

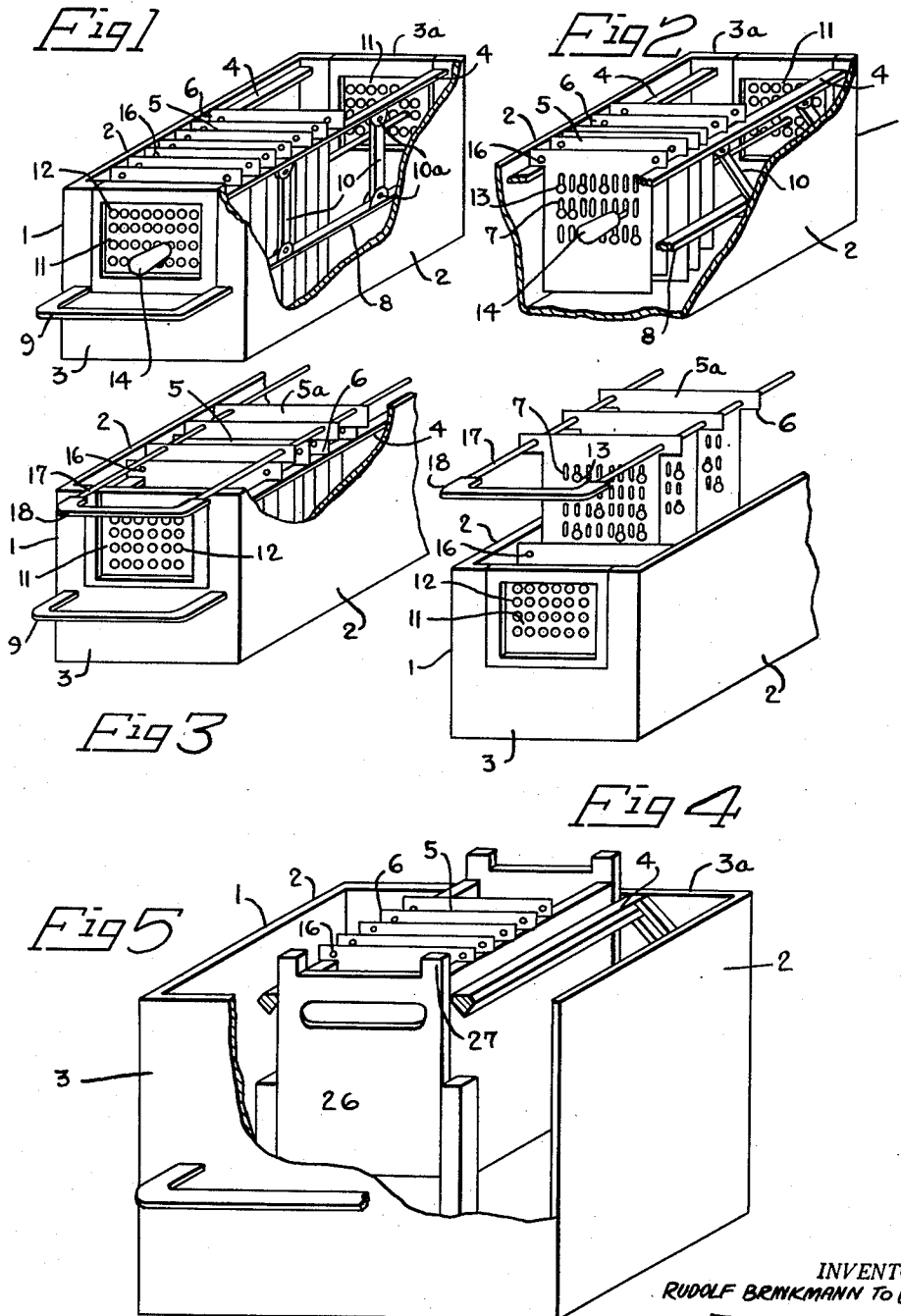
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SELECTION DEVICE FOR CARD INDEXES

2,647,519

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2 Sheets-Sheet 1



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2 Sheets-Sheet 2

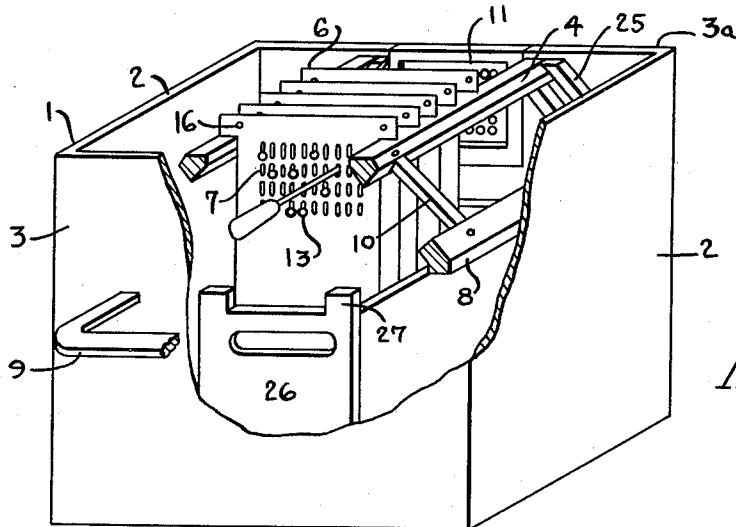


Fig 6

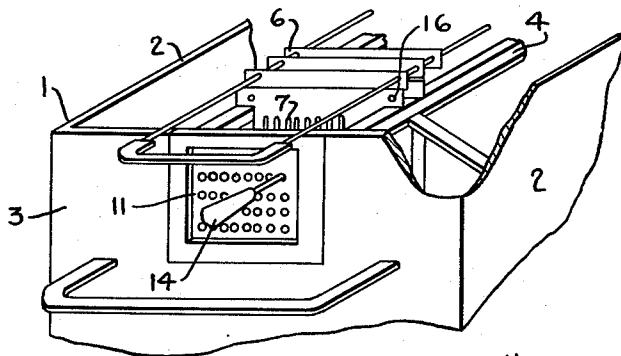


Fig 7

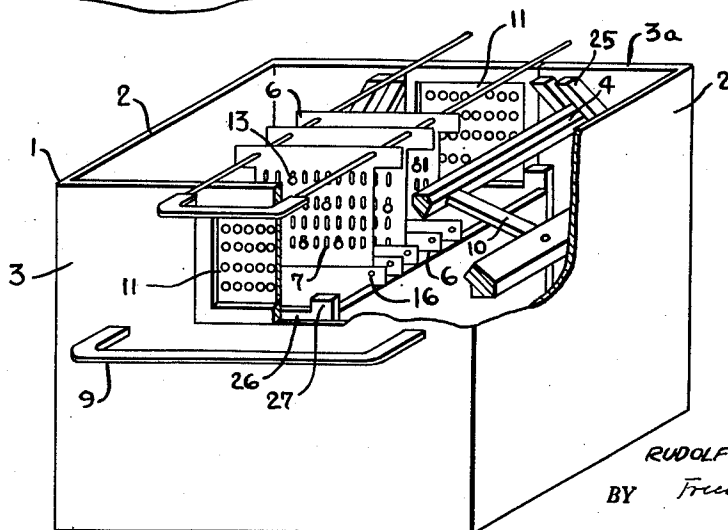


Fig 8

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SELECTOR DEVICE FOR CARD INDEXES

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The invention relates to a card selector and it is the primary object thereof to simplify the selection of the cards, which are contained in a box, and to render the selective step highly effective.

It is a further object of this invention to provide means to separate the selected from the non-selected cards and to lift the selected cards from the box into which they are placed.

It is also an object of this invention to increase the wear resistance of the cards.

It is another object of this invention to effect an automatic separation of the selected from the non-selected cards.

It is a further object of this invention to provide means, which enable the identification of the selected cards while still in the box and render a withdrawal of the cards with its inherent disadvantages unnecessary.

With these and other objects in view which will become apparent as this description proceeds, the invention provides in a card index case vertically displaceable carriers or supporting rods for the cards and means cooperating with these carriers to lower the non-selected cards from their initial position, whereas the selected cards are fixed in their initial position for removal from the box.

The invention will now be described more in detail and with reference to the accompanying drawings showing two preferred embodiments thereof, Figs. 1-4 illustrating the first and Figs. 5-8 the second embodiment.

In the drawings:

Fig. 1 is a perspective view of the card index case or box in its initial position;

Fig. 2 is a perspective view thereof upon selection of certain cards, the front part of the card index case being broken away;

Fig. 3 is a perspective view partly broken away illustrating the selected cards in their removal position from the box;

Fig. 4 is a perspective view similar to that of Fig. 3, the selected cards being shown in the lifted position;

Figs. 5-8 illustrate corresponding phases of the card selecting operation for used in a three-step card selection procedure.

The card selecting device shown in Figs. 1-4 comprises a rectangular case or box 1 provided with two parallel side walls 2, a front wall 3 and a rear wall 3a. Two longitudinally extending parallel card carrier rods 4 are located in the case at a spaced relationship. The cards 5 are provided with upper lateral extensions 6 which

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rest on the rods 4 and with a plurality of adjacent superposed vertical slots 7, Figs. 2, 4, of which the lower portions are extended into circular holes.

The rods 4 are supported in slidable contact with the front and rear walls 3, 3a of a frame composed of two lateral movable members 8 and two parallel front and rear cross members 9, the rear cross members being covered by the casing walls and not being shown in the drawings. The carrier rods 4 and the lateral slidable rods 8, the latter forming a slide frame with handle 9, are connected by arms 10 the latter being swingably connected by means of pivots 10a with the carrier rods 4 and the slide rods 8. Accordingly and upon a horizontal displacement of frame 8, 9 the arms 10 are swung into an inclined position, as apparent from Fig. 2. In consequence thereof, the carrier rods 4 are lowered in the box 1 relative to the position shown in Fig. 1. The frame members 8 penetrate through the front and rear walls 3, 3a of the case and are connected at their protruding ends by the cross members 9, which serve as handles.

By displacement of the frame in a horizontal plane towards the rear wall 3a, the carrier rods are lowered from their initial position shown in Fig. 1 into the position shown in Fig. 2; by a movement of the frame in an opposite direction the carrier rods 4 are lifted again into their initial position. The total vertical displacement of the carrier rods may be preferably about 10 millimeters. The cards may be immobilized during their downward displacement in any desired intermediary position between their highest and lowest position, as the weight of the cards exerts a sufficient pressure on slide frame 8, 9 to cause a jamming action between this frame and the holes 12 provided in the front and the rear walls 3, 3a of the casing 1, through which the slide frame extends and to thereby stop the frame in any desired position of displacement.

Selector discs 11 are provided in the front and in the rear wall of case 1. These discs may be rigidly or removably mounted in the walls 3, 3a and may be preferably made of plastics or other transparent materials. The holes 12 already referred to above, serve for the introduction of a selector rod 14, the holes corresponding with regard to shape, number and location to the slots 7 of the cards in their initial operative position. Eyelets 13 may be provided in the lower ends of the card slots 7.

Horizontal rows of circular holes 12 are, as

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stated above, provided in the front and rear discs 11. A rod 14 may be inserted through these holes into the eyelet enclosed lower portions 13 of the slot 7. The number and location of the recesses or holes 12 in the selector discs 11 correspond to the number and location of the slots 7 and holes 13 of the cards. Perforations 15 are provided in the extensions 6 of the cards.

The selection of the cards is performed, as follows.

The cards are located in box 1 at the commencement of or prior to the selection of a card in the position shown in Fig. 1 and supported on the carrier rods 4; the pivotable connecting arms 10 are in the vertical position. The selector rod 14 is now pushed through the holes 12 of the discs 11, which holes correspond to the slots 7 and holes 13 of the cards to be selected and hereupon through the corresponding holes of the rear disc 11.

Thereupon the frame 3, 9 is pushed into the casing 1 and towards the rear wall 3a, as apparent from Fig. 2, the selector rod 14 having been previously inserted into the casing 1 through holes 12 of the disc 11 into the eyelet enclosed slot portions 13 of the selected cards and into the corresponding holes of rear disc 11; these cards are accordingly held on the selector rod 14 in their initial position, whereas the other cards drop down for the length of their slots 7, since the supporting rods 4 are lowered by the pivotal rear movement of the arms 10.

As a consequence of the described manipulation a location of the cards 5 results, as shown in Fig. 2. The selected cards remain supported in their initial position on the selector rod 14; the other cards have been lowered.

A fork 17 provided with a handle 18 is now inserted into the holes 16 of the lateral card extensions of the fixed cards which have been kept in their initial position by the selector rod 14; the latter is withdrawn, see Fig. 3, and the selected cards 5a are now lifted from the case 1 by means of the fork 17, as apparent from Fig. 4.

For the purpose of further selection, the above described procedure may be accordingly repeated. If the separation of certain card groups is desired, this may be effected as follows.

The cards which are suspended on fork 17, Fig. 4, are pushed on this fork into a pack; they are hereupon removed from the fork and deposited as a closed staple in the rear of the other cards on the holder rods 4.

A three-plate modification of my invention is illustrated in Figs. 5-8, where parts identical to those of Figs. 1-4 are denoted with identical numerals.

A rectangular outer case 1 is provided which is composed of two longitudinal side walls 2, a front wall 3 and a rear wall 3a. Selector discs 11 are provided in the front and rear walls.

The cards 5 are equipped in a practically identical manner, as described with the first embodiment of the invention; they are provided with vertical slots 7 and eyelets 13 enclosing the lower portion of the slot 7, with upper noses or lateral extensions 6 and holes 15 in these extensions.

The carrier rods 4, which as in the previous embodiment of the invention are vertically displaceable, may be lifted and lowered by the horizontal displacement of the frame 3, 9. In deviation from the first embodiment carriers may be displaced in a high, medium and low position; and are guided by slotted rails 25; the card hold-

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ing rods 4 and the frame 8, 9 are connected by pivotal rails 10.

A box 26 for the reception of the selected cards is provided which may be placed on the bottom of case 1; the front and rear walls of box 26 are provided with posts 27.

The selection of the cards by means of this three-phase selector device is performed as follows.

The selector discs 11 used in connection with the prior embodiment are omitted. The card holding rods are located in a medium position as shown in Fig. 5. The distance between the two card holding rods 4 has been increased relative to their initial position by outward movement for about 20 millimeters which substantially corresponds to the width of the insert box 26.

This box 26 containing the cards with their noses 6 suspended on the upper edges of the box is placed by means of the gripping posts 27 into case 1 and located on the bottom thereof, Fig. 5. The card holder rods 4 are lifted in the high position, whereby the cards are taken up by the holder rods 4 and lifted in the position shown in Fig. 6. The cards project with about one third of their height into the insert box 26 and are secured and guided in this position by the inner faces of the casing walls, as shown in Fig. 6.

Hereafter the discs 11 are inserted into the front and rear walls of the casing 1, see Figure 7.

The cards through which the selector rod 14, Fig. 7, has been passed remain in their initial position upon return of the carrier rods 4 into the middle position; the non-selected cards are lowered. The selected cards are fixed by introduction of fork 18 into holes 12. The carrier rods 4 are moved in their middle position lowering the non-selected cards.

The selector rod 14 is now withdrawn from the cards which remain on the fork 17. The carrier rods 4 are now lowered in their third and lowest position; upon removal of the carrier rods 4 the cards drop into the bottom of the box 26.

The original sequence of the cards is hereby maintained because the lower portions of the cards fixed in the high position by fork 17 extend into the box 26 and stay between the upper portions of the cards which have been dropped into box 26; this is the position of the device shown in Fig. 8, where the carrier rods 4 are in the lowest position, the selected cards hang in the high position on the fork 17 and the non-selected cards which have dropped into box 26 rest again with their extensions on the upper edge of the box 26.

The invention has been described with reference to a preferred embodiment and it will be understood that many variations and modifications thereof may be resorted to without departure from the scope of the invention as defined in the following claims.

I claim:

1. In a card selector, a rectangular casing for the accommodation of the cards, said casing having a front and a rear wall, a bottom and two longer side walls than said front and rear walls, and being open at the top, a pair of parallel rods in the upper portion of the casing to support said cards in an adjacent vertical suspension, said carrier rods extending horizontally between said front and said rear wall and being in loose contact therewith, a pair of parallel push rods horizontally displaceable underneath said carrier rods in the front and rear wall of said casing and in a vertical plane with said carrier rods, the ends of said push rods outwardly projecting from

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the casing and being connected to form handles, said push rods thereby adapted to be horizontally displaced, spaced parallel arms located between said pairs of carrier and push rods and pivotally connected thereto, selector discs having a plurality of superposed horizontal rows of holes located in the front and the rear wall of said casing and a selector rod to be pushed through said selector discs and said cards to prevent the vertical displacement of the selected cards upon a horizontal displacement of said push rods, the card supporting rods being lowered by the horizontal displacement of the push rods and being restrained from horizontal movement by their contact with the front and rear wall of the casing, guide rails to accommodate the ends of the carrier rods attached to the inner faces of the front and rear wall of the casing, said guide rails being at the upper ends equally spaced to the carrier rods and being outwardly inclined in the downward direction to increase the space therebetween whereby the carrier rods are separated from each other during the downward displacement by the push rods and the non-selected cards are dropped from the carrier rods.

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2. In a card selector according to claim 1, a box on the bottom of the casing to receive the dropped cards.

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