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H. RAUBER

1,742,216

HAND PUNCH

Filed May 21, 1928

FIG. 1.

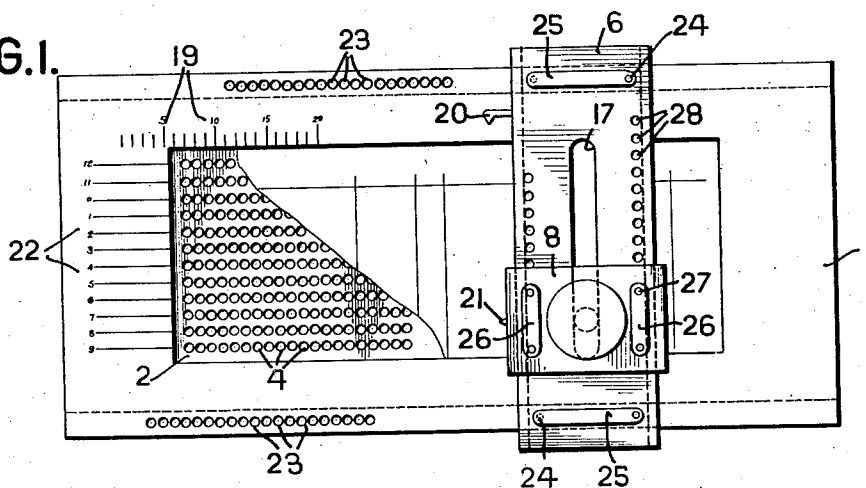


FIG. 2.

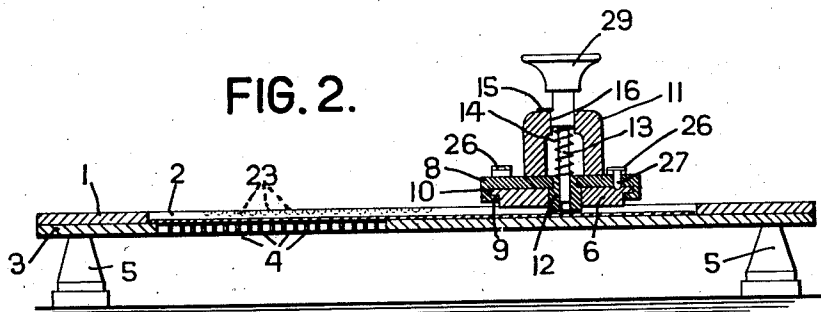
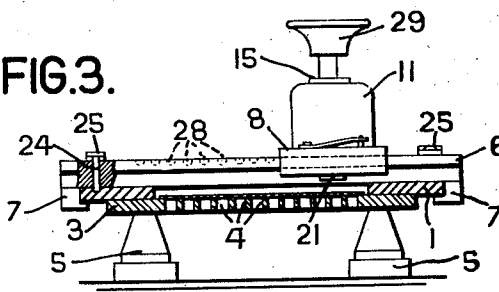


FIG. 3.



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HAND PUNCH

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This invention relates to punching devices, particularly for perforating record cards or the like.

Information is recorded on a record card 5 by means of index points, usually in the form of perforations. The card is provided with a plurality of parallel vertical columns, each having ten or more vertically spaced index point positions, in any one of which a perforation may be placed. The meaning of the perforations depends on the position in which it is punched. Thus, if the index point positions are arranged in the order 12, 11, 0, 1 to 9, a perforation in the fourth index point position 10 from the top of the card would designate the number 1. Many large establishments which maintain branch offices require these offices to transmit their records to them in the form of punched record cards which are tabulated 15 or otherwise operated on by accounting machines in the main office. Where the branch office has a comparatively small amount of information to punch on the record cards, it is uneconomical to use a key-operated perforating machine. In this and other cases 25 where little punching is done, it is desirable to use a smaller and more economical punching device, simple in construction, and manually operative.

It is an object of this invention to provide an improved hand punch for perforating record cards.

Another object is to provide an improved card holder for positioning a card properly 35 to receive a perforation.

Still another object is to provide means for maintaining said card holder and punching tool in adjustable cooperating relation.

40 A further object is to provide index means on said holder for indicating the proper adjustment of said punch with respect to the card positioned on said holder.

Various other objects and advantages of 45 my invention will be obvious from the following particular description of one form of mechanism embodying the invention or from an inspection of the accompanying drawing; and the invention also constitutes certain new 50 and novel features of construction and com-

bination of parts hereinafter set forth and claimed.

In the drawings:

Fig. 1 is a top plan view of the punching device;

Fig. 2 is a longitudinal section thereof and Fig. 3 is a side section thereof.

In detail, the punching device comprises a card holding frame consisting of a plate 1 with an aperture 2 of the same shape as the 55 record card and designed to receive the card therein. Attached to the bottom of plate 1 is a die plate 3 on which the card is adapted to rest when positioned in aperture 2. The die plate has a plurality of holes 4 therein of such 60 number and arrangement that when the card is in said aperture, each hole is directly beneath an index point position on the card. Legs 5 are provided to hold the punching device above a table or the like on which it may 65 be placed. Mounted on the surface of plate 1 is a punch carriage 6 which is provided with lugs 7 fitting over the longitudinal edges of said plate to constrain said carriage to slidable movement longitudinally of the card 75 holding frame. The punch carriage 6 carries a slide 8 on its surface, slidable cooperation between the slide and the carriage being provided by ribs 9 on the latter seated in slots 10 of the former. Slide 8 is provided with an 80 upper hollow member 11 and a lower member 12 which have aligned openings guiding a punch 13 for vertical movement therein. The punch is normally held in its uppermost position by a spring 14 located within the hollow 85 of member 11, a lug 15 on said member engaging a shoulder 16 on the punch stem to limit the upward movement of the punch. The carriage 6 has a slot 17 extending parallel to the short side of aperture 2 and of substantially the same length. Member 12 is adapted to move in said slot when the punch slide 8 is adjusted to position the punch over a desired index point position.

Plate 1 is provided with a series of graduations 19 on one long side with which a pointer 20 on the punch carriage 6 is adapted to cooperate to indicate the column of the card which is in line with the punch. The slide 8 has a pointer 21 extending from the side 100

to indicate the index point position over which the punch is positioned. The short side of plate 1 has graduations 22 to assist in indicating the index point position under the punch. Each long side of plate 1 has depressions 23, a card column apart, with which pins 24 cooperate to yieldingly hold the punch carriage 6 in adjusted column position. The pins 24 are carried by spring blades 25 fastened to the surface of the carriage and will automatically withdraw from depressions upon movement of the carriage. Slide 8 has fastened to its surface similar blades 26 carrying pins 27 for cooperation with depressions 28 at each side of the carriage 6. The depressions 28 are spaced apart the distance between successive index points so that upon adjustment of the slide 8 to the selected index point position, the depressions 28 will cooperate with pins 27 to yieldingly hold the slide in adjusted position.

In operation, a record card is placed in aperture 2 and the carriage 6 moved along the plate 1 till pointer 20 is in line with the graduation 19 corresponding to the column to be punched. The carriage will be retained in adjusted position by engagement of pins 24 in a pair of depressions 23. The punch slide 8 is then moved along carriage 6 until pointer 21 is in line with the desired index point position. The punch is then operated by pressing on handle 29. This operation may obviously be repeated in as many adjusted positions as desired.

While I have shown and described and pointed out the fundamental novel features of the invention as applied to a single modification it will be understood that various omissions and substitutions and changes in the form and details of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention. I intend to be limited therefore only as indicated by the scope of the following claims.

I claim:

1. A perforator for a record card provided with a plurality of index point positions which may be perforated to designate items, comprising a frame having a recess therein of the same shape as the record card and adapted to receive the card, the frame being also provided with a die portion having a plurality of holes therein arranged in the same manner as the index point positions of the record card, a carriage slidably carried by said frame, a hollow member slidably carried by said carriage, a punch guided for vertical movement in said member and adapted to coact with the die portion to perforate a card and a spring within the hollow of said member for normally holding the punch in uppermost position.

2. A perforator for a record card having a plurality of index point positions which may

be perforated to designate items, comprising a frame including a top plate having a rectangular slot cut therethrough of the same shape as the record card and a bottom plate attached to the top plate and having a die portion below the slot, said die portion being adapted to support the record card and being provided with a plurality of holes arranged in the same manner as the index point positions of the record card, and a punch device mounted on said frame for slidable movement along the length and width of said slot and adapted to coact with said die portion to perforate the card.

In testimony whereof I hereto affix my signature.

HEINRICH RÄUBER