Dec. 23, 1952 A. M. ROSS 2,622,526

COMBINATION PUNCHED CARD AND EMBOSSED PRINTING PLATE

Filed Feb. 24, 1950

FIG. 1

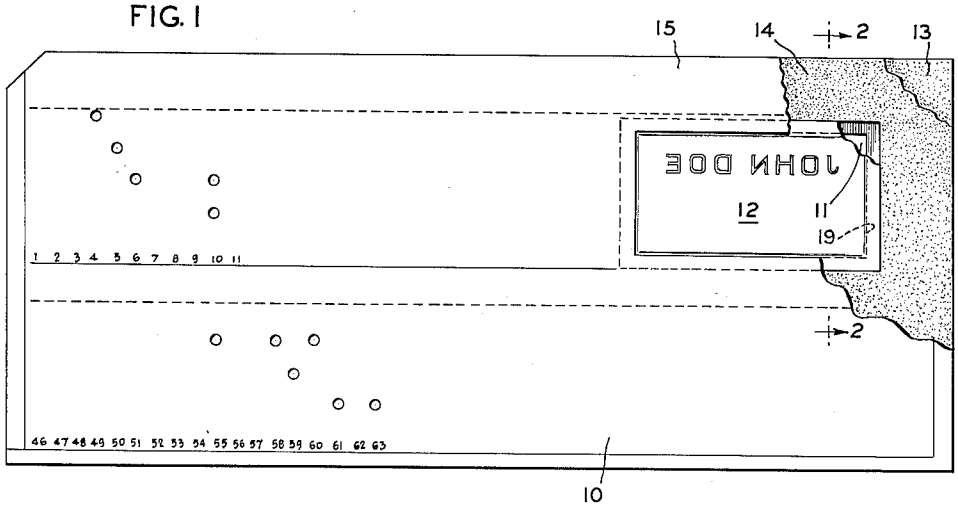


FIG. 6

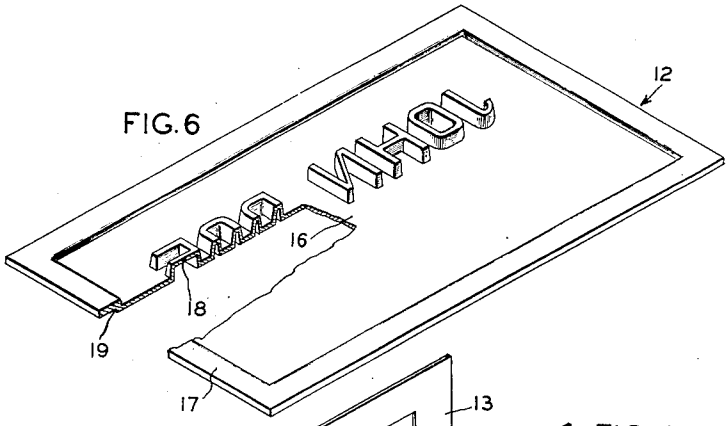


FIG. 2

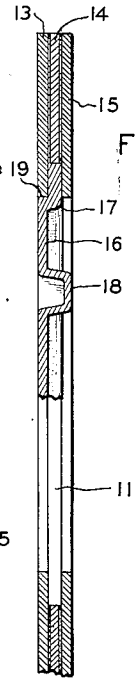


FIG. 3

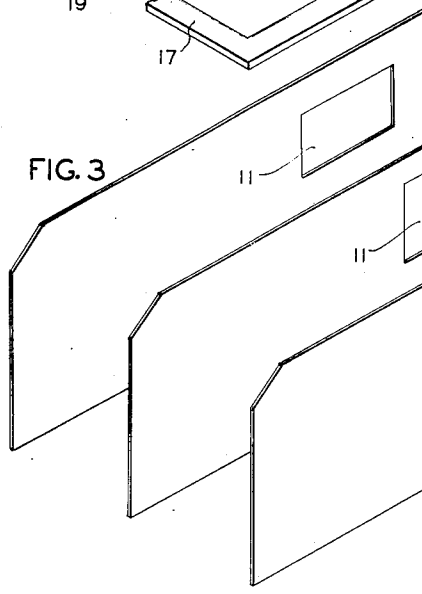


FIG. 4

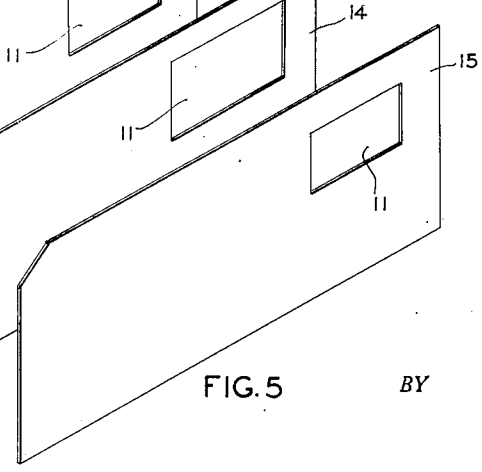


FIG. 5

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COMBINATION PUNCHED CARD AND EMBOSSED PRINTING PLATE

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2 Claims. (Cl. 101—369)

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This invention relates to a card of the kind which can be used in card controlled accounting and tabulating machines, and which is adapted to carry an embossed plate for printing addresses and the like.

When an embossed printing plate is set into a standard statistical card the relief portions thereof are likely to protrude beyond either the front or back surface of the card, depending upon how the plate is positioned in the card. Upon stacking the cards the projections of the printing plate make for an unstable stack, require deeper storage space and also interfere with the proper feed of the cards to and through the card controlled machines.

If the printing embossings and plate are reduced to dimensions that fit within the seven thousandths of an inch thickness of the standard statistical card stock, the plate is found to be too flimsy and the type faces too shallow to give a good printing impression.

These difficulties have been met in the present invention by assembling the card from three individual card forms, layers or plies with openings therein for the insertion of a printing plate with type faces embossed in a recessed central portion of the printing plate. This results in an adequately strong printing plate with type faces sufficiently deep to permit clear printing without projection of the embossings in the plate area of the cards beyond the surface of the latter to interfere with handling.

One object of the invention is to produce a tabulator card that, in addition to the punched data, contains an embossed metal plate for printing addresses and the like.

Another object of the invention is to produce a tabulator card with an embossed metal printing plate mounted within it in such a manner as to not increase the thickness of the card in any area thereof.

Another object of the invention is to provide an embossed printing plate mounted in a tabulator card with the embossed letters rising from a recess which serves to retain the plate securely in the card.

Other objects and structural details of the invention will be apparent from the following description when read in connection with the accompanying drawing, wherein

Fig. 1 is a top view of the finished card partially broken away to show the construction;

Fig. 2 is a section along the line 2—2 of Fig. 1 showing the relation of the card layers and the printing plate;

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Figs. 3, 4, and 5 are perspective views of the bottom, middle, and top card plies, respectively, used in making up the composite card; and

Fig. 6 is a perspective view of the embossed printing plate partly broken away to show a portion of the plate in section.

As shown in Fig. 1 the composite card 10 has a window 11 within which the plate 12 appears. The card is made of three plies of card stock 13, 14, and 15 each having a window 11 cut in it as shown in Figs. 3, 4, 5. The window 11 of the outer card form 13, as well as the card itself, is substantially coextensive with the card 15 and its window 11. The window 11 of the intermediate card 14 is larger than the windows 11 of cards 13 and 15. The card 14 is the same size as the cards 13 and 15.

The printing plate 12 is made of metal of the same thickness as one of the card plies. The central portion of the plate 16 is depressed in one direction to a depth equal to the thickness of one of the card plies to provide a flange or border 17 constituting a rectangular shoulder 19 extending all around the plate which fits squarely and snugly into the opening 11 of card form 13 to prevent shifting or turning of the plate. The printing type 18 are formed in relief by being pressed out of said area 16 in the direction opposite to that in which said area was depressed and are of such depth that they extend beyond the depressed surface of the plate an amount equal to the thickness of the two card plies 14 and 15 with the result that the upper or outer surface of the type are coplanar with the outer surface of the outer card ply 15. The printing plate including the printing type 18 does not exceed the total thickness of the three cards 13, 14 and 15 and appears as shown in Fig. 2. The purpose of this construction is such when the cards are stacked, they will lie flat with no increase of thickness in the printing area. Thus with slight adjustment of the machine throat to accommodate any increased thickness of the cards and permit passage thereof one at a time into the machine, the cards may be stacked and fed and restacked without difficulty in the existing tabulators and other card handling machines.

In assembling the card layers the printing plate 12 is centered in the window 11, of the lower card 13 and squared by its shoulder 19 and then attached by suitable adhesive or other means to card 13. The intermediate card 14 is then positioned over the plate and the window 11 of said card exactly fits the periphery of flange 17 so

that the plate is further held in place. The card 14 is glued in place and over it the outer card 15 is secured by adhesive so that its window 11 is aligned with the window 11 of card 13 and the embossings of the plate are easily readable. The position of flange 17 between the outer card plies 13 and 15 prevents any sidewise displacement of the plate and holds the edges of the plate securely in position.

The cards may then be punched with data in code as commonly employed in the well known manner of various punched card systems. The cards may be used to control the operation of business machines and the proximity of the printing plate to the information with which it is related eliminates the possibility of the printing being done on a bill other than the one receiving the information from the card in which the plate is carried.

Thus, the invention permits the selection and printing of information by completely automatic means thereby eliminating any possibility of human error except in the original entry of the desired information, and provides for mounting a metal plate in the body of a completed card so that it will be firmly held in place, will not interfere with the passage or stacking of the card in a machine and will stack in a storage space of minimum depth. It will be noted that by pressing the printing characters out of the plate in the opposite direction to which the depressed area 16 is pressed out, that the maximum height of letter within the depth of the composite card is possible.

While I have described what I consider to be a highly desirable embodiment of my invention, it is obvious that many changes in form could be made without departing from the spirit of my invention, and I, therefore, do not limit myself to the exact form herein shown and described, nor to anything less than the whole of my invention as hereinbefore set forth, and as hereinafter claimed.

What I claim as new, and desire to secure by Letters Patent, is:

1. A card for controlling a business machine to which cards are fed seriatim by sliding from a pile into the machine between feed rolls and through a restricted throat in the machine, comprising first and second outer plies of material having coextensive window openings therein, an inner ply of material bonded between said outer plies and having a window opening dimensioned to extend beyond the edges of the openings in said outer plies to provide a groove in the periphery of the window opening defined by said outer plies, a printing plate depressed in one direction in its major area to a depth equal to the thickness of one of said outer plies and providing peripheral shoulder and flange portions, the shoulder abutting the edges of the window opening in an outer ply and the flange fitting in said groove and abutting the inner edge of the window opening in said inner ply, said depressed area being embossed in the opposite direction from which said area was depressed, to a depth equal to the thickness of one outer ply and the inner ply, and the outer surfaces of said depressed and embossed portions being coplanar with the outer surfaces of said outer plies.

2. A card for controlling a business machine to which cards are fed seriatim by sliding from a pile into the machine between feed rolls and through a narrow throat in the machine, comprising first and second outer plies of card material each having laterally aligned coextensive rectangular window openings therein, an intermediate ply of material having a window opening in register with the openings of the outer plies and of greater rectangular dimensions than said outer plies to provide between the latter and about the window opening therein a groove, a printing plate embossed in one direction so that the major portion of the plate is coplanar with the exterior surface of said first outer ply of the card and fits squarely within the window opening of said card with the outer edge of said embossed portion abutting the inner edge of said window opening to prevent shift of the plate relatively to the card, said embossing providing an annular rim on said plate adapted to be seated in said groove to peripherally abut the inner edges of the window opening in said intermediate ply, and said plate being embossed in said first embossed portion and in a direction opposite to said first embossing to provide printing characters the outer surfaces of which are coplanar with the outer surface of said second outer ply and said plies and plates being bonded to each other.

ALBERT M. ROSS.

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