July 8, 1941. W. L. JONES 2,248,536

CARD SORTING DEVICE

Filed March 6, 1940 5 Sheets-Sheet 1

FIG. 1.

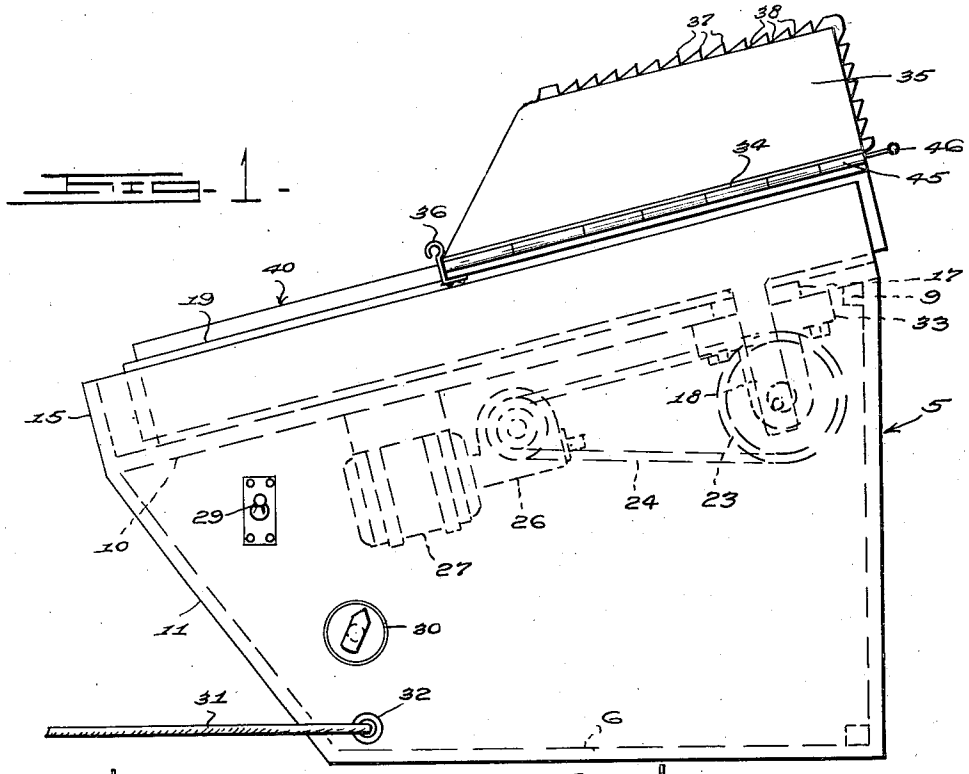
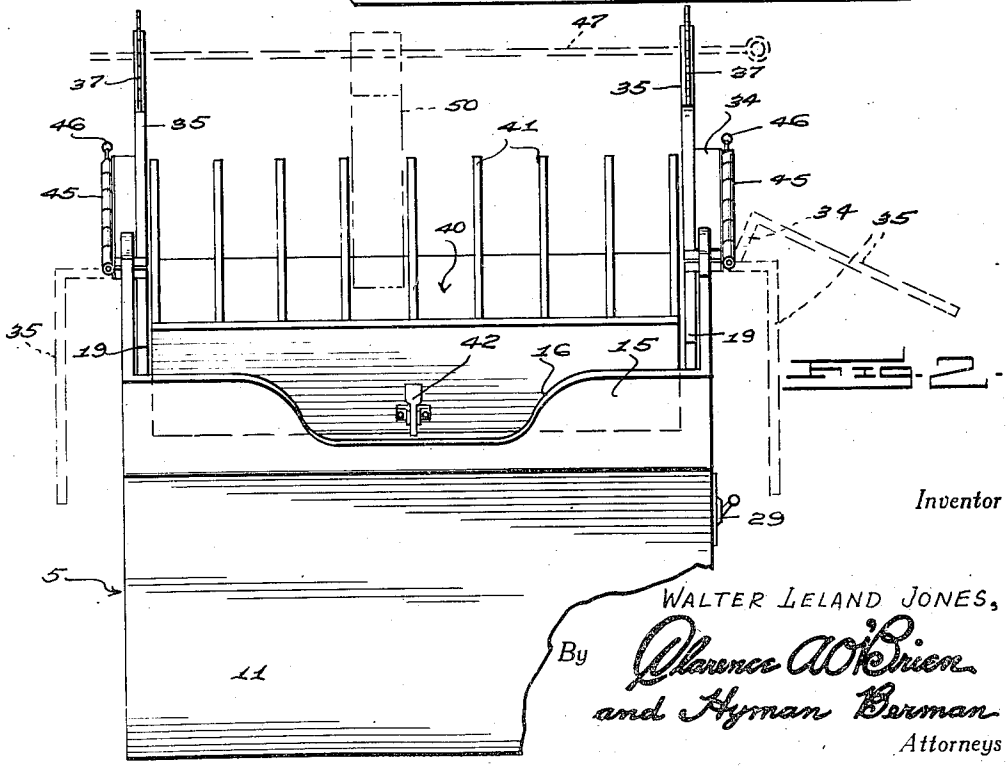


FIG. 2.



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CARD SORTING DEVICE

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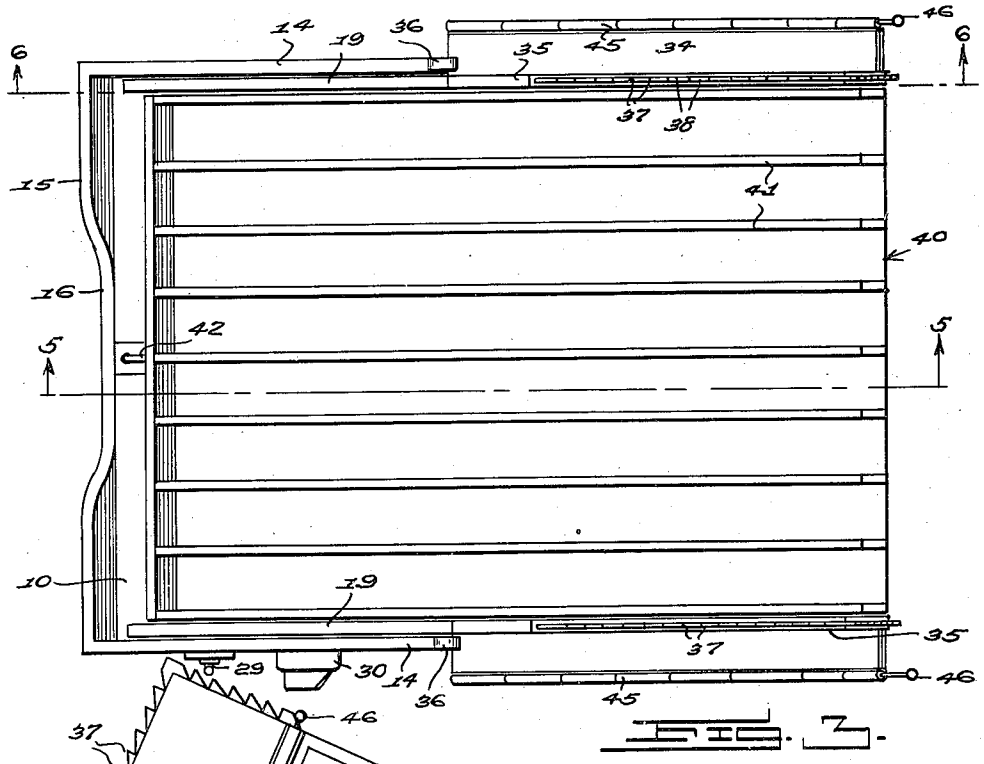


FIG. 3.

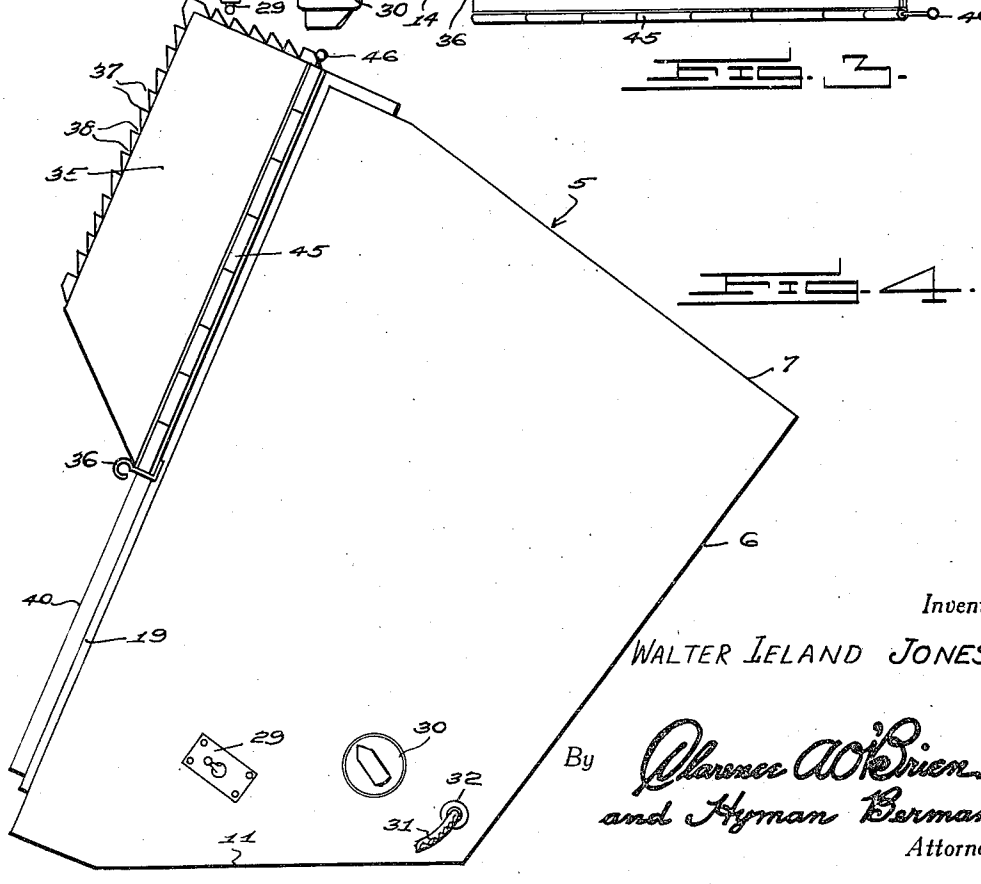


FIG. 4.

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CARD SORTING DEVICE

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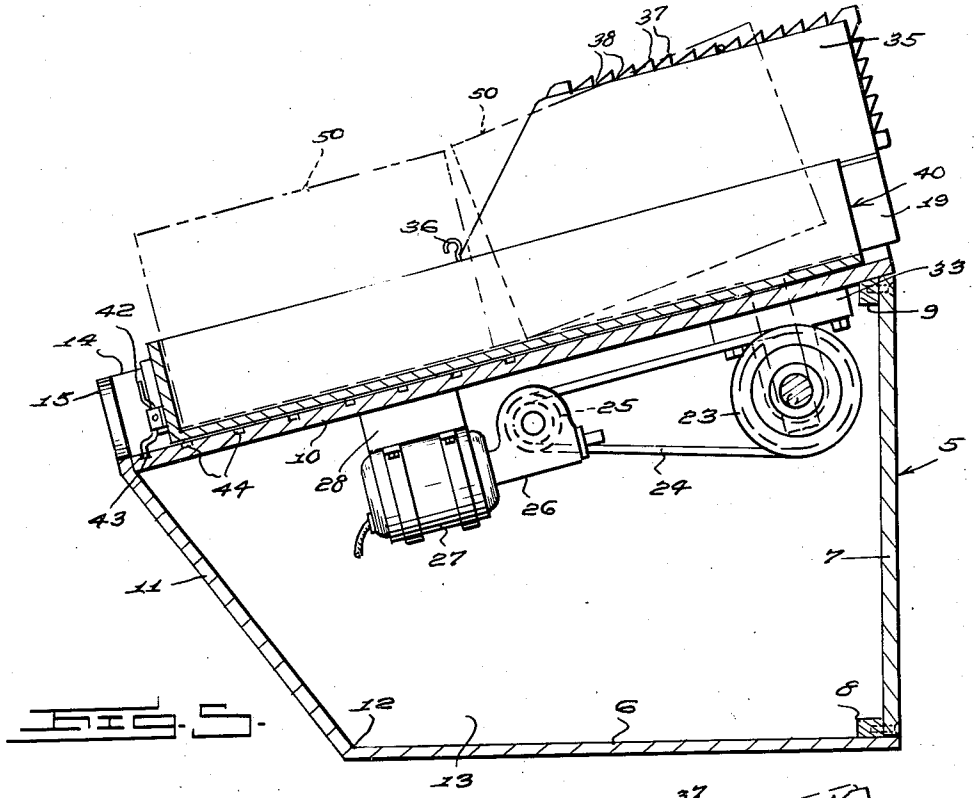


FIG. 5.

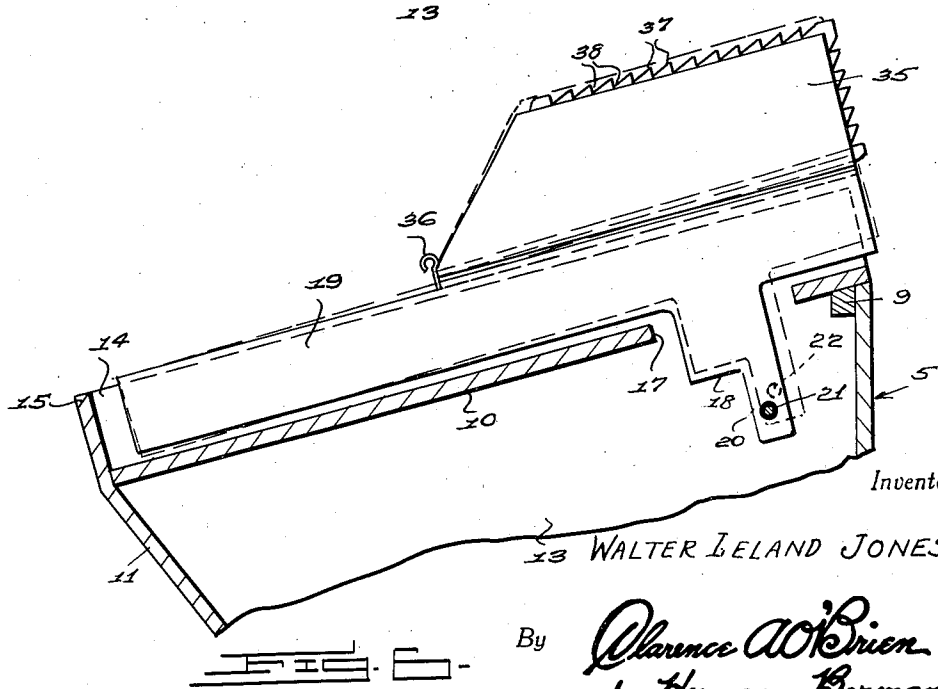


FIG. 6.

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CARD SORTING DEVICE

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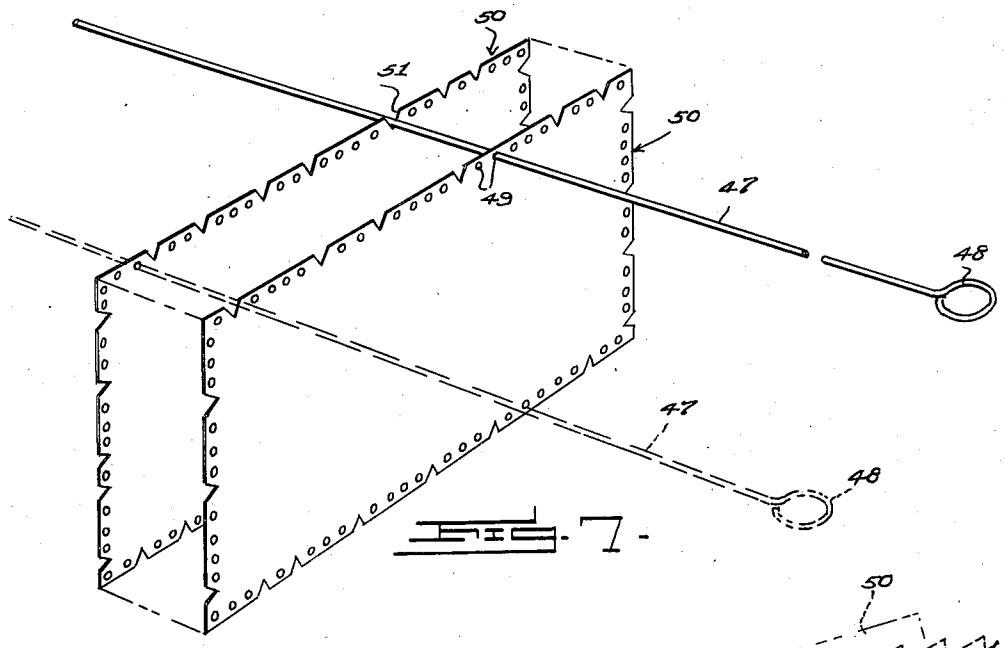


FIG. 7.

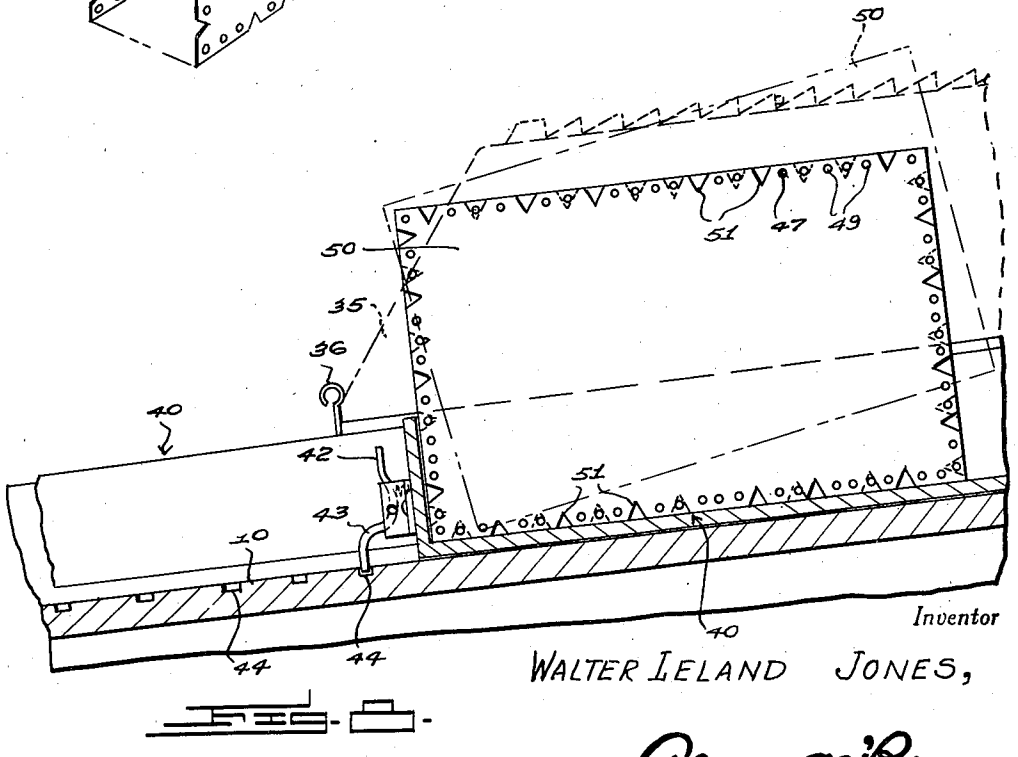


FIG.

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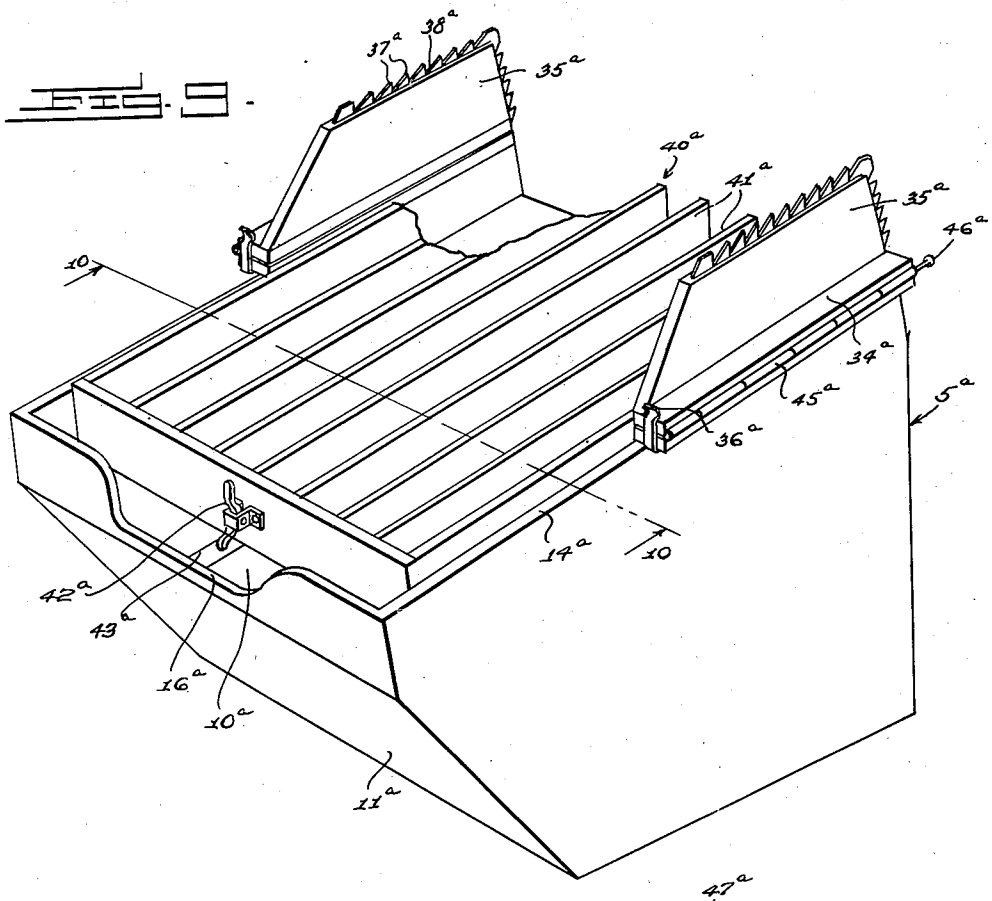
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CARD SORTING DEVICE

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FIG. 9



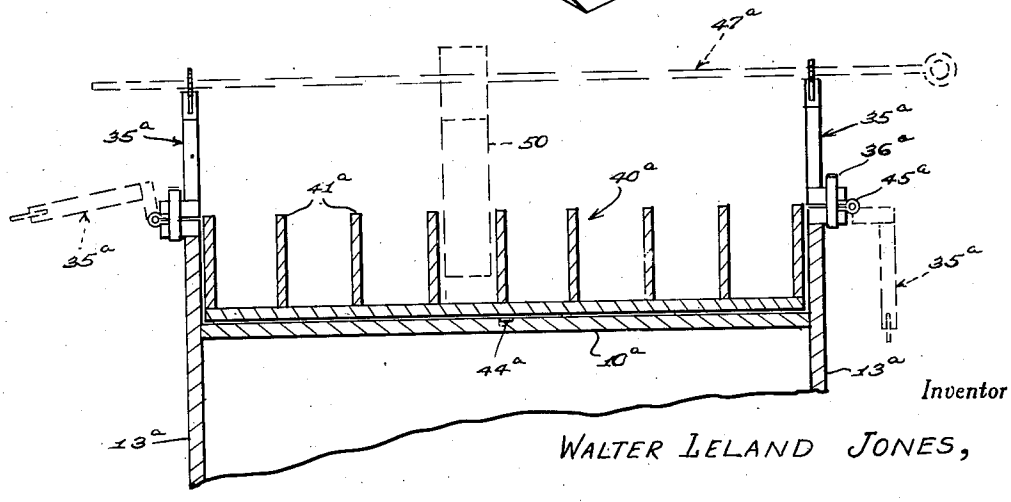


FIG. 10

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Patented July 8, 1941 2,248,536

UNITED STATES PATENT OFFICE

2,248,536

CARD SORTING DEVICE

Walter Leland Jones, Webster Groves, Mo., assignor of one-half to Loma Jones, Webster Groves, Mo.

Application March 6, 1940, Serial No. 322,637

21 Claims. (Cl. 129—16.1)

My invention relates to improvements in means for sorting record cards and the like, and particularly to simplified arrangements of this character enabling easily separating and segregating selected cards from a pack of cards, the arrangement being adapted to mechanical motor operation or manual operation, and an important object of my invention is to provide arrangements of the character indicated which, because of simplicity of construction and the small number of component parts involved, can be manufactured and distributed at a relatively low cost.

Other important objects and advantages of my invention will be apparent from a reading of the following description taken in connection with the drawings, wherein for purposes of illustration preferred embodiments of my invention are shown.

In the drawings—

Figure 1 is a general side elevational view of the mechanical motor driven embodiment, with portions of the interior mechanism thereof shown in dotted lines, the embodiment shown in a usual horizontal position in which it is supported on a supporting surface.

Figure 2 is a front elevational view looking from left to right in Figure 1 and showing in dotted lines a stack of cards positioned for sorting, with one of the selector rods in position, with the hinged guards also shown in dotted lines in their inoperative positions.

Figure 3 is a top plan view of Figure 1.

Figure 4 is a side elevational view similar to Figure 1 but showing the device tilted up on its forward end in an alternative operative position.

Figure 5 is a general longitudinal vertical sectional view taken through Figure 3 approximately on the line 5—5 and looking upwardly in the direction of the arrows showing the tray in a lowered position, and showing in dotted lines successive positions of the separated cards.

Figure 6 is a fragmentary longitudinal vertical sectional view taken through Figure 3 approximately on the line 6—6 and looking upwardly in the direction of the arrows.

Figure 7 is a schematic view showing two related cards from a pack of cards engaged by selector rods so as to be retained thereby while the remaining cards of the pack are separated from the pack by mechanical or manual action.

Figure 8 is an enlarged fragmentary longitudinal sectional view similar to Figure 5 but showing the tray in an initial elevated position which is used to hold the pack of cards at the upper part of the device while and until the selector rods have been placed.

Figure 9 is a front perspective view of a manually operated embodiment of the invention and showing the tray thereof in lowered position.

Figure 10 is a fragmentary transverse vertical sectional view taken through Figure 9 approximately on the line 10—10 and looking upwardly in the direction of the arrows.

Referring in detail to the drawings, and first to the embodiment of the invention shown in Figures 1 through 8 inclusive, the numeral 5 generally designates the casing of the mechanical motor driven embodiment, this casing comprising a bottom 6, a perpendicular rear wall 7 which rises from the rear end of the bottom and is removably connected to a cleat 8 secured on the bottom 6 and a cleat 9 secured to the underside of the top 10. The top 10 slants forwardly and downwardly to meet the rearwardly declining front wall 11 to which the lower end of the top is attached, the lower end of the front wall 11 being attached as indicated by the numeral 12 to the front or forward edge of the bottom 6. The casing further comprises opposite side walls 13 which are connected with the side edges of the walls described. On the said top 10 are fixed side rails 14 which extend the full length of the top. A stop rail 15 is positioned between and connected to the lower ends of the members 14 at the lower end of the top, the upper part of the stop rail being cut away at its middle as indicated by the numeral 16 to facilitate access to the sliding tray for operation thereof in a manner to be described.

The top 10 has longitudinal slots 17 formed adjacent the side rails 14, these slots being relatively short and positioned adjacent the upper end of the top. Inverted L-shaped lugs 18 work freely through the slots 17, the lugs 18 depending rigidly from the lower edge of longitudinally elongated sides 19 which lie spacedly along the inner faces of the side rails 14 on the top 10, these side rails being capable of oscillation from the full line position shown in Figure 6 to the dotted line shown therein, by reason of the mounting of the standard portion 20 of the lugs 18 on the throw 21 of the cranks on the opposite ends of the rotary shaft 22 which has opposite end portions thereof turning in bearing brackets 33 and attached to depend from the top 10 adjacent the side walls 13 of the casing. The shaft 22 has fixed thereon a pulley 23 which is driven by a belt 24 trained over a pulley 25 on a reducing gear 26 which is opera-

tively connected to a suitable electric motor 27. The motor is mounted on a base 28 secured to the under side of the top 10 as clearly illustrated in Figure 5. A suitable on and off switch 29 is conveniently mounted on the right side wall 13 of the casing, and below this is disposed a speed control rheostat 30. The necessary wires for energizing the motor 27 from a suitable source (not shown) are encased in a conduit 31 which enters the lower part of the casing through a grommet equipped opening 32.

Piano hinges 34 have one leaf thereof fastened on the upper edge of the upper part of the sides 19, with the remaining leaf fastened to the lower or laterally inward edges of the guards 35 whereby these guards may occupy positions in the same plane as the sides 19 or be moved to inoperative positions such as are shown in dotted lines in Figure 2 of the drawings. Mounted to the bottom of the lower leaf of the piano hinge 34 is a spring detent 36 which is arranged to engage the upper leaf of the hinge in a manner to hold the guards in erect operative positions as shown in full lines in Figures 1, 2 and 3 of the drawings. Releasing of the detent 36 enables swinging the guards to the inoperative positions mentioned above for purposes to be explained. The upper edge and the upper end of each guard are provided with ratchet-shaped metallic teeth 37 which define V-shaped notches 38 having one wall thereof arranged in a substantially perpendicular position, for reception of the selector rods to be described.

Located within the sides 19 of the vibrator mechanism described is the tray which is generally designated 40, and which is slidable on the top 10 of the casing, the tray being sufficiently wide to substantially occupy the space between the sides 19, and sufficiently long to reach from the upper end of the top 10 to within a short distance from the stop rail 15 at the lower end of the top, as illustrated in Figures 3 and 4 of the drawings. The space between the sides of the tray 40 is divided by longitudinal partitions 41 into a suitable number of suitably wide chutes, in accordance with the size and number of cards in the packs to be handled. The tray is provided at its lower end with a manually releasable dog 42 which has a nose 43 which is selectively engageable in any one of a plurality of longitudinally spaced depressions 44 formed along the longitudinal middle of the top 10. In its normal position the dog 42 presses the nose 43 against the top 10 and into any one of the selected depressions 44. In its released position the nose of the said dog is elevated above the surface of the top so as to avoid interfering in any way with free movement of the tray along the top. The tray may be arrested and held in any desired position along the top by reengaging the nose of the detent with the corresponding one of the depressions.

The barrels 45 of the companion hinge leaves of the piano hinges 34 have a removable pin 46, whose removability enables completely removing the guards 35. Such complete removability is desirable so that guards of different heights and lengths may be substituted for handling cards of different widths and lengths.

As shown in Figures 1 and 4, the device is operated in a horizontal position where the selection of the cards to be separated from the pack is made by means of selector rods engaged with the upper edges of the cards and supported in the notches 38 on the upper edges of the guards. However, when it is desired to sort from the ends of the cards instead of from the longitudinal sides or edges thereof, the device is uptilted on its front end as indicated in Figure 4 of the drawings.

The selector rods 47 are of a length to more than reach across between the guards 35. A handle 48 is provided at only one end of the selector rod so that the rods may be passed through selected holes 49 in those of the cards 50 which are to be retained against separation from the pack, while passing freely through the notches 51 on the edges of the cards to be separated from the pack. The operative positions of the selector rods are resting in notches 38 on the upper edges or on the upper ends of the guards, in accordance with the position of sorting, so that the rods, and hence the cards impaled thereon are retained while those cards not so impaled are free to be shaken loose from the pack of cards in a manner to be described.

In operating the device, the pack of cards 50 being chosen from which certain cards are to be separated, the pack is placed in one or more of the chutes or compartments of the tray 40, with the tray at the upper end of the top of the casing. The precise position of the tray is determined by the length of the cards in the pack. At this point, the guards 35 are in lowered inoperative position. The required number of selector rods 47 are then passed through the holes 49 of the cards to be retained and passed freely through the notches 51 in the edges of the cards to be separated, the opposite ends of the rods being allowed to overhang the sides of the device. The guards 35 are then swung up into operative position and this results in the guards engaging the overhanging ends of the rods with their notch equipped portions. Since a proper size of guard is selected in accordance with the size of the cards to be sorted, the guards will be tall enough to elevate the selector rods as the guards come up into operative position. The result of this is that the cards impaled on the selector rods so elevated rise out of the pack as indicated in Figures 5 and 8 of the drawings so as to become somewhat separated from the remaining cards in the pack which occupy the full line position as illustrated in Figure 8. The detent 42 is then released and the tray 40 slid to a depressed position such as is illustrated in Figure 5, so that the lower end of the tray is sufficiently distant from the adjacent edges of the cards in the retained pack to allow room for the cards separated from the pack to move down to the lower end of the tray and be completely separated from the retained cards.

With the arrangements described above, the motor 27 is operated by closing the switch 29, whereupon the crankshaft 22 is rotated so as to impart reciprocating or oscillating motion to the sides 19 and hence to the guards 35, and hence to the selector rods 47, so that the cards impaled on the selector rods are oscillated in the pack cards with an up and down and forward and backward motion. These motions, coupled with the declining arrangement of the tray 40 cause the unimpaled cards to move out of the pack and slide down along the tray 40 until they strike the lower end of the tray, thereby being completely and easily and quickly separated from the pack of cards.

It will be noted that the cards remain at all times in an upright or vertical position because the spacing of the partitions in the tray is arranged so that the cards cannot fall sidewise. When the desired separation has been effected,

so that the sorting is complete, the selector rods 47 are withdrawn from the retained portion of the pack of cards, so that these cards may be available for filing in the same manner as the separated cards collected in the lower end of the tray available for filing or for other purposes.

The cards 50 are to be furnished to the user of the device with a number of holes 49 punched in the longitudinal and end edges thereof. Each hole is designated by suitable indicia on the cards. If desired, the cards may be identified for filing purposes by converting any of the holes into notches 51, so that the cards to be retained by the selector rods in a sorting operation utilizing the device of the invention, and those to be separated in such an operation can be readily distinguished from each other simply by passing selector rods relative thereto in the manner already indicated.

Referring now to the manually operated embodiment of the invention shown in Figures 9 and 10, this comprises a casing 5a corresponding in general form with the casing of the first described embodiment. In the manual embodiment the top 10a is devoid of slots 17 and there are no oscillating sides 19 present. A tray 40a, similar in all respects to the tray 40 of the first described embodiment is slidably mounted on the slanting top 10a and provided with a detent arrangement 42a and 43a for engaging depressions 44a in the top 10a to hold the tray 40a in various adjusted positions along the top 10a. Guards 35a mounted and arranged as already described above are present and serve exactly similar purposes, but in the present case these guards are mounted on the upper edges 14a of the casing sides 13a rather than on oscillating members 19 which are present in the mechanical motor driven embodiment above described. Other numerals primed with the letter a in Figures 9 and 10 of the drawings refer to similar parts designated in the other views by the same numerals.

In operating the manual embodiment of the invention the pack of cards with which the sorting is to be done is arranged as above described, with a suitable number and arrangement of selector rods 47a engaged with the proper notches 38a formed by teeth 37a in the guards. With selector rods properly engaged with the cards of the pack to be retained, it is a simple matter to cause the unimpaled cards to become separated from the pack and slide down the chutes of the tray 40a by applying manual vibration to the selector rods. As in the mechanical embodiment the present manual embodiment may be operated in either the horizontal position illustrated in Figure 9 or in a position similar to that shown in Figure 4 in connection with the present described embodiment. The selector rods have eyes 48 at one end acting as handles for manipulating the rods.

Although I have shown and described herein preferred embodiments of my invention, it is to be definitely understood that I do not desire to limit the application of my invention thereto, except as may be required by the scope of the subjoined claims.

Having described the invention, what is claimed as new is:

1. A device for separating selected cards from a pack of cards, said device comprising a support including a declining top, a vibratory member mounted on said support and projecting above said top, retainer means on said top to hold a pack of cards on edge at the upper end of said top, and selector means engageable with selected ones of the cards of the pack other than the cards to be separated, said selector being arranged to be engaged with said vibratory member.

2. A device for separating selected cards from a pack of cards, said device comprising a support including a declining top, a vibratory member mounted on said support and projecting above said top, retainer means on said top to hold a pack of cards on edge at the upper end of said top, and selector means engageable with selected ones of the cards of the pack other than the cards to be separated, said selector being arranged to be engaged with said vibratory member, said retainer means comprising a tray adjustable along said top.

3. A device for separating selected cards from a pack of cards, said device comprising a support including a declining top, a vibratory member mounted on said support and projecting above said top, retainer means on said top to hold a pack of cards on edge at the upper end of said top, and selector means engageable with selected ones of the cards of the pack other than the cards to be separated, said selector being arranged to be engaged with said vibratory member, said retainer means comprising a tray adjustable along said top, said tray having longitudinal partitions spaced so as to retain the cards on edge.

4. A device for separating selected cards from a pack of cards, said device comprising a support including a declining top, a vibratory member mounted on said support and projecting above said top, retainer means on said top to hold a pack of cards on edge at the upper end of said top, and selector means engageable with selected ones of the cards of the pack other than the cards to be separated, said selector being arranged to be engaged with said vibratory member, motor means on said support for imparting vibratory motion to said vibratory member.

5. A device for separating selected cards from a pack of cards, said device comprising a support including a declining top, a vibratory member mounted on said support and projecting above said top, retainer means on said top to hold a pack of cards on edge at the upper end of said top, and selector means engageable with selected ones of the cards of the pack other than the cards to be separated, said selector being arranged to be engaged with said vibratory member, said vibratory member comprising a first element extending along the outer side of said retainer means and a second element hinged on the first element to swing laterally outwardly, and detent means to hold said second element in the normal vertical position.

6. A device for separating selected cards from a pack of cards, said device comprising a support including a declining top, a vibratory member mounted on said support and projecting above said top, retainer means on said top to hold a pack of cards on edge at the upper end of said top, and selector means engageable with selected ones of the cards of the pack other than the cards to be separated, said selector being arranged to be engaged with said vibratory member, said vibratory member comprising a first element extending along the outer side of said retainer means and a second element hinged on the first element to swing laterally outwardly, and detent means to hold said second element in

the normal vertical position, said second element having projections on its upper edge to be selectively engaged by said selector means.

7. A device for separating selected cards from a pack of cards, said device comprising a support including a declining top, a vibratory member mounted on said support and projecting above said top, retainer means on said top to hold a pack of cards on edge at the upper end of said top, and selector means engageable with selected ones of the cards of the pack other than the cards to be separated, said selector being arranged to be engaged with said vibratory member, said vibratory member comprising a first element extending along the outer side of said retainer means and a second element hinged on the first element to swing laterally outwardly, and detent means to hold said second element in the normal vertical position, said second element having projections on its upper edge to be selectively engaged by said selector means, said selector means comprising a rod arranged to engage opening means formed in edge portions of the selected cards, so that the selected cards will be vibrated relative to the cards to be separated so as to permit the cards to be separated to slide downwardly in the retainer means away from said pack of cards.

8. A device for separating selected cards from a pack of cards while retaining others of the cards of the pack, said device comprising a support including a declining surface, a downwardly slidable tray disposed on said surface, said tray being movable up along said surface to retain a pack of cards adjacent the elevated end of said surface, selector means for retainably connecting with only those cards of the pack which are to be retained while being free from the cards to be separated from the pack, and elevating means on the opposite sides of said support, said means being arranged to be elevated to engage said selector means so as to elevate the same and lift the cards connected thereto, said tray being adapted to be moved to a position adjacent the depressed end of said surface and oscillable means enabling vibrating said selector means to cause the unconnected cards to become separated from the retained cards and slide down said tray.

9. A device in accordance with claim 8 wherein said oscillable means comprises handle means on said selector means.

10. A device in accordance with claim 8 wherein the cards to be retained have perforations and the cards to be separated are notched to align with the perforations, and wherein said selector means comprises rods to pass through aligned perforations to support the corresponding retained cards from the rods.

11. A device in accordance with claim 8 wherein said elevating means comprises a plate hinged on the side of said support, hinge means permitting said plate to swing laterally outwardly and downwardly but preventing upward swinging thereof beyond the perpendicular, detent means on said support for releasably holding said plate in perpendicular position.

12. A device in accordance with claim 8 wherein said elevating means comprises a plate hinged on the side of said support alongside of the adjacent side of the tray for swinging from a depressed laterally outward position to an elevated perpendicular position, the top edge and the upper end edge of said plate being formed with means for loosely holding said selector means in a selected position relative to the pack of cards.

13. Card sorting apparatus comprising a support, a pair of vibrating elements arranged along opposite sides of said support, a crankshaft on said support having throws to which said vibratory elements are operatively connected for vertical oscillation, vertically extensible members carried by said vibratory elements, a declining card tray mounted on said support, a pack of cards arranged on edge on the upper part of said tray between said vibratory elements, some of said cards having perforations and others of said cards being notched to expose the perforations, a selector rod passing through selected aligned notches and perforations, rod retaining means on said vertically extensible members, said vertically extensible members being arranged to be elevated from a depressed initial position to a more elevated position to engage said retaining means with the ends of the selector rod and elevate the rod and the perforated cards impaled thereon relative to the notched cards, and means for operating said crankshaft to cause the notched cards to separate from the impaled perforated cards and move gravitationally down along said declining card tray.

14. Card sorting apparatus comprising a support, a horizontal transverse crankshaft journaled on said support, said crankshaft having a pair of longitudinally spaced throws, a pair of longitudinally arranged vibratory elements supported along opposite sides of the upper part of said support, means operatively connecting said elements to the corresponding crankshaft throws, means providing a declining surface between said vibratory elements, a retaining member hinged along each of said vibratory elements for swinging laterally from a depressed position to a substantially perpendicular operative position, a pack of cards arranged on edge along the upper part of said surface, some of said cards having perforations and others being notched to expose aligned perforations, a selector rod passing through aligned notches and perforations, said retaining members having selector rod holding means on the upper part thereof, said retaining members being arranged to be swung upwardly from a depressed position toward said perpendicular operative position, so as to engage the ends of the selector rod with said holding means and elevate the selector rod and the perforated cards impaled thereon relative to the notched cards and the said declining surface, and motor means for operating said crankshaft to oscillate said vibratory elements to cause the notched cards to separate from the impaled perforated cards and move gravitationally down along said declining surface.

15. Card sorting apparatus comprising a support, a horizontal transverse crankshaft journaled on said support, said crankshaft having a pair of longitudinally spaced throws, a pair of longitudinally arranged vibratory elements supported along opposite sides of the upper part of said support, means operatively connecting said elements to the corresponding crankshaft throws, means providing a declining surface between said vibratory elements, a retaining member hinged along each of said vibratory elements for swinging laterally from a depressed position to a substantially perpendicular operative position, a pack of cards arranged on edge along the upper part of said surface, some of said cards having perforations and others being notched to expose

aligned perforations, a selector rod passing through aligned notches and perforations, said retaining members having selector rod holding means on the upper part thereof, said retaining members being arranged to be swung upwardly from a depressed position toward said perpendicular operative position, so as to engage the ends of the selector rod with said holding means and elevate the selector rod and the perforated cards impaled thereon relative to the notched cards and the said declining surface, and motor means for operating said crankshaft to oscillate said vibratory elements to cause the notched cards to separate from the impaled perforated cards and move gravitationally down along said declining surface, means for yieldably retaining said retaining elements in their perpendicular operative positions.

16. Card sorting apparatus comprising a support, a horizontal transverse crankshaft journaled on said support, said crankshaft having a pair of longitudinally spaced throws, a pair of longitudinally arranged vibratory elements supported along opposite sides of the upper part of said support, means operatively connecting said elements to the corresponding crankshaft throws, means providing a declining surface between said vibratory elements, a retaining member hinged along each of said vibratory elements for swinging laterally from a depressed position to a substantially perpendicular operative position, a pack of cards arranged on edge along the upper part of said surface, some of said cards having perforations and others being notched to expose aligned perforations, a selector rod passing through aligned notches and perforations, said retaining members having selector rod holding means on the upper part thereof, said retaining members being arranged to be swung upwardly from a depressed position toward said perpendicular operative position, so as to engage the ends of the selector rod with said holding means and elevate the selector rod and the perforated cards impaled thereon relative to the notched cards and the said declining surface, and motor means for operating said crankshaft to oscillate said vibratory elements to cause the notched cards to separate from the impaled perforated cards and move gravitationally down along said declining surface, said apparatus comprising a card tray having a declining bottom constituting said declining surface, said support having a similarly declining upper part along which said tray is slidable toward and away from said selector rod, and detent means for releasably holding said tray in adjustable position.

17. Card sorting apparatus comprising a support having a declining upper surface, a pair of elements mounted along opposite sides of said surface, a pack of cards lying on edge on the upper part of said surface, some of the cards having perforations and others being notched to expose the perforations, a selector rod passing through selected aligned notches and perforations, retaining members on said elements for holding and supporting the opposite ends of said selector rod, said retaining members being elevatable to elevate said selector rod and the perforated cards impaled thereon relative to the notched cards, said selector rod being arranged to be vibrated by hand to cause the notched cards to separate from the impaled perforated cards and move gravitationally down along said declining surface.

18. Card sorting apparatus comprising a support, a pair of elements fixed along opposite sides of the upper part of said support, a retaining member on each of said elements, hinge means fixing said retaining members on said elements to swing on horizontal axes from a laterally outwardly depressed position to a substantially perpendicular position, means providing a declining surface between said retaining members, a pack of cards resting on edge along the upper part of said declining surface, some of said cards having perforations and others being notched to expose aligned perforations, a selector rod passing through aligned notches and perforations, means on the upper part of said retaining members for engaging and holding the ends of the selector rod as the retaining members are swung from depressed toward their elevated perpendicular positions, the perforated cards impaled on said selector rod thereby being elevated with respect to the notched cards and with respect to said declining surface, said selector rod being arranged to be vibrated by hand to cause the notched cards to separate from the impaled perforated cards and move gravitationally down along said declining surface.

19. Card sorting apparatus comprising a support, a pair of elements fixed along opposite sides of the upper part of said support, a retaining member on each of said elements, hinge means fixing said retaining members on said elements to swing on horizontal axes from a laterally outwardly depressed position to a substantially perpendicular position, means providing a declining surface between said retaining members, a pack of cards resting on edge along the upper part of said declining surface, some of said cards having perforations and others being notched to expose aligned perforations, a selector rod passing through aligned notches and perforations, means on the upper part of said retaining members for engaging and holding the ends of the selector rod as the retaining members are swung from depressed toward their elevated perpendicular positions, the perforated cards impaled on said selector rod thereby being elevated with respect to the notched cards and with respect to said declining surface, said selector rod being arranged to be vibrated by hand to cause the notched cards to separate from the impaled perforated cards and move gravitationally down along said declining surface, said apparatus comprising a card tray resting on said support and having a declining bottom constituting said declining surface, a card stop on the lower end of said bottom, said card tray being adjustable to position said card stop in engagement with the lower end of said pack of cards to prevent unwanted separation of the cards on the elevated end of said declining bottom prior to placing the selector rod and swinging said retaining members into their elevated operative positions, and detent means for holding said tray in a selected position.

20. Card sorting apparatus comprising a support, a card tray on said support, said card tray having a declining bottom, vibratory elements mounted on said support at the opposite sides of said tray, said vibratory elements having vertically projectible members, at least one selector rod arranged to rest on the upper part of both of said members in their elevated positions, a pack of cards some of which have perforations adjacent their edges and the others being notched at their edges to align with the perforations, said selector rod or rods passing through certain aligned notches and perforations, and

means for imparting vertical vibration to said vibratory elements to oscillate the impaled perforated cards relative to the notched cards in said pack and cause the notched cards to separate from the pack and slide gravitationally down along said declining bottom of the tray.

21. Card sorting apparatus comprising a support, a card tray on said support, said card tray having a declining bottom, vibratory elements mounted on said support at the opposite sides of said tray, said vibratory elements having vertically projectible members, at least one selector rod arranged to rest on the upper part of both of said members in their elevated positions, a pack of cards some of which have perforations adjacent their edges and the others being notched at their edges to align with the perforations, said selector rod or rods passing through certain aligned notches and perforations, and means for imparting vertical vibration to said vibratory elements to oscillate the impaled perforated cards relative to the notched cards in said pack and cause the notched cards to separate from the pack and slide gravitationally down along said declining bottom of the tray, a stop at the lower end of said tray, and means enabling adjustment of said tray along said support to position said stop to arrest the pack of cards in position to receive the selector rod or rods while said vertically projectible members are in depressed positions.

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