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CARD DEALING APPARATUS INCLUDING RECIPROCATING
PUSHER AND COOPERATING ROLLERS
Filed June 22, 1960

3,131,935

FIG. 1

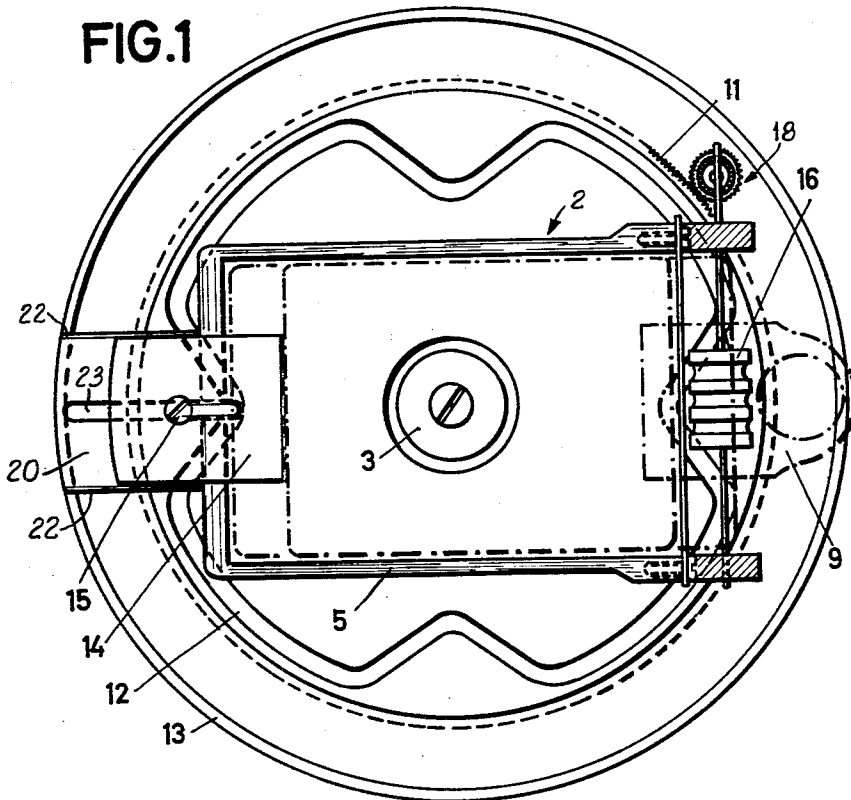
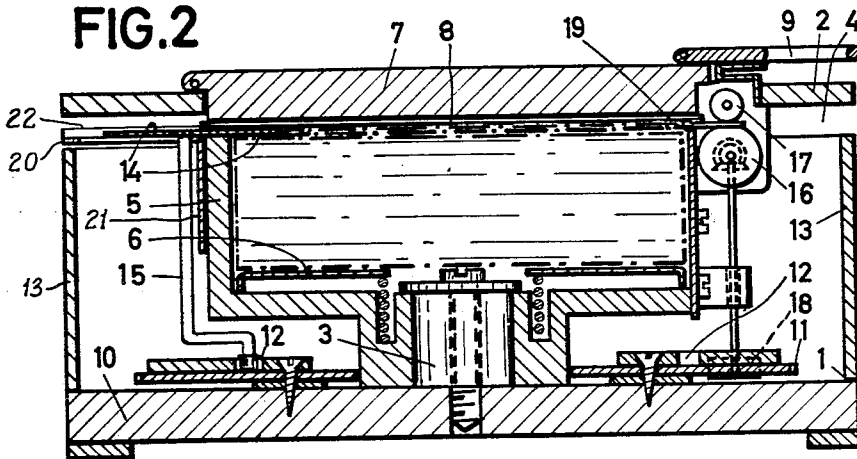


FIG. 2



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CARD DEALING APPARATUS INCLUDING RECIPROCATING PUSHER AND COOPERATING ROLLERS

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5 Claims. (Cl. 273-149)

The present invention relates to a card dealing apparatus having a magazine which receives a pack of cards and is rotated, whereby one card at a time is pushed out through a narrow slot in the magazine by means of a pushing member, a predetermined number of times for each revolution, and outside of the slot is provided a roller driven by the rotation of the magazine, which coacts with a counter-roller to draw the pushed card entirely out from the magazine.

Such apparatus are known, in which the pushing member consists of a rotatable cam or eccentric roller provided with a friction coating. Due to frictional engagement with the card, such a pushing member is liable to extract also the underlying card, whereby the cards become wedged in said slot and thus prevent the function of the apparatus. Moreover, the known apparatus are very complicated and thus expensive in manufacture.

The object of the invention is to provide a card dealing apparatus which does not have the above mentioned drawback and which is of very simple construction and thus cheap in manufacture.

According to the invention this is achieved thereby that the pushing member is a metal plate of somewhat less thickness than a card, and which is reciprocable in guides at the level of the topmost card, when the magazine rotates. In this arrangement it is not necessary to press the pack of cards against the pushing member, as is the case in the known apparatus which use friction engagement. The pushing member, the thickness of which preferably amounts to $\frac{3}{4}$ of the thickness of a card, therefore pushes the topmost card through the slot without this card being accompanied by the next-to-the-top card.

An embodiment of the invention will be explained in more detail with reference to the drawing.

FIG. 1 shows a horizontal section through the apparatus according to the invention.

FIG. 2 shows a central cross section through the apparatus in FIG. 1.

The apparatus consists of two main portions, the stationary portion, the stator 1, and a rotatable portion, the rotor 2. Externally the stator may be of circular shape, as shown on the drawing, or edged. The rotor is rotatable about a central pivot 3 at the bottom of the stator. In the central portion of the rotor is provided a magazine 5 for the pack of cards. In the bottom of the magazine is provided a resiliently-mounted platform 6 upon which the pack of cards rests. A pack of cards is represented in the magazine by heavy dot and dash lines, and when it is pressed down to the position shown in FIG. 2, the compression spring under the platform 6 is compressed in a known manner. When the cover 7 above the magazine and pack of cards is closed, the top card of the pack abuts against a member 8 on the underside of the cover and rests ready for pushing out when the rotor is rotated, which in the embodiment shown is effected manually by inserting a finger in a cut-out 9. The stator consists mainly of a bottom plate 10 having four rubber lugs, so that it rests stationary upon a base. The central pivot 3, about which the rotor rotates, and a gear rim 11 and a guide groove 12 is provided on the bottom plate. The side walls 13 of the stator serve to conceal the inside

outfit, all other mechanical parts being attached to the rotor. At one end of the magazine 5 there is provided a pushing member 14, which upon movement of the rotor pushes the topmost card a distance out of the magazine.

The pushing member consists of a steel plate a little thinner than the thickness of a card, and the movement takes place in guides 22 at the level of the topmost card, so that a reciprocating movement is obtained from the guide groove 12 by means of a transmission 15 in the form of a driver, the upper end of which is attached to the pushing member 14. As shown in FIG. 2, the pushing member 14 rests on the horizontal portion 20 of a right-angle bracket 21 attached to the end of the magazine 5. The horizontal portion 20 of the bracket extends out slightly above the wall 13 and includes upwardly-projecting guides 22 at the respective sides of the pushing member 14. A longitudinal slot 23 is provided in the horizontal portion 20 through which the driver 15 extends. The pushing member, which exerts a slight pressure against the member 8 on the underside of the cover, pushes the topmost card to slide it along the member 8 and out of the magazine through a slot 19 on to a rubber roller 16 and beneath a cooperating roller 17, the roller 16 being driven through a gear transmission 18 from the gear rim 11 at the bottom of the stator.

The apparatus may also be operated electrically by means of a battery-driven electro-motor, which is built into the rotor together with the battery, the motor over a gear being in engagement with the gear rim 11 at the bottom of the stator.

I claim:

1. In a card dealing apparatus including a rotatable magazine for receiving a pack of cards to be dealt, means for rotating the magazine, means for pushing the topmost card of the pack partly off the top of the pack a predetermined number of times for each revolution of the magazine, and cooperating rollers carried by the magazine for receiving each pushed card, drawing it out of the magazine and dealing it, the improvement in which the means for pushing the top card comprises a reciprocable pusher plate of somewhat less thickness than a card of the pack and mounted on the magazine for reciprocation at the level of the topmost card of the pack, and means for reciprocating said plate a predetermined number of times for each revolution of the magazine during its rotation, said reciprocating means during each reciprocation moving an edge of said plate against an edge of the topmost card to push the topmost card partly off the top of the neck.

2. An apparatus as claimed in claim 1, including a closable cover for the magazine against the underside of which the topmost card of the pack rests when the cover is closed, the upper part of the pusher plate also engaging the underside of the cover so that its leading edge engages the edge of the topmost card to be pushed.

3. In a card dealing apparatus including a rotatable magazine for receiving a pack of cards to be dealt, means for rotating the magazine, a resiliently-mounted platform in the magazine on which the pack of cards rests for urging the pack upwardly, means for pushing the topmost card of the pack relative to the pack a predetermined number of times for each revolution of the magazine, and cooperating rollers carried by the magazine opposite the position of the pushing means for receiving the pushed card, drawing it out of the magazine and dealing it, the improvement in which the means for pushing the top card comprises a reciprocable pusher plate mounted on and at one side of the magazine for reciprocation at the level of the topmost card of the pack and having an edge for engaging the adjacent edge of the topmost card of the pack, and means for reciprocating said plate in a direc-

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tion to engage said edge of the plate with the adjacent edge of the topmost card and push the topmost card of the pack a predetermined number of times for each revolution of the magazine during its rotation.

4. An apparatus as claimed in claim 3, including a closable cover for the magazine against the underside of which the topmost card rests when the cover is closed, the pusher plate also engaging the underside of the cover so that its leading edge engages the edge of the topmost card to be pushed, and a guide mounted on the magazine in which the pusher plate reciprocates.

5. In a card dealing apparatus including a rotatable magazine for receiving a pack of cards to be dealt, means for rotating the magazine, a resiliently-mounted platform in the magazine on which the pack of cards rests for urging the pack upwardly, means for pushing the topmost card of the pack relative to the pack a predetermined number of times for each revolution of the magazine, and cooperating rollers for receiving the pushed cards, drawing it out of the magazine and dealing it, the improvement including a closable cover for the magazine against the

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underside of which the topmost card of the pack rests and against which the pack of cards is urged, said means for pushing the top card of the pack toward said rollers comprising a reciprocable pusher plate of somewhat less thickness than a card of the pack, said pusher plate being located at the level of the top card of the pack at the side of the magazine opposite the position of the cooperating rollers and including a portion operable along the underside of the cover so that its leading edge engages the adjacent edge of the topmost card of the pack, and means for reciprocating said pusher plate a predetermined number of times for each revolution of the magazine during the rotation of the latter.

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