Nov. 30, 1954 E. FARKAS ET AL 2,695,651

MACHINE FOR AUTOMATICALLY CEMENTING BUTTONS ON CARDS

Filed Feb. 12, 1953 8 Sheets-Sheet 1

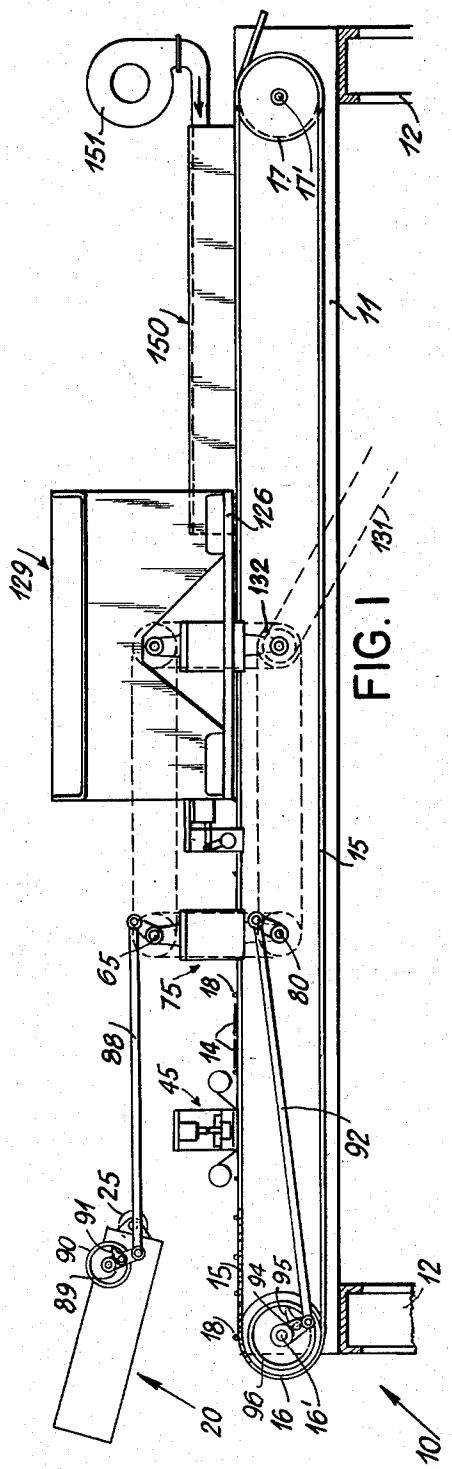


FIG. 1

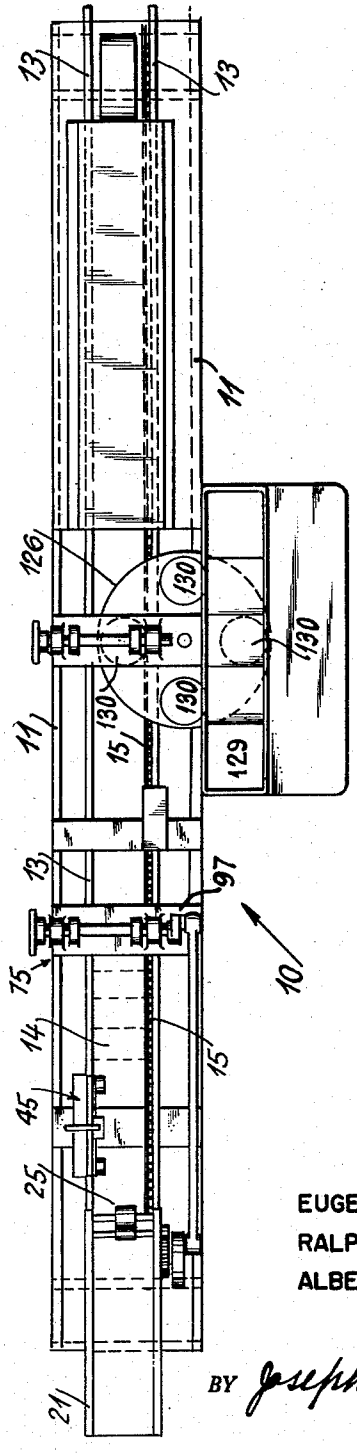


FIG. 2

EUGENE FARKAS
RALPH TATULLE
ALBERT LERNER
INVENTORS

BY Joseph Blacker
ATTORNEY

Nov. 30, 1954 E. FARKAS ET AL 2,695,651

MACHINE FOR AUTOMATICALLY CEMENTING BUTTONS ON CARDS

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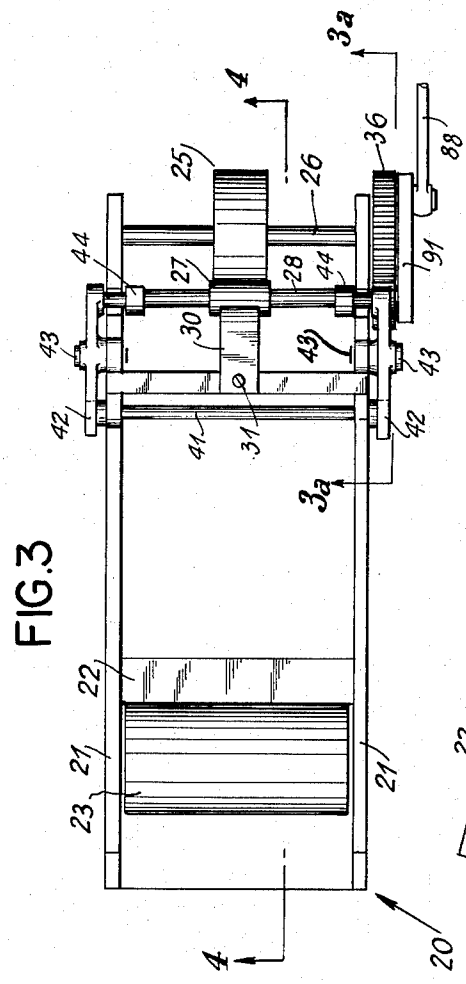


FIG. 3

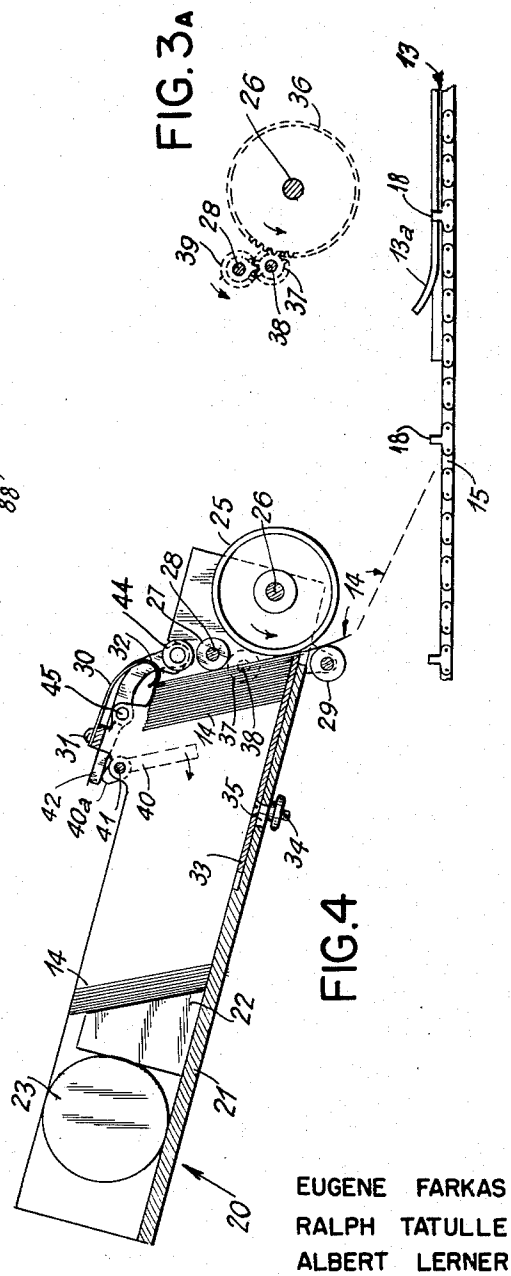


FIG. 4

FIG. 3A

EUGENE FARKAS
RALPH TATULLE
ALBERT LERNER
INVENTORS

BY Joseph Blacker
ATTORNEY

Nov. 30, 1954 E. FARKAS ET AL 2,695,651

MACHINE FOR AUTOMATICALLY CEMENTING BUTTONS ON CARDS

Filed Feb. 12, 1953 8 Sheets-Sheet 3

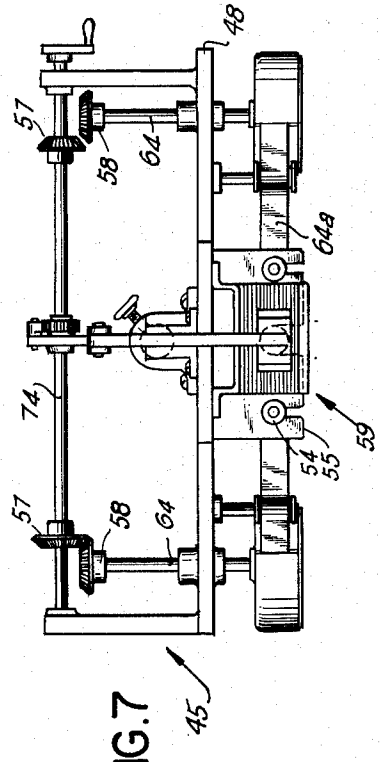


FIG.7

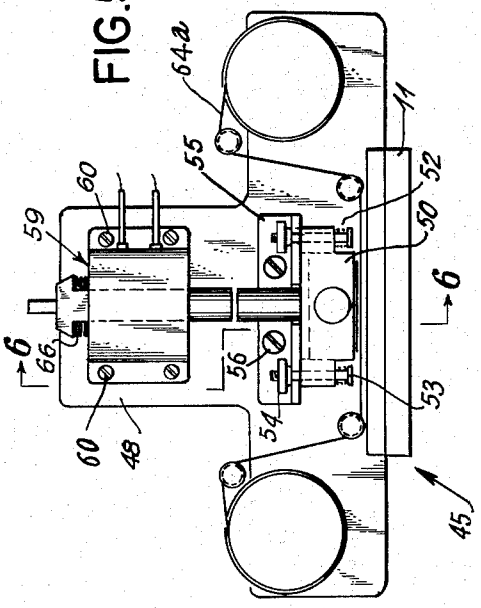


FIG.5

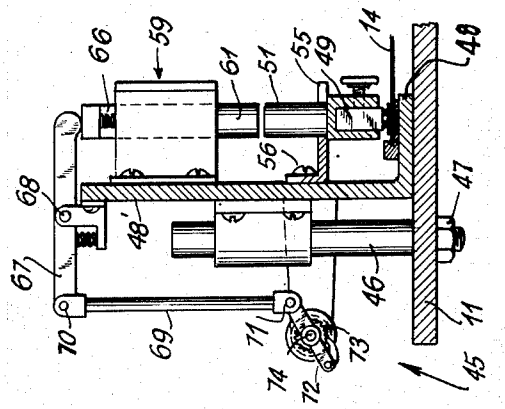


FIG.6

EUGENE FARKAS
RALPH TATULLE
ALBERT LERNER
INVENTORS

BY Joseph Blacker
ATTORNEY

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MACHINE FOR AUTOMATICALLY CEMENTING BUTTONS ON CARDS

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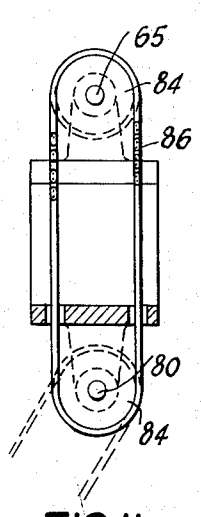


FIG.11

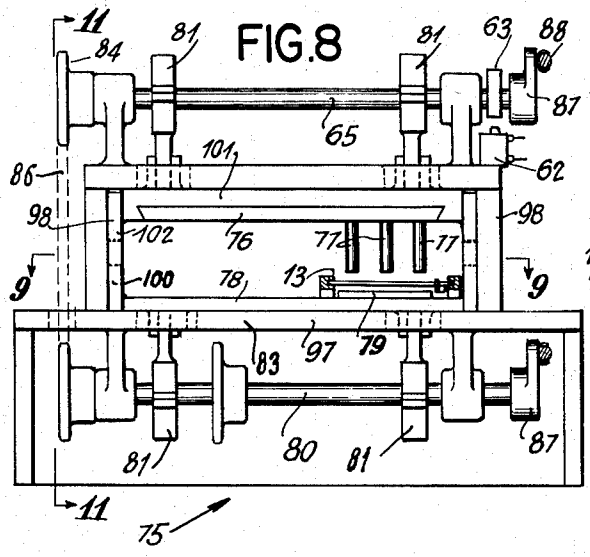


FIG.8

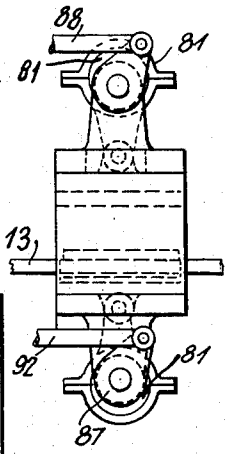


FIG.10

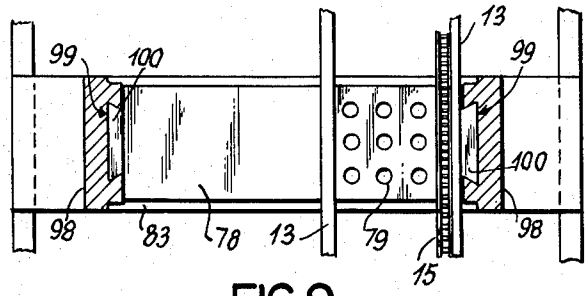


FIG.9

EUGENE FARKAS
RALPH TATULLE
ALBERT LERNER
INVENTORS

BY Joseph Blacker
ATTORNEY

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MACHINE FOR AUTOMATICALLY CEMENTING BUTTONS ON CARDS

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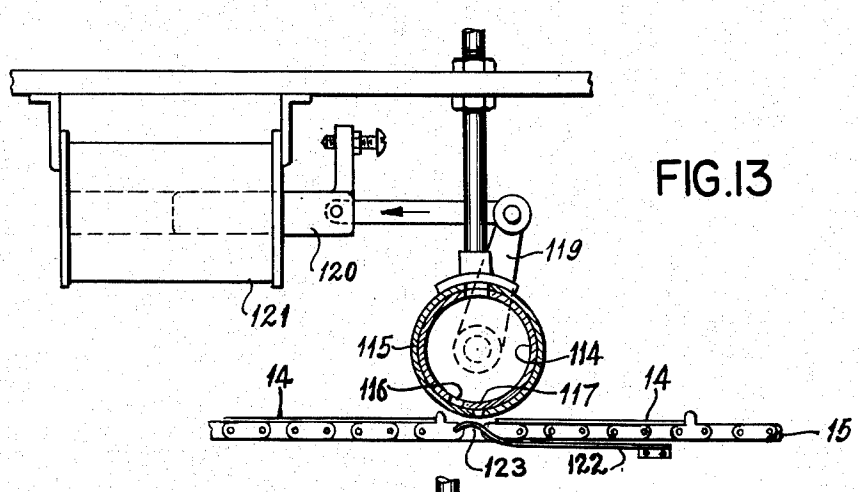


FIG.13

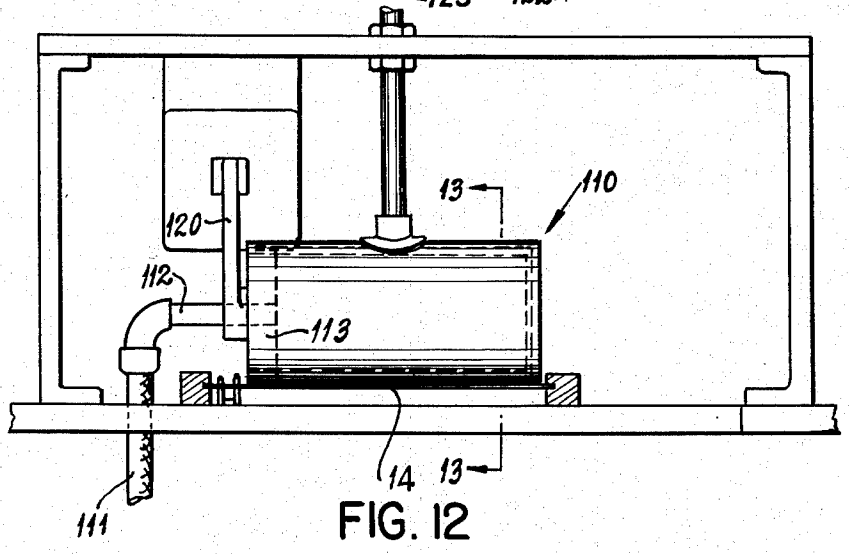


FIG. 12

EUGENE FARKAS
RALPH TATULLE
ALBERT LERNER
INVENTORS

BY Joseph Blacker
ATTORNEY

Nov. 30, 1954 E. FARKAS ET AL 2,695,651

MACHINE FOR AUTOMATICALLY CEMENTING BUTTONS ON CARDS

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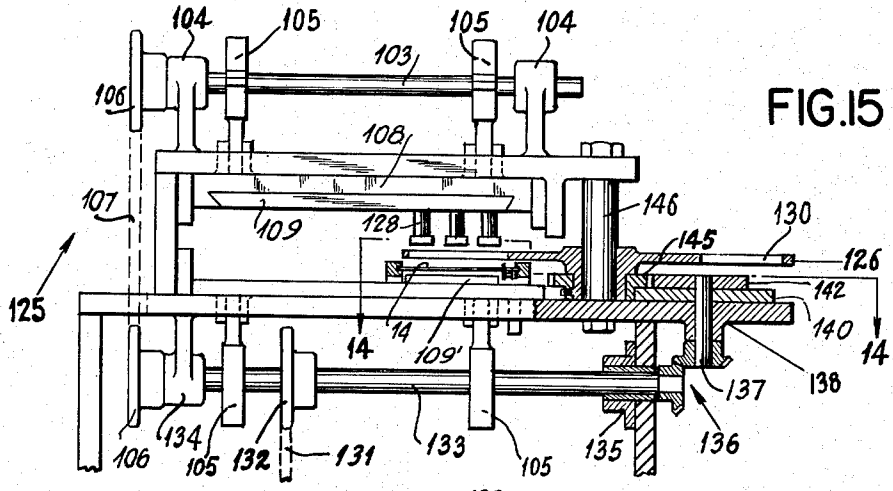


FIG.15

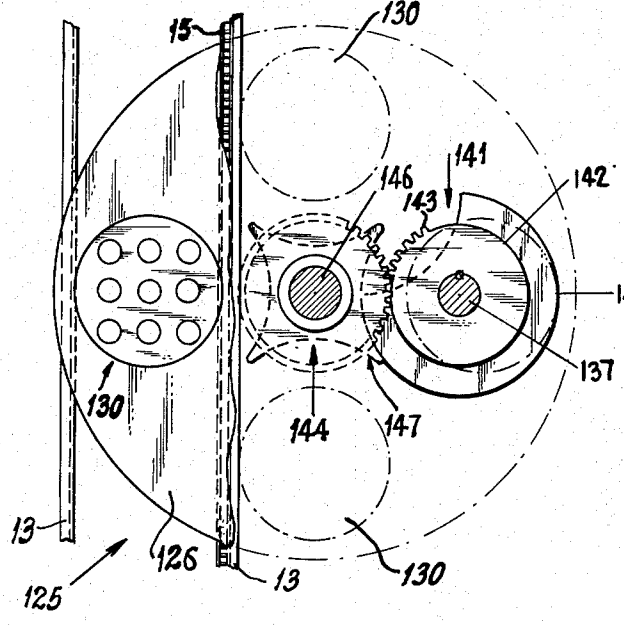


FIG.14

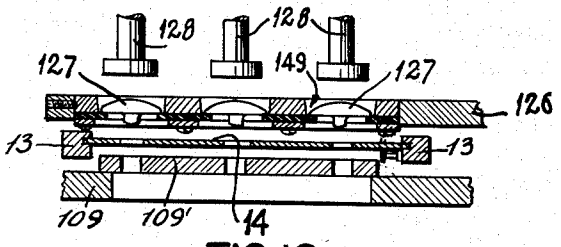


FIG.16

EUGENE FARKAS
RALPH TATULLE
ALBERT LERNER
INVENTORS

BY Joseph Blecker
ATTORNEY

Nov. 30, 1954 E. FARKAS ET AL 2,695,651

MACHINE FOR AUTOMATICALLY CEMENTING BUTTONS ON CARDS

Filed Feb. 12, 1953 8 Sheets-Sheet 7

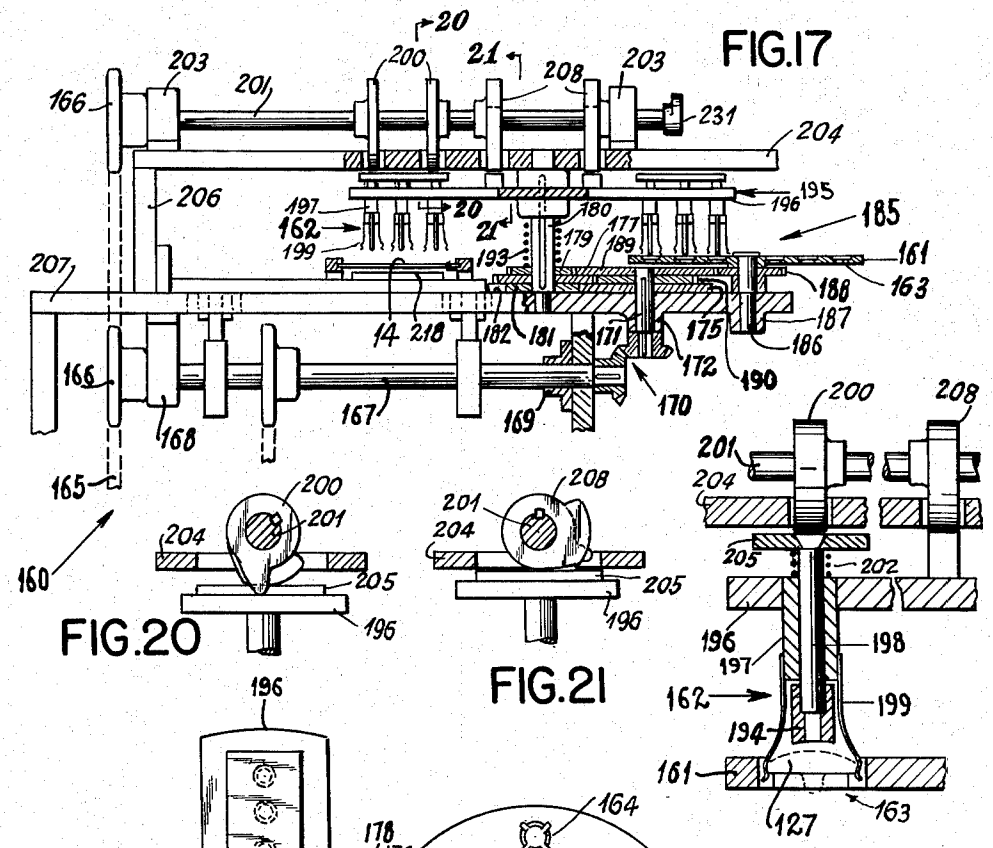


FIG.17

FIG.20

FIG.21

FIG.19

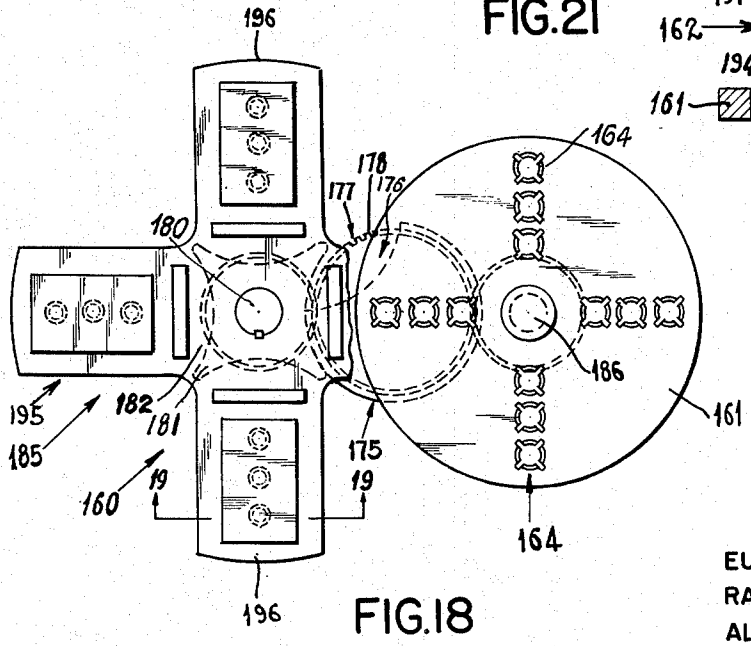


FIG.18

EUGENE FARKAS
RALPH TATULLE
ALBERT LERNER
INVENTORS

BY Joseph Blaeker

ATTORNEY

Nov. 30, 1954 E. FARKAS ET AL 2,695,651

MACHINE FOR AUTOMATICALLY CEMENTING BUTTONS ON CARDS

Filed Feb. 12, 1953 8 Sheets-Sheet 8

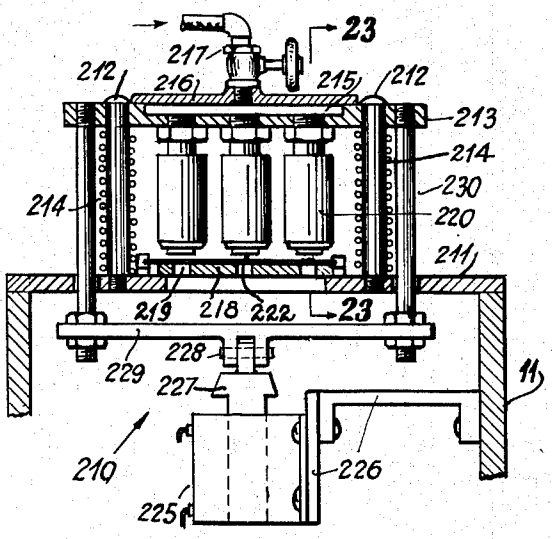


FIG.22

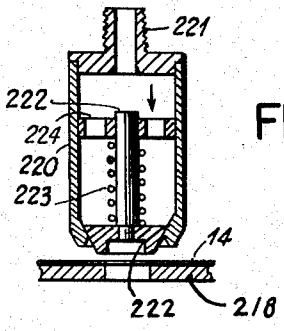


FIG.23

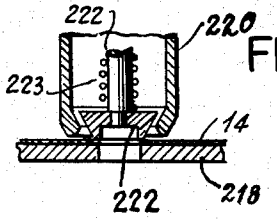


FIG.24

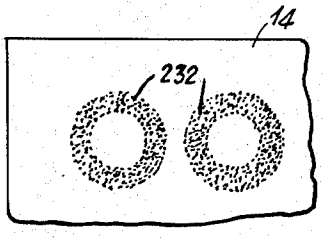


FIG.26

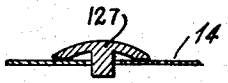


FIG.25

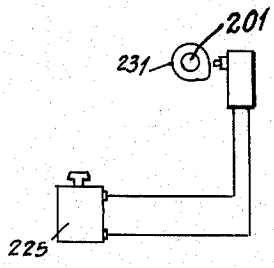


FIG.27

EUGENE FARKAS
RALPH TATULLE
ALBERT LERNER
INVENTORS

BY Joseph Blacker

ATTORNEY

United States Patent Office 2,695,651 Patented Nov. 30, 1954

2,695,651

MACHINE FOR AUTOMATICALLY CEMENTING BUTTONS ON CARDS

Eugene Farkas and Ralph Tatulle, New York, and Albert Lerner, Forest Hills, N. Y., assignors to Plastic Rivet Corporation, New York, N. Y., a firm

Application February 12, 1953, Serial No. 336,546

10 Claims. (Cl. 154—1.6)

This invention relates to a machine for automatically cementing articles such as buttons on cards serving for the sale of buttons, etc.

This invention is particularly directed to an automatic machine having mechanism which is generally of rotary character and which is rapid in operation.

This invention comprises an endless chain, a card magazine for feeding cards, one at a time, on the chain, a mechanism for printing indicia on the cards, a mechanism for applying liquid cement over the central area of each of the cards, a button loading mechanism for delivering a plurality of buttons on the cemented portion of each card, and means for drying the cement to cause the buttons to be retained in permanent unitary relation with the card, but permitting ease of removal of the buttons from the card.

This invention also comprises a punching mechanism which punches a plurality of apertures in each card, the apertures being used when there are shank extensions in the back of the buttons. For flat buttons without rear shank extensions, the apertures are eliminated by taking the punching mechanism out of operation while the remainder mechanisms remain in service.

Among the objects of this invention is to provide an article carding machine wherein, in a continuous operation, articles to be carded have cards fed from a magazine on guideways and on a moving endless chain, then printed, and then have cement applied thereto, while at the same time the articles are fed intermittently upon the printed and cemented cards, the cemented cards with the articles thereon being then passed through a heated chamber where the cement is dried.

Another object of this invention is to provide an improved article carding machine wherein the following steps of operation are set up in sequence. An operator places a plurality of articles such as buttons at a loading station on a loading disk, then the loading disk is rotated away from the operator to the diametrically opposite position of the loading disk, then a rotatable multiple arm spring finger carrier member is lowered by cams to grip the articles in the said position, then the rotatable multiple arm spring finger carrier member is rotated to a diametrically opposite position in alignment with a card on the guide members, then further cams lower plungers and force the buttons from the spring fingers onto a cemented card.

With the above and other objects in view, the invention will be hereinafter more particularly described, and the combination and arrangement of parts will be shown in the accompanying drawings and pointed out in the claims which form part of this specification.

Reference will now be had to the drawings, wherein like numerals of reference designate corresponding parts throughout the several views, in which:

Figure 1 is a front elevation of the machine for automatically cementing articles such as buttons on display cards.

Figure 2 is a top plan view of the machine shown in Figure 1.

Figure 3 is a top plan view of a card stacking and feeding magazine.

Figure 3*a* is a cross-sectional view taken on line 3*a*—3*a* in Figure 3.

Figure 4 is a cross-sectional view taken on line 4—4 in Figure 3.

Figure 5 is a front elevation of the printing mechanism for printing indicia on the cards.

Figure 6 is a cross-sectional view taken on line 6—6 in Figure 5.

Figure 7 is a top plan view of the printing mechanism shown in Figures 5 and 6.

Figure 8 is a front elevation of the punching mechanism.

Figure 9 is a cross-sectional view taken on line 9—9 in Figure 8.

Figure 10 is an end elevation of the punching mechanism shown in Figures 8 and 9.

Figure 11 is a cross-sectional view taken on line 11—11 in Figure 8.

Figure 12 is a front elevation of the cementing mechanism.

Figure 13 is a cross-sectional view taken on line 13—13 in Figure 12.

Figure 14 is a top plan view of the button loading disk, the disk being partly broken away to show an intermittent motion mechanism below the disk, the intermittent motion mechanism being partly in cross-section, the section being taken on line 14—14 in Figure 15.

Figure 15 is a front elevation of the button loading mechanism, partly broken away to show the button loading disk.

Figure 16 is a cross-sectional view of the button loading disk showing elastic supports for the buttons while in the loading disk.

Figure 17 is a front elevation of a modified button placing mechanism, partly broken away to show the modified button loading disk and the gearing.

Figure 18 is a top plan view of the button placing mechanism on a greatly enlarged scale.

Figure 19 is a cross-sectional view of the button pick-up mechanism taken on line 19—19 in Figure 18 and shown on an enlarged scale.

Figure 20 is a cross-sectional view taken on line 20—20 in Figure 17.

Figure 21 is a cross-sectional view taken on line 21—21 in Figure 17.

Figure 22 is a cross-sectional view of a modified cement applicator.

Figure 23 is a cross-sectional view of the cement applicator taken on line 23—23 in Figure 22.

Figure 24 is a cross-sectional view similar to that shown in Figure 23 but shown in operating position.

Figure 25 is a central cross-sectional view of a button having a shank and shown cemented on a card having an aperture through which the shank passes.

Figure 26 is a fragmentary plan view of a card showing two cemented portions of annular form, ready for receiving buttons in cemented relation.

Figure 27 is a wiring diagram showing the mode of actuation of a solenoid by a cam.

In the illustrated embodiment of the invention, the numeral **10** indicates a machine for carding buttons and like articles on display cards and comprises an elongated horizontal frame **11** mounted on uprights **12, 12**. Suitably secured to the upper surface of the frame **11** are two grooved guideways **13, 13** which are substantially co-extensive with the frame **11**. The guideways are of U-shaped cross-section and face each other and are spaced apart a distance permitting a rectangular card **14** to freely slide in supported relation therebetween.

An endless link chain or sprocket chain **15** is mounted on a driving sprocket wheel **16** and on an idler sprocket wheel **17** with the upper surface of the chain positioned level with the lower surface of the guideways **13**. The chain **15** has carrier links **18** laterally extending therefrom, the carrier links being spaced apart to receive a display card between any two carrier links. Each carrier link is adapted to convey one of the display cards **14** along the entire length of the guideways **13**. The drive wheel **16** is secured to a shaft **16'**. The idler wheel **17** is secured to a shaft **17'**.

A card feeding magazine **20** for stacking cards **14** in substantially upright relation and for feeding the cards one at a time on the chain and through the guideways **13** is mounted on the feeding end portion of the frame **11**. The magazine **20** comprises an inclined casing **21** of U-shaped cross-section and adapted to receive a large quantity of blank cards in stacked relation. A wedge-shaped block **22** is placed behind the rear card. A roller

23 is placed behind the block 22 and rests on the lower surface of the casing. The roller causes pressure against the block and against the cards and this causes movement of the cards by gravity towards the low and feeding front end of the magazine.

At the front end of the magazine is a large or main feed roller 25 which is rotatably mounted on a shaft 26 in contact with the front surface of the end card. A small feed roller 27 is rotatably mounted on a shaft 28 at an elevation above the large feed roller 25 and is also in contact with the outer surface of the end card. The small feed roller 27 feeds the end card in direction of the large feed roller. The large feed roller 25 ejects the card with the assistance of an idler guide roller 29 which is rotatably mounted in contact with the rear surface of the end card.

A leaf spring 30 is fixed by a screw 31 to the upper portion of the casing 21. The spring has a downwardly curved free end portion 32 resting on the upper edge of the end card and urging the card in a downward direction. The action of the spring in urging the end card downwardly co-acts with the feeding action of the rollers 25 and 27 to jointly feed the end card from the magazine in a downward direction and so that the card will fall upon the chain 15.

It is to be noted that at the feeding end of the magazine, I provide a slidable plate 33 which may be adjusted by a screw 34 slidable in a slot 35 in the casing. The plate may be moved in direction of the roller 25 so as to predetermine the size of the opening between the feed roller 25 and the plate 33 to limit the opening therebetween to the thickness of a single card 14.

As shown in Figure 4, it will be seen that the guideways 13 are cut away at their upper surfaces and bent in an upward direction so as to provide inclined extensions 13*a* forming continuations of the lower surface of the guideways. The extensions 13*a* guide the cards 14 into the grooves of the guideways 13.

A printing mechanism 45 for printing indicia upon the cards 14 is mounted upon a post 46 secured in upright position on the frame 11 by a threaded lower end portion of the post passing through the frame and secured by a threaded nut 47. The printing mechanism 45 comprises a bed or platen 48 serving for the support of a card during the printing operation. A printing member or type holder 49 is suitably held in a housing 50. The housing 50 has an upright extension 51. The type holder 49 is mounted directly over the bed. The housing 50 is suitably supported by coil springs 52 and screws 53 from an angle member 55 so as to be normally in a raised position above the bed. The screws 53 have threaded nuts 54 which are supported on the angular member 55. The angular member 55 is secured by screws 56 to an upright extension 48' of the bed 48.

A solenoid 59 is secured to the upright extension 48' by screws 60, the solenoid being positioned so as to place the lower face of the solenoid plunger 61 in slightly spaced-apart relation above the upper surface of the extension 51. The plunger 61 serves for reciprocating the type holder 49 against the bed 48 in timed relation as determined by a cam actuated electric switch 62, the cam 63 being mounted on a rotatable upper shaft 65 of a punching mechanism to be described.

As shown in Figure 3*a* the front end portion of the shaft 26 carries a spur gear 36 which is in mesh with an idler gear 37 mounted on a shaft 38.

A gear 39 on the shaft 28 is in mesh with the idler gear 37. This arrangement causes the gears 36 and 39 to rotate in the same direction and the rollers 25 and 27 to feed in the same direction.

In case it is desired to temporarily stop feeding the cards 14, I provide levers 40 mounted on a shaft 41. Each lever has a cam 40*a* at its upper end. The cams 40*a* are placed under levers 42 at each side of the magazine.

The levers 42 are mounted on pivots 43. The free ends of the levers 42 carry rollers 44. By moving the levers 40 in direction of the arrow, the rollers 44 are moved toward the end card 14 and press the end card away from the small feed roller 27 and this stops the feeding motion of the cards 14.

As best shown in Figure 6, the solenoid plunger is raised by springs 66 positioned between the head of the plunger 61 and the upper surface of the solenoid 59. A lever 67 is mounted on a pivot 68 at the upper end portion of the upright extension 48' with its free end resting on the head of the plunger 61.

A link 69 is connected at its upper end by a pivot 70 to the lever 67 and by a pivot 71 to an actuating arm 72 of a ratchet wheel 73 mounted on a transverse shaft 74.

The transverse shaft 74 carries two spaced-apart bevel gears 57, each provided for driving a bevel gear 58 of one of two spool shafts 64 arranged to actuate a conventional typewriter ribbon 64*a*, as is well known in the art.

The punching mechanism 75 comprises an upper punch plate 76 carrying male punches 77 and a lower die plate 78, carrying female dies 79, the mechanism being arranged so that the two carrier plates move towards each other or apart from each other.

The punching mechanism 75 also comprises the rotatably mounted upper shaft 65 and a rotatably mounted lower shaft 80. Two eccentrics 81 on the upper shaft operate the upper punch carrier 76. Two eccentrics 81 on the lower shaft 80 operate the lower die carrier 83. Each shaft carries a sprocket gear 84. The gears are in alignment and connected by a sprocket chain 86. At one end of the upper shaft 65 is a crank 87 to which a connecting rod 88 is secured. The upper connecting rod 88 is operatively secured to a crank 89 which actuates a fricton wheel 90 of a pawl and ratchet clutch 91 mounted on the card feeding magazine 20. At one end of the lower shaft 80 is a crank 87 to which a connecting rod 92 is secured. The lower connecting rod 92 is operatively secured to a crank 94 which actuates a ratchet wheel 95 of a pawl and ratchet clutch 96 mounted on the drive shaft 16' on which the driving sprocket wheel 16 is secured.

The punching mechanism described is mounted on an operating platform 97 suitably secured to the frame 11. The platform 97 has upright side walls 98 with dovetail keyways 99 in which dovetail keys 100 slide. The dovetail keys 100 are integral with the die carrier 83.

At the upper portion of the punching mechanism 75, the punch carrier 76 is inserted and supported by an operating platform 101. Dovetail keys 102 are integral with the operating platform 101 and are slidable in the dovetail keyways 99.

The numeral 110 indicates a preferred embodiment of a card cementing mechanism, which comprises a tank (not shown) for plastic cement, the cement being under air pressure. A flexible tube 111 connected at one end to the tank is connected at the other end to a tubular extension 112 of an end wall 113 of a tubular cement applier 114 having one end open. The tubular cement applier 114 is rotatably mounted in frictionally contacting relation in a stationary tubular member 115. The stationary tubular member has an elongated axially positioned slot 116 and the cement applier 114 has a similar slot 117. (Figures 12 and 13.)

A crank 119 is connected to the extension 112 of the cement applier. The crank 119 is suitably connected to the plunger 120 of a solenoid 121. When the solenoid is energized, the plunger causes the cement applier 114 to rotate slightly and the slot 116 to come into alignment with the slot 117 in the stationary tubular member 115. A small quantity of cement is squirted out from the cement applier through the slots upon a card 14 which is carried by the drive chain 15 under the stationary member 115.

A leaf spring 122 suitably secured to the frame 11 has a curved free end portion 123 and serves to hold the card 14 against the tubular member 115.

As shown in Figures 14 to 16 inclusive, we have provided an intermittent motion mechanism 125 for intermittently rotating an apertured button loading disk 126 so as to deliver a plurality of buttons 127 over each cemented card 14, as it reaches the loading disk 126 and in alignment with button pushers 128 to be described.

In the embodiment shown, the buttons 127 are fed from a hopper 129 to the loading disk 126. The loading disk has four sets of button apertures 130 positioned ninety degrees apart. The disk 126 is positioned in raised position above the guideways 13. The mechanism 125 comprises a driving sprocket chain 131 from a source of power and which drives a sprocket gear 132 and a drive shaft 133 rotatably mounted in bearings 134 and 135. The drive shaft rotates bevel gears 136 and an upright shaft 137 rotatably mounted in a bearing 138.

The shaft 137 rotates a locking disk 140 having an arcuate or sectoral cutout portion 141 of its peripheral surface

removed. The shaft 137 also drives a segmental gear 142 having teeth 143 on one-quarter of its circumference. The segmental gear 142 is in mesh with a spur gear 145 which is freely rotatably mounted on a stationary stub shaft 146. At the lower face of the spur gear 145 is an integral star-like or cross-like intermittent wheel 147 having four sectoral cutouts 144 and which is in alignment with the sectoral locking disk 140.

The intermittent mechanism 125 also comprises an upper plate 108 carrying the button pushers 128 and a lower plate 109, carrying a perforated support plate 109', the mechanism being arranged so that the two plates 108 and 109 move towards each or apart from each other by the eccentrics 105.

The segmental gear 142 drives the spur gear 145 for a part of its circumference until the sectoral disk 140 comes into engagement with one sectoral cutout 144 of the intermittent wheel 147. This movement also aligns the button pushers 128 with the buttons 127 which are elastically supported on a perforated rubber sheet 149 secured in alignment with the apertures 130 in the loading disk 126 (Figure 16).

The drive shaft 133 rotates continuously and causes the pushers 128 to push the buttons 127 from the loading disk 126, when they fall freely on the cemented card 14. The buttons adhere to the cemented card which then passes through an electrically heated drying chamber 150 where the heated air is circulated by an electric fan 151. The cement dries and the buttons become fixed to the card. This button mounting and drying operation repeats for every cemented card 14 reaching the intermittent motion mechanism 125.

In operation of the intermittent mechanism 125, continuous rotation of the segmental gear 142 causes intermittent rotation of the button loading disk 126. This step-by-step rotation of the loading disk allows time for the pushers to force the buttons 127 from their elastic support to the cemented portion of a card.

It is to be noted that by buttons we mean to include buckles and all other kinds of fastening devices or other articles, that have a surface adapted to be secured by cement, etc., to a display card.

As shown in Figures 17 to 27 inclusive, we have provided an improved and modified intermittent motion mechanism 160 for intermittently rotating an apertured button loading disk 161 so as to deliver a plurality of buttons 127 over each cemented card 14, as the card reaches the loading disk 161 and in alinement with a button carrier 162 to be described.

In the modified embodiment shown, the buttons 127 are fed from the hopper 129 to button sized cavities 163 in the loading disk 161. The loading disk 161 (Figure 18) has four sets of button apertures 164 positioned 90 degrees apart. The mechanism 160 comprises a driving sprocket chain 165 (Figure 17) from a source of power and which drives a sprocket gear 166 and a drive shaft 167 rotatably mounted in bearings 168, 169. The drive shaft 167 rotates bevel gears 170 and an upright shaft 171 rotatably mounted in a bearing 172.

The shaft 171 rotates a locking disk 175 having an arcuate or sectoral cut-out portion 176 of its peripheral surface removed. The shaft 171 also drives a segmental gear 177 having teeth 178 on ¼ of its circumference. The segmental gear 177 is in mesh with spur gear 179 which is freely rotatably mounted on a stationary stub shaft 180. Below the lower face of the spur gear 179 is an integral star-like or cross-like intermittent wheel 181 having four sectoral cut outs 182 and which is in alinement with the sectoral locking disk 175.

The carding machine embodies a plurality of button pick-up and carrier members 162. Figure 19 shows a button pick-up and carrier 162 which is designed to pick up a button 127 on the modified loading disk 161.

As best shown in Figures 17 and 18, we have provided a modified button placing mechanism 185 comprising the modified apertured button loading disk 161 which serves for receiving and supporting buttons thereon. The loading disk 161 is rotatably mounted on a collared stub shaft 186 which is supported in an extension bearing 187. A spur gear 188 mounted on the stub shaft 186, below the disk 161, is in mesh with an idler spur gear 189 rotatably mounted on the shaft 171. A spur gear 179 mounted on the shaft 180 is in mesh with the gear 189. A spur gear 190 mounted on the shaft 171 is in mesh with a spur gear 191 mounted on the shaft 180.

The modified button placing mechanism also comprises a rotatable multiple arm member 195 having four arms 196. Each arm 196 supports a plurality of sleeves 197 fixed therein and extending downwardly. At the lower portion of each sleeve 197 are fastened a plurality of spring fingers 199 which are arranged in circular form and lie in a circumference slightly smaller than the outer diameter of the buttons. The sleeve 197 with the spring fingers 199, when lowered over a button 127 causes the fingers to spread out and grip the button. A plunger 198 is slidably mounted in the sleeve 197 and is moved down by cams 200 mounted on a shaft 201. A coil spring 202 is mounted between the upper surface of the sleeve 197 and the lower surface of a supporting plate 205. Rotation of the cams 200 in an upward direction, causes the plunger 198 to be raised by the coil spring 202. A sleeve 194 made of material such as rubber is mounted on the lower end of the plunger 198 to prevent the plunger from marring the buttons. When the sleeves are in contact with the upper surfaces of the buttons, as, due to the inherent resiliency of the rubber sleeves 194 it is obvious that a light pressure is exerted against the cemented areas 232 on the cards 14.

The shaft 201 is mounted in bearings 203 which are suitably fixed to a horizontal plate 204 extending from an upright member 206 extending from a lower horizontal plate 207.

Mounted on the shaft 201 are two cams 208 which serve to actuate the rotatable multiple arm carrier member 195 and two cams 200 which serve to actuate the plungers 198.

In operation, the operator places a plurality of articles such as buttons 127 at a loading station on a button loading disk 161, then the loading disk 161 is rotated away from the operator to the diametrically opposite position of the loading station on the loading disk, then a rotatable multiple arm spring finger carrier member 195 is lowered by cams 208 to grip the articles in the said position, then the rotatable multiple arm spring finger carrier member 195 is rotated to a diametrically opposite position in alignment with a card on the guide members, then further cams 200 lower the plungers 198 and force the buttons from the spring fingers 199 onto a cemented card 14.

It is to be noted that after the cams 208 lower the finger carrier member 195, that a coil spring 193 mounted on the shaft 180 raises the member 195 to inoperative position.

Figure 22 shows the modified cement applicator 210 comprising a platform 211 extending upwardly from the frame 11. Two rods 212 are secured to the platform 211 and slidably support an upper plate 213. Coil springs 214 mounted on the rods 212 resiliently support the plate in raised position. The plate 213 has a recess 215. A cover plate 216 covers the recess and has a valve 217 attached thereto and leading to a supply of liquid cement under air pressure (not shown) or fed by gravity. A card supporting plate 218 having apertures 219 is mounted on the platform 211.

A plurality of cement applicators 220 are formed hollow and have threads 221 at their upper ends for attaching the applicators vertically to the upper plate 213.

As best shown in Figure 23, each applicator 220 comprises a conical valve 222 having a spring 223 on its stem, the spring being positioned between the head of the valve and a perforated guide plate 224 fixed inside the applicators. The spring urges the valve downwardly to closed position.

A solenoid 225 is supported by an angle member 226 fixed to the platform 211. At its upper end the solenoid plunger 227 is connected by a pin 228 to a plate 229 which is secured by rods 230 to the plate 213. The solenoid is actuated by an eccentric 231 mounted on the shaft 201. Rotation of shaft 201 causes the solenoid plunger to move down and to lower the applicators 220.

Lowering of the applicators causes the valve heads 222 to contact a card 14 which raises the valve, as shown in Figure 24, thus permitting the liquid cement to form annularly shaped or ring-shaped cemented surfaces 232 on the card 14 (Figure 26). When the cam is rotated to inoperative position, the applicators 220 rise due to the action of the springs 214, permitting the valves 222 to contact the conical seats in the applicators 220 and prevent further feeding of the liquid cement. As is well known in the art, a cement which permits easy separation of adhesively secured articles is known as rubber cement. In the disclosure herewith, the cement is applied in annular

form, on a plurality of ring-shaped areas on each card. Water soluble plastic cement may also be used and the securement takes place without any applied pressure.

In accordance with the patent statutes we have described and illustrated the preferred embodiment of our invention, but it will be understood that various changes and modifications can be made therein without departing from the spirit of the invention as defined by the appended claims.

We claim:

1. In a machine for automatically carding buttons in a continuous operation and with the buttons detachably cemented on a display card; said machine comprising an elongated frame, two guideways of U-shaped cross-section secured to said frame and facing each other, an endless linked chain movably mounted on said frame between said guideways, said chain having carrier links laterally extending therefrom, each carrier link being adapted to convey one of said cards along said guideways, a magazine for stacking cards in substantially upright relation and for feeding said cards on said chain and on said guideways at an end portion of said frame, means for punching perforations in said cards, means for applying cement around said perforations on each of said cards, a button loading disk rotatable on a vertical shaft at one side of said frame above said guideways, said loading disk having a perforated elastic support secured thereto and adapted to deliver a set of buttons in elastically supported relation and in alignment with a card in said guideways, means for pressing said buttons from said elastic support, means for actuating said chain in intermittent stepped relation, means for actuating said magazine feed, and said cement applying means, and said button loading disk in timed relation, and a heated chamber at the opposite end portion of said frame through which said chain and said display cards pass for drying said cement, to cause said buttons to be retained in permanent unitary relation on said cards while permitting ease of removal of said buttons from said cards.

2. In a machine for automatically carding buttons in a continuous operation and with the buttons detachably cemented on a rectangular display card; said machine comprising an elongated frame, two guideways of U-shaped cross-section secured to said frame and facing each other, said guideways being spaced apart a distance permitting said card to freely slide in supported relation therebetween, an endless linked chain movably mounted on a driving sprocket wheel and an idler sprocket wheel on said frame between said guideways and with its upper surface on a level with the lower surface of said guideways, said chain having carrier links laterally extending therefrom, each carrier link being adapted to convey one of said cards along said guideways, a magazine for stacking cards in substantially upright relation and for feeding said cards one at a time on said chain and on said guideways at an end portion of said frame, means for punching perforations in said cards, means for applying plastic cement around said perforations on each of said cards, a button loading disk rotatable on a vertical shaft at one side of said frame above said guideways, said loading disk having a perforated elastic support secured thereto and adapted to deliver a set of buttons in elastically supported relation and in alignment with a card in said guideways, means for pressing said buttons from said elastic support, means for actuating said chain in intermittent stepped relation, means for actuating said magazine feed, and said cement applying means, and said button loading disk in timed relation, and a heated chamber at the opposite end portion of said frame through which said chain and said button mounted display cards pass for drying said cement, to cause said buttons to be retained in permanent unitary relation on said cards while permitting ease of removal of said buttons from said cards.

3. In a machine for automatically carding buttons in a continuous operation and with the buttons detachably cemented on a display card; said machine comprising an elongated frame, two guideways of U-shaped cross-section secured to said frame and facing each other, said guideways having integral guide members forming extensions of the lower surface thereof, an endless linked chain movably mounted on said frame between said guideways and with its upper surface on a level with the lower surface of said guideways, said chain having carrier links laterally extending therefrom, each carrier link being adapted to convey one of said cards along said guideways, a magazine for stacking cards in substantially upright relation and for feeding said cards one at a time on said chain and on said guideway extensions, means for punching perforations in said cards, means for applying cement around said perforations on each of said cards, a button loading disk rotatable on a vertical shaft at one side of said frame above said guideways, said loading disk having a perforated elastic support secured thereto and adapted to deliver a set of buttons in elastically supported relation and in alignment with a card in said guideways, means for pressing said buttons from said elastic support, means for actuating said chain in intermittent stepped relation, means for actuating said magazine feed, and said cement applying means, and said button loading disk in timed relation, and a heated chamber at the opposite end portion of said frame through which said chain and said button mounted display cards pass for drying said cement, to cause said buttons to be retained in permanent unitary relation on said cards while permitting ease of removal of said buttons from said cards.

4. In a machine for automatically carding buttons in a continuous operation and with the buttons detachably cemented on a display card; said machine comprising an elongated frame, two guideways of U-shaped cross-section secured to said frame and facing each other, said guideways having integral guide members forming extensions of the lower surface thereof, an endless linked chain mounted for motion on two sprocket wheels rotatable on said frame between said guideways, the upper surface of said chain being on a level with the lower surface of said guideways, said chain having carrier links laterally extending therefrom, each carrier link being adapted to convey one of said cards along said guideways, a magazine supported in inclined position above said guideways and adapted for stacking cards in substantially upright relation and for feeding said cards one at a time on said chain and on said guideway extensions for movement through said guideways, means for punching perforations in said cards, means for applying cement around said perforations on each of said cards, a button loading disk rotatable on a vertical shaft at one side of said frame above said guideways, said loading disk having a perforated elastic support secured thereto and adapted to deliver a plurality of buttons in elastically supported relation and in alignment with a card supported by said guideways, means for pressing said buttons from said elastic support, means for actuating said chain in intermittent stepped relation, means for actuating said magazine feed, and said cement applying means, and said button loading disk in timed relation, and a heated chamber at the opposite end portion of said frame through which said chain and said button mounted display cards pass for drying said cement, to cause said buttons to be retained in permanent unitary relation on said cards while permitting ease of removal of said buttons from said cards.

5. In a machine for automatically carding buttons in a continuous operation and with the buttons detachably cemented on a display card; said machine comprising an elongated frame, two guideways of U-shaped cross-section secured to said frame and facing each other, said guideways having integral guide members forming extensions of the lower surface thereof, an endless linked chain mounted for motion on two sprocket wheels rotatable on said frame between said guideways and at the ends thereof, the upper surface of said chain being on a level with the lower surface of said guideways, said chain having carrier links laterally extending therefrom, each carrier link being adapted to convey one of said cards along said guideways, a magazine supported in inclined position above said guideways and adapted for stacking cards in substantially upright relation and for feeding said cards one at a time on said chain and on said guideway extensions for movement through said guideways, means for punching perforations in said cards, means for applying cement around said perforations on each of said cards, a button loading disk rotatable on a vertical shaft at one side of said frame above said guideways, said loading disk having a perforated elastic support secured thereto and adapted to deliver a plurality of buttons in elastically supported relation and in alignment with a cemented card supported by said guideways, means for pressing said buttons from said elastic support, means for actuating said chain in intermittent stepped relation, means for actuating said magazine feed, and said cement applying means, and said button loading disk in timed

relation, and a heated chamber at the opposite end portion of said frame through which said chain and said button mounted display cards pass for drying said cement, to cause said buttons to be retained in permanent unitary relation on said cards while permitting ease of removal of said buttons from said cards.

6. In a machine for automatically carding articles in a continuous operation and with the articles detachably cemented on a display card; said machine comprising an elongated frame, two guideways of U-shaped cross-section secured to said frame and facing each other, said guideways having integral guide members forming extensions of the lower surface thereof, an endless linked chain mounted for motion on two sprocket wheels rotatable on said frame between said guideways and at the ends thereof, the upper surface of said chain being on a level with the lower surface of said guideways, said chain having carrier links laterally extending therefrom, each carrier link being adapted to convey one of said cards along said guideways, a magazine supported in inclined position above said guideways and adapted for stacking cards in substantially upright relation and for feeding said cards one at a time on said chain and on said guideway extensions for movement through said guideways, means comprising a typewriter ribbon for printing indicia on each of said cards, means for punching perforations in said cards, means for applying cement around said perforations on each of said cards, an apertured article loading disk rotatable on a vertical shaft at one side of said frame above said guideways, said loading disk having a perforated elastic support secured thereto and adapted to deliver a plurality of articles in elastically supported relation and in alignment with a cemented card supported by said guideways, means for pressing said articles from said elastic support, means for actuating said chain in intermittent stepped relation, means for actuating said magazine feed, and said cement applying means, and said article loading disk in timed relation, and a heated chamber at the opposite end portion of said frame through which said chain and said article mounted display cards pass for drying said cement, to cause said articles to be retained in permanent unitary relation on said cards while permitting ease of removal of said articles from said cards.

7. In a machine for automatically carding articles in a continuous operation and with the articles detachably cemented on a display card; said machine comprising a frame, guideways of U-shaped cross-section secured to said frame and facing each other, said guideways having extensions of the lower surface thereof, an endless linked chain mounted for motion on two sprocket wheels rotatable on said frame between said guideways, the upper surface of said chain being level with the lower surface of said guideways, said chain having carrier links laterally extending therefrom, each carrier link being adapted to convey one of said cards along said guideways, a magazine supported above said guideways and adapted for stacking cards in substantially upright relation and for feeding said cards one at a time on said chain for movement through said guideways, means comprising a typewriter ribbon for printing indicia on said cards, means for punching perforations in said cards, means for applying cement around said perforations on each of said cards, an apertured article loading disk rotatable on a vertical shaft at one side of said frame above said guideways, said loading disk having a perforated elastic support secured thereto and adapted to deliver a plurality of articles in elastically supported relation and in alignment with a cemented card supported by said guideways, means for pressing said articles from said elastic support, means for actuating said chain in intermittent relation, means for actuating said magazine feed, and said cement applying means, and said article loading disk in timed relation, and a heated chamber at the opposite end portion of said frame through which said article mounted display cards pass for drying said cement, to cause said articles to be retained in permanent unitary relation on said cards while permitting ease of removal of said articles from said cards.

8. In a machine for automatically carding articles in a continuous operation and with the articles detachably cemented on a display card; said machine comprising a frame, grooved guide members secured to said frame with the grooves facing each other, said guide members having extensions of the lower surface thereof, an endless linked chain mounted for motion on two sprocket wheels rotatable on said frame between said guide members, the upper surface of said chain being level with the lower surface of said grooves, said chain having carrier links laterally extending therefrom, each carrier link being adapted to convey one of said cards along said guide members, a magazine supported above said guide members and adapted for stacking cards in substantially upright relation and for feeding said cards one at a time on said chain for movement through said grooves, means for printing indicia on said cards, means for punching perforations in said cards, means for applying cement in annular form around the perforated portions of said cards, an apertured article loading disk rotatable on a vertical shaft at one side of said frame above said guide members and adapted to support and deliver a plurality of articles in supported relation and in alignment with a cemented card supported by said guide members, means for removing said articles from said loading disk, means for actuating said chain in intermittent relation, means for actuating said magazine feed, and said cement applying means, and said article loading disk in timed relation, and a heated chamber at the opposite end portion of said frame through which said article cemented display cards pass for drying said cement, to cause said articles to be retained in unitary relation on said cards while permitting ease of removal of said articles from said cards.

9. In a machine for automatically carding articles by cementing said articles on a display card; said machine comprising a frame, grooved guide members secured to said frame with the grooves facing each other, said guide members having extensions for guiding cards into said grooves, an endless linked chain mounted for motion on two sprocket wheels rotatable on said frame between said guide members, the upper surface of said chain being level with the lower surface of said grooves, said chain having carrier links laterally extending therefrom, each carrier link being adapted to convey one of said cards along said guide members, a card stacking magazine supported above said guide members and adapted for feeding said cards one at a time on said chain for movement through said grooves, means comprising a typewriter ribbon for printing indicia on said cards, means for punching perforations in said cards, means for applying cement in annular form around the perforated portions of said cards, a loading disk having cavities for supporting said articles and being rotatable on a vertical shaft at one side of said frame and adapted to deliver a plurality of articles in diametrical position, a rotatable multiple arm member having spring fingers adapted for removing said articles from said loading disk and delivering said articles on a cemented card supported by said guide members, means for actuating said chain in intermittent relation, means for actuating said magazine feed, and said cement applying means, and said article loading disk in timed relation, and a heated chamber at the opposite end portion of said frame through which said article cemented display cards pass for drying said cement, to cause said articles to be retained in unitary relation on said cards while permitting ease of removal of said articles from said cards.

10. In a machine for automatically carding articles by cementing said articles on a display card, said machine comprising a frame, grooved guide members secured to said frame with the grooves facing each other, said guide members having extensions for guiding cards into said grooves, an endless chain mounted for motion on two sprocket wheels rotatable on said frame between said guide members, the upper surface of said chain being level with the lower surface of said grooves, said chain having carrier links laterally extending therefrom, each carrier link being adapted to convey one of said cards along said guide members, a card stacking magazine supported above said guide members at one end of said frame and adapted for feeding said cards one at a time on said chain for movement through said grooves, means comprising a typewriter ribbon for printing indicia on said cards, means for punching perforations in said cards, means for applying cement in annular form around said perforations on each of said cards, a loading disk having cavities for supporting said articles and being rotatable on a vertical shaft at one side of said frame and adapted to deliver a plurality of articles in opposite diametrical position, a rotatable multiple arm member having spring

fingers adapted for gripping and removing said articles from said loading disk and delivering said articles on a cemented card supported by said guide members, means for actuating said chain, means for actuating said magazine feed, and said cement applying means, and said article loading disk in timed relation, and a heated chamber at the opposite end portion of said frame through which said article cemented display cards pass for drying said cement, to cause said articles to be retained in unitary relation on said cards while permitting ease of removal of said articles from said cards.

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