Nov. 30, 1954 P. BERG 2,695,782

CARD DISPENSING MECHANISM

Filed Sept. 12, 1949 2 Sheets-Sheet 1

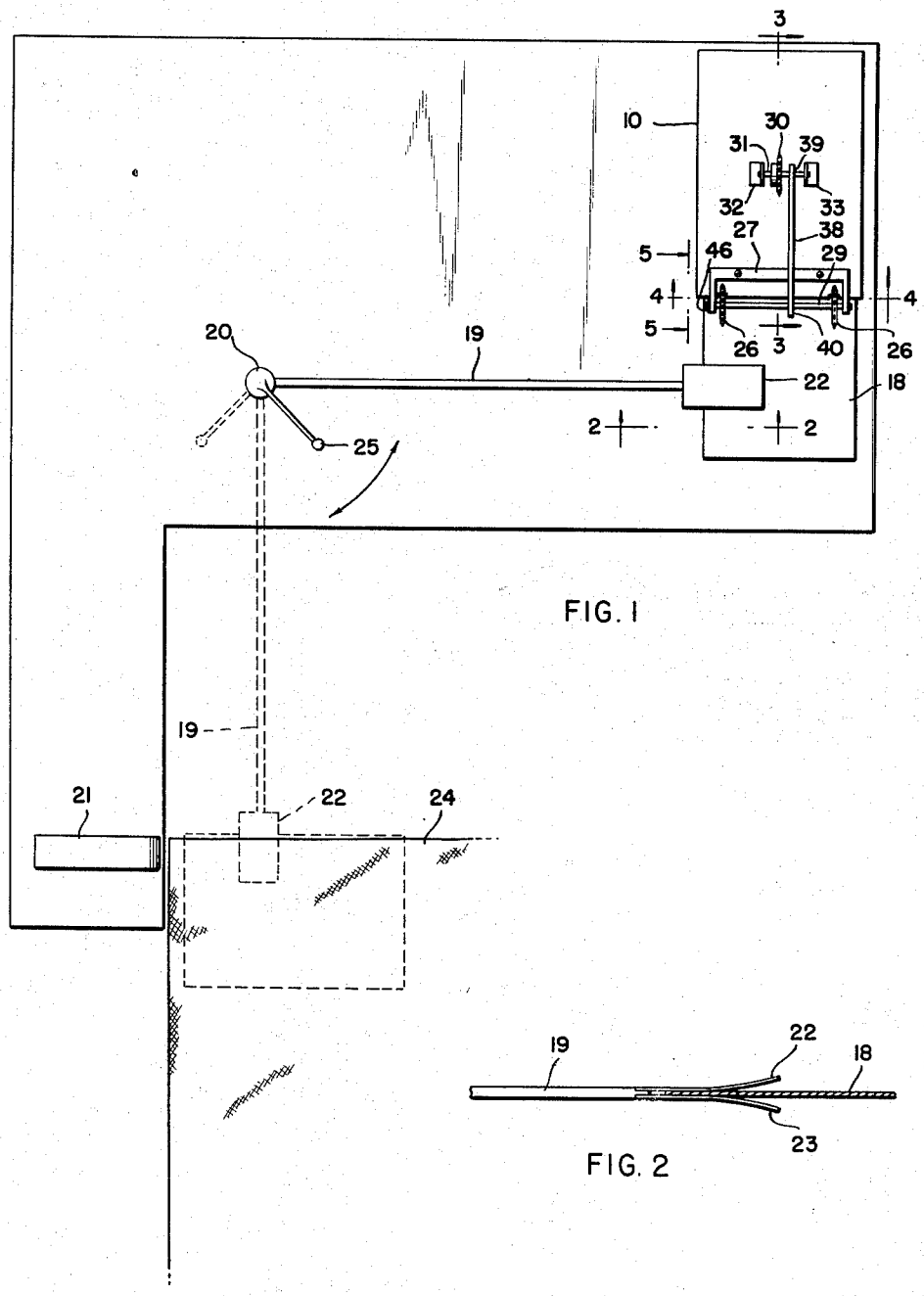


FIG. 1

FIG. 2

INVENTOR.
PAUL BERG
BY Arthur A. Smith
ATTORNEY

Nov. 30, 1954 P. BERG 2,695,782

CARD DISPENSING MECHANISM

Filed Sept. 12, 1949 2 Sheets-Sheet 2

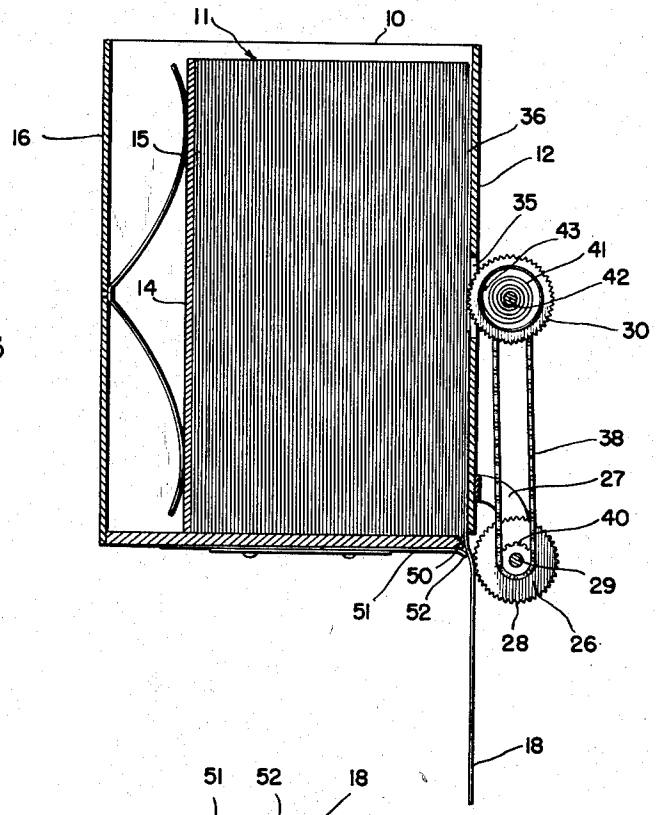


FIG. 3

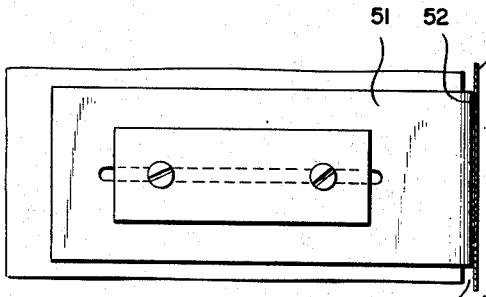


FIG. 4

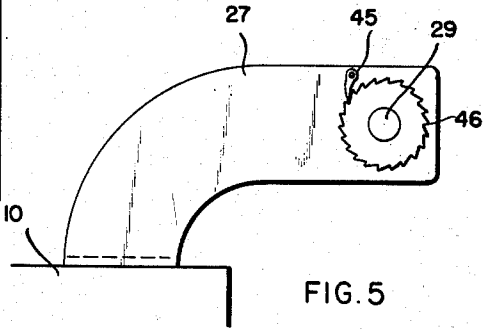


FIG. 5

INVENTOR.
PAUL BERG
BY Arthur A. Smith
ATTORNEY

United States Patent Office

2,695,782

Patented Nov. 30, 1954

2,695,782

CARD DISPENSING MECHANISM

Paul Berg, Decatur, Ind.

Application September 12, 1949, Serial No. 115,301

4 Claims. (Cl. 271—41)

This invention relates generally to card dispensing devices and more particularly it relates to card or tag dispensers adapted to insert cards or tags within containers such as bags, whereby an inserted card or tag may be sewn to the bag as it is being closed and sewn by a sewing machine.

It is customary in feed mills and especially in establishments which are in the business of bagging grain or seed to package their materials in bags and close such bags by means of sewing machines. Just prior to the sewing of a bag, a tag is inserted within the opening of the bag so that it may be sewn to the bag simultaneously with the sewing of the bag opening. The prior art includes various forms of card or tag dispensing devices, but they are not adapted for use where it is customary to insert the tag within a bag.

Accordingly it is the primary object of this invention to provide a novel card dispenser adapted to eject one card after another in such a manner that it may be grasped and moved into the opening of a bag.

A further object of this invention is to provide a card dispenser which is adapted partially to eject a second card after a first card is withdrawn from the dispenser.

Still another object of this invention is to provide a card dispenser which ejects cards in such a manner that they may be grasped by a grasping device.

In accordance with this invention, there is provided a card dispensing device including a container for supporting a bundle of cards, a card grasping device adapted to be moved into engagement with a card protruding from said container, and a mechanism operable, as a grasped card is withdrawn from the container, partially to eject another card from said container.

For a better understanding of the invention, together with other and further objects thereof, reference is made to the following description, taken in connection with the accompanying drawings, and its scope will be pointed out in the appended claims.

In the accompanying drawings:

Figure 1 is a front view of a card dispenser in cooperative relationship to a sewing machine.

Figure 2 is a partial cross-section taken on line 2—2 of Figure 1.

Figure 3 is a partial cross-section of the card dispenser taken on line 3—3 of Figure 1.

Figure 4 is a partial end view of the card dispenser taken on line 4—4 of Figure 1.

Figure 5 is a partial side view of Figure 1 taken on line 5—5.

Referring to Figures 1 and 3 of the drawings, there is provided in accordance with this invention a card dispenser comprising a card supporting structure which may be in the form of a container or box **10** for holding cards **11** in a vertical position as illustrated in Figure 3. For pressing the cards **11** toward the front side **12** of box **10**, there is provided a plate member **14** which is engaged by a spring member **15** whereby as cards are removed from box **10**, the bundle or stack of cards is constantly moved into engagement with the side **12** under the influence of spring **15**. Spring **15** may be attached to side **16** of box **10** in any suitable manner, such for example, as by a rivet.

The drawings illustrate an outermost or bottom card or tag **18** which is partially ejected from box **10**, and for withdrawing card **18** there is provided a finger assembly having a grasping arm **19** pivotally supported at **20**

to any suitable part of the structure of a sewing machine **21**. For engaging card **18** there is provided a pair of fingers or spring members **22** and **23** which may be suitably attached to arm **19** in slightly spaced relation, but sufficiently close to one another so that a card will separate them. It is intended that springs **22** and **23** shall exert sufficient pressure on card **18** to withdraw it from the box **10**. The arm **19** may be moved from the full line position, illustrated in Figure 1, to the dotted line position by means of a crank **25** whereby the card **18** may be moved into the top portion of a bag **24** which is in position to be sewn by the sewing machine **21**. Thus as bag **24** is sewn, card **18** will be securely sewn between the sides of the bag.

For ejecting cards from box **10**, there is provided a mechanism comprising a pair of rollers or wheels **26** which are supported on side **12** of box **10** by means of a bracket **27** and shaft **29**. Wheels **26** may be provided with teeth **28** or with some form of roughened surface or a surface having a high coefficient of friction such, for example, as a rubber tire. Teeth **28** are adapted to engage firmly with card **18** so that when grasping device **19** moves the card **18**, wheels **26** will be rotated by the card as will be explained subsequently.

Cooperating with wheels **26** is a second wheel **30**, mounted on axle **31** which rotates in a pair of brackets **32** and **33** attached to the side **12** of box **10**. The side **12** is provided with an opening **35** whereby wheel **30** may project into engagement with a card **36** which is the card next to card **18**. Wheel **30** is provided with teeth in the same fashion as described above in connection with wheels **26**. Wheel **30** may be connected to wheels **26** by means of a chain **38** and sprockets **39** and **40**, for example, whereby as card **18** is withdrawn from box **10**, wheels **26** drive shaft **31**. In order to impart motion from shaft **31** to wheel **30**, wheel **30** may be fixed to shaft **31** or there may be provided a spiral spring **41**, the inner end of which may be attached to shaft **31** as at **42**, and the outer end of which may be attached to wheel **30**, as at **43**. In the latter case, wheel **30** may be arranged to turn freely on shaft **31**. Since wheels **26** are rotated in a counter-clockwise direction and since shaft **31** is rotated by chain **38** in a counter-clockwise direction, spring **41** is wound and tightened until such time as sufficient energy is stored in spring **41** to impart motion in a counter-clockwise direction to wheel **30**. Thus as card **18** is withdrawn, card **36** will not be moved until spring **41** eventually exerts enough rotational force on wheel **30** to initiate its rotation, thereby to move card **36** into the approximate position in which card **18** is illustrated in the drawings.

In order to hold spring **41** in an operative position after card **18** is withdrawn, there is provided on bracket **27** a pawl **45** which is adapted to cooperate with a ratchet wheel **46** fixed to the shaft **29**. Thus wheels **26** may stop rotating and wheel **30** may continue to rotate until card **36** is ejected.

In order to prevent more than one card from being ejected at a time, there is provided a slot **48** in box **10** through which cards may be ejected. End **49** of box **10** may be beveled as at **50** for the purpose of deflecting the cards beneath card **18** whereby card **36**, for example, would be deflected before it could emerge from slot **48**. Thus there is sufficient friction on the end of card **36** to prevent its ejection from box **10** until after card **18** is totally withdrawn from the box. In order to further deflect the cards, there is provided an adjustable deflecting member **51**, the end of which is bent as at **52**. This member causes further friction on card **36** and insures that the card will not be ejected simultaneously with card **18**. Member **51** further serves to deflect card **18** into firm engagement with wheels **26**.

From the foregoing description of this invention, it will be apparent that there is provided a card dispensing mechanism particularly adapted to insert tags or cards within feed or seed bags prior to the ends being sewn together. This mechanism comprises the card box **10** and its associated mechanisms together with grasping device **19**. These two elements of the dispenser cooperate with one another to insert one card at a time within a bag. It will be noted that wheel **30** may be fixed to

shaft **31** or it may be equipped with a power storing device, such as spring **41**, for the purpose of partially ejecting a card when another card is withdrawn from the box.

While there has been described what is at present considered the preferred embodiment of the invention, it will be obvious to those skilled in the art that various changes and modifications may be made therein without departing from the invention, and it is, therefore, aimed in the appended claims to cover all such changes and modifications as fall within the true spirit and scope of the invention.

I claim:

1. A card dispenser comprising a box adapted to support a bundle of cards in abutment with one side of said box, a slot at one end of said box for permitting the bottom card of said bundle to protrude from said box, card separating means adjacent said slot for intercepting cards in contact with said bottom card, a first roller adjacent the slot end of said box and in engagement with the protruding portion of said bottom card, a second roller spaced from said first roller adjacent said one side of said box to engage said bottom card at a point within said box and also to engage the next card when said bottom card is moved outwardly a predetermined distance, a drive mechanism extending between said rollers to cause operation of said second roller from said first roller, said drive mechanism comprising a rotary coupling having an energy storage device actuable during rotation of said first roller, said storage device being coupled to said second member to drive the latter after energy has been stored therein, and a finger assembly support adjacent said box and movable into engagement with said protruding card for withdrawing it from said box and driving said first roller, said drive mechanism thereby causing actuation of said storage device which thereafter in turn drives said second roller.

2. A card dispenser comprising a box adapted to support a bundle of cards in abutment with one side of said box, a slot at one end of said box for permitting the bottom card of said bundle to protrude from said box, card separating means adjacent said slot for intercepting cards in contact with said bottom card, a first roller adjacent the slot end of said box and in frictional engagement with the protruding portion of said bottom card, a second roller spaced from said first roller adjacent said one side of said box to engage frictionally said bottom card at a point within said box and also to engage frictionally the next card when said bottom card is moved outwardly a predetermined distance, a chain drive mechanism extending between said rollers to cause operation of said second roller from said first roller, said drive mechanism including a coiled spring which is actuable by rotation of said first roller and which is operatively secured to said second roller for rotating same, and a finger assembly pivotably supported adjacent said box and movable into engagement with said protruding card for withdrawing it from said box and driving said first roller, said drive mechanisms thereby causing actuation of said spring which thereafter drives said second roller.

3. A card dispenser comprising a container adapted to support a bundle of cards in abutment with one side of said container, a slot at one end of said container for permitting an outermost card of said bundle to protrude from said container, card separating means adjacent said slot for intercepting cards in contact with said outermost card, a first card engaging member adjacent the slot

end of said container and in engagement with the protruding portion of said outermost card, a second card engaging member spaced from said first member adjacent said one side of said container to engage said outermost card at a point within said container and also to engage the next card when said outermost card is moved outwardly a predetermined distance, a drive mechanism extending between said members to cause operation of said second member from said first member, said drive mechanism comprising a relative motion coupling which prevents said second card-engaging member from being moved during motion of the first member, said coupling including an energy storage device actuated during motion of said first member and thereafter driving said second member, and a finger assembly operatively associated with said container and movable into engagement with said protruding card for withdrawing it from said container and actuating said first member, actuation of said first member serving to actuate said second member through the intermediary of said drive mechanism.

4. A card dispenser comprising a container adapted to support a bundle of cards in abutment with one side of said container, a slot at one end of said container for permitting an outermost card of said bundle to protrude from said container, card separating means adjacent said slot for intercepting cards in contact with said outermost card, a first card engaging member adjacent said protruding card and in engagement with a portion of said outermost card, a second card engaging member spaced from said first member to engage the next card when said outermost card is moved outwardly a predetermined distance, a linkage extending between said members to cause operation of said second member from said first member, said linkage comprising a motion-coupling device providing relative movement between both card engaging members, said motion-coupling device including motor means operatively connected to said second member for driving the latter in a direction to move said next card outwardly through said slot, actuating means operatively connected between said first member and said motor means, a finger assembly operatively associated with said container and movable into engagement with said protruding card for grasping and withdrawing said protruding card from said container, whereby the movement of said protruding card during withdrawing transmits movement to said first member and said motor means and subsequently to said second member to move the next card outwardly said predetermined distance.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
398,276	Pierce	Feb. 19, 1889
486,089	Crowell	Nov. 15, 1892
714,553	Armstrong	Nov. 25, 1902
751,284	Harris	Feb. 2, 1904
807,321	Ruth	Dec. 12, 1905
1,390,175	Stone	Sept. 6, 1921
1,515,986	Wright et al.	Nov. 18, 1924
1,543,388	Kirkland	June 23, 1925
1,596,056	Mader	Aug. 17, 1926
1,637,833	Mueller	Aug. 2, 1927
1,845,776	Zent	Feb. 16, 1932
2,298,683	Dalton	Oct. 13, 1942