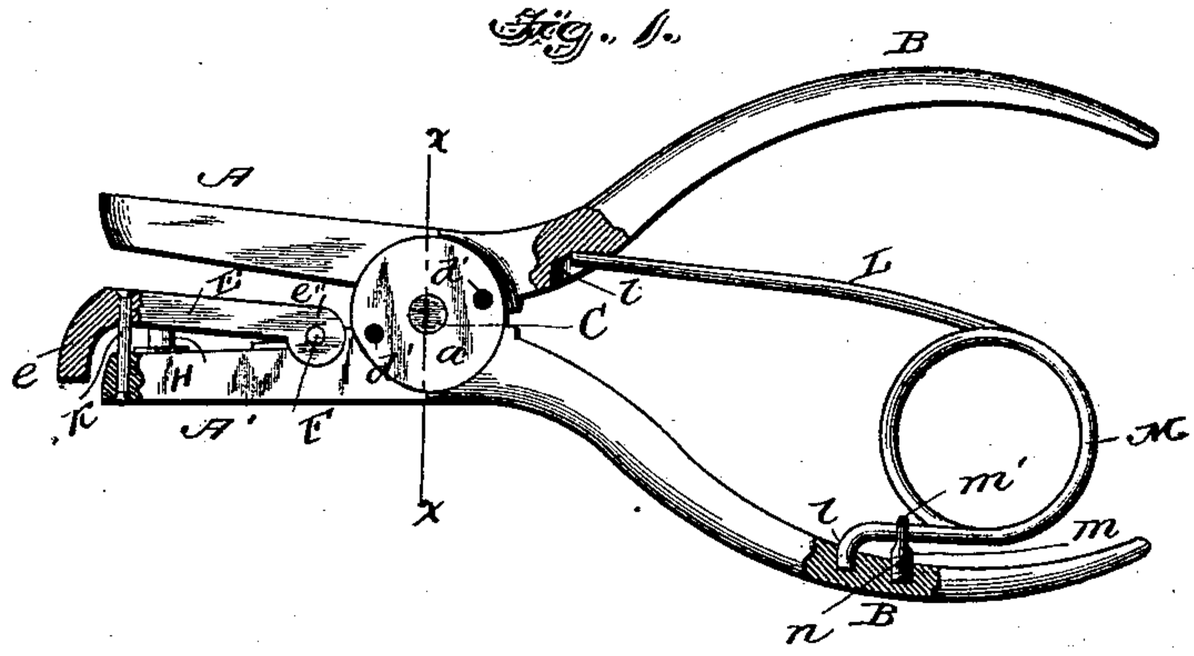


Fig. 2.

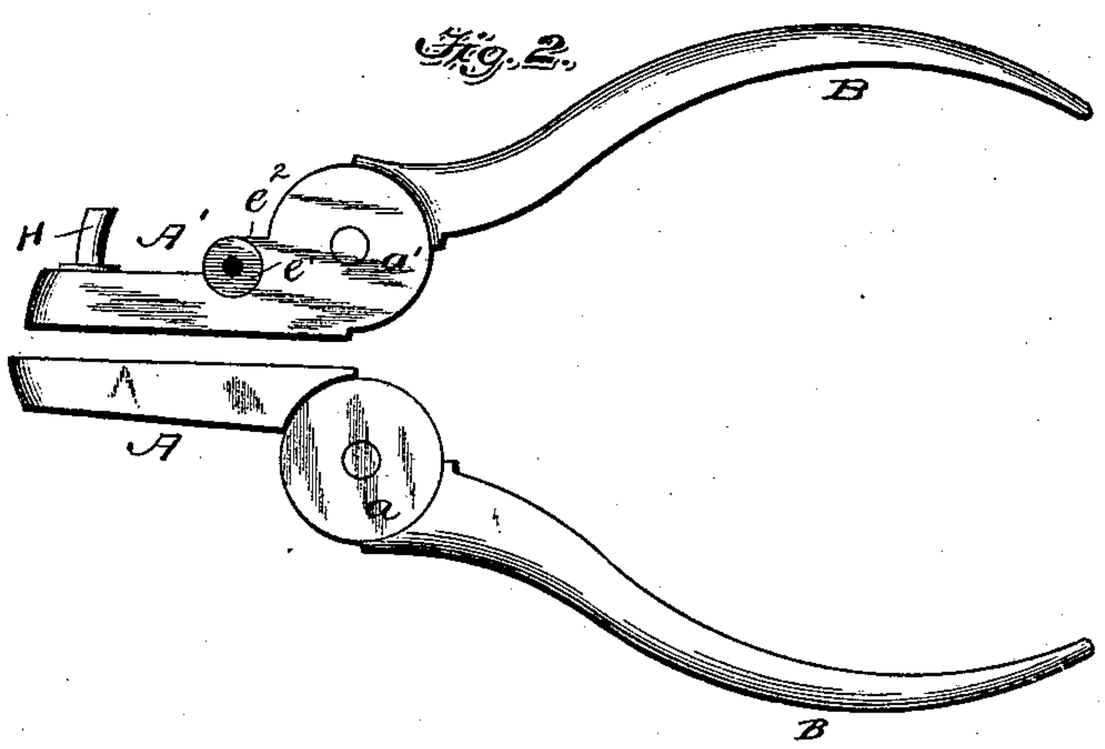


Fig. 3.

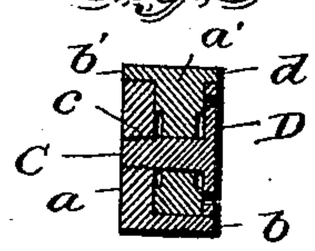
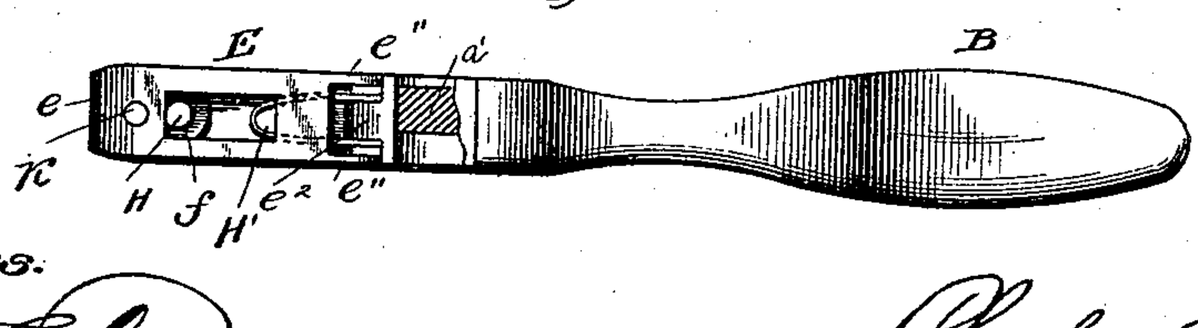


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES W. KUEN, OF CHICAGO, ILLINOIS.

TICKET-PUNCH.

SPECIFICATION forming part of Letters Patent No. 472,793, dated April 12, 1892.

Application filed December 26, 1891. Serial No. 416,240. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. KUEN, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Ticket-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.

My invention relates to improvements in ticket-punches; and the object is to provide a simple, strong, and inexpensive punch with means which prevent the jaws from becoming clogged and any part of which may be readily removed from the punch, when desired, for renewal or repair in event of injury or breakage.

With these ends in view my invention consists in the peculiar construction and arrangement of parts, which will be hereinafter fully pointed out and claimed.

In the accompanying drawings, Figure 1 is a side elevation of a punch constructed in accordance with my invention. Fig. 2 is a view of the two main members of the punch detached. Fig. 3 is a transverse vertical sectional view on the line $x\,x$ of Fig. 1, and Fig. 4 is a plan view of the punch with the upper jaw broken away.

Like letters of reference denote corresponding parts in the several figures of the drawings, referring to which—

A A′ designate the upper and lower jaws, respectively, of the punch. Each of the jaws is provided with an integral rearwardly-extending handle B and with an intermediate enlarged portion a a', respectively. The enlarged portion a of the upper jaw A is provided on one side with an integral flange or projection b at its lower edge, and the enlarged portion a' of the jaw A′ is provided at its upper edge with a flange b', which extends in the opposite direction to the flange b and extends over the upper edge of the enlarged portion a of the jaw A. The two jaws A A′ are connected together by a screw C, which is passed through a suitable aperture in the enlarged portion of the jaw A and has its screw-threaded shank c engaging with threads in the wall of a socket c' in the enlarged portion of the jaw A′. The other end of the pivot-screw C is provided with an enlarged flat head D, which is surrounded by the flange b and a flange d, formed on the portion a' of the jaw A′ opposite to the flange b' thereon, as shown in Fig. 3 of the drawings. The enlarged flat head D thus lies flush with the side of the punch, and in the head are formed at diametrically-opposite points two sockets d', adapted to receive teeth or prongs on a suitable key, so that the screw C can be withdrawn and the jaws A A′ readily disconnected.

E designates the stripper, the forward end of which is bent to form an overhanging lip e, which extends beyond the front edge of the lower jaw A′. The rear or inner end of the stripper E is bifurcated for a short distance to provide two prongs e'', the ends of which are enlarged and fitted in sockets or recesses e', formed in the jaw A′ and separated by a thin wall or partition e^2. A pin F extends through the enlarged ends of the arms e'' and the wall e^2 to pivotally attach the rear end of the stripper to the lower jaw of the punch in advance of the pivot connection of the two members or sections of the punch. A die or punch H is rigidly attached to or cast integral with the jaw A′ and extends upwardly through a perforation or aperture f in the stripper E and aligns with an opening or passage in the upper jaw when the jaws are closed by pressing the handles B together in the ordinary manner. The outer end of the stripper is normally held out of contact with the lower jaw, as shown in Fig. 1, by a spring H′, which is preferably formed from a single piece of spring-wire bent at its middle and extending under the stripper and then bent or coiled around the pin F between the wall or partition e^2 and the prongs e'', the ends of said spring extending for a slight distance along the upper surface of the lower jaw A′. A guide-pin K extends through aligned vertical passages in the stripper E and the lower jaw A′. A spring L has its ends fitted in apertures l in the adjacent surfaces of the handles B B, and this spring is provided at an intermediate point of its length with a coil M, by which the punch can be conveniently carried. The spring is held in position by means of a bolt m, having an eye m' to fit on the spring and provided with a screw shank or stem n, which is screwed into the handle B

of the lower jaw, as shown. By screwing the bolt *m* into the lower handle the tension of the spring L can be increased, or the tension of the spring can be reduced by turning the bolt *m* in the reverse direction.

The operation of my invention is as follows: The ticket or card to be punched is inserted between the upper surface of the stripper E and the lower surface of the upper jaw A. The handles are pressed toward each other to force the outer end of the stripper downwardly, and the upper end of the tooth or die on the lower jaw passes through the aperture *f* in the stripper E and the ticket or card, which is held tightly between the stripper and upper jaw. As pressure is removed from the handles B the spring L returns the jaws to their normal positions and the spring H forces the outer end of the stripper upward to clear the upper end of the die or punch. It will thus be seen that I have provided a simple and strong punch any part of which can be easily removed and replaced when broken.

I am aware that changes in the form and proportion of parts and details of construction of the devices herein shown and described as an embodiment of my invention can be made without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes as fairly fall within the scope of my improvements.

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

1. In a punch, the combination of two jaws pivotally connected together and provided with the integral handles, a die or punch carried by one of the jaws, a stripper provided with an aperture to receive the die or punch and having its inner end bifurcated and fitted in suitable recesses *e'*, formed in one of the jaws, a pivot-pin connecting the bifurcated end of the stripper with the solid portion of the jaw, and a spring formed from a single piece of wire and bent at an intermediate point of its length around the pivot-pin of the stripper and having its ends contacting with the adjacent surfaces of the stripper and jaw to which it is pivoted, substantially as shown and described.

2. In a punch, the combination of two jaws, each provided with an integral handle and an intermediate enlarged portion, a headed pin D, passing through an aperture in the enlarged portion of one jaw and having its end threaded and fitted in a threaded socket in the enlarged portion of the other jaw, the head of such pin being surrounded by flanges on the enlarged portions of the jaws, a stripper pivotally connected to one of the jaws, a die or punch carried by one jaw and extending through an aperture in the stripper, a spring having its ends fitted in sockets in the adjacent sides of the handles and provided with an intermediate coil, and a bolt *m*, having one end threaded and fitted in a suitable socket in one of the handles and provided with an eye, through which the spring arranged between the handles passes, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES W. KUEN.

Witnesses:

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