April 5, 1927. J. A. BONDESON ET AL 1,623,824

COMBINED PUNCH AND FILE

Filed June 10, 1926

Fig. 1.

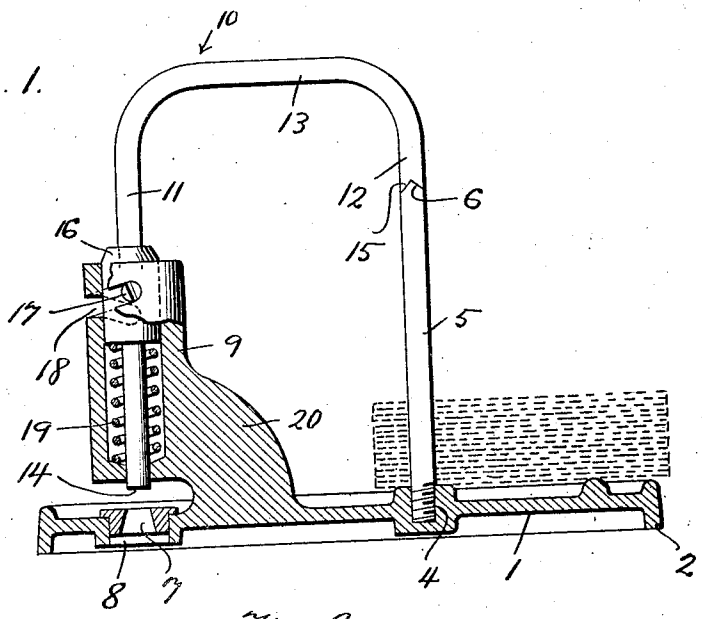
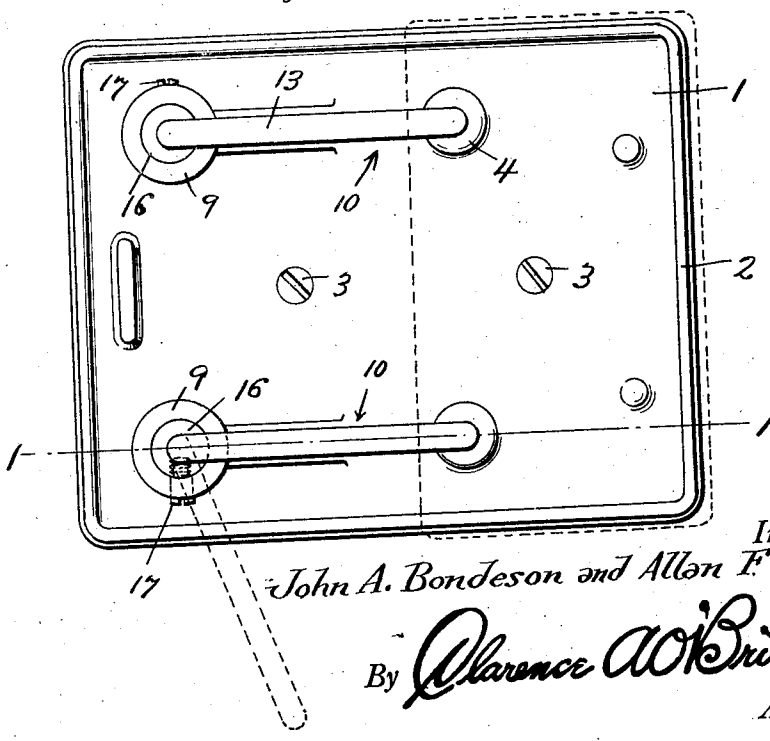


Fig. 2.



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COMBINED PUNCH AND FILE.

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The present invention relates to improvements in files for index cards wherein the pair of vertical pins extend upwardly from a base member for receiving the cards to be filed, it being understood of course that the cards are provided with openings through which the vertical pins are adapted to extend.

One of the important objects of the present invention is to provide complementary locking members for the upper ends of the card-receiving pins whereby when said locking members are in engagement with the vertical pins, there will be no possibility of the cards being removed from the pins, said locking means being further adapted to provide a means for facilitating the formation of the openings in the cards in order to permit the same to be placed over the pins.

A further object of the invention is to provide a device of the above mentioned character which includes a die and a cooperating punch for forming holes in the cards which are to be filed on the vertical pins which extend upwardly from the base on which the die and punch are mounted, the punch being further adapted for cooperation with the pins for locking the cards on the pins against accidental displacement.

A further object is to provide a device of the above mentioned character which is simple in construction, inexpensive, strong, and durable, and further well adapted to the purpose for which it is designed.

Other objects and advantages of the invention will become apparent during the course of the following description taken in connection with the accompanying drawing.

In the accompanying drawing forming a part of this application and in which like numerals designate like parts throughout the same:

Figure 1 is a view partly in side elevation and partly in section of the device embodying our invention, the section being taken approximately on line 1—1 of Figure 2, and Figure 2 is a top plan view of the device.

In the drawing wherein for the purpose of illustration is shown the preferred embodiment of our invention, the numeral 1 designates the substantially rectangular base which is formed preferably of metal, a reinforcing and supporting flange 2 extending around the edges of the base. The base may be secured in a rigid manner on a table or the like through the medium of fastening screws illustrated at 3. A pair of threaded sockets indicated at 4 are provided in the base 1 and the same are adapted to receive the lower threaded end of the vertical pins 5. This pair of pins provides means for properly holding a series of index cards on the base and the upper end of each of these pins is slightly pointed as indicated at 6. These pins are of a suitable height so as to accommodate a large number of cards, and the manner in which the lowermost card rests on the base, at the forward portion thereof is clearly shown in Figure 1.

A pair of dies 7 are mounted in suitable recesses 8 provided therefor in the rear portion of the base and these dies are located at a point directly rearwardly of the respective vertical pins 5 in the manner as clearly shown in the drawing. The purpose of these dies will be presently apparent.

A pair of hollow posts 9 are formed on the rear portion of the base rearwardly of the respective vertical pins 5 and these hollow posts are arranged directly over the respective dies 7. The lower end of each hollow post 9 is spaced with respect to the base and the dies as is clearly shown in Figure 1.

The invention further includes the provision of a pair of substantially inverted U-shaped members designated generally by the numeral 10, each of which comprises a rod. One of the arms of each of the inverted U-shaped members is longer than the other arm, the longer arm being designated by the numeral 11, while the shorter arm is illustrated at 12, and the intermediate or crown portion is illustrated at 13. The longer arm 11 extends downwardly through the hollow portion 9 and the lower end of this arm provides a punch which is designated by the numeral 14, which punch is adapted for cooperation with the respective die in the manner also to be hereinafter more fully described. The free end of the shorter arm 12 is notched as at 15 for cooperation with the pointed upper end 6 of each of the vertical pins 5 as is clearly shown in Figure 1.

A collar 16 is secured on the intermediate portion of the arm 11 of each of the inverted U-shaped members 10 through the medium of the set screw 17 and this sleeve or collar 16 is of a diameter slightly less than the bore of the hollow standard or post 9 so that

the collars 16 will be adapted to rotate as well as move vertically within the respective hollow post, in the manner to be presently apparent. A cam slot 18 is formed in the rear side of the upper portion of each hollow post 9 and the set screw 17 is operable in this cam slot as is readily obvious from the construction shown in Figure 1. An expansible coil spring 19 is arranged within each of the hollow posts 9 and is disposed between the bottom portion of each post and the bottom of the respective collars 16. This spring normally maintains the U-shaped member 10 in the position shown in Figure 1 so that the notched ends 15 of the shorter arms 12 will be in engagement with the upper pointed ends 6 of the respective vertical pins 5 thus providing a means for preventing the accidental displacement of the cards which have been placed over the pins 5. The portion 12 fits tightly upon the upper pointed end of each vertical pin 5, and it is to be understood that there must be a considerable spring to the U-shaped members to allow for the downward movement of the punch which begins immediately upon the turning of the crown portion 13 of each U-shaped member.

In order to facilitate the use of the vertical pins 5 forming the file with index cards which are not originally provided with holes, said cards are formed with holes by placing one or more cards directly over the dies 7, the forward edges of the cards being adapted to engage the bracket portion 20 of the hollow portion 9. The U-shaped members 10 are then grasped at the crown or intermediate portion 13 thereof, which portions form handles to facilitate the actuation of said members, and by swinging the members outwardly so that the shorter arms 12 are moved out of engagement with the upper ends of the pins 5, the set screws 17 will travel downwardly in the cam slot 18 simultaneously rotating the collar 16 and the arms 11 of the U-shaped member 10 and also causing the arms 11 to move downwardly through the hollow portions 9 so that the punch 14 formed on the lower end of each of the arms 11 will cooperate with the respective die 7 in perforating and forming holes in the cards adjacent the forward edge thereof.

When the cards have been punched, and the U-shaped members are released, the coil springs 19 will automatically return the members 10 to their normal positions so as to permit the withdrawal of the cards from beneath the hollow posts and by again disengaging the notched ends 15 of the shorter arms 12 of the inverted U-shaped members 10 from the upper pointed ends 6 of the pins 5, the cards may then be placed on the pins. After all the cards have been filed on the pins, the notched ends 15 of the shorter arm 12 of the inverted U-shaped members 10 will cooperate with the pointed upper ends 6 of the vertical pins 5, in preventing the cards being accidentally disengaged from the pins.

It will thus be seen from the foregoing description, that we have provided a highly novel, yet simple device which possesses considerable utility, and due to its compactness, the device will not occupy any considerable amount of space. Furthermore a device of this character may be manufactured at a very low cost and will further be strong and durable.

While we have shown the preferred embodiment of the invention it is to be understood that minor changes in the size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention and the scope of the appended claims.

Having thus described the invention, what we claim as new and desire to secure by Letters Patent is:—

1. A device of the class described comprising a base, vertical guide pins arranged on the base forming a file for receiving apertured cards, a closure for the upper end of the pin to prevent the accidental displacement of the cards from said pins, said closure comprising a rod having one end adapted for engagement with the upper end of each pin, a mounting for said closures, the other end of each rod providing a punch for facilitating the formation of holes in the cards to be filed on said pins.

2. A device of the class described comprising a base, vertical guide pins arranged on the base forming a file for receiving apertured cards, a closure for the upper end of the pin to prevent the accidental displacement of the cards from said pins, said closure comprising a rod having one end adapted for engagement with the upper end of each pin, a mounting for said closures, the other end of each rod providing a punch for facilitating the formation of holes in the cards to be filed on said pins, and dies arranged on the base and adapted for cooperation with said punches.

3. A device of the class described comprising a base, a pair of vertical guide pins extending upwardly from the base and providing a file for receiving apertured index cards, a pair of hollow posts arranged on the base rearwardly of the respective pins, a pair of dies arranged on the base directly below the respective hollow posts, said hollow posts being spaced from said dies, a pair of substantially U-shaped rods, one of the arms of each U-shaped member being longer than the other arm, the longer arm of each U-shaped member extending vertically through the respective hollow posts, the lower end of each of the longer arms

forming a punch adapted for cooperation with the dies to form the openings in the cards which are to be filed on the pins, the free ends of the shorter arms of the U-shaped members providing closures for the upper ends of the vertical pins to prevent the accidental displacement of the index cards therefrom.

4. A device of the class described comprising a base, a pair of vertical guide pins extending upwardly from the base and providing a file for receiving apertured index cards, a pair of hollow posts arranged on the base rearwardly of the respective pins, a pair of dies arranged on the base directly below the respective hollow posts, said hollow post being spaced from said dies, a pair of substantially U-shaped rods, one of the arms of each U-shaped member being longer than the other arm, the longer arm of each U-shaped member extending vertically through the respective hollow posts, the lower end of each of the longer arms forming a punch adapted for cooperation with the dies to form the openings in the cards which are to be filed on the pins, the free ends of the shorter arms of the U-shaped members providing closures for the upper ends of the vertical pins to prevent the accidental displacement of the index cards therefrom, means associated with the hollow posts and the respective arms of the U-shaped members arranged therein for guiding the punch during the rotation and sliding movement thereof whereby said punches are moved to an operative position after the ends of the shorter arms have been disengaged from the upper ends of the vertical pins.

5. A device of the class described comprising a base, a pair of vertical guide pins extending upwardly from the base and providing a file for receiving apertured index cards, a pair of hollow posts arranged on the base rearwardly of the respective pins, a pair of dies arranged on the base directly below the respective hollow posts, said hollow post being spaced from said dies, a pair of substantially U-shaped rods, one of the arms of each U-shaped member being longer than the other arm, the longer arm of each U-shaped member extending vertically through the respective hollow posts, the lower end of each of the longer arms forming a punch adapted for cooperation with the dies to form the openings in the cards which are to be filed on the pins, the free ends of the shorter arms of the U-shaped members providing closures for the upper ends of the vertical pins to prevent the accidental displacement of the index cards therefrom, means associated with the hollow posts and the respective arms of the U-shaped members arranged therein for guiding the punch during the rotation and sliding movement thereof whereby said punches are moved to an operative position after the ends of the shorter arms have been disengaged from the upper ends of the vertical pins, and means for returning the U-shaped members into their normal positions.

6. A device of the class described comprising a base, a die arranged on the base, a hollow post mounted on the base above said die and being spaced therefrom, a punch extending vertically through the hollow post and adapted for reciprocatory and rotary movement, guide means for said punch during the rotation and downward sliding movement of the punch whereby the same is moved into cooperative relation with said die, and resilient means associated with the hollow post and the punch for returning the punch to its normally raised position.

7. A device of the class described, comprising a base, a die arranged on the base, a hollow post mounted on the base above said die and being spaced therefrom, a punch extending vertically through the hollow post and adapted for reciprocatory and rotary movement, guide means for the punch during the rotation and downward sliding movement thereof whereby the same is moved into cooperative relation with said die, said guide means comprising a collar secured on the intermediate portion of said punch and fitted in the upper portion of the hollow post, a set screw for securing the collar on the punch, said screw extending outwardly from the collar, the hollow post being provided with a cam groove in which said set screw is operable, and an expansible coil spring arranged within the hollow post between the lower end of the post and the bottom of said collar for returning the punch and the collar to their normally raised positions.

8. A device of the class described, comprising a base, a die arranged on the base, a hollow post mounted on the base above said die and being spaced therefrom, an elongated rod bent intermediate its ends, one end of the rod being disposed vertically through the hollow post and adapted for reciprocatory movement therethrough, the lower end of the vertically disposed portion of said rod forming a punch, the other end portion of the rod forming a handle for facilitating the actuation of the punch.

In testimony whereof we affix our signatures.

JOHN A. BONDESON.
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