Jan. 29, 1963 C. KOWALESKI 3,075,759

ENCODING DEVICE

Filed March 24, 1960

FIG. 1

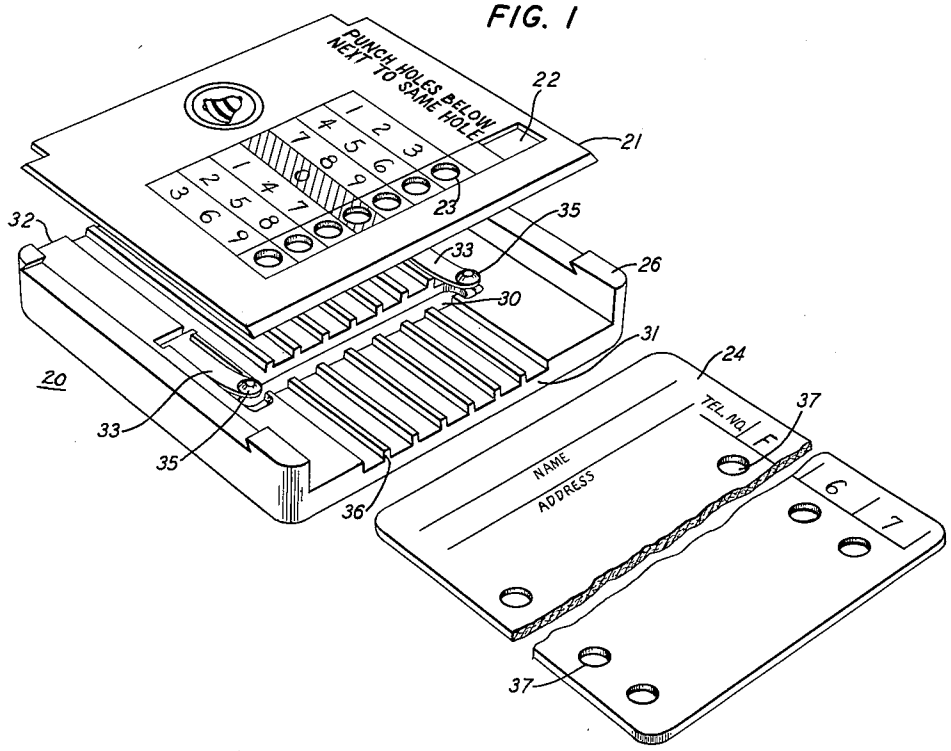
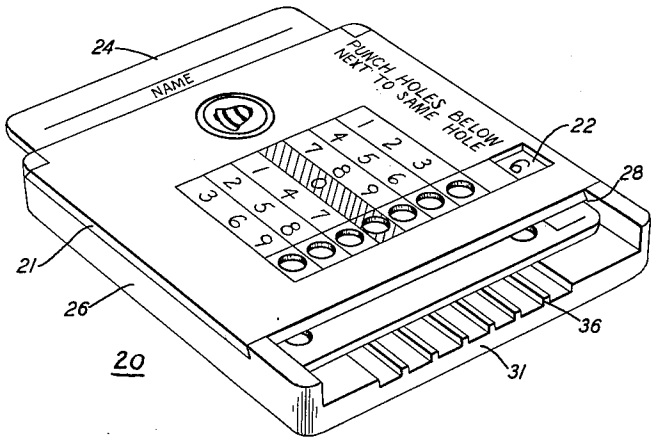


FIG. 2



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ENCODING DEVICE

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This invention relates to encoding devices and, more particularly, to a manual encoding device for preparing cards employed in automatic dialing devices.

An automatic dialing device is described in United States application of E. R. Andregg, W. Pferd, and R. R. Stokes, Jr., Serial No. 844,054, filed May 5, 1959, and assigned to the same assignee as that of the present application. The dialer employs cards for the operation thereof, the cards being prepunched with the telephone number of a subscriber desired to be called. Each card has space for displaying the name, address and telephone number of the subscriber whose number is encoded in the card.

For widespread distribution, it is necessary to supply encoding devices with the above-mentioned dialers to facilitate subscriber preparation of encoded cards employed in the dialers. Such encoding devices should be simple to operate, inexpensive to manufacture, compact and of sturdy construction to withstand all types of handling by subscribers. In addition, the encoding devices distributed with the dialers should be adapted to position accurately the encoded digits on the cards to permit reliable translation of the encoded digits into corresponding pulse trains by the automatic dialer apparatus.

An object of the present invention is a simple encoding device for preparing cards employed in automatic card dialers.

Another object is an inexpensive encoding device for positioning and encoding digits accurately in a card employed in an automatic card dialer.

Still another object is a compact and portable encoding device which is suitable for mass manufacture.

These objects are accomplished in accordance with this invention one embodiment of which comprises first and second members which interfit to form a guideway therebetween. The guideway is adapted to receive a punchable card which has a column of holes along each lengthwise edge thereof and spaces for displaying a telephone number. The first member has means for displaying one or more digits of the telephone number and a plurality of apertures based upon a digit encoding system which in one form defines each digit from one to nine by two unique positions out of seven possible positions. The digit zero is defined by one out of the seven positions. The second member includes spring means having button portions which engage the holes in the card to position accurately the card with respect to the apertures. Also included in the second member are guide means and a central opening, the latter element providing means for eliminating the punched sections of the card.

One feature of the present invention is means for positioning accurately a punchable card with respect to an encoding means.

Another feature is means for displaying a digit adjacent to an encoding means to permit easy encoding thereof.

Still another feature is means for guiding a punchable card through the encoding device and simultaneously providing means for easy punching of the card.

These and other objects and features of the present invention will be more fully apprehended from the detailed description taken in conjunction with the appended drawing in which:

FIG. 1 is an exploded view of the present invention and a punchable card that is employed therein; and

FIG. 2 is a perspective view of the invention shown in FIG. 1 with the punchable card inserted therein for encoding purposes.

Referring to FIG. 1 the present invention comprises a body 20 including a first member 21 having a window 22 and a plurality of seven apertures 23 therein along one edge, each aperture having associated therewith one or more numbers which form a coding system for encoding a punchable card 24. The coding system described on the first member is a two-out-of-seven position code, each digit from one to nine being uniquely defined by two of the seven apertures or positions. The digit zero, however, is defined by a single position or aperture which, in the present instance, is the center aperture. It is believed apparent, however, that the present invention is not limited to a two-out-of-seven code, but that other codes may be described thereon. For example, a two-out-of-five position code could be employed, in which case the number of apertures would be five instead of the seven required in the case of the two-out-of-seven position code. Other suitable codes usable with applicant's device will occur to the reader. Since the number of units in the code could be other than seven or five, the general designation "*n*-unit code" is used to include them.

Also included in the present invention is a second member 26 which is suitably machined to mate with the first member 21 to form a guideway 28 (see FIG. 2) therebetween. The second member also indicates a central opening 30 positioned between and parallel to front and rear edges 31 and 32 of the second member. A pair of spring members 33 are embedded in the second member to the rear of the central opening and on opposite sides thereof, each spring member including a button portion 35 overlaying a different end of the central opening. A plurality of ridges 36 are formed on the surface of the second member, the ridges serving as guide means for the card 24 as well as serving other purposes to be mentioned hereinafter. Both the first and second members of the present invention are of similar material, typically plastic, and may be molded or otherwise connected together to for a unitary structure which is easily handled in a person's hand and of sturdy construction to provide long life. When connected together the first member is set back from the front end of the second member to simplify inserting the card into the guideway.

Although the present invention has shown a body 20 including two members suitably connected together, it is also believed readily apparent that the body could be constructed by other techniques well known in the art. For example, the body could be extruded from a single piece of material, typically plastic, to define a guideway therein. Thereafter, the spring or clip members could be located in the guideway by drilling holes in the body, inserting the clip members into the guideway through the drilled holes, and fastening the clip members in the drilled holes by means of a thermoplastic material.

The card 24 may be of either prepunched material or a punched cardboard member covered with paper and includes a plurality of holes 37 in columnar relation along the lengthwise edges thereof. Also included in the card are spaces for displaying the name, address and telephone number of a subscriber.

To encode the card with the telephone number indicated along the side thereof, the name and address end of the card is faced toward the subscriber and inserted in the guideway, as shown in FIG. 2, until the button portions engage the first hole 37 on each side of the card. In this position the button portions accurately position the card with respect to the apertures 23 for punching. The

first letter or digit of the subscriber number appears in the window 22 included in the first member 21. The number is encoded by the subscriber employing a pencil or blunt instrument to punch those apertures having coding digits associated therewith which correspond to the number appearing in the window. For example, if the number 6 appears in the window, the second and last apertures are punched since the digits 6 are associated with these two apertures and no other. In the case of the digit 0 only one or the middle aperture need be punched since zero is associated with this aperture and no other. For letters included in the telephone number, the subscriber can refer to his telephone dial or they may be indicated adjacent to the apertures. For reasons of convenience, however, the letters have been omitted from the drawing.

In the case of a prepunched card, the punched material drops out of the second member through the central opening 30 to prevent interference with the card when it is advanced to the next set of holes on the card. For a punched cardboard member covered with paper, the central opening receives the pencil or blunt instrument to insure the opening of a hole in the paper. The ridges 36 raise the card above the surface of the member 26 so that the card may be easily urged through the guideway. It is also believed apparent that if no ridges were present and the card were to lie flat on the member 26 without any clearance therebetween, the punched hole in the paper could be closed as the card was urged through the guideway.

Each digit of the telephone number is encoded as the card is urged through the encoding device in a step-by-step fashion, the name and address end of the card extending out the rear end of the guideway when the last digit is punched. After all digits have been encoded, the card is withdrawn from the encoding device by pulling on the name and address end thereof. The encoded card is now suitable for use in an automatic dialer, the punched holes corresponding to the subscriber number indicated on the card.

The construction of the present invention, typically molded and welded construction, provides sturdy construction which is readily suitable for inexpensive mass manufacture. Coding devices of the type disclosed in the present invention can be provided to subscribers at a relatively low cost and require little or no instruction for the subscriber to encode satisfactorily a card for use in an automatic dialer. In addition, the cooperation between the button portions of the clip members and the holes in the card accurately position the card with respect to the encoding means for reliable encoding which will insure proper operation of automatic dialers.

It is believed readily apparent that the above-described embodiment is only illustrative of the principles of the present invention. Numerous other embodiments may be made by those skilled in the art without departing from the spirit and scope of the present invention.

What is claimed is:

1. An encoding device for preparing cards employed in automatic dialing devices comprising a first member and a second member connected together to form a unitary structure having a guideway therebetween, said first member having a plurality of apertures along one side thereof and an opening for displaying a digit of a subscriber number indicated on a card inserted in the guideway, a coding system associated with said apertures for encoding the digit appearing in the opening, said second member including clip means molded therein and a central opening extending between the clip means, and a plurality of ridges on the same side of the second member as the clip means.

2. The encoding device as defined in claim 1 wherein the clip means cooperate with means included in a card to limit the advancement of the card through the guideway.

3. A device for recording, by means of hole punching, a plurality of digits of a telephone number in successive recording positions on cards which are premarked with said digits and which have a structural marking associated with each such position, said device comprising a body member defining an opening to receive such a card, said body having a window therein through which one of said premarked digits at a time is visible for each one of a number of positions of said card in said opening, means for translating each of the premarked digits appearing in the window into corresponding code holes in said card, said translating means including first opening means in said body member adjacent one face of said card exposing a different portion of said card for each of said positions, second opening means in said body member adjacent the opposite face of said card and opposing said first opening means, and means for engaging the structural markings of said card in each of said positions to hold the card while holes corresponding to the coded form of the digit visible through said window are being formed.

4. A device for aiding in recording in a position code, marks on a card which bears information in a decimal code, said device comprising a flat box having open ends for receiving such a card, said box having a top provided with a pattern of code digits arranged in an *n*-unit code, a column of holes adjacent said pattern through *n* of which a card could be marked, and through another of which an element of the decimal code could be viewed, means in the box for guiding a card therethrough, and detent means also in the box for use in positioning the card.

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