

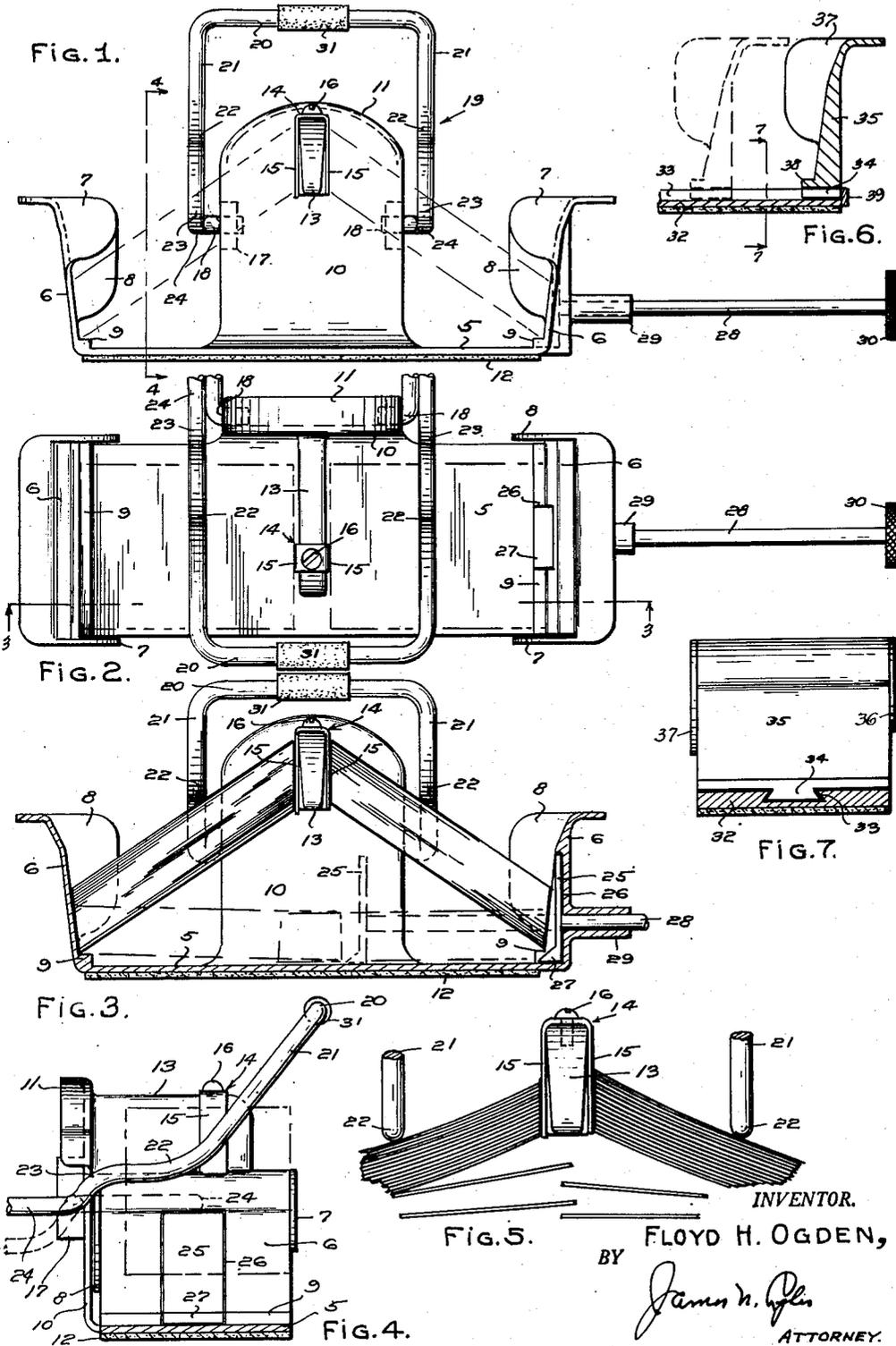
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CARD SHUFFLING DEVICE

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INVENTOR.

FIG. 5.

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CARD SHUFFLING DEVICE

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This invention relates to playing card shuffling devices and particularly to a shuffling device for effectively mixing two conventional decks of cards in a simple and rapid manner.

It has been found extremely difficult to effectively shuffle two decks of cards by hand and the effectiveness of the shuffle has been rather haphazard, since it is rather inconvenient to properly hold and riffle or otherwise mix two conventional decks, due to their bulk. Playing card games requiring two decks of cards, such for instance as the well known game of "canasta," are largely dependent upon a thorough mixing of the cards and, since a riffing of the cards results in a more effective mixing, the present invention has been designed in a simple and inexpensive manner to receive a divided double deck and, by a simple motion of a pair of riffing arms, the two decks are thoroughly riffled and intermixed.

The invention includes a tray wherein the divided double deck is manually arranged in angular relation with their ends contacting, a pair of riffing fingers and a pair of swinging riffing arms for exerting pressure upon the cards to be riffled alternately from the riffing fingers and fall within the tray more or less alternately with their ends overlapping, and a simple and novel means for pushing the riffled cards together.

An object of the invention is the provision of a device that will effectively riffle a double deck of cards, is cheap to manufacture, is simple in construction, is strong, durable, ornamental in appearance and is highly efficient in use.

Other and important objects of the invention will be readily apparent during the course of the following description, reference being had to the accompanying drawings, wherein has been illustrated preferred examples thereof and wherein like characters of reference denote like parts throughout the several figures.

In the drawings:

Figure 1 is a front elevation of a device constructed in accordance with the invention,

Figure 2 is a plan view thereof,

Figure 3 is a vertical longitudinal section, taken on line 3-3 of Figure 2,

Figure 4 is a transverse vertical section, taken on line 4-4 of Figure 1,

Figure 5 is an enlarged fragmentary front elevation, illustrating the riffing action,

Figure 6 is a fragmentary vertical longitudinal section through one end of the device, illustrating a modified form of the invention, and

Figure 7 is a transverse section, taken on line 7-7 of Figure 6.

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Referring specifically to the drawings and particularly to Figures 1 to 4 inclusive, the numeral 5 designates a base plate of generally rectangular shape having upturned and slightly outwardly inclined end flanges 6. Each flange 6 is provided with inwardly extending forward and rear wings 7 and 8, paralleling the base plate 5. At the junction of the flanges 6 and the base 5, flat shoulders or ledges 9 are provided, for a purpose to be presently described. Extending vertically from the rear edge of the plate 5 and intermediate the length of the plate, is a relatively wide wall 10, having its upper terminus rearwardly flanged, as at 11 and preferably formed on an arc. The plate 5, flanges 6, wings 7 and 8 and the wall 10 with its flange 11, may be cast as an integral unit, of metal, plastic or any other desirable material having sufficient rigidity. The bottom of the plate 5 may be covered by a layer of felt 12, cemented or otherwise secured thereto.

Projecting forwardly from the wall 10, at a point adjacent to the upper end, is a bar 13, preferably formed integral with the wall and having its opposite sides tapered downwardly, as shown, and the upper forward corner rounded. Fixed upon the bar 13, adjacent to the forward end, is a U-shaped riffing element 14, having parallel legs 15 positioned upon opposite sides of the bar. The element 14 is rigidly held against movement on the bar 13, by a screw 16. As clearly shown in Figures 1, 3 and 5, one leg 15 terminates substantially flush with the lower edge of the bar, while the other leg 15 extends slightly lower, for a purpose to be described. The element 14 is substantially rigid, although it may be desirable to impart a slight flexibility thereto.

Fixed upon the rear of the wall 10, at opposite sides, are trunnion blocks 17, rotatably supporting the axially aligned ends 18, of a generally U-shaped card compressing frame 19. The frame comprises a forward cross bar 20, integral with a pair of parallel arm portions 21. The arm portions 21 are bent in a relatively wide arc, at 22 and then are curved downwardly at 23 and extended at 24 and then bent upon themselves to form a preliminary card support and positioning arm, terminating in the ends 18. The frame 19 is adapted to be swung in a vertical plane from a position of rest at the rear of the base plate, to a position of rolling contact with the surface of the cards.

The playing cards, after being riffled, are positioned upon the surface of the base plate 5 in extended manner, with their ends overlapping. Means are employed to push the riffled cards into

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a single pack, comprising a vertically arranged pusher plate 25, normally seating in a recessed rectangular opening 26, formed in one end flange 6. The lower end of the pusher plate 25 is provided with a bevelled foot portion 27. The plate 25 is moved toward and from the riffled cards by a rod 28, having a sliding bearing in a tubular extension 29 of the flange 6. A hand knob 30 facilitates the shifting movement of the rod. The plate 25 is rectangular and its foot 27 has sliding contact with the surface of the base plate 5. The plate 25 is maintained in proper travel position for engagement with the cards by the engagement of the foot 27 with the plate 5, thus preventing rocking movement.

In the use of the device, when it is desired to shuffle a double deck of playing cards, the cards are separated into two substantially equal piles. The compressing frame is swung rearwardly until the bar lies upon the surface of a table or other supporting medium. In this position, the extension 24 of the frame extends inwardly and overlies the base plate 5, as shown by dotted lines in Figure 4. The cards are then positioned in the device, with the outer ends supported upon the shoulders or ledges 9 and their upper or inner ends resting against the riffling fingers 15, shown clearly in Figures 3 and 5. The cards are further supported by the extended portions 24 of the frame 19. The operator then swings the frame 19 upwardly and forwardly by the bar 20, such movement causing the ends 24 to swing downwardly and rearwardly away from the cards. Continued forward movement of the frame 19 brings the arcuate portions 22 thereof into rolling contact with the upper surfaces of each pile of cards, pressing the cards downwardly and causing them to flex, as indicated in Figure 5. Continued downward pressure on the cards causes them to alternately snap from the terminal ends of the fingers 15 and, as they leave the fingers 15, they fall downwardly to rest upon the surface of the plate 5, with their inner ends in overlapping position alternately. After the cards have been completely riffled, the frame is again swung rearwardly to a position of rest and the operator then shifts the rod 28 inwardly, causing the plate 25 to engage the outer ends of the adjacent cards and shift them endwise for stacked engagement with the opposite pile. The completely riffled pile may then be removed by the operator by grasping them with his fingers and sliding them outwardly. It will be noted, that the forward wings 7 are sufficiently short to permit the sidewise shifting of the cards on removal. The operation may be repeated for a more thorough shuffling of the cards if desired. After each operation, the parts are returned to their normal position. The bar 29 may be provided with a resilient sleeve 31, to prevent scarring of a supporting surface, should the frame be swung rearwardly with any degree of force. While the device has been primarily designed to facilitate the shuffling of a double deck of playing cards, it will be apparent that a single deck can be riffled with equal success, it being of course understood, that the deck would be divided into two separate piles as before.

In Figures 6 and 7, a modified form of pushing means has been provided. In this form of the invention, a base plate 32 is provided in its upper surface, longitudinally thereof, with a dove-tailed groove 33, slidably receiving a dove-tail 34, carried by a movable end flange 35, corresponding to the end flanges 6 and also provided

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with the wings 36 and 37, corresponding to the wings 7 and 8. The end flange 35 carries a shoulder 38, similar to the shoulders 9. A stop plate 39 limits the outward movement of the flange. After the cards have been riffled, the flange 35 is shifted inwardly to push the several cards into a single pile. The use of the shifting flange 35 avoids the possibly objectionable projecting rod 28, resulting in a more compact device.

It will be apparent from the foregoing that a very simple and novel device has been provided to effectively riffle two decks of playing cards together. The use of the riffling fingers is outstandingly novel with the two decks of cards supported in spaced relation to the surface of the base plate in a manner to cause their alternately released ends to overlap and fall upon the base plate. The presser frame imparts a downward flexing pressure upon the cards with a rolling action that progressively snaps the ends of the opposite cards of the two decks from the fingers 15, causing them to whip downwardly with their ends overlapping. The structure is simple and readily lends itself to economical manufacture from a variety of materials, such as metal or plastic. The device is shaped to avoid objectionable sharp corners and provides an ornamental device requiring a minimum of storage space and offers no objections as a part of every playing card kit.

It is to be understood, that the invention is not limited to the precise form shown, but that it includes within its purview, whatever changes fairly come within either the terms or the spirit of the appended claims.

Having described my invention, what I claim is:

1. A card shuffling device including a tray having a base provided with ends, a card riffling element supported from the base and extending transversely of the tray, the ends and the riffling element adapted to jointly support a pair of packs of playing cards in an angular manner, a pressure device adapted to engage the upper surfaces of the packs simultaneously, the pressure device serving to shift the ends of the cards over the riffling element for alternate release of the cards from each pack, the cards upon release falling within the tray with their ends in overlapping relation and a pusher device carried by said tray and engageable with certain of said cards and movable to force the several riffled cards into a single pile.

2. A playing card shuffling device including a tray having upstanding ends, a support formed on the tray intermediate its length, an arm carried by the support and extending transversely of the tray in elevated relation, a riffling element carried by the arm and positioned upon opposite sides of the arm, means whereby two separate packs of cards are supported in the tray in angular manner with their inner ends bearing against the riffling element, a pressure frame swingably supported from the support and adapted to engage the upper surfaces of the two packs simultaneously for progressively forcing the cards over the riffling element with the cards of each pack being alternately released to fall within the tray with their inner ends in overlapping relation, a pusher device slidably supported by the tray and adapted to engage the outer ends of the riffled cards of one pack to push the cards endwise into a single pile.

3. A card shuffling apparatus including a rectangular tray having a flat base open at both

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sides and upstanding and outwardly inclined ends, card supporting shoulders formed transversely of each end of the base adjacent the ends, inwardly directed parallel wings formed on the ends, a vertical wall formed on the base at its rear edge and intermediate its length, an arm projecting from the wall centrally thereof and adjacent its top, the wall being parallel with and overlying the base, the side walls of the arm being tapered downwardly, a U-shaped riffing element fixed upon the arm adjacent its outer end and having a pair of depending riffing fingers disposed upon opposite sides of the arm, one of said fingers being slightly longer than the other, the said tray adapted to support a pair of separate packs of playing cards in an angular manner with one end of each pack supported upon a shoulder and its other end bearing against a riffing finger, and a U-shaped pressure frame including an operating bar and a pair of identical spaced pressure arms curved intermediate their lengths, the pressure arms extended rearwardly to form identical card supports to be positioned beneath each pack of cards prior to riffing, the extended ends of the arms bent upon themselves and having their terminal ends journaled in bearings carried by the rear of the wall, the frame adapted to swing in a vertical plane for pressure contact with the upper faces of each pack of cards simultaneously to flex them downwardly, the flexing of the cards causing the lowermost cards of the packs to be alternately snapped from the terminal ends of the riffing fingers to fall within the tray with their ends in overlapping relation.

4. The structure of claim 3, wherein the pusher device comprises one tray end shiftable longitudinally of the tray to push the cards together, said end having a dove-tail and said tray provided with a dove-tail groove for slidably receiving the dove-tail.

5. A card shuffling device including a tray having a base provided with upwardly inclined ends, shoulders formed on the base adjacent the ends, a vertically arranged wall formed on the rear edge of the base intermediate its length, an arm carried by the wall and extending transversely of the base in overlying parallel relation and having a riffing element, means whereby two separate packs of cards are supported in the tray in angular manner with their inner ends

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bearing against the riffing element, a pressure frame swingably supported from the wall and adapted to engage the upper surfaces of the two packs simultaneously for progressively forcing the cards over the riffing element with the cards of each pack being alternately released to fall within the tray with their inner ends in overlapping relation, and a pusher device slidably supported by the tray and adapted to engage the outer ends of the riffed cards of one pack and push the cards endwise into a single pile.

6. A card shuffling apparatus including a tray having a base provided with upstanding ends each having a card supporting shoulder, said tray having an upstanding rear wall, an arm projecting forwardly from said wall above said base and carrying a riffing finger on each side, the said tray adapted to support a pair of packs of playing cards in angular relation, one end of each pack being supported on one of said shoulders and the other end bearing against one of said riffing fingers, and a U-shaped pressure frame including an operating bar and a pair of spaced pressure arms extending rearwardly to form card supports to be positioned beneath each pack of cards prior to riffing, the extended portions of the arms being journaled in bearings carried by the rear of said wall, the frame adapted to swing in a vertical plane for pressure contact with the upper faces of each pack of cards simultaneously to flex them downwardly, the flexing of the cards causing the lowermost cards of the pack to be alternately snapped from the terminal ends of the riffing fingers to fall within the tray with their ends in overlapping relation.

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