Aug. 24, 1937. D. A. NEVIN 2,090,635

CARD INDEXING MACHINE

Filed Aug. 25, 1932 6 Sheets-Sheet 1

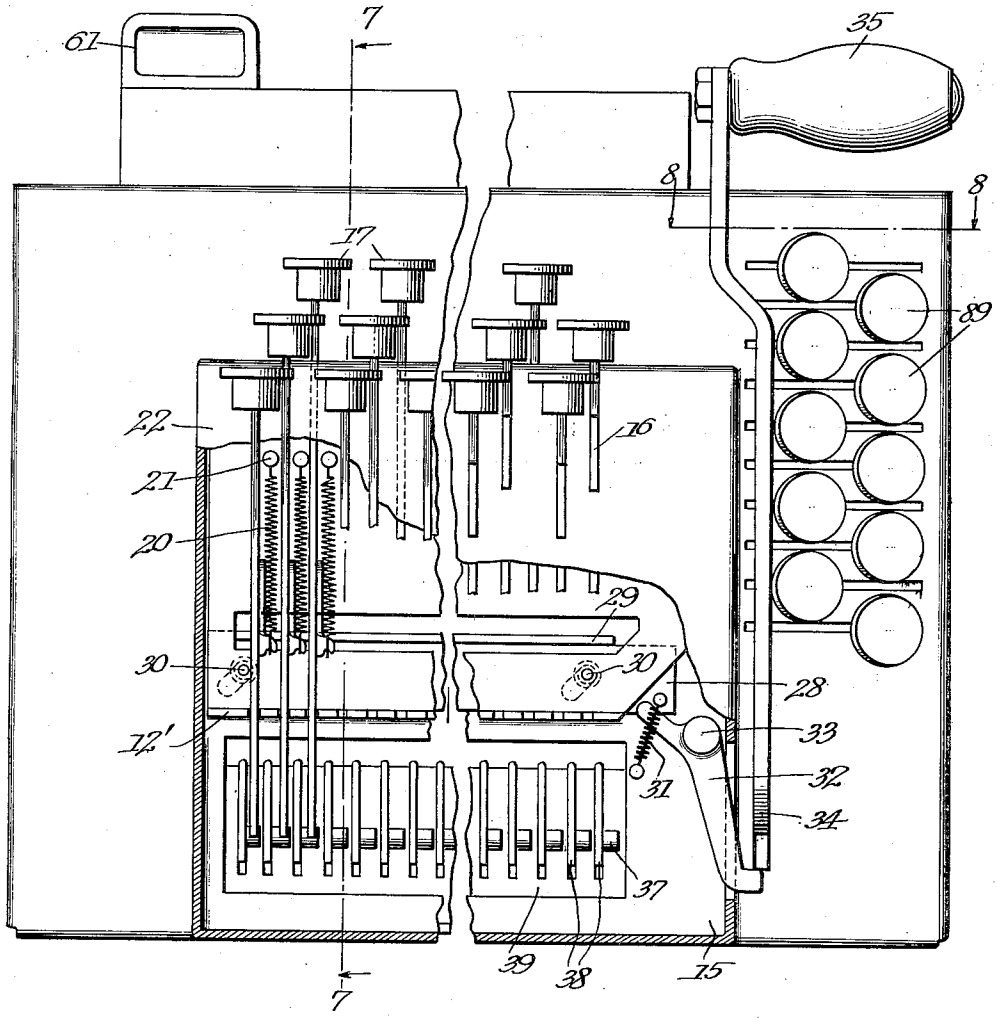


Fig. 1.

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Filed Aug. 25, 1932 6 Sheets-Sheet 2

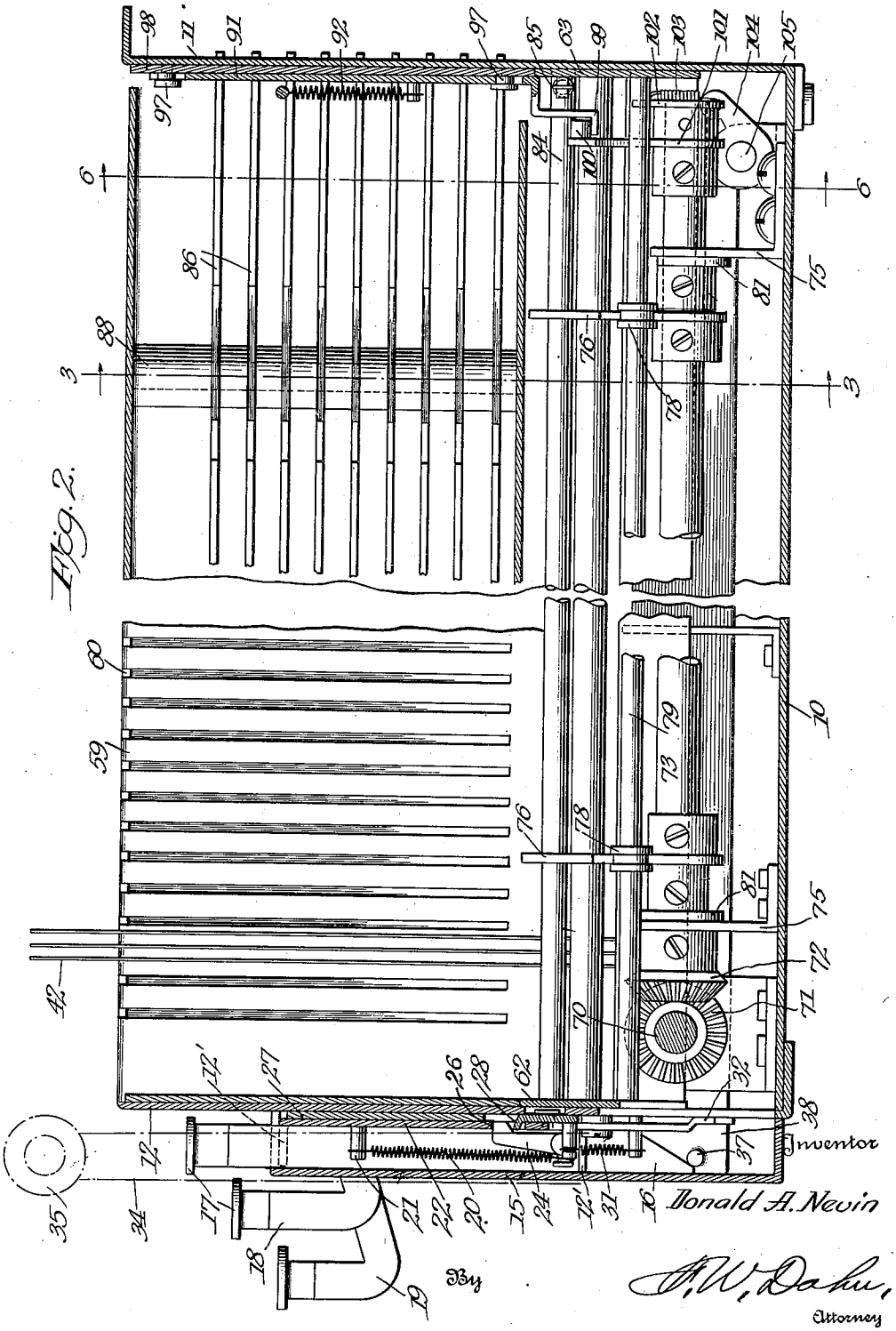


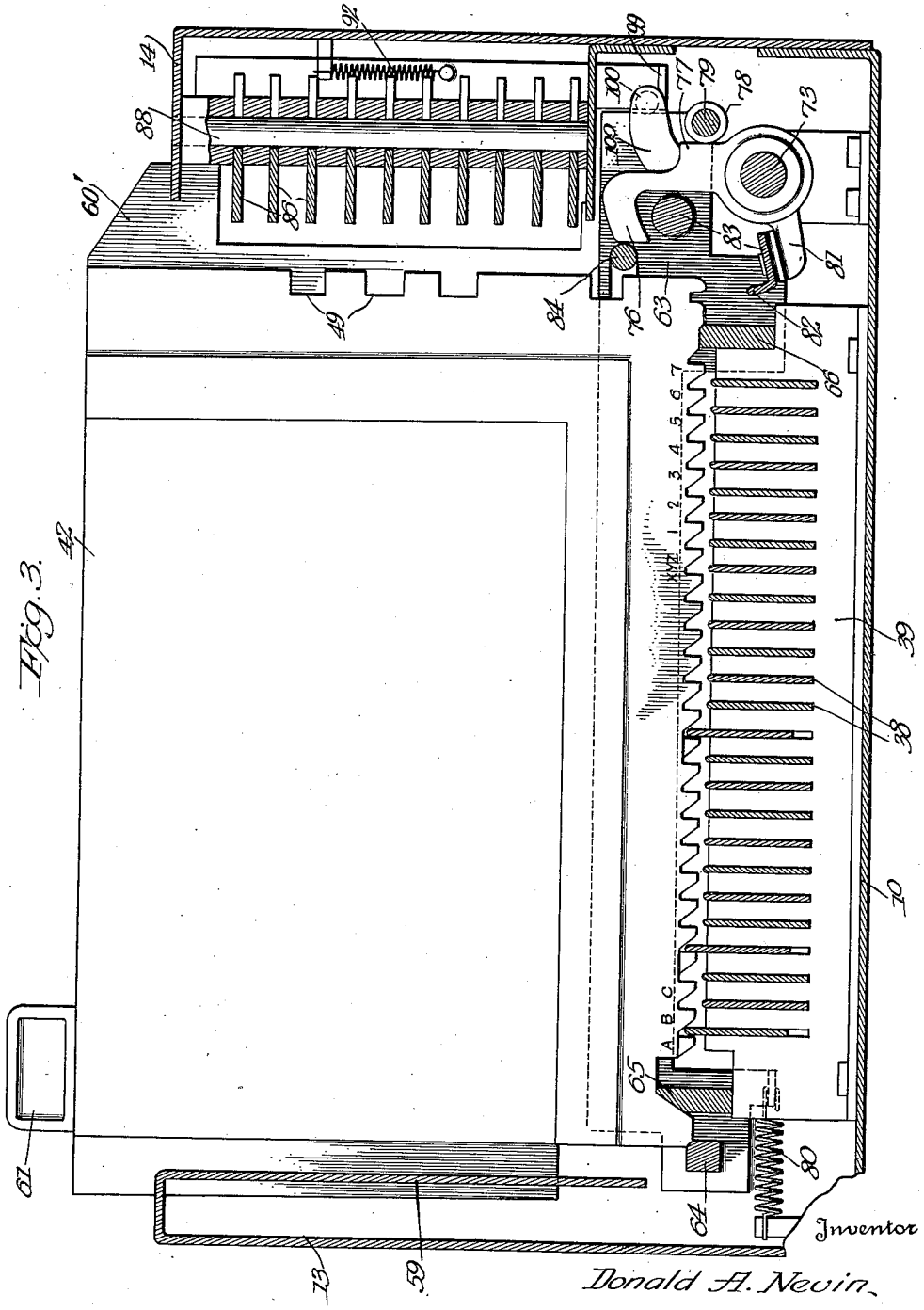
Fig. 2.

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CARD INDEXING MACHINE

Filed Aug. 25, 1932 6 Sheets-Sheet 3



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CARD INDEXING MACHINE

Filed Aug. 25, 1932 6 Sheets-Sheet 4

Fig. 4.

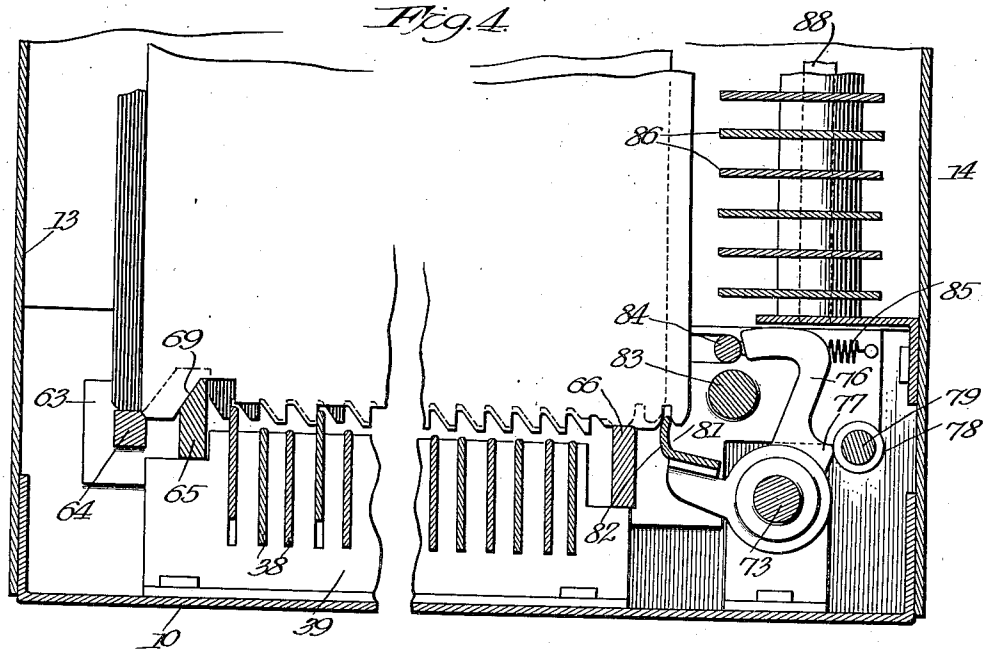
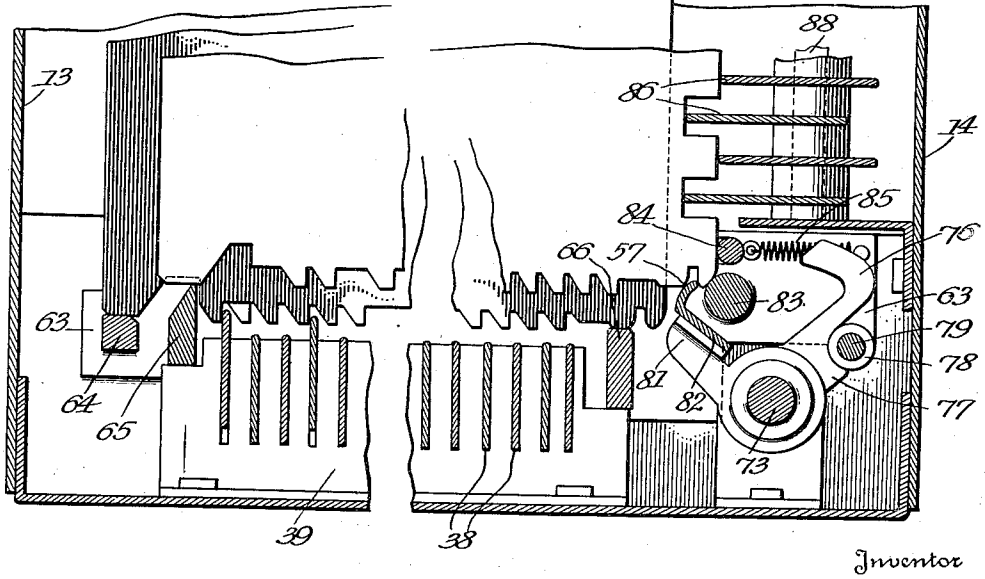


Fig. 5.



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CARD INDEXING MACHINE

Filed Aug. 25, 1932 6 Sheets-Sheet 5

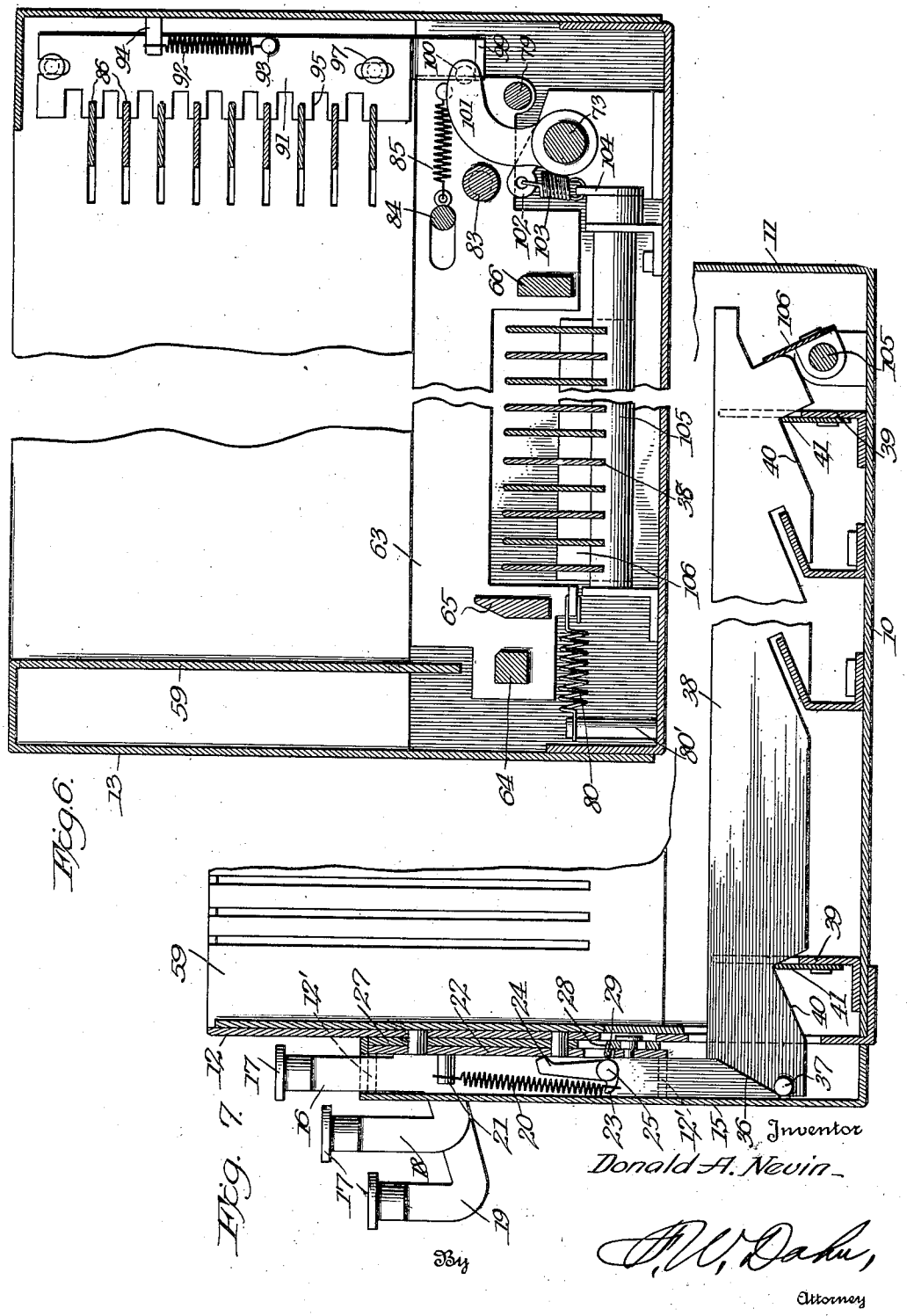


Fig. 6.

Fig. 7.

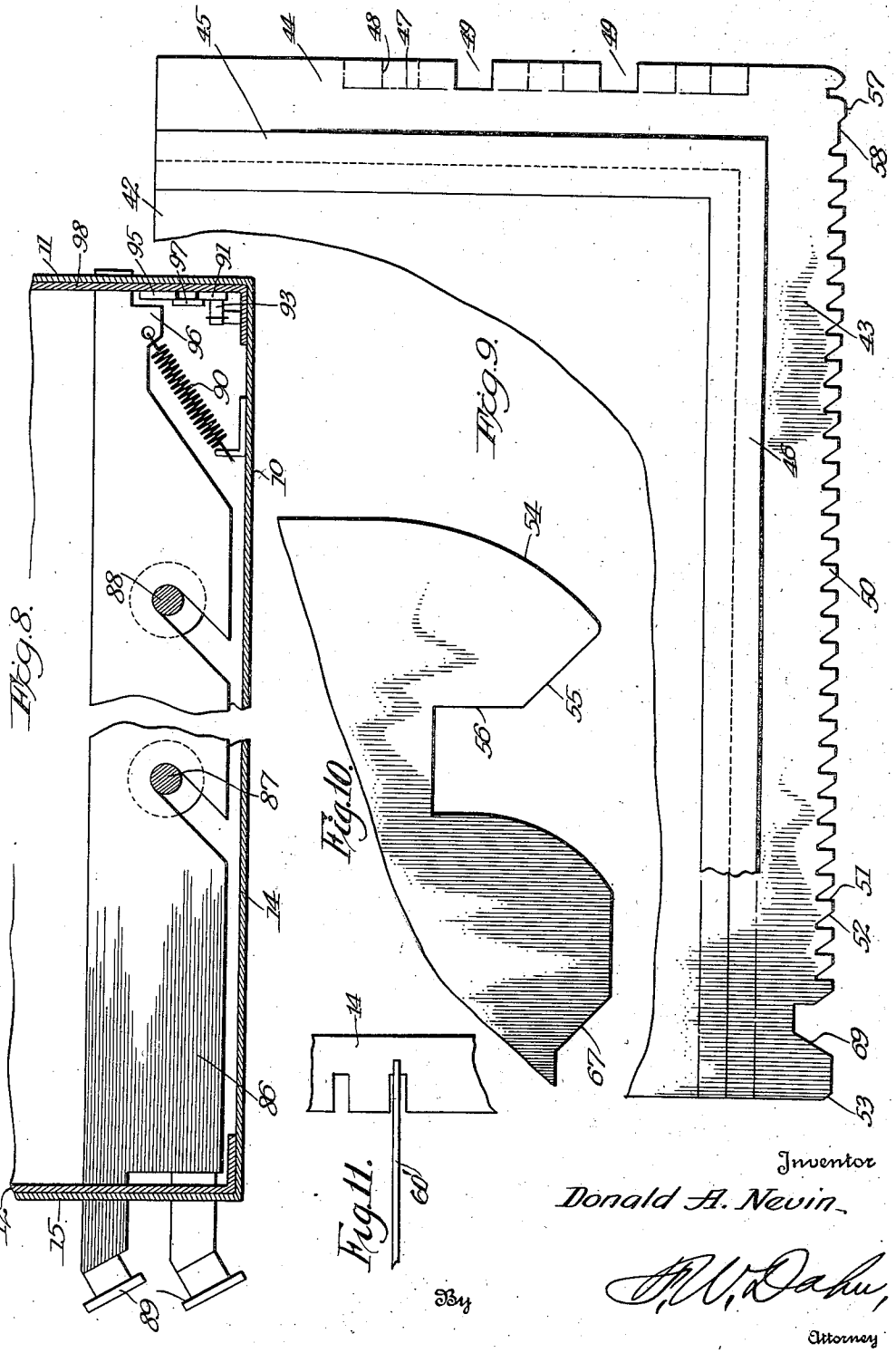
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Aug. 24, 1937. D. A. NEVIN 2,090,635

CARD INDEXING MACHINE

Filed Aug. 25, 1932 6 Sheets-Sheet 6



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Patented Aug. 24, 1937 2,090,635

UNITED STATES PATENT OFFICE

2,090,635

CARD INDEXING MACHINE

Donald A. Nevin, Waynesboro, Pa., assignor, by mesne assignments, to J. G. Mumma, Waynesboro, Pa.

Application August 25, 1932, Serial No. 630,473

34 Claims. (Cl. 129—16.1)

My invention relates to a card indexing machine and it is an object of the invention to provide a machine of this character by which any predetermined individual card may be selected from a large number of cards, said apparatus also being capable of use for classifying cards to make group selections including a number of cards in the set which cards are identified by similar characteristics. A primary object of my invention is to change the nature of distinguishing characteristics on the cards. In previous practice as for example in my Patent No. 1,662,534, March 13, 1928, the distinguishing characteristic of a card consisted of one or more projections arranged to be engaged by selective actuating means. The use of such projections or tabs is objectionable for various reasons such as the fact that it is a matter of some inconvenience to attach projections to the cards because they commonly increase the thickness of the cards, thus making them bulky and causing them to take up too much space in the file. Commonly the tabs are also made by removing part of the card to leave projecting portions but such tabs are not durable particularly when relied on for pushing a card out of a set. Furthermore, a very great variety of arrangements may be desirable on the same card for classification purposes, which is not feasible with previously known cards.

Greater individuality of cards has been obtained by facing projections or tabs toward each other or in opposite relation as shown in Fig. 8 of my patent above referred to, special mechanisms being provided to cooperate with the opposed projections. It has also been proposed to obtain greater individuality of cards by filing them in predetermined order or in predetermined sections of a tray, all of which makes trouble in filing and increases the time consumed in placing cards in the file. According to my invention the desired card will be segregated regardless of its place in the tray. To make the cards durable I have provided bases or frames of metal which will last indefinitely and their character is such that a card can quickly be positioned thereon, whereas the desired characteristic or characteristics can also be impressed on the card holder with speed and accuracy.

The essential feature of the invention consists in providing the card holders with projections which will cause all cards to remain in the mass except those which have projections removed therefrom, these cards only being selectively displaced relatively to the set.

A further object of the invention is to provide a variably controlled selecting mechanism so made up that it will cooperate either with a single characteristic or with combined characteristics on a card as desired, it being noted that a plurality of projections can readily be removed where different characteristics of a card are to be indicated. The removal is preferably done by cutting or breaking off the undesired projections with a ticket punch or with ordinary shears. This results in a great saving of time as compared with previous practice since it was heretofore necessary to cut off all the projections except the one or more which corresponded to desired characteristics whereas according to my invention only those few projections are removed that correspond to desired characteristics.

Another object of the invention is to provide a simple and substantial card holder or adapter to which ordinary cards can readily be attached after the desired legends or markings have been placed thereon and from which holder the card can readily be removed, as when it is to be inserted in a typewriter for addition of characteristics or a change of characteristics.

Referring to the drawings, which are made a part of this application and in which similar reference characters indicate similar parts:

Fig. 1 is a front elevation of my device with parts removed to show internal structure,

Fig. 2, a vertical longitudinal section,

Fig. 3, a vertical transverse section on line 3—3 of Fig. 2,

Fig. 4, a similar view with parts omitted, said view showing certain parts in different position,

Fig. 5, a view similar to Fig. 4 with certain parts in a different position,

Fig. 6, a transverse section on line 6—6 of Fig. 2,

Fig. 7, a longitudinal section on line 7—7 of Fig. 1,

Fig. 8, a horizontal section on line 8—8 of Fig. 1,

Fig. 9, an elevation of a preferred form of card holder,

Fig. 10, a much enlarged fragment of the lower right-hand corner of the card holder shown in Fig. 9, and

Fig. 11, a detail of partition supporting means shown in Fig. 3.

In the drawings, reference character 10 indicates the bottom of a casing enclosing the mechanism and also providing a tray for the cards, said casing having a rear member 11, a front member 12 and side members 13, 14. The front mem-

ber 12 has attached thereto a front key-board plate 15 which is bulged outwardly intermediate its sides to provide space for the keys guided at their edges between said plate and a rear key board plate 22 secured to the plate 12. Suitable guiding means such as teeth 12' are arranged in two combs on plate 12 for spacing the keys, and to prevent lateral movement of the keys. In the present embodiment of my invention the keys consist of flat body portions 16 with buttons arranged in a suitable number of banks as by making the innermost bank with straight bodies and providing bent arms 18, 19 on other banks to carry the buttons so as to make them conveniently accessible for manipulation. Each key is normally held in its uppermost position by a spring 20 secured at one end to a pin 21 projecting from the rear key board plate 22 and at the other end to a lug 23 forming part of a detent 24 pivoted on the key at 25. When a key is depressed the detent 24 will move into a notch in the rear key board plate and engage an edge thereof at 26, this position being illustrated in Fig. 2.

Between the plates 12 and 22 I have arranged a spacer 27 for separating these plates sufficiently to permit free movement of a detent release plate 28 (Figs. 1, 2 and 7) having at its upper end an outwardly bent flange 29 adapted to engage the beveled under face of any detent which is in locking position, thereby to move the detent about its pivot and release the corresponding key. The detent release plate has oblique slots guided on pins 30 and it is normally held in lowered position, indicated in Fig. 1, by means of a spring 31. For raising the detent plate I provide an angular lever 32 pivoted at 33 and operated by an operating handle 34 with a hand-grip 35, these parts being more fully described hereinafter.

At their lower ends the keys are provided with cam faces 36 for engagement with pins 37 on selector rails 38, which rails extend lengthwise of the casing underneath the card tray and are guided in slots in cross-bars 39 fixed to the bottom 10. These selector rails are flat bars but are moved lengthwise of the casing by depression of corresponding keys causing them to move upward on cam faces at 40 engaging with wear plates 41 secured to the cross-bars 39, these selector rails serving, when elevated, to arrest the lateral movement of cards in a manner hereinafter described.

Preferably the cards 42 may be of cardboard or like material and according to the preferred form of my invention, best shown in Fig. 9, I mount these cards in holders having a base member 43 and a side member 44, these holders being formed of thin sheet steel or the like. It will be seen that by reason of the shape of the holder a card can readily be fitted into it and secured in place by such means as strips of adhesive tape 45, 46. The upper member of the card holder may be weakened along lines 47, 48 or it may be slitted on lines 48 to provide teeth that can be selectively broken out thus leaving slots at points such as indicated at 49. Along its lower edge a holder is provided with teeth 50 each having a straight face 51 and an inclined face 52, the thickness of the material and the size of the teeth being such that the teeth can readily be sheared or broken out. The lower left-hand corner of the holder is beveled as at 53 and the lower right-hand corner has a rounded face at 54, (shown in Fig. 10) and a beveled face at 55 terminating in a vertical face 56. Adjacent the corner there is a rounded tooth 57 followed by a horizontal face 58 (Fig. 9). The side wall 13 of the casing is provided with an inner wall 59 spaced therefrom, this wall being slotted as indicated at 60 in Fig. 2 to receive metallic partitions 60' on which upper tabs 61 may be supported, this feature forming no part of my invention. The partitions 60' are supported at the right on an inturned flange of side wall 14 (see Fig. 11). The card carriage proper has lateral movement in the casing and it comprises a front member 62, having a rear member 63 connected thereto by longitudinal bars 64, 65 and 66. The bars 64 and 66 have their upper right-hand corners beveled to correspond to the beveled faces on the card holders at 53 (Fig. 9) and 67 (Fig. 10) so that in the lateral movement of the card carriage it will push the cards frictionally to the right with a slight pressure such that a card whose movement is opposed by a selector rail can readily ride up the short beveled faces, such cards being slightly elevated but having no other movement at such time. The card holders are further provided with beveled faces at 69 corresponding to a beveled face at the top of bar 65.

The means for imparting lateral movement to the card carriage includes the handle 34 which is secured to a shaft 70 on which is a beveled gear 71 meshing with a beveled gear 72 on a shaft 73 that extends substantially from end to end of the casing and is journalled in bracket 75 mounted on the bottom member 10. The shaft 73 carries a pair of rock arms 76 having widened portions 77 which are adapted to engage with their outer and upper faces against anti-friction sleeves 78 on a shaft 79 journalled at its ends in plates 62, 63. The idle position of the parts is indicated in Fig. 3, the position when movement of the rocker 34 has been initiated is shown in Fig. 4 and a later position in Fig. 5, as hereinafter explained. One or more carriage springs 80 (Fig. 3), connected at one end to transverse plates 62 and 63 and at the other end to the pins 60' fixed to the casing tend to return the carriage to its normal position at the left of the machine. The shaft 73 also carries arms 81 which support a bent rail 82 (hereinafter designated the elevating angle) at their outer ends said elevating angle engaging in the notch at the left of the edge 56 (Fig. 10) of each card holder to complete the offsetting of such cards as are not retarded by the selector rails 38, this element being positioned to engage the cards when they have reached the position of Fig. 4.

It will be seen from consideration of Figs. 4 and 5 that the tray in its movement toward the right has slightly elevated those cards whose tabs are engaged by any of the elevated selector rails (this having no functional significance) and has offset to the right those cards whose movement was not impeded. The offset cards having now reached the position of Fig. 4 are engaged by the bent rail 82 and in the further movement of the parts are offset to the position indicated in Fig. 5. Up to this point the movement of the cards has been a positive one. After the cards reach the position of Fig. 5 the rounded part 57 of the card bears against the rounded outer face of part 82 so as to elevate the card and free it from the operating end of part 82, the rounded lower right-hand corner of the card at this time engaging a round rod 83 secured to carriage end plates 62 and 63 to elevate the card and assist in freeing it from rail 82. The sleeves 78 at this time rest in the concave upper part of the widened portion 77 of rock arms 76, this per-

mitting a slight return movement of the tray or carriage and the concavity holding the carriage against return movement under tension of springs 80 until after the rocker 34 has been actuated manually to release the rod 79 from such concavity. At this time it is convenient to finger over the cards that have been offset and elevated for purposes of inspection, and even to return manually any cards that are not desired.

The upper end of each rock arm 76 is bent inwardly or to the left in Figs. 4 and 5 and the ends of the respective arms coact with a return rod 84 which serves to return positively all the offset cards toward the left to the full extent of their previous displacement, gravity being relied on to cause them to return to their lowermost position, or they can be made to settle by pressing on them or in other suitable manner. The return rod is movable laterally in slots in the end members 62 and 63 of the tray, as shown in Figs. 4, 5 and 6 and is normally held in a position at the right end of said slots by means of springs 85.

The return rod just described serves for returning all offset cards. It is often desirable in a process of classifying or group selection to return only a part of the cards and for this purpose I provide each holder with the means shown on the upper arm thereof in Fig. 9 whereby open slots 49 may be provided on the holders with integral lugs between them. I further provide a series of return rails 86 at the right-hand side of the machine, the shape of the rails being shown in Fig. 8. These rails are guided for movement in horizontal planes by means of slots in the front and rear plates of the casing and they are caused to move transversely of the casing when forced backward, by means of vertical rods 87, 88 engaging oblique slots in the rails. Buttons 89 at the forward ends of the return rails provide convenient means for actuating them and springs 90 (Fig. 8) return the rails to normal position. The action of the rails for making minor classifications is illustrated in Fig. 5 where the lowermost rail and the third rail from the bottom have been moved inward and hence to the left in said figure thereby forcing back to normal position all offset cards which did not have lateral slots at the corresponding elevations.

At the time when the bent plate or elevating angle 82 is engaged with the notch adjacent to the lower right-hand corner of a card as in Fig. 4 it is important that the return rails should not be operated, since such operation would be liable to damage the card holders and therefore I have provided an interfering lock plate 91 (Fig. 6) normally held in elevated position by a spring 92 secured at one end to a pin 93 on the plate and at the other end to a fixed pin 94. This spring holds the lock plate in a position where teeth 95 on the plate stand in the way of projections 96 on the respective return rails 86 and prevent actuation of the return rails. The interfering lock plate is guided by headed pins 97 on a plate 98 secured to the rear plate 11. At its lower end the lock plate has an offset arm 99 (Figs. 2, 3, 6) coacting with a pin 100 on a rock arm 101 secured to shaft 73, the relation of parts being such that the lock plate will be withdrawn from the position wherein it inhibits movement of the return rails only after the elevating angle 82 has been released from the notches in the cards by means of its cam action against tooth 57 and the cooperation of rod 83, i. e., after the cards have been moved a little beyond the position indicated in Fig. 5.

As above described the outward movement of handle 35, counterclockwise in Fig. 2, moves the carriage immediately to the right by engagement of part 77 of lever 76 with the rollers 78 on rod 79 and toward the end of such movement the handle strikes lever 32 (Fig. 1) to thereby actuate the detent release plate 28 and permit the keys to return to upper position. I have provided a simple and inexpensive means for returning the selection rails 38 at this time. Such means comprises a rock arm 102 (Figs. 2 and 6) on shaft 73, which rock arm is connected by a spring 103 to a rock arm 104 on a rock shaft 105 extending transversely of the casing at the rear end thereof. Said rock shaft carries a paddle 106 for engagement with inclined faces at the rear ends of the respective selector rails 38. It will be seen that the spring is tensioned before the keys are released and will therefore act immediately and strongly on the selector rails to return them to the normal position of Fig. 7 when the keys are released.

In the mechanism so far described I have referred to the keyboard as if it included for example only sufficient keys to take care of the letters of the alphabet, it being understood that in the case of such letters as x, y, z, more than one letter may be placed on a key. Such an arrangement is convenient and satisfactory for many purposes of classification, such as for the selection of cards according to surnames and initials or the like. It will readily be seen however that the keyboard may include additional keys, the cards in each instance having originally bottom projections corresponding to the number of keys. For example, a card may be made up as shown in Fig. 3 wherein the card holder has 19 bottom projections for taking care of keys with letters of the alphabet and has seven additional projections for taking care of other classifications. Such classifications may be broader than those governed by the alphabetical arrangement. For example, in a department the alphabetical portion of the card holders shown in Fig. 3 might take care of the question of selecting the card record of a predetermined employee whereas the numerical portion could be used for other purposes as for selection of all employees residing in certain towns or working on certain jobs. The number of possible classifications is governed only by the width of the card holder.

In the operation of my machine, the tray may be made to hold 1000 cards as a desirable unit size, or it may be made to hold any other desirable number of cards. All cards will be slightly shifted with the carriage and will then be elevated and moved farther to the right by the elevating angle 82 when the operating handle is actuated but none will be offset relatively to others unless some of the keys are depressed. Supposing that it is desired to find all cards anywhere in the tray with names beginning with the letter D, the key with initial D will be depressed and be locked down by its detent 24, whose upper end is forced into the slot in plate 22. When the operating handle is now moved counterclockwise in Fig. 2, the lateral movement of the carriage will take with it all cards having the projection removed that corresponds to letter D, but the movement of all other cards is resisted by the selector rail of key D, although these cards are slightly lifted as the beveled corner of square rail 64 passes under them in its

lateral movement. The carriage having reached the limit of its movement, the elevating angle **82** now engages the notches of offset cards and offsets them further, also elevating the right-hand end, while the left-hand end is correspondingly elevated by the beveled edge **69** of the holder riding up the beveled upper face of rail **65**. As the selected cards approach their extreme position the beveled outer face of elevating angle **82** strikes tooth **57** of each offset card and in combination with round rod **83**, raises the corner tooth of the card sufficiently to free the vertical face **56** of the card from the elevating angle, though the inclined face **55** of the corner tooth still bears against a beveled or rounded face on the same to prevent accidental return of a card, as in fingering them over to examine the records thereon. At this time the carriage is held in approximately its extreme right position by engagement of sleeves **78** in the concavity of rockarms **76**. When the user is ready to restore all cards to normal the operating handle **34** must first be given a positive return movement to free sleeves **78** from the outer point of the concavity, as in Fig. 4 and thereafter the carriage springs **80** will complete the return movement of the carriage.

As the operating handle was moved downward and outward in the selecting operation, its lower part struck the lever **32** and moved the same about its pivot to slide plate **28** to the right (Fig. 1) and upward to release the detents of depressed keys, which then returned to normal position. Spring **103** having been tensioned by the clockwise movement of shaft **73** (Fig. 6) geared to the operating handle, the selection rails are at once returned to normal forward and low position by paddle **106** when the keys **16** are released.

In the return movement of the operating handle the shaft **73** is moved positively counterclockwise (Fig. 5) due to gears **71**, **72** and so rock arms **76** are positively moved to release the carriage and then to push return rod **84** to the left against the tension of its spring, thus returning the selected cards positively to place in the set.

If a card bearing the name of Harry R. Doe were to be selected, keys for letters H, R and D would be depressed and their selector rails would obstruct all cards but those from which the corresponding lower projections had been removed, while the desired card alone (or in rare cases with another card or two of like initials) would be offset as above described.

Supposing that the lower projections having numbers indicate residence in different wards of a city and it is desired to segregate all cards for employees living in Ward 5. By depressing the key for tab No. 5, all these cards would be offset. The two sets of characteristics can be used in combination and if all the employees in Ward 5 having names beginning with A are to be identified, depression of keys for A and 5 would effect the result. Many other combinations and uses will readily suggest themselves.

The selections so far indicated can be modified by the use of the return rails **86**, but only after the operating handle has been moved so far as to withdraw the lock plate **91** from the position of Fig. 6 to inactive position through the intermediary of shaft **73** and arm **101** acting on the lateral lug **101** of the lock plate. The keys of these rails may be marked for male and female, for races of men, for adult and juvenile, and for many other minor classifications.

This selection is particularly useful for subdividing classes set up by operation of the selector rails. It may be noted that combinations of letters or numbers other than for initials of names can readily be had; e. g., the seven number tabs may be combined as follows:

123	134	145	156	167
124	135	146	157	
125	136	147		
126	137			
127				
234	245	256	267	
235	246	257		
236	247			
237				
345	356	367		
346	357			
347				
456	467			
457				
567				

Such combinations can be used as code indications or the like, making a total of 35 classifications with seven keys and seven corresponding characteristics on the card holders (or on cards if used without holders). Obviously the digits of numbers used for positive classification can not also be used in reverse order since 231 or 321; e. g., would duplicate 123, whereas the initials of names only rarely duplicate each other.

Let the groups of numbers indicate government departments, independent offices, etc. Then if 123 indicates the Department of Agriculture, depression of the corresponding keys would cause all cards for employees of this department to be segregated. If return rail No. 1 indicates the white race and rail No. 8 indicates native born and return rail No. 10 indicates those under 45, operation of return rail 1 would reject all cards except those for persons belonging to the white race, and position them for return by gravity, and so of rails 8 and 10, while operation of all these three return rails would leave only the cards for native born whites under 45 years of age.

It will be obvious to those skilled in the art that various modifications may be made in my device without departing from the spirit of the invention and therefore I do not limit myself to what is shown in the drawings and described in the specification but only as indicated in the appended claims.

Having thus fully described my said invention, what I claim as new and desire to secure by Letters Patent is:

1. A card holder for card-indexing machines comprising a strip of metal shaped to fit against two edges of a card, the thickness of said strip corresponding approximately to that of the card and said holder having selective characteristics thereon.

2. A card holder of flat metal adapted to fit against a plurality of edges of a card, said holder being co-planar with the card and having selective characteristics thereon.

3. A card holder of flat metal adapted to fit against a plurality of edges of a card, said holder being co-planar with the card and having its outer marginal edges interrupted to provide selective characteristics, and means for fixing the card and holder in edge to edge relation.

4. A card holder of flat metal adapted to fit against a plurality of edges of a card, said holder being co-planar with the card and having spaced

projections along an outer edge thereof to provide selective characteristics.

5. A card holder of flat metal adapted to fit against a plurality of edges of a card, said holder being co-planar with the card and having spaced projections along a side edge and its lower edge to provide selective characteristics.

6. In a card-selecting machine, a card carriage, cards therein having selective characteristics, a series of keys, means normally holding the keys in idle position, a spring-pressed detent on each key, a fixed member at one side of the keys engageable by each detent when its key is operated, a releasing element for said detents at the opposite side of said fixed member from said keys, means for shifting said carriage laterally, means coacting with the selective characteristics on the cards to offset selected cards relatively to others as the carriage is shifted, and means operated by the carriage-shifting means for operating said releasing member thereby permitting all depressed keys to return to normal position.

7. In a card-indexing machine, a card carriage, cards therein having selective characteristics, a series of reciprocatory keys, resilient means for holding said keys in upper position, a detent on each key, a member extending transversely of said keys for engagement by said detents upon depression of the respective keys, a detent releasing element movable to return any operative detent, means for shifting the carriage, and means coacting with the selective characteristics to offset selected cards relatively to others as the carriage is shifted, said carriage shifting means also actuating said releasing element.

8. In a card-indexing machine, a mechanism case, a card carriage movable transversely thereof, cards in said carriage having tabs along their lower edges, means on the carriage for carrying the cards with it in such transverse movement, selector rails engageable with said tabs to arrest cards selectively, and means for further moving the non-arrested cards after the carriage has stopped.

9. In a card-indexing machine, a casing, a carriage movable transversely thereof, cards in the carriage and movable therewith, selectively removable bottom tabs on said cards, a set of movable keys, and selector rails movable by the operation of said keys selectively into position for obstructing all cards not having the correlated tabs removed therefrom whereby only unobstructed cards are offset.

10. In a card-indexing machine, a casing, a carriage movable transversely thereof, cards in the carriage and movable therewith, selectively removable bottom tabs on said cards, a set of movable keys, selector rails movable by the operation of said keys selectively into position for obstructing all cards not having the correlated tabs removed therefrom whereby only unobstructed cards are offset, and means for further offsetting the cards so offset.

11. In a card-indexing machine, a casing, a carriage movable transversely thereof, cards in the carriage and movable therewith, selectively removable bottom tabs on said cards, a set of movable keys, selector rails movable by the operation of said keys selectively into position for obstructing all cards not having the correlated tabs removed therefrom whereby only unobstructed cards are offset, and means for further moving the offset cards laterally and vertically outward with relation to the set.

12. In a card-indexing machine, a casing, a carriage means for moving the carriage transversely of the casing, cards in the carriage and movable therewith, selectively removable bottom tabs on said cards, a set of movable keys, selector rails movable by the operation of said keys selectively into position for obstructing all cards not having the correlated tabs removed therefrom whereby only unobstructed cards are offset, and means for further offsetting the cards so offset and for holding the offset cards against accidental or casual return.

13. In a card-indexing machine, a casing, a carriage means for moving the carriage transversely of the casing, cards in the carriage and movable therewith, selectively removable bottom tabs on said cards, a set of movable keys, selector rails movable by the operation of said keys selectively into position for obstructing all cards not having the correlated tabs removed therefrom whereby only unobstructed cards are offset, means for further offsetting the cards so offset and for holding the offset cards against accidental or casual return, and means for positively returning the offset cards to the set.

14. In a card-selecting machine, a casing, a carriage movable transversely thereof, a mass of cards on the carriage, means for causing the mass of cards to move with the carriage, means for restraining the lateral movement of all undesired cards in the mass, and means for further moving cards not so restrained from movement.

15. In a card-selecting machine, a casing, a carriage movably transversely thereof, a mass of cards on the carriage, means for causing the mass of cards to move with the carriage, means for restraining the lateral movement of all undesired cards in the mass, means for further moving cards not so restrained from movement, a return rod on the carriage for the cards, and means for operating the rod.

16. In a card-selecting machine, a fixed frame, a card carriage movable laterally thereon, means for causing cards on the carriage to move therewith, means for restraining the lateral movement of all undesired cards, means for positively elevating and further offsetting the cards so selected, means for disabling the positive offsetting means, means for selectively returning cards to the mass, and means for locking said last-named means out of action until after the disabling of said positive offsetting means.

17. In a card-selecting machine, a fixed frame, a carriage movable laterally thereof, a mass of cards in the carriage, combined gravity and frictional means for causing the cards to move laterally with the carriage, and selectively operable means for preventing lateral movement of undesired cards.

18. In a card-selecting machine, a casing, an operating handle, a card carriage, a set of cards on the carriage, said cards having selective tabs along the bottom and along a side edge, means actuated by said operating handle for moving said carriage transversely of the casing, means for moving the cards with the carriage, selector rails, keys for selectively moving said rails into the path of said bottom tabs to obstruct the movement of undesired cards and so cause offsetting of desired cards, means for locking down said keys, means actuated by said operating handle for subsequently releasing said keys, means actuated by said operating handle for additionally and positively offsetting selected cards, means actuated by said operating handle for returning said selector rails to idle position, means for disabling

the positive upsetting means and for holding selected cards in offset position, means for returning offset cards selectively into the mass of cards, and means under control of said operating handle for locking said selective return means until after the positive offsetting means has been disabled.

19. In a card-selecting machine, a set of cards having tabs along an edge, means for selectively offsetting them comprising selector rails, means for moving the selector rails into position to engage said tabs, a paddle positioned to engage the rails at one end for returning them to idle position, and means for actuating said paddle.

20. In a card indexing machine, a series of cards having removable selective tabs, means for mechanically engaging and positively pushing all the cards edgewise, and means for obstructing the movement of all cards except those having tabs removed in corresponding relation to the desired selection.

21. In a card indexing machine, a set of cards having selective irregularities, means for engaging and positively pushing the cards edgewise, and means for obstructing the movement of all cards except those not having irregularities in corresponding relation to the desired selection.

22. In a card selecting machine, a fixed frame, a carriage movable laterally thereof, a mass of cards in the carriage, means for causing the cards to move laterally with the carriage, and selectively operable means for preventing lateral movement of undesired cards.

23. In a card selecting machine, a casing, a carriage movable transversely thereof, a mass of cards on the carriage, means for causing the mass of cards to move with the carriage, and means for restraining the lateral movement of all undesired cards in the mass.

24. In a card selecting machine, a casing, a carriage, a set of cards on the carriage, means for shifting the carriage and the cards thereon, means for restraining the movement of all undesired cards thereby offsetting desired cards relatively to the mass, and means operated by the carriage-shifting means in its return movement for returning the offset cards to position in the mass.

25. In a card selecting machine, a set of cards, individual cards of the set having one or more tabs along an edge at positions in a full series of operating points, each card having blank spaces at one or more of said operating points, mechanical means for exerting pressure on all the cards of the set for imparting a movement of translation to said cards, and means governed by the absence of a tab on a card at an operating point for offsetting such a card from the set during an operation of said first-named means.

26. In a card selecting machine, a set of cards, individual cards of the set having along an edge thereof a series of selectively removable tabs, mechanical means tending when operated to move all the cards edgewise, and means governed by the absence of tabs on the individual cards for moving to exposed position cards from which tabs have been removed at a predetermined point or points.

27. In a card selecting machine, a set of cards, individual cards of the set having along an edge thereof a series of tabs, vacant spaces interspersed among the series of tabs, and mechanical means operative on all the cards of the set and tending to move all said cards, said means coacting with the cards to offset those cards having correspondingly located vacant spaces.

28. In a card selecting machine, a set of cards, individual cards of the set having tabs along an edge thereof at positions in a full series of operating points, each card having blanks at some of said operating points, and mechanical means coacting with said cards to offset from the set those cards having blanks at corresponding points in the series.

29. In a device for housing card records, means for pushing endwise the cards in said device, and selectively controlled rails extending lengthwise of the device, said rails being arranged to engage in notches in a margin of such cards for the purpose of obstructing such lateral movement, certain predetermined notches being made wider than the other notches for the purpose of avoiding obstruction of lateral movement when the rails are engaged with such wider notches.

30. In a card selecting apparatus, means for holding a set of cards, said cards being freely movable and being each provided with an incomplete series of tabs along an edge thereof, and card selecting means whose action is controlled by the absence of tabs in said series, including mechanical means arranged to push said cards in a direction parallel to said edge.

31. A method of card selection comprising assembling a set of cards having selectively removable tabs along an edge, obstructing the movement of all cards excepting those having tabs absent in relation corresponding to the desired selection, and pushing all of said cards in a direction parallel to said edge.

32. A method of card selection comprising assembling a set of cards having along an edge a series of narrow notches and one or more wide notches, obstructing the movement of all cards except those having wide notches in corresponding relation to the desired selection, and pushing the set of cards in a direction tending to move them parallel to said edge.

33. A method of card selection comprising assembling a set of cards having selectively removable tabs along an edge and having an inclined edge portion, obstructing the movement of the cards except those having tabs absent in corresponding relation to a desired selection, and positively pushing against said inclined portion to cause unobstructed cards to move laterally while raising the obstructed cards adjacent said inclined portion thereof.

34. A method as in claim 31, the movement of the unobstructed cards being a horizontal one, and being followed by the step of imparting an additional isolating movement to the partially isolated cards.

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