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B. STOCKFLETH

2,539,874

CARD MARKER

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FIG. 1

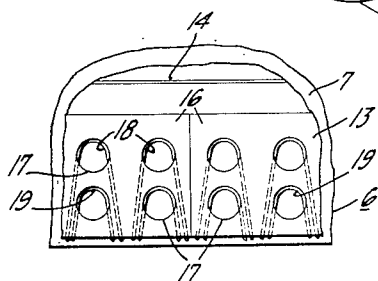
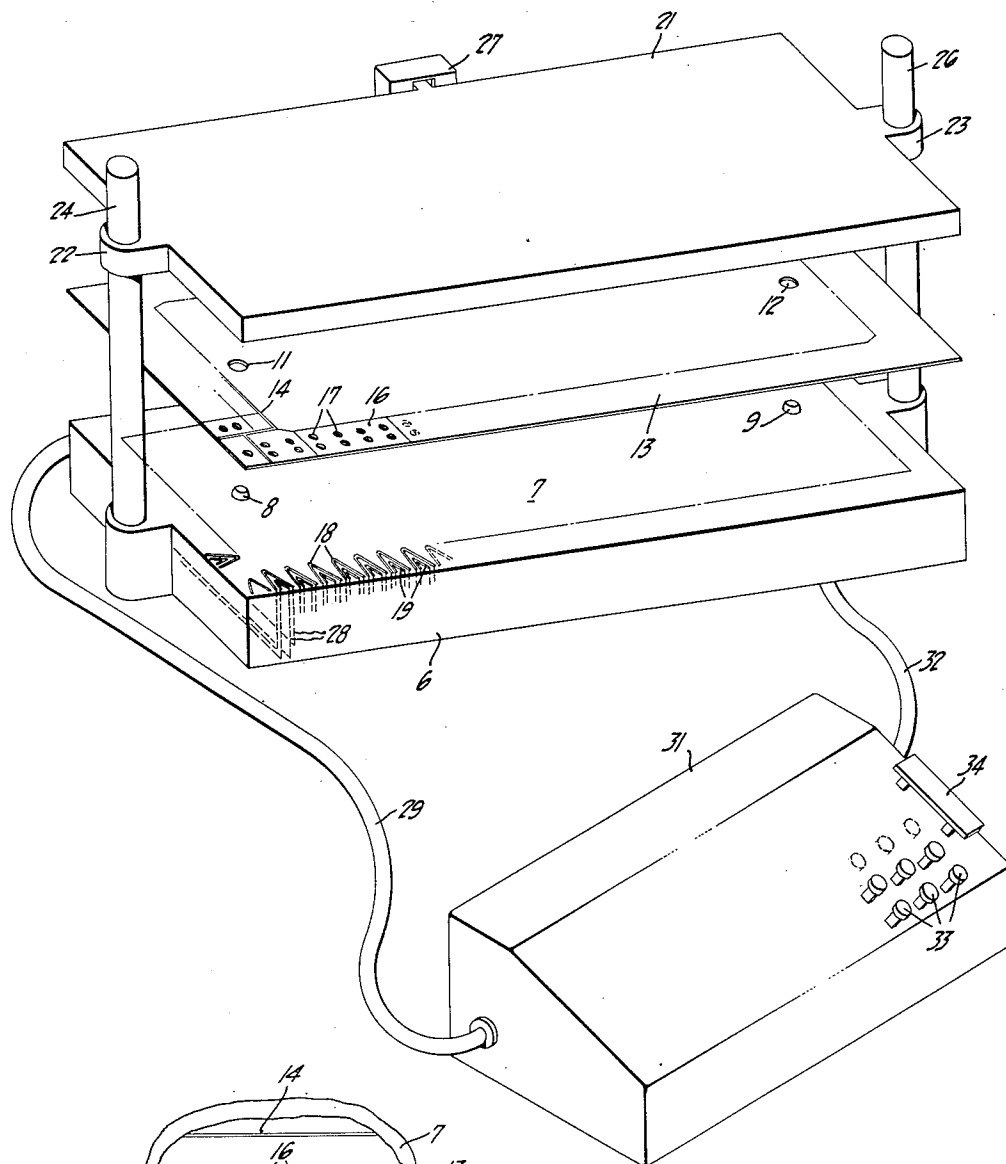


FIG. 2

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UNITED STATES PATENT OFFICE

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CARD MARKER

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6 Claims. (Cl. 164—113)

1

My invention relates to means for designating selected indicia on a card or a sheet which is prepared in advance with zones or areas or codes so that various subsequently positioned marks or indications on the card will serve as representations of information of a selected kind. For example, it is customary business practice to provide a cardboard sheet having initially imprinted upon it a number of areas or zones each of which is provided in addition with a number of perforations arranged in a standard pattern. Subsequently, a punch is utilized to sever from the main body of the card in one or more of the zones or areas or code sections a portion or all of the area and thus to remove material containing one or more of the perforations. This action results in a permanent record of particular information or statistical data. By subsequently examining the card and noting the portions cut out or severed from its edge or body, either visually or by means of especially designed detecting devices, for example electrical or mechanical, further use is made of the recorded information. Under some circumstances it is difficult and especially quite expensive to provide a severing die to be selectively operated upon portions of the card and effective to cut or sever the selected portions from the card. This is particularly true when there are many zones or areas or code sections on an individual card or sheet. The complexity of the cutting and selecting dies becomes so great that the cost is prohibitive for many other-wise suitable operations.

It is therefore an object of my invention to provide a card marker effective to remove selected portions of a card without the necessity of resorting to expensive cutting dies or comparable complex mechanism.

A further object of the invention is to provide a card marker effective to remove or sever portions of a card.

An additional object of the invention is to provide means for selectively rendering effective card severing or segregating mechanism of a readily responsive nature.

An additional object of the invention is in general to improve card marking devices.

Other objects together with the foregoing are attained by the embodiment of the invention disclosed in the accompanying description and drawing in which

Figure 1 is an isometric perspective in somewhat diagrammatic form of a card marker constructed in accordance with my invention.

Figure 2 is a fragmentary plan showing a por-

2

tion of a card in position on a portion of the marker.

In its preferred form, the card marker includes a base, preferably having a planar upper surface, substantially coincident with which is a plurality of electrically energized conductors arranged in accordance with the pattern of zones or codes on a card with which the mechanism operates. The various conductors or wires are connected in at least partially individual electrical energizing circuits to a control mechanism preferably of the key operated sort so that under the control of an operator individual ones of the conductors or wires can be electrically energized to a temperature sufficient to burn the material of the card. In operation, a card is pressed into registry with the various heating elements and selected ones of them are energized so that in outline they burn through the material of the card thereby severing or segregating special code portions or zones thereof from the main body of the card so that there remains a card having a configuration indicative of certain impressed information.

While the card marker of my invention can readily be embodied in many forms, it is illustrated herein in its most important characteristics, certain relatively standard portions being omitted, and other portions being illustrated only insofar as is necessary to indicate them to one skilled in the art.

In this structure there is provided a base 6 preferably of metal having an insulating planar surface 7 thereon and also provided with a pair of guide pins 8 and 9 adapted to be received in suitable apertures 11 and 12 in a card 13 to be marked. The card 13 is generally rectangular, of paper stock and of any convenient size. On its face it is provided with imprinting 14 dividing the card into a number of code sections 16 or zones each of which in turn is pierced by a plurality of patterned perforations 17. The elimination of a certain one or certain ones of the perforations records the desired coded information upon the card. This is usually accomplished by making V-shaped punches from the edge of the card in various patterns.

In the arrangement of my invention, the base 6 is provided, especially around the edge, with an array of electrically conducting wires, for example like the wires 18 and 19 that are repeated as often as necessary and are arranged substantially in the plane of the top surface of the base 7 to register with the various code sections or

zones 16 particularly to outline the respective perforations 17 with a V-shaped pattern.

To hold the card 13 in thermal relationship with the various wires 18 and 19, there is provided a backing plate 21 having perforated ears 22 and 23 at opposite ends thereof to slide on guides 24 and 26 projecting upwardly from the base 6 so that after the card 13 is positioned over the guide posts 8 and 9 the backing plate 21 can be lowered against the card and will press it then against the elements 18 and 19. A suitable actuating structure 27 is illustrated diagrammatically to represent a means for propelling the backing plate 21 toward and away from the base 6 by power and under the control of the operator.

Each of the wires 18 as well as each of the wires 19 is connected individually in its own electrical circuit. The circuits are diagrammatically represented by dash lines 28. The circuit connectors extend through a conduit 29 to a control box 31 supplied by a cable 32 with energy from a suitable source. The control box 31 is provided with a keyboard 33 or other suitable circuit controlling mechanism as well as a master key 34. By depression of various of the keys 33, the operator can set the device for recording any desired information upon the card positioned upon the base 6 and pressed against the elements 18 and 19 by the plate 21. When the master key 34 is actuated, electric circuits are closed through the key-selected ones of the elements 18 and 19 which thereupon are electrically energized and are thereby brought up to a sufficiently high temperature so that the pattern or outline of the particular conductors is burned into and clear through the superposed card 13 to sever or separate the outlined portion in the coded zone from the body of the card. In this fashion portions of the card are segregated or removed.

With this mechanism, when a card of carbonizable or thermally severable material is appropriately positioned and when the selecting keys 33 are appropriately operated, there results a mutilation or conditioning of the card in connection with the codes or zones in such a way as to record the desired information. This is all accomplished without the use of relatively expensive cutting dies and especially without the use of the customary complex, expensive and cumbersome selecting mechanism for mechanically moving the cutters. Also, the apparatus is quick and effective enough to be utilized with cards of more than normal thickness or density or with a plurality of separate cards at once, either stacked or arranged side by side.

I claim:

1. A card marker for use with a zoned or coded

card comprising a plurality of electrically heated card-burning elements arranged according to the zones or codes of a card, means for holding a card in registered relationship with said elements, and manually controlled means for electrically energizing selected individual ones of said elements.

2. A card marker for use with a zoned or coded card comprising a plurality of card-burning elements arranged to outline various zones or codes of a card, means for holding a card in registered relationship with said elements, and means for selectively heating individual ones of said elements to sever portions of said card by burning the outlines thereof.

3. A card marker for use with a zoned or coded card comprising a plurality of electrically conducting wires arranged to outline various zones or codes of a card, means for holding a card in thermal relationship with said wires, and means for electrically energizing selected individual ones of said wires to burn the outlines of corresponding portions of said card.

4. A card marker for use with a zoned or coded card comprising a plurality of electrically conducting wires arranged to outline various zones or codes of a card, means for electrically energizing selected ones of said wires to a card-burning temperature, and means for pressing a card against said wires.

5. A card marker for use with a zoned or coded card comprising a planar base, a plurality of electrically conducting wires arranged substantially in the plane of said base to outline various zones or codes of the card, means for electrically energizing selected ones of said wires to a card-burning temperature, and means for pressing the card against said wires.

6. A card marker for use with a zoned or coded card comprising a base, a plurality of electrically conducting wires arranged on said base to outline various zones or codes of the card, means for connecting each of said wires in an individual electric circuit, means for holding a card in thermal relationship with said wires, and means for selectively energizing said individual electric circuits.

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The following references are of record in the file of this patent:

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