L. A. FOOTE.

PUNCHING TOOL.

APPLICATION FILED SEPT. 28, 1918.

1,407,056. Patented Feb. 21, 1922.

Fig. 1.

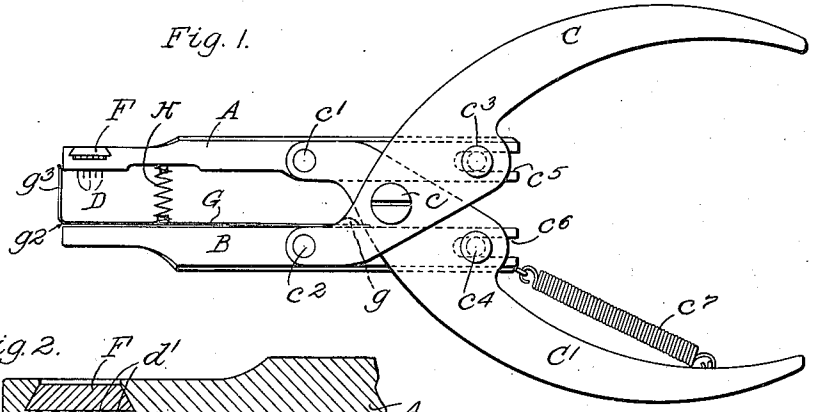


Fig. 2.

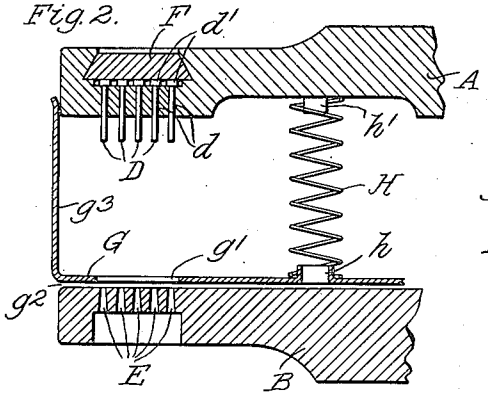


Fig. 3.

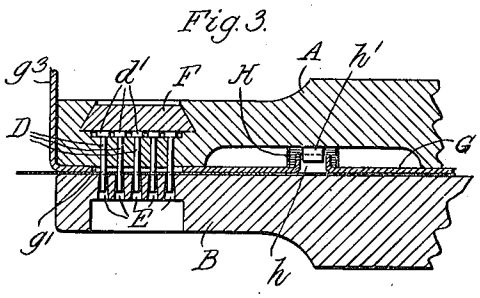


Fig. 4.

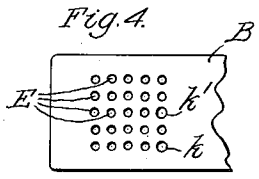


Fig. 5.

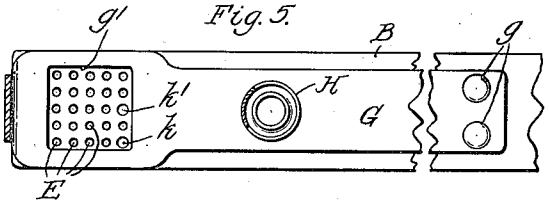


Fig. 6.

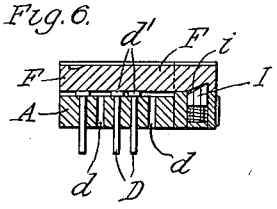
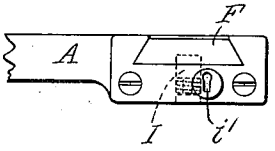


Fig. 7.



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PUNCHING TOOL.

1,407,056. Specification of Letters Patent. Patented Feb. 21, 1922.

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To all whom it may concern:

Be it known that I, LEWIS A. FOOTE, a citizen of the United States, residing at Silver Creek, in the county of Chautauqua and State of New York, have invented a new and useful Improvement in Punching Tools, of which the following is a specification.

This invention relates to punches or punching tools of the kind adapted for use in dating cards, tickets, papers or the like.

The objects of the invention are to produce a punching tool of this kind which is adapted to mark the day and month on an article and which is of simplified construction so that the date can be easily changed; also to provide a punching tool of this kind which can be locked so as to prevent the unauthorized changing of the date for which the tool is set; also to provide a punching tool of this kind with a stripper for removing the punched article from the dies which also acts as a finder to guide the articles into proper operative relation to the punch; also to so arrange the stripper that the same pinches or holds the article before the same is punched; also to provide a punching tool of this kind with an improved arrangement of perforating pins or punches, whereby a comparatively small number of pins or punches will suffice to date the article; also to improve the construction of punching tools of this kind in other respects hereinafter specified.

In the accompanying drawings:

Fig. 1 is a side elevation of a punching tool embodying the invention.

Fig. 2 is a fragmentary sectional elevation thereof showing the jaws of the tool open.

Fig. 3 is a similar view thereof showing the jaws closed.

Fig. 4 is a face view of the lower jaw or base plate of the punching tool.

Fig. 5 is a similar view thereof showing the stripper.

Fig. 6 is a transverse sectional view of the upper die or punch showing the means for locking the pins in place.

Fig. 7 is a fragmentary elevation thereof showing the end of the upper die.

A and B represent two relatively movable parts or jaws of the punching tool, which jaws may be moved relatively to each other in any desired manner. In the construction shown, the jaws are actuated by means of handles C C′ which are pivoted relatively to each other at *c*. The outer ends of the handles are pivoted to the movable jaws at c' c^2 and are provided with pins c^3 c^4 which are slidably arranged in slots c^5 c^6 in the ends of the jaws A and B. By means of this arrangement the jaws move toward each other when the handles C C′ are pressed together and are moved away from each other by means of the spring c^7 which tends to open the handles and the jaws A and B. Any other means for moving the jaws toward and from each other may be employed.

The punch for marking the card, paper or other articles is arranged in the outer end of one of the movable members or jaws, and comprises a plurality of pins D arranged in holes *d* in the upper jaw, in the construction shown, and are adapted to enter into holes E formed in the other jaw or base plate. The pins are removably secured in the upper jaw in any suitable manner so that they can be removed or otherwise rendered inoperative to vary the mark made by the punch. In the construction shown for this purpose, each of the pins D is provided with a head *d′*, and a slide F is arranged in the upper jaw adjacent to the heads of the pins to hold the same in place. The slide F is removably secured in the upper jaw, being, in the construction shown, adapted to slide sidewise out of engagement with the pins D so that the same can be removed from or placed into the upper jaw. Any other means for rendering any of the pins of the punch operative or inoperative may be employed.

In order to facilitate the punching or perforating of the article, a stripper member G is preferably employed which, in the construction shown, consists of a strip of resilient material suitably secured to the lower jaw, for example by means of a screw or rivet *g*, Figs. 1 and 5, and provided with an opening *g′* through which the pins D are adapted to pass. The stripper member is arranged in close proximity to the lower jaw, forming therewith a slit g^2 into which the card or other article to be punched or perforated may be inserted. When the jaws are opened, the stripper member holds the article adjacent to the lower jaw so that the

pins D are withdrawn from the article, thus permitting the same to be easily withdrawn from the punch after having been acted upon by the pins D. The hole g' in the stripper member also serves as a guide or finder whereby the article may be accurately positioned in the punching tool, so that the person using the tool can see beforehand where the perforations or impression will be made when the jaws are brought together. The stripper member G is preferably provided with a projecting portion g^3 which extends into proximity to the upper jaw and which prevents the insertion of the articles at the wrong side of the stripper member.

In order to hold the article firmly on the punching tool in an adjusted position, means are preferably provided for pinching or gripping the article between the jaws before the jaws are closed sufficiently to cause the pins D to act upon the article. For this purpose, a spring H of any suitable kind is employed, one end of which engages the stripper member G and the other end of which engages the upper jaw A. The spring is preferably held in place by any suitable means, such for example as projections h h' on the stripper member and jaw A respectively. The spring is so formed as to exert very little pressure against the stripper member when the jaws are opened, and is made stiff enough to press the stripper member against the lower jaw B when the jaws are partly brought together. This will pinch the article between the stripper member G and the lower jaw and hold the same in place while the jaws are being brought together to perforate or otherwise act upon the article.

Means are preferably provided for locking the slide F in the upper jaw in such manner that the arrangement of the pins in the punch cannot be changed by unauthorized persons. Any suitable lock may be employed for this purpose. In the construction shown, the lock provided includes a bolt or the like I which is adapted to snap into a notch i in the slide F when the same is in its closed position. The bolt can be withdrawn by means of a key adapted to be inserted into a key-hole i' in the upper jaw member A.

One of the main uses of a punch of this kind is for dating or numbering articles, such as cards used in connection with instalment accounts, in which case the card or article is marked with the dates on which payments are made. In order to make these markings in a small space so that it is not necessary to have the article of excessively large size, the pins and holes of the punch are arranged as in the construction shown, five rows of holes d being provided, each row having five holes in which the desired number of pins may be secured, these rows being numbered 1, 2, 3, 4 and 5 in Fig. 4 of the drawings. The first holes at the ends of the first and third rows are preferably made larger than the other holes and are adapted to receive pins k k', the pin k being slightly larger than the pin k'. The ends of the rows at which the pins k k' are arranged are ends from which calculations start, being, in the construction shown, the bottoms of the rows when the impressions are made on an article. The pins k k' indicate that the first two rows are used for indicating the month and that the last three rows indicate the days of the month, and also indicate the position in which the article was held relatively to the punch when marked, so that the correct reading of the date is ensured. Thus to indicate "January" only the first pin k would be used, the other nine pins of the first two rows being omitted. "February" would be represented by the first and second pins of the first row. "October", the tenth month, would be represented by using the first pin k of the first row and the second pin of the second row, this pin representing the character zero when used without the first pin of the second row. The month of "November", the eleventh month, would be represented by the first pin k of the first row and the first pin of the second row, and "December", the twelfth month, would be represented in the same manner as "November" except that the second pin of the second row would also be used. The same system of counting is used in connection with the last three rows which represent the days of the month, the third column being used to represent the numeral of the 10's column when used in connection with pins in the fourth and fifth rows. Thus, for example, 28 will be represented by the pin k' and a pin in the third row above the pin k', and eight pins in the fourth and fifth rows, the insertion of the pins beginning with the lower ends of the rows.

By means of this system a large variety of numbers and dates can be indicated with the use of the minimum number of perforations in the card. This, in turn, permits the perforations to be made within a small space and thus permits the use of a comparatively small card or article in connection with instalment payments. By means of this construction and arrangement it has been found that the date can be punched in a space as small as a square having sides one quarter inch in length. This punch is particularly desirable for use in connection with Liberty Loan payments, where bonds are paid for on weekly instalments.

I claim as my invention:

1. A punch comprising, in combination with suitable die and punch members movable one to and from the other, a plurality of perforating pins adapted to be inserted

in any one or more of certain fixed positions in the punch member in operative relationship with the die member to vary the mark made, and means operable from outside and without otherwise dismembering the punch member for changeably securing the pins therein.

2. A punch comprising, in combination with suitable die and punch members movable one to and from the other, a plurality of perforating pins adapted to be inserted in any one or more of certain fixed positions in the punch member in operative relationship with the die member to vary the mark made, means operable from outside and without otherwise dismembering the punch member for changeably securing the pins therein, and locking means for preventing an unauthorized changing of the pins.

3. A punch comprising, in combination, a die member, a punch member movable to and from the die member and provided with a group of closely spaced holes less in number than the numbers to be recorded and arranged in a plurality of parallel rows, a plurality of headed perforating pins adapted to be inserted in the holes in operative relationship with the die member and by the number and position of those used to conventionally indicate different numbers as desired, and a plate mounted at the back of the punch member and removable without otherwise dismembering said member adapted to bear upon the heads of the pins inserted in the holes therein to temporarily secure the pins in place.

4. A hand-punch comprising, in combination, two co-operating handles, a punch member provided with one or more holes and a die member movable to and from each other by the handles, a plurality of headed punches adapted to be inserted in the hole or holes in the punch member in operative relationship with the die member, and a plate mounted at the back of and removable without otherwise dismembering the punch member adapted to bear upon the heads of the punches inserted therein to changeably secure them in place.

5. A dating punch comprising, in combination, two co-operating handles, a punch member provided with a plurality of holes arranged in rows and a die member movable to and from each other by the handles, a plurality of headed perforating pins adapted to be inserted in the holes in operative relationship with the die member and to indicate conventionally the day of the month by the number and position of the pins in one or more of a plurality of the rows of the holes and the month by the number and position of the pins in the remaining row or rows of holes, and a plate sliding in the punch member over the heads of the pins inserted therein to changeably secure the pins in place.

6. A dating punch comprising, in combination, two co-operating handles, a punch member provided with a group of closely spaced holes arranged in parallel rows and a die member movable to or from each other by the handles, a plurality of headed perforating pins adapted to be inserted in the holes in operative relationship with the die member to conventionally indicate the day of the month by the number and position of the pins in the holes in certain of the rows and the month by the number and position of the pins in the holes of the remaining row or rows, a plate sliding in the punch member over the heads of the pins inserted therein to changeably secure the pins in place, and a lock for said plate to prevent an unauthorized changing of the pins.

7. A punch comprising a die member and, movable to and from said die member, a punch member which is provided with a plurality of perforating pins arranged in a plurality of rows, the first pin of the first row and of one of the intermediate rows being larger than the other pins.

8. A punch comprising a die member and, movable relative to said die member, a punch member which is provided with a plurality of perforating pins adapted to be changeably secured therein in different numbers and in different positions in a plurality of rows of positions, the pin for the first position in the first row being larger than the other pins and that for the first position in one of the intermediate rows being smaller than said pin and larger than the other pins.

9. A punch comprising relatively movable punch and die members, a stripper plate of resilient material mounted upon the die member and normally extending parallel and in proximity thereto, and means positively actuated by the movement of the two members towards each other for pressing the stripper plate towards the die member to grip and hold the sheet to be punched.

10. A punch comprising two handles, punch and die members movable to and from each other by the handles, and intermediate said members a third member having a part extending parallel to the die member which serves as a stripper plate and is provided with an opening visible from the sides of the punch adapted to define the position of the punch carried by the punch member and another part extending at substantially right angles from the outer end of the first part past the outer end of the punch member which serves to prevent the insertion of the article to be punched between the stripper plate and the punch member.

11. A punch comprising two handles, punch and die members movable to and from

each other by the handles, an intermediate stripper plate provided with a visible opening for the passage of the punch carried by the punch member extending normally parallel and in proximity to the die member and having an outer end extending at an angle past the outer end of the punch member, and means actuated by the movement of the two members towards each other for yieldingly pressing the stripper plate towards the die member to grip and hold the sheet to be punched.

Witness my hand, this 24th day of September, 1918.

LEWIS A. FOOTE.

Witnesses:
F. E. PROCHNOW,
A. L. MCGEE.