July 15, 1952 A. A. KNEE 2,603,341

SANDWICH MAKING MACHINE

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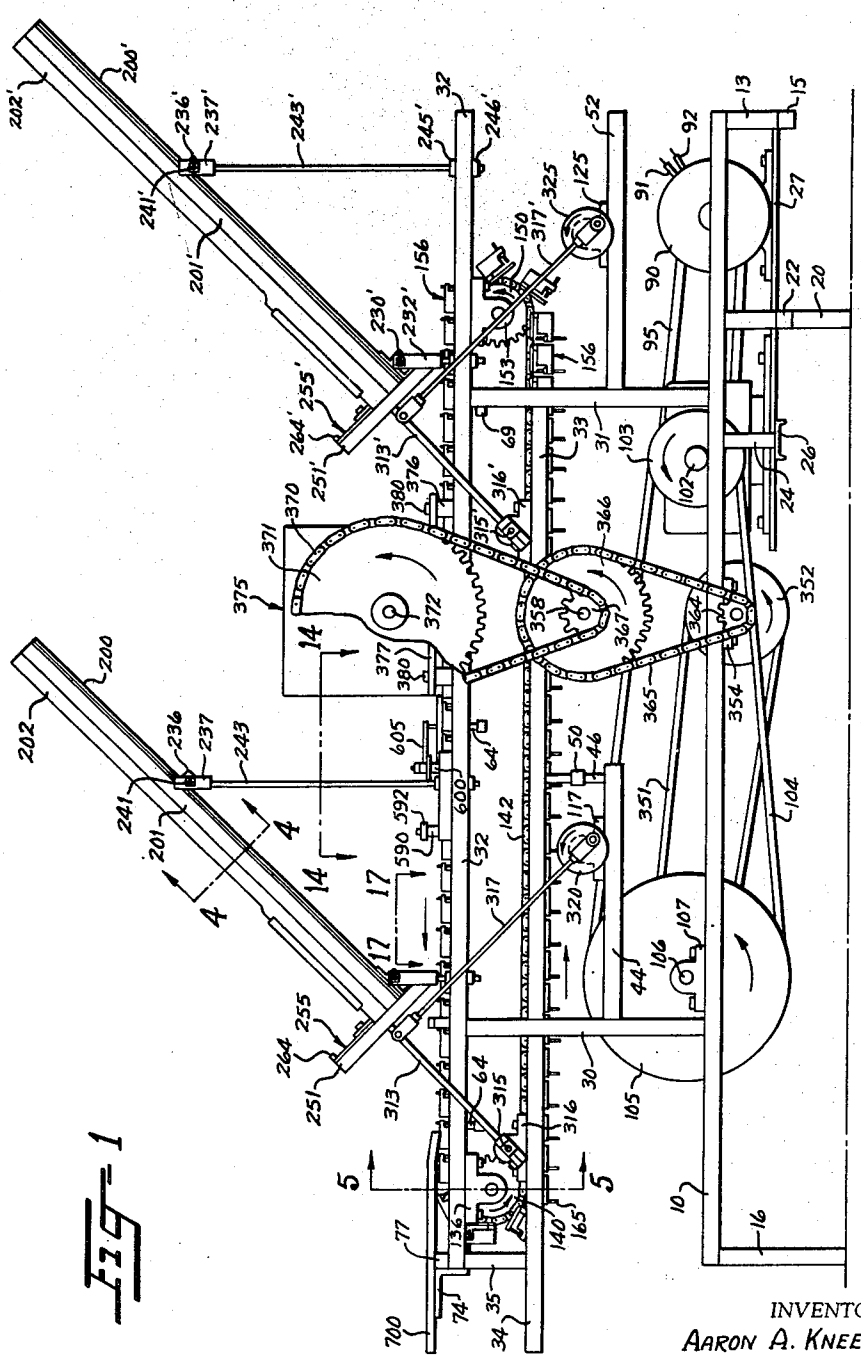


Fig. 1

INVENTOR:
AARON A. KNEE.

BY

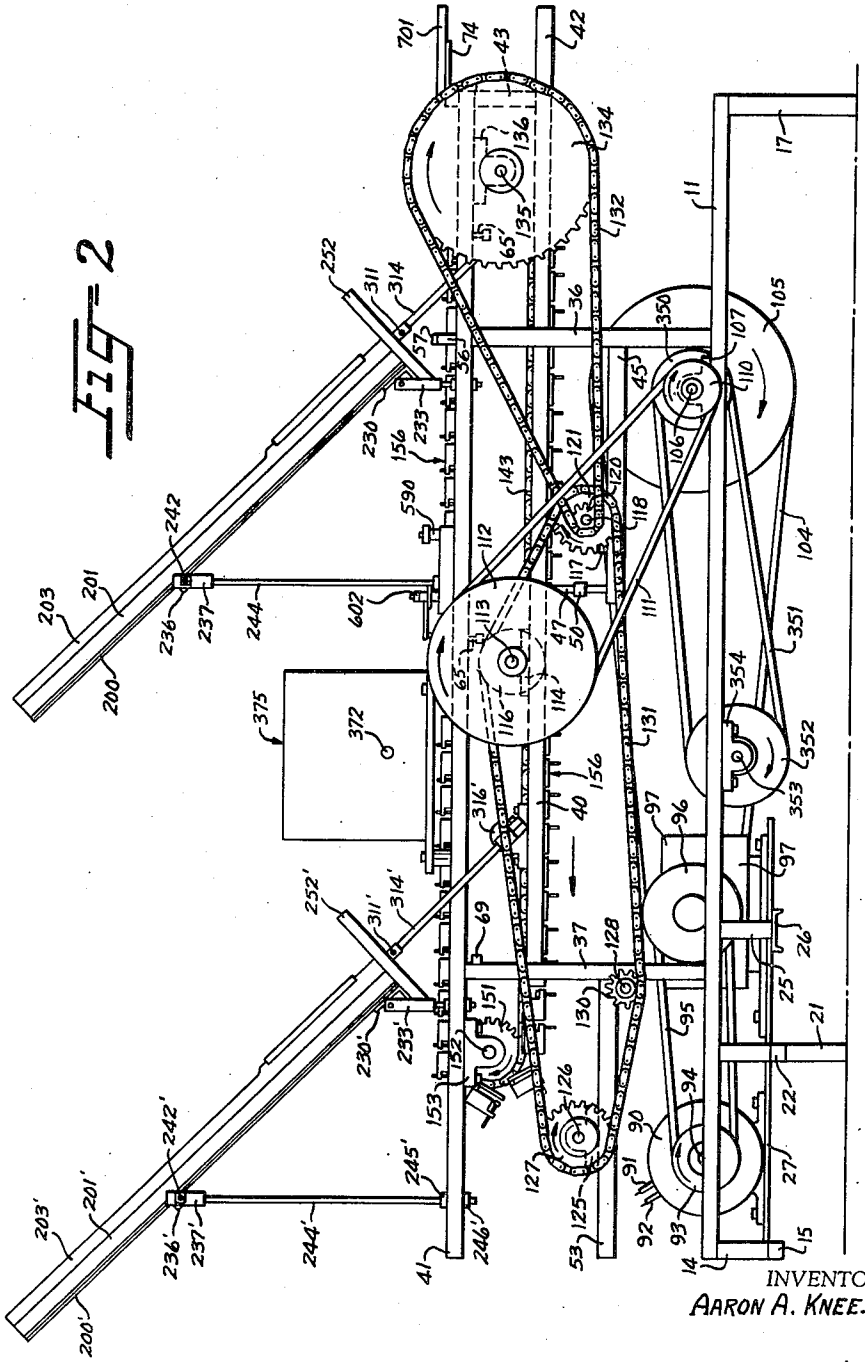
ATTORNEY.

July 15, 1952 A. A. KNEE 2,603,341

SANDWICH MAKING MACHINE

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Fig. 2



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SANDWICH MAKING MACHINE

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Fig. 3

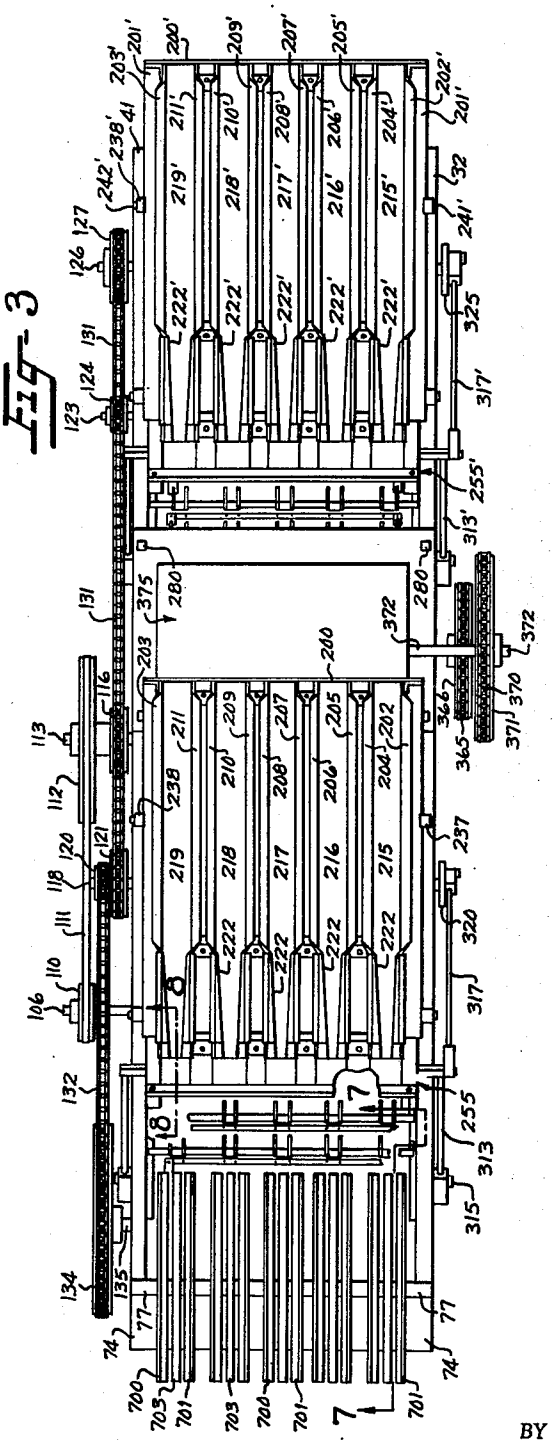
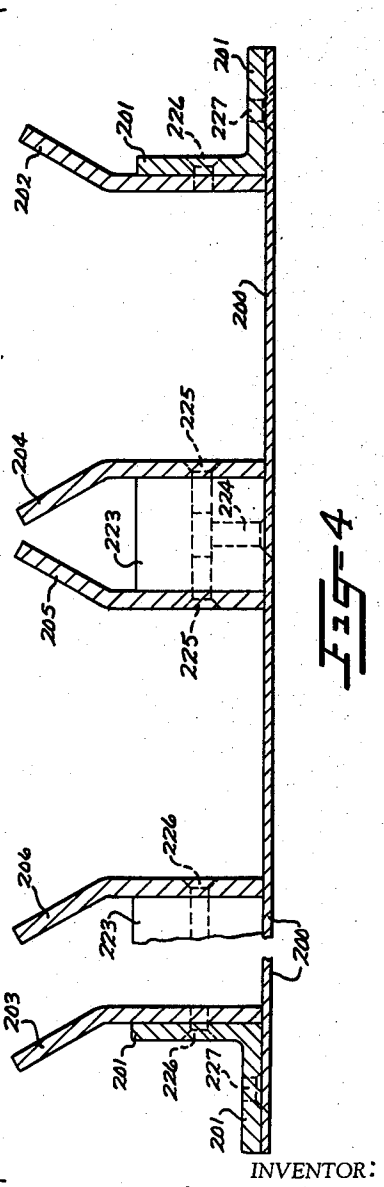


Fig. 4



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July 15, 1952 A. A. KNEE 2,603,341

SANDWICH MAKING MACHINE

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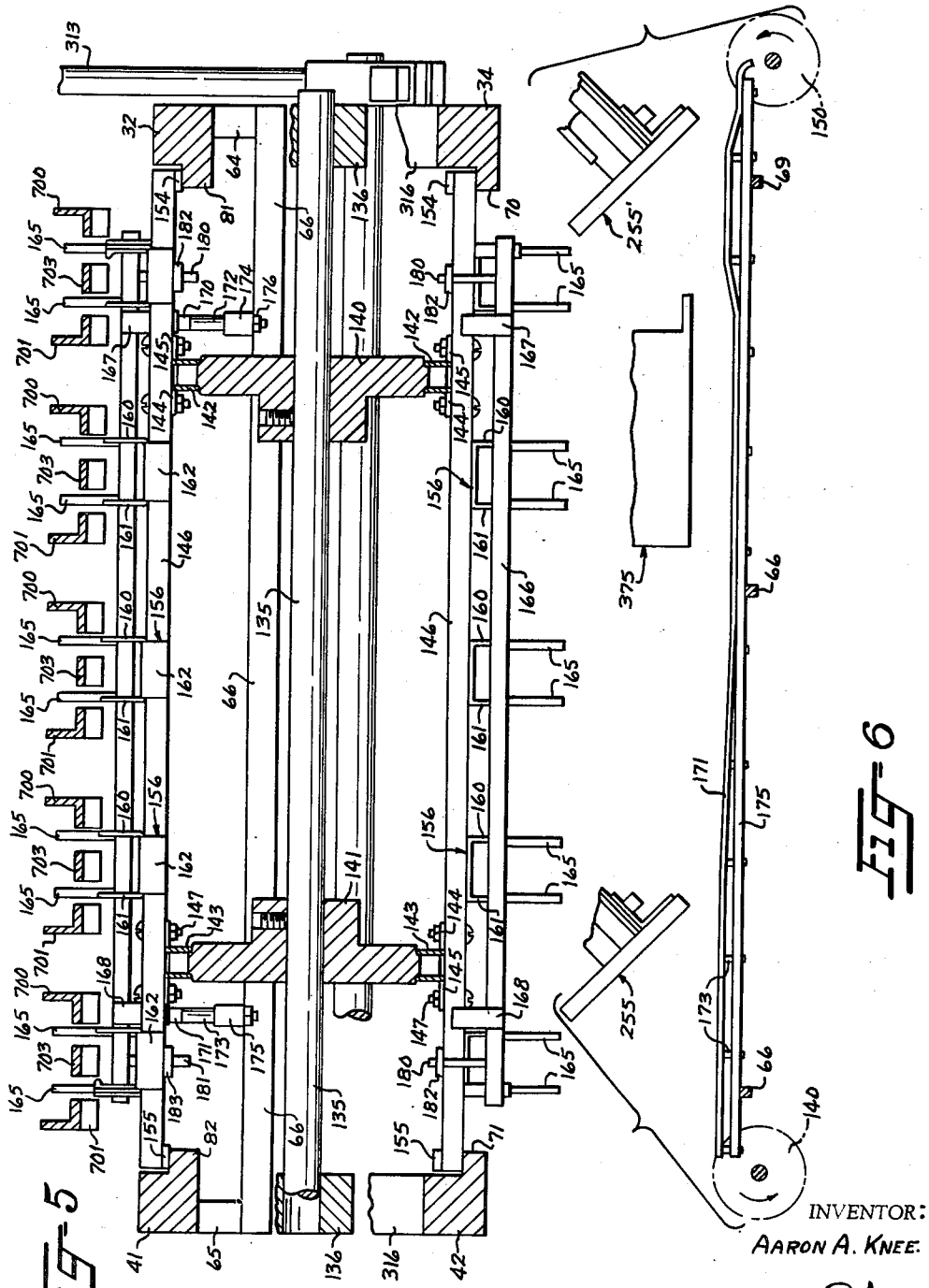


FIG. 5

FIG. 6

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July 15, 1952 A. A. KNEE 2,603,341

SANDWICH MAKING MACHINE

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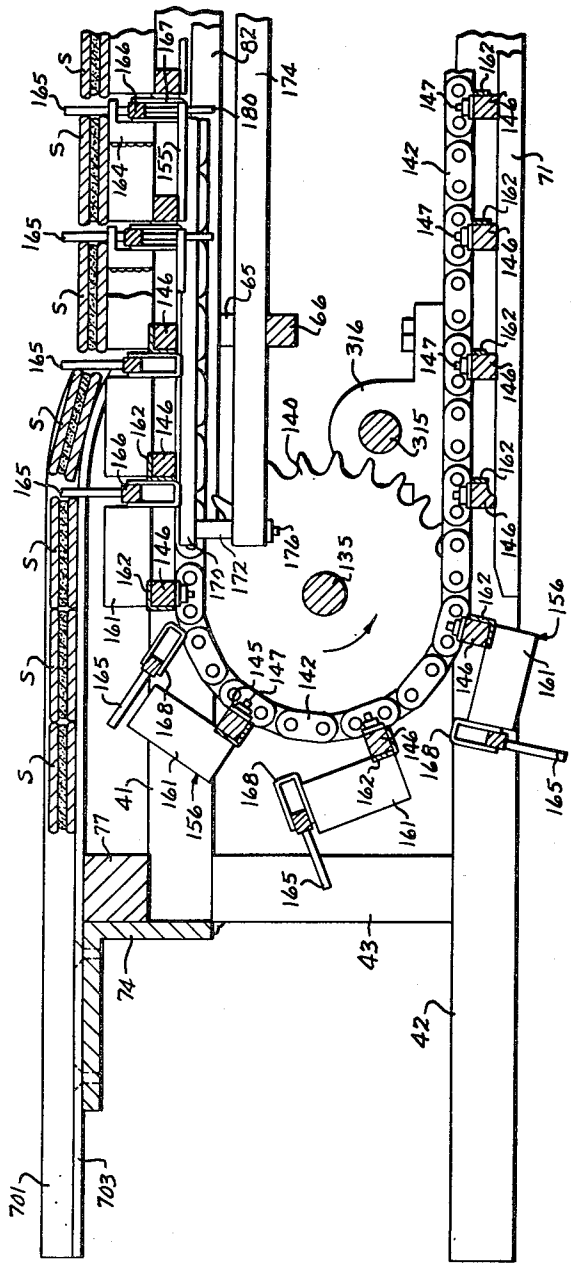


Fig. 7

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July 15, 1952 A. A. KNEE 2,603,341

SANDWICH MAKING MACHINE

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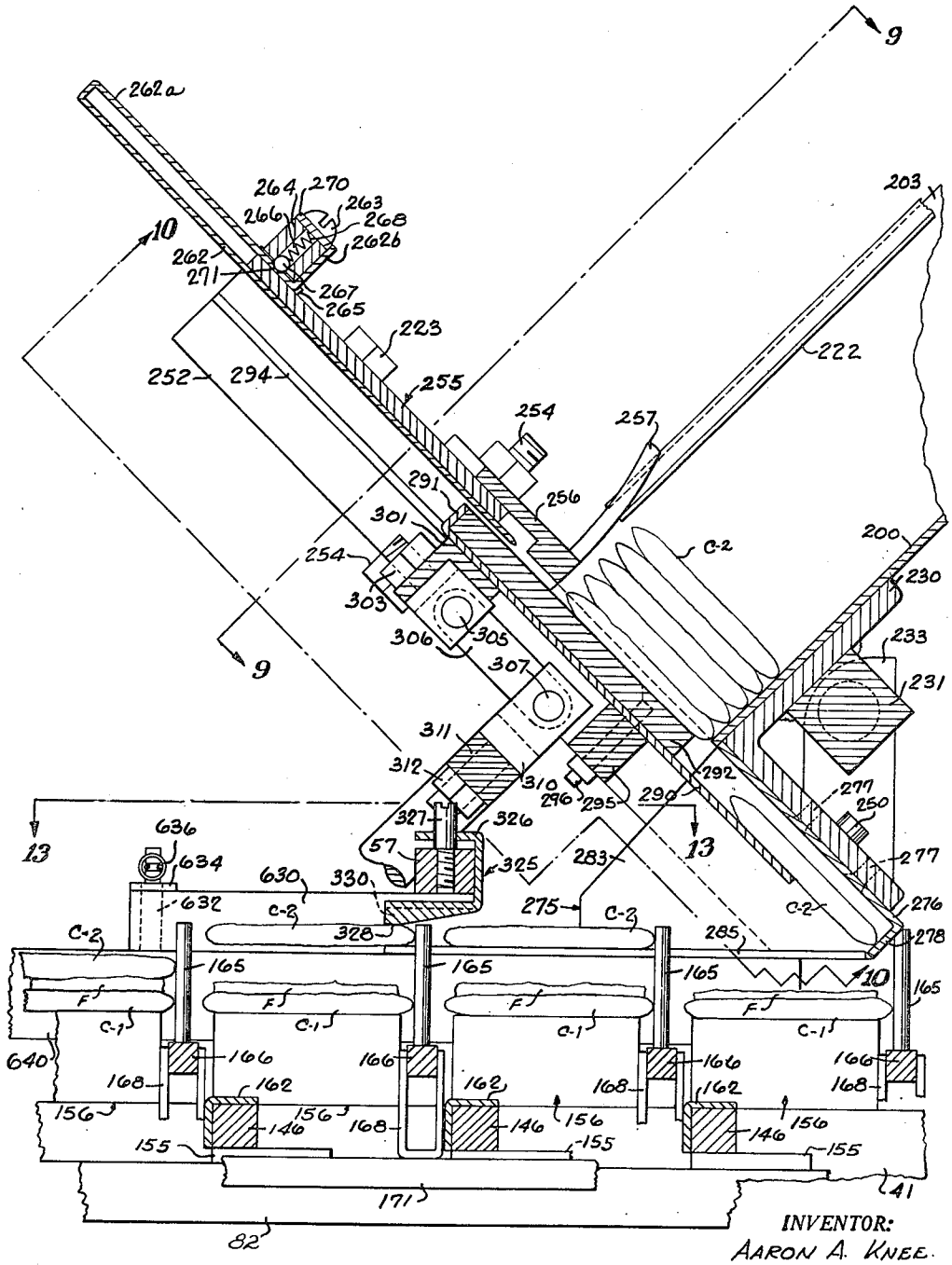


Fig-8

INVENTOR:
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July 15, 1952 A. A. KNEE 2,603,341

SANDWICH MAKING MACHINE

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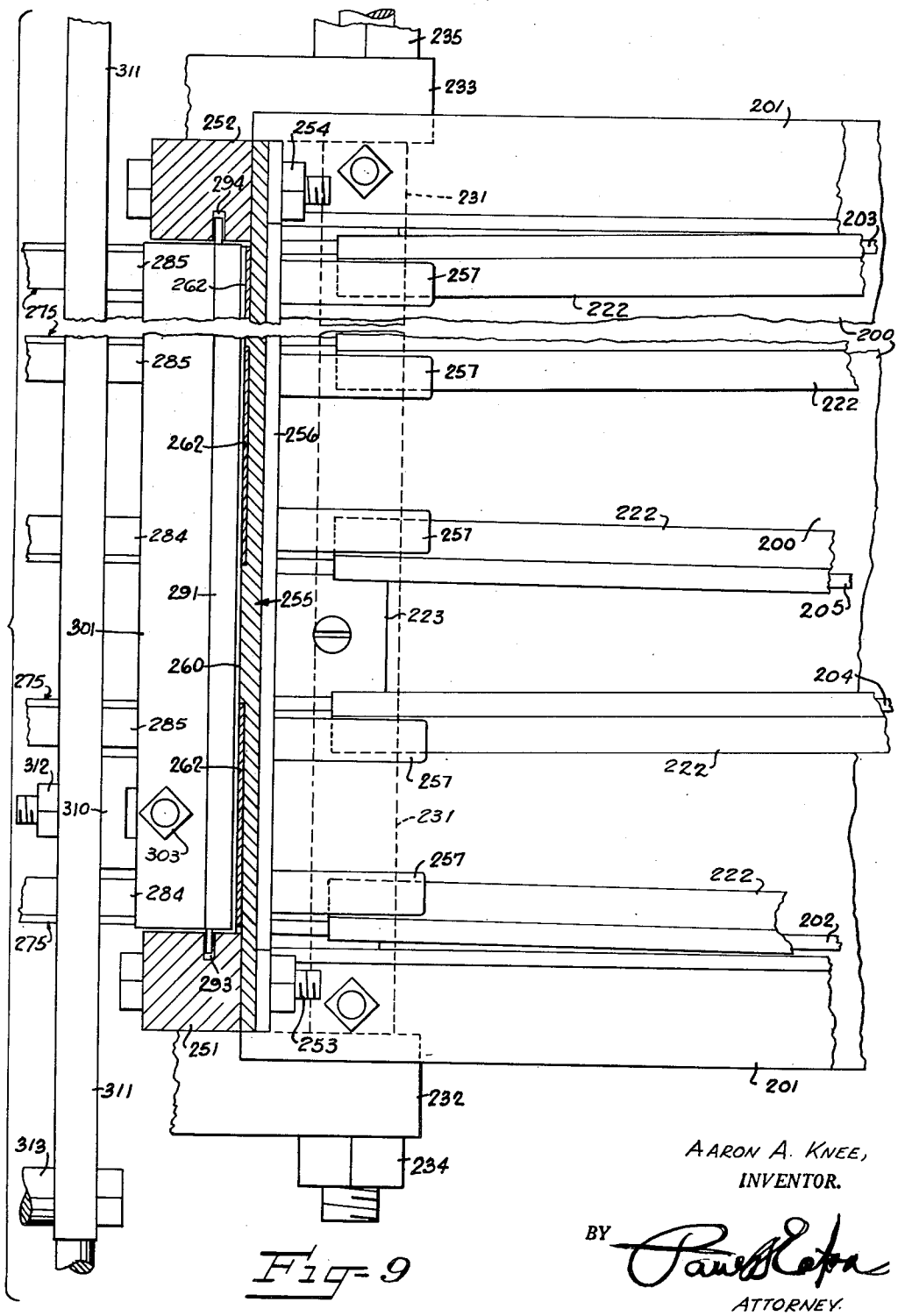


Fig-9

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SANDWICH MAKING MACHINE

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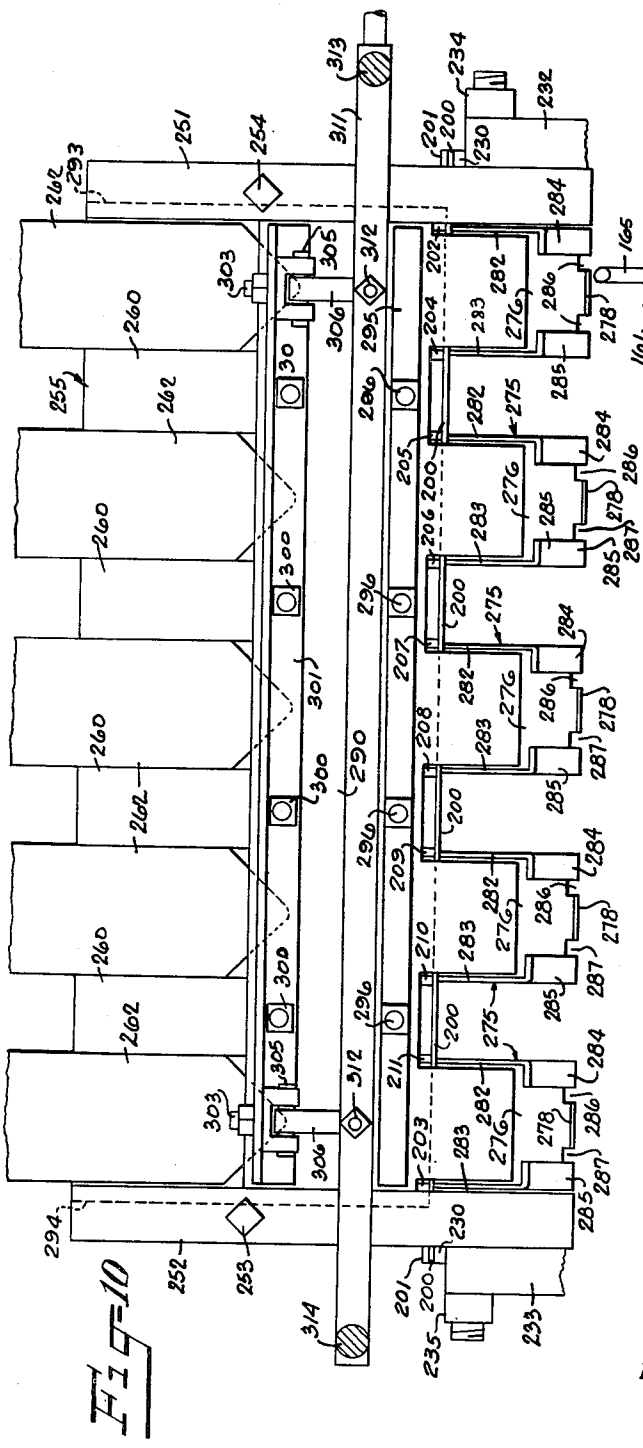


FIG-10

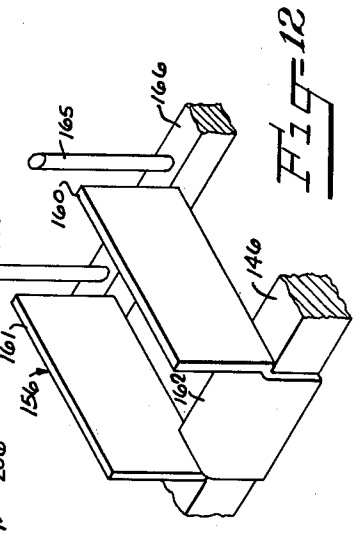


FIG-12

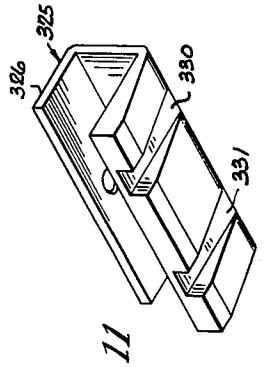


FIG-11

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July 15, 1952 A. A. KNEE 2,603,341

SANDWICH MAKING MACHINE

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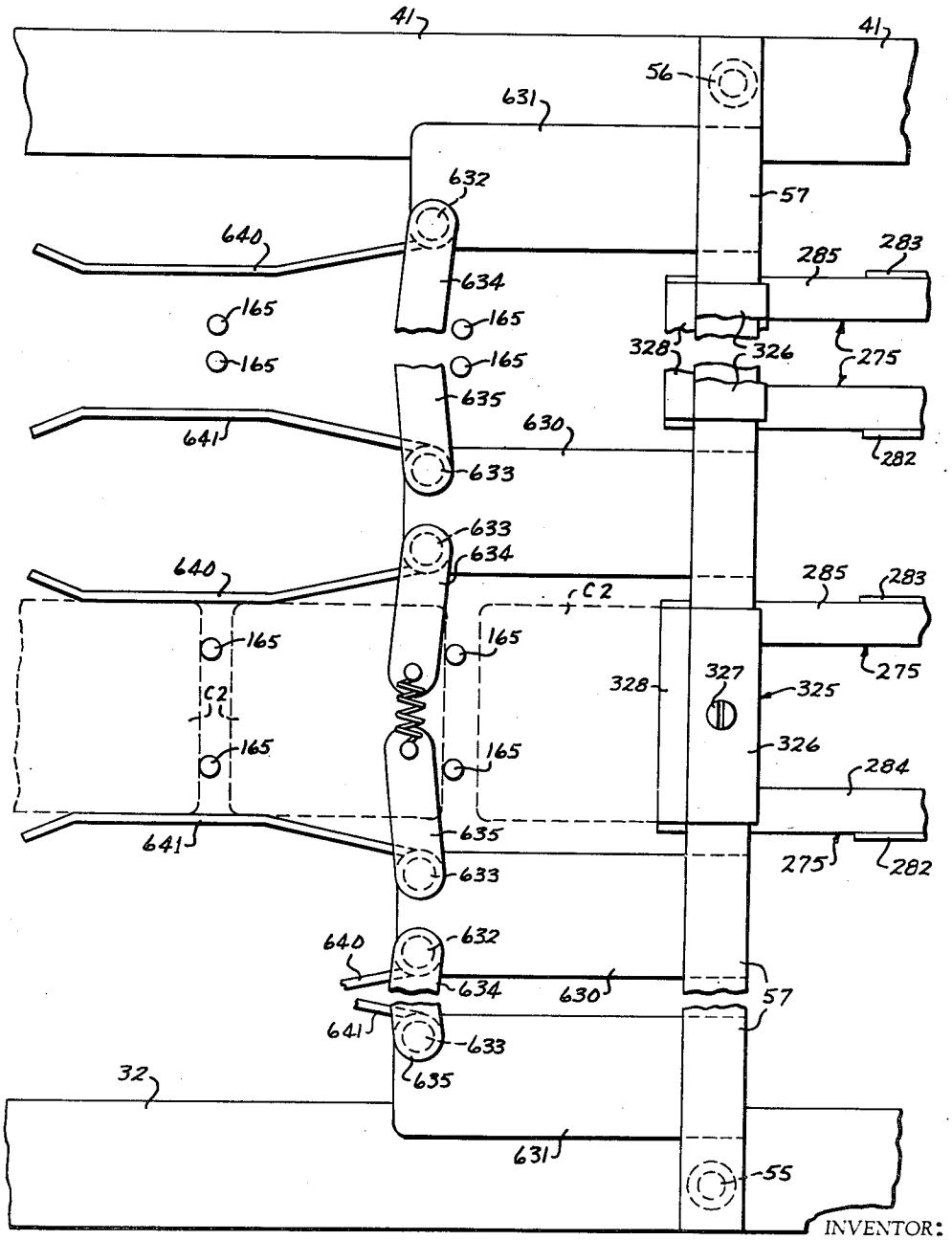


Fig. 13

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July 15, 1952 A. A. KNEE 2,603,341

SANDWICH MAKING MACHINE

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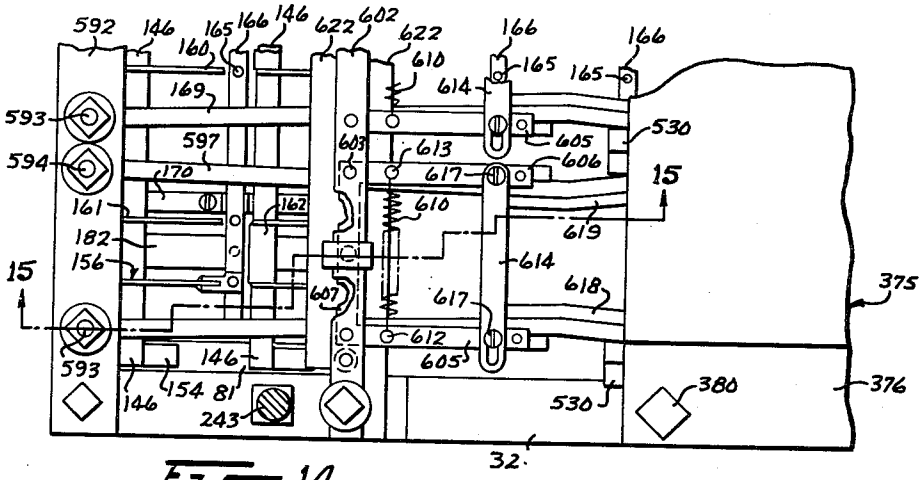


Fig. 14

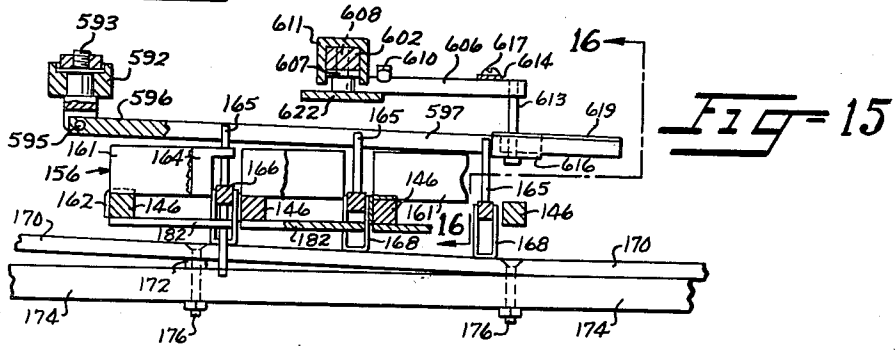


Fig. 15

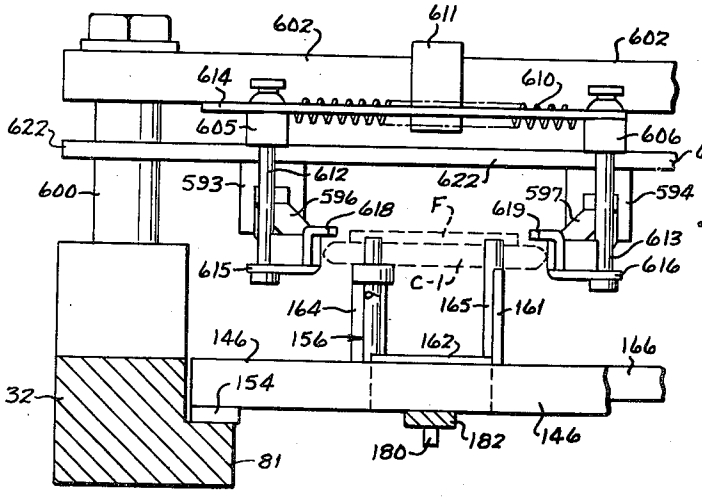


Fig. 16

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July 15, 1952 A. A. KNEE 2,603,341

SANDWICH MAKING MACHINE

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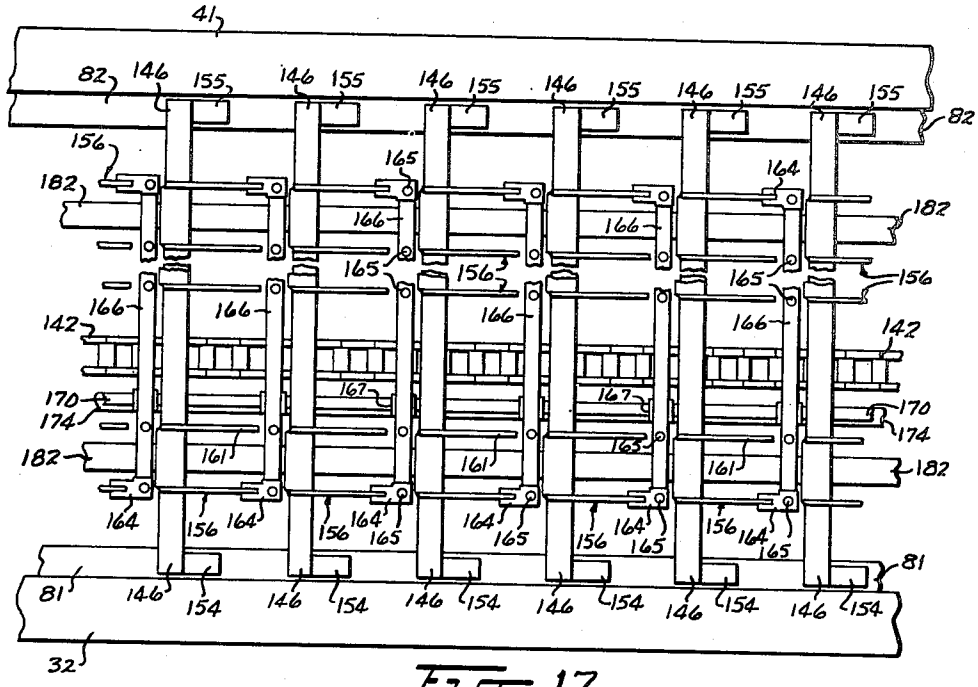
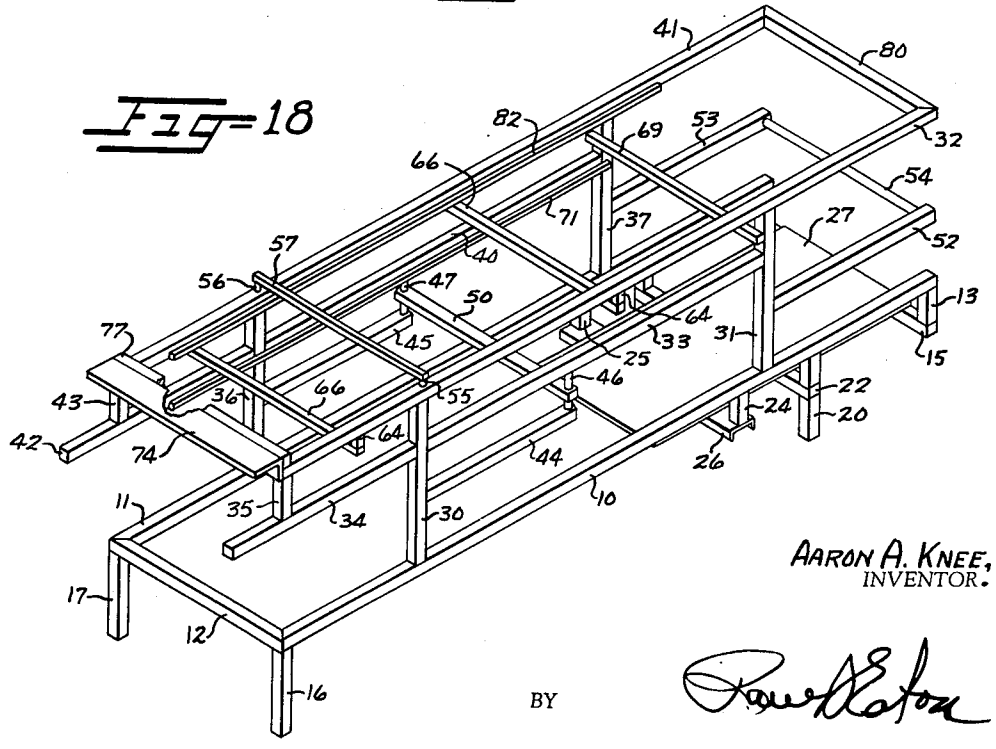


Fig. 17

Fig. 18



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INVENTOR.

BY

ATTORNEY.

Patented July 15, 1952

2,603,341

UNITED STATES PATENT OFFICE

2,603,341

SANDWICH MAKING MACHINE

Aaron A. Knee, Charlotte, N. C., assignor to Lance, Inc., Charlotte, N. C., a corporation of North Carolina

Application September 30, 1947, Serial No. 777,083

22 Claims. (Cl. 198—35)

1

This invention relates to a machine for making sandwiches such as peanut butter sandwiches and the like by providing means for feeding a cracker or cake along pre-determined paths, depositing a filler onto the cracker or cake, then depositing another cracker or cake on top of the first named cracker or cake in such a manner that the two crackers or cakes are in perfect superposed relation and then delivering the finished product from the discharge end of the machine to a suitable conveying means where they are usually packed into packages containing several of the finished double-decked crackers or cakes with the filler therein.

It is an object of this invention to provide a machine for making confections such as peanut butter sandwiches and the like by providing a plurality of conveying means disposed in side by side relation and having a magazine for holding a plurality of stacks of crackers or cakes, there being one magazine for each conveyor, whereby there may be provided a filling feeding mechanism having outlets for each of these conveyors for depositing in timed relation a pre-determined amount of filling material onto the cracker or cake which has been released onto the conveyors, and providing additional magazines for crackers or cakes and releasing a second cracker or cake onto the top of the first cracker or cake having the filling thereon at a pre-determined time to cause it to be superposed on top of the first cracker or cake with the filling material therein.

Means are also provided whereby if the production of the machine is greater than can be handled by the wrapping department to which the finished superposed crackers and cakes are delivered, for cutting out one or more of the feeding means for the crackers and for the filling material to thereby reduce the combined output of the machine until such time as the packing department has caught up with the output of the machine.

More specifically, it is another object of this invention to provide a sandwich making machine of the character described wherein the conveyor has one or more longitudinal rows of spaced pockets thereon with a pair of vertically movable pins associated with each of said pockets. Each of the cake feeding stations or magazines has a slotted platform thereon disposed immediately above the conveyor extending longitudinally of the conveyor and onto which the crackers or cakes are deposited, one at a time, in timed relation to movement of the conveyor.

A cam means is provided for elevating the pins as they move past each of the magazines to thus

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cause the upper portions of these pins to pass between the slots in the corresponding slotted platforms for removing each successive cracker or cake therefrom and directing the same onto the corresponding pocket or pockets, the cam means being so arranged as to permit the pins to assume a lower position, relative to the position they assume while passing adjacent the magazines, as they pass beneath the filling feeding mechanism so that the filling feeding mechanism may be disposed closely adjacent the upper surfaces of the crackers or cakes on the pockets as the filling is dispensed from the filling feeding mechanism onto each successive cracker or cake from the first of the magazines.

Some of the objects of the invention having been stated, other objects will appear as the description proceeds, when taken in connection with the accompanying drawings, in which—

Figure 1 is a side elevation of a sandwich machine with parts omitted and other parts being broken away, showing the improved magazines and the arrangement thereof and showing a filling dispensing apparatus disposed therebetween, schematically;

Figure 2 is a side elevation looking at the opposite side of the machine from that shown in Figure 1;

Figure 3 is a top plan view of the machine as shown in Figure 1;

Figure 4 is a sectional view taken substantially along the line 4—4 in Figure 1 with parts omitted and other parts being broken away;

Figure 5 is a transverse vertical sectional view taken substantially along the line 5—5 in Figure 1 with parts broken away and showing the structure of the conveyor;

Figure 6 is a schematic longitudinal vertical section through the machine illustrating the configuration of the elongated cam means or pin controlling trackways relative to the magazines and the filling feeding apparatus;

Figure 7 is a longitudinal vertical sectional view of the discharge end of the machine taken substantially along the line 7—7 in Figure 3;

Figure 8 is a vertical sectional view through the discharge end of one of the magazines showing a portion of the conveyor associated therewith and being taken substantially along the line 8—8 in Figure 3;

Figure 9 is a view partly in section taken substantially along the line 9—9 in Figure 8;

Figure 10 is a view, mostly in elevation but partly in section, taken substantially along the line 10—10 in Figure 8;

Figure 11 is an isometric view of the sandwich

clamping means shown in the lower central portion of Figure 8;

Figure 12 is an isometric view of one of the cracker or cake holders or pockets and a portion of the endless conveyor such as is illustrated in Figure 7;

Figure 13 is a fragmentary plan view taken substantially along the line 13—13 in Figure 8 and omitting certain parts for sake of clearness;

Figure 14 is a fragmentary top plan view, partly in section, looking substantially along the line 14—14 in Figure 1 and showing the cracker or cake centering means disposed between the two magazines, but omitting parts of the conveyor;

Figure 15 is a vertical sectional view taken substantially along the line 15—15 in Figure 14 and showing the conveyor, partly broken away, in association therewith;

Figure 16 is a fragmentary view, mostly in elevation, but showing parts in section, and taken substantially along the line 16—16 in Figure 15;

Figure 17 is an enlarged fragmentary top plan view looking down substantially along the line 7—7 in Figure 1 and showing, particularly, the manner in which the conveyor is constructed;

Figure 18 is an isometric view of the framework of the machine omitting all parts that are not integrally welded to the framework of the machine.

Referring more specifically to the drawings, the numeral 10 indicates a lower longitudinal frame bar while 11 indicates a similar bar on the other side of the machine (Figure 18). At one end these bars 10 and 11 are joined together by an end bar 12 and at the other end the bars 10 and 11 respectively have downwardly projecting bars 13 and 14 (Figures 2 and 18) to the lower ends of which is secured a transverse end bar 15. At the discharge end of the machine the lower frame is supported by vertically disposed legs 16 and 17.

Near the intake end of the machine are vertically disposed legs 20 and 21 which are joined together by a transverse bar 22. Also there are downwardly projecting bars 24 and 25 extending downwardly from the side bars 10 and 11 respectively to which is secured a transverse bar 26. The bars 15, 22 and 26 support a plate member 27.

The bar 10 has rising upwardly therefrom uprights 30 and 31 whose upper ends are connected to an upper horizontal bar 32. The bars 30 and 31 are bridged by a bar 33 and extending from bar 30 is a bar 34 which has an upright bar 35 which is connected to one end of the horizontal frame bar 32.

The lower horizontal bar 11 has rising upwardly therefrom uprights 36 and 37 which are similar to bars 30 and 31. These have extending therebetween a bar 40 and the upper ends of the bars 36 and 37 are secured to an upper horizontal bar 41. Extending toward the discharge end of the machine and secured to upright bar 36 is a horizontal intermediate bar 42 which has an upright bar 43 secured thereto and which is also secured to the upper horizontal bar 41.

Both the upright bars 30 and 36 have secured thereto one end of horizontal bars 44 and 45 respectively which project toward the intake end of the machine and have secured on the upper surfaces thereof, near their free ends, uprising pins 46 and 47 which have fixed thereon a transverse bar 50 which bridges the gap between the free ends of the bars 44 and 45.

The bars 31 and 37 have secured thereto one end of bars 52 and 53 whose free ends have secured therebetween a shaft 54. Secured to and rising

upwardly from the upper horizontal bars 32 and 41 are upright pins 55 and 56 to the upper ends of which is secured a transverse upper bar 57.

The upper horizontal bars 32 and 41 have, near the discharge end, and intermediate the ends, of the machine, downwardly projecting portions 64 and 65 to the lower ends of which are secured transverse bars 66.

Secured to the proximate surfaces of intermediate horizontal bars 33 and 40 are bars 70 and 71 (Figures 5 and 18). Secured to the ends of the upper horizontal bars 32 and 41 and spanning the distance therebetween is an angle bar 74. To the rear surface of angle bar 74 is secured a transverse bar 77.

The upper horizontal bars 32 and 41 are connected at the intake end of the machine by a transverse bar 80. Disposed on the proximate sides of upper horizontal bars 32 and 41 are the projections 81 and 82 (Figures 5 and 18) which serve to support the upper reach of the conveyor chains while the bars 70 and 71 support the lower reach of the conveyor chains as will be later described.

Mounted on the plate 27 is an electric motor 90 having wires 91 and 92 leading from a suitable source of current, not shown, into the motor (Figures 1 and 2). This motor has a V-pulley 93 on its motor shaft 94 on which is mounted a V-belt 95. This V-belt 95 is mounted on a V-pulley 96 on one side of a variable speed drive mechanism 97, this comprising the input side of the conventional variable speed mechanism. The drive mechanism 97 has an output shaft 102 which has a pulley 103 fixed thereon on which a V-belt 104 is mounted, said V-belt 104 being mounted on a pulley 105 fixed on a shaft 106 rotatably mounted in bearings 107, which are mounted on the lower horizontally disposed bars 10 and 11.

Shaft 106 has mounted thereon a V-pulley 110 which has mounted thereon a V-belt 111 which is also mounted on a larger V-pulley 112 secured on a shaft 113 mounted for rotation in bearings 114 disposed on the intermediate horizontal bars 33 and 40. Adjacent the pulley 112 is a sprocket wheel 116. There is mounted in suitable bearings 117 on horizontal bars 44 and 45, a shaft 118, which has fixedly mounted thereon sprocket wheels 120 and 121.

Rotatably mounted in bearings 125 disposed on the horizontal bars 52 and 53 is a transverse shaft 126 on which is fixed a sprocket wheel 127. Rotatably mounted on a suitable stud shaft 128 is an idler sprocket 130. The stud shaft 128 is fixed to the vertically disposed bar 37.

Mounted on the sprocket wheels 116, 121, 124, 127 and idler sprocket 130 is a sprocket chain 131. This imparts rotation to the shaft 118, which, as has already been described (see Figure 3), has fixed thereon the sprocket wheel 120. Sprocket wheel 120 has mounted thereon a sprocket chain 132. Sprocket chain 132 is also mounted on a larger sprocket wheel 134 fixed on a transversely disposed shaft 135 rotatably mounted in bearings 136 disposed on the lower side of the upper horizontal bars 32 and 41.

Mounted on the transverse shaft 135 are two sprocket wheels 140 and 141 (Figures 1 and 5) on which endless sprocket chains 142 and 143 are mounted. Every fourth link of these chains has outturned lips 144 and 145 to which transverse bars 146 are secured by means of suitable bolts 147 (Figure 5). The sprocket chains 142 and 143 of the main conveyor near the intake end of the

machine are also mounted on sprocket wheels 150 and 151 respectively (Figures 1 and 2) secured on a transverse shaft 152 which is mounted for rotation in bearings 153 secured to the lower sides of upper horizontal bars 32 and 41.

The upper layer or reach of the conveyor, of which sprocket chains 142 and 143 are parts, is supported by the guide bars 81 and 82, which are integral with the proximate sides of the upper horizontal bars 32 and 41. The lower layer or reach of this conveyor of which sprocket chains 142 and 143 are main parts, is supported by the guide bars 70 and 71 which are integral with the proximate sides of intermediate horizontal bars 33 and 40, as well as horizontal bars 34 and 42 (Figure 5).

The ends of the transverse bars 146 have wear shoes 154 and 155 secured thereon which contact the supporting bars 81 and 82 to support the upper leaf of the conveyor while it is traveling from the intake end to the discharge end of the machine. Each of the transverse bars 146 has a plurality of cracker receiving shoes or pockets 156 fixedly secured thereon in spaced relation to each other and all of these cracker receiving shoes are spaced at the same position along all of the transverse bars 146 so as to provide aligned rows of cracker receiving shoes throughout the entire length of the conveyor of which chains 142 and 143 form a part.

These cracker or cake receiving shoes 156 have spaced side walls 160 and 161 and a bottom portion 162 (Figure 12). These side walls 160 and 161 of the cracker supporting shoes 156 are spaced closer to each other than the width of the cracker so that the crackers indicated by reference character C are supported on the top edges of the portions 161 and 160. The partial bottom of the cracker or cake shoes and which has been described by reference character 162 has a downturned lip which is welded to the transverse bar 146.

The outermost cake supporting members 156 on each side of the main conveyor have welded to the inside surface of the outer uprising portion 161 thereof, on one side of the conveyor, and 160 on the other side of the conveyor (Figures 5, 7, 15, 16 and 17), a plate member 164 which projects rearwardly of the rear end of the cracker supporting members 156 and has a vertically disposed hole therein which is slidably penetrated by the endmost pins 165 of bars 166 in which these pins 165 are mounted.

The bars 166 have welded near each end thereof U-shaped members 167 and 168 which are adapted, near the discharge end of the machine, to ride on trackways 170 and 171.

The supporting bars 170 and 171 are supported at their ends by spacer collars 172 and 173 which in turn are supported by bars 174 and 175 which are supported near one of their ends, and intermediate their ends, by the transverse bars 66 and at their opposite ends by another transverse bar 69 secured between the uprights 31 and 37 (Figures 1, 2, 5, 7 and 18).

The spacers 172 and 173 are of varying height and are of such height as to vary the level of the U-shaped members 167 and 168 progressively as they move from the intake end to the discharge end of the machine. It will be noted, for example in Figure 6, that these bars have at their beginning near the intake end of the machine no spacer collars 167 and 168 thereunder. These bars 170 and 171 are held in position by means of suitable stove bolts 176 penetrating both bars 170 and 171 and the supporting bars 174 and 175 which are supported by the transverse bars 66 and 69.

The bars 166 have at each end thereof pins 180 and 181 projecting in an opposite direction therefrom to the pins 165 (Figures 5, 7, 15, 16 and 17). These pins 180 and 181 slidably penetrate a hole in the end of plate members 182 and 183, secured at their other ends to the transverse bars 146. In this manner, the bars 166 are mounted for sliding movement relative to the bars 146 and the plates 182 and 183 which are welded to the bars 146.

Two different spaced dispensing stations are provided for feeding the crackers or cakes into the conveyor, and these stations are identical and like reference characters will apply except that the first feeding means which is not shown in as full detail as the second feeding means will have prime notations added to like parts, and a thorough description will be given of the second feeding means which is shown in more detail (Figures 1, 2, 3, 4, 8, 9, 10 and 13).

The cracker or cake magazines each comprise a plate 200 having angle strips 201 near their outer edges to which are secured the side walls 202 and 203 respectively and also fixed to the plate 200 are walls 204, 205, 206, 207, 208, 209, 210 and 211, thus providing chutes or supporting areas indicated by reference characters 215, 216, 217, 218, and 219, for stacks of crackers.

The side walls 202 to 211 project inwardly toward each other to narrow the chutes 215 to 219 inclusive near the bottom thereof to give a sufficient clearance for travel of the crackers while the top portions of these chutes are broader to make feeding of crackers thereinto all in a stacked form more easily accomplished. The members 201 to 211 inclusive have inturned lips 222 which restrict the open side of the chutes 215 to 219 near their lower ends to prevent the crackers from jarring forwardly out of the chutes as these lips restrict the passageway to a width which is narrower than the width of the crackers.

The members 204 to 211 inclusive are secured in position by means of a plurality of blocks 223 (Figure 4) being secured between pairs of the same by means of a screw 224 penetrating the sheet metal member 200 and then suitable rivets or screws 225 penetrate the members 204 to 211 inclusive and in the case of rivets, would penetrate the blocks 223, and in the case of screws would be threadably imbedded in the block 223 to therefore hold the members 204 to 211 inclusive in assembled position.

The side members 202 and 203 are secured to the angle members 201 as by screws 226 penetrating the angle members and being threadably imbedded in the side members 202 and 203. The angle members 201 are suitably secured to the sheet metal plate 200 by means of suitable screws 227.

The crackers or cakes are fed into the top or broader portions of the chutes 215 to 219 inclusive to provide an elongated stack of the crackers in each chute and then an attendant will continue to feed additional crackers into these chutes to cause an ample supply to be in the chutes at all times.

The lower edge of plate 200 has secured thereto by any suitable means an angle bar 230 which has welded thereto a cross bar 231 whose ends are supported in uprights 232 and 233 (Figures 8 and 9). The shaft 231 is rounded at its ends and is oscillatably mounted in the uprights 232

and 233 and has nuts 234 and 235 on its outer ends, by means of which the shaft 231 can be adjustably clamped in position when the angularity of the metal plate 200 is determined. The angularity of this metal plate may be adjusted by means of square shaft 236 being secured to the lower side of the plate 200 which shaft is rounded at its ends and penetrates blocks 237 and 238 and nuts 241 and 242 are threadably mounted on the outer ends of the rod 236 to secure the blocks 237 and 238 in position (Figures 1, 2 and 3).

Fixed in the lower ends of blocks 237 and 238 are rods 243 and 244 which are threaded at their lower ends and penetrate top horizontal side bars 32 and 41 and have nuts 245 and 246 disposed above and below the bars 32 and 41 for adjusting the vertical position of the rods 243 and 244.

Secured on their lower ends to the forward lower surface of the angle bar 230 near the end of said angle bar 230 by means of suitable screws 250 are side upright bars 251 and 252 (Figures 8, 9 and 10). Secured at its ends to the posts 251 and 252 by means of bolts 253 and 254 is a plate 255 which extends across the machine. Secured to the upper surface of plate 255 is a bar 256 by means of bolts 253 and 254 and this bar 256 has a plurality of upwardly and rearwardly projecting lips 257 which overlie the lower ends of the chutes 215 to 219 (Figures 8 and 9). These projections 257 are for preventing upward movement of the lowermost crackers during a feeding operation.

The plate 255 has raised portions 260 (Figures 9 and 10) spaced apart from each other. These raised portions 260 are on the lower side of plate 255 and in the spaces between these raised portions suitable gates 262 are mounted for sliding movement. These gates have a reversely bent portion 262*a* adapted to slide on the upper side of plate 255.

Secured to the plate 255 by means of suitable screws 263 is a transverse bar 264 which has spacer washers 265 (Figure 8) at various points along the bar to hold the bar 264 in spaced relation to the plate 255. The upper leg 262*a* projects downwardly between the plate 255 and the bar 264 and has an outwardly and upwardly turned leg 262*b* which limits upward movement of the gate 262 (Figure 8). The bar 264 has a bore 266 associated with each portion 262*a* in which is mounted a ball 267 which is normally urged against the leg 262*a* by means of a compression spring 268.

There is a flat strip 270 secured on the top surface of bar 264 by means of the same screws 263 which secure the bar 264 to the plate 255 and this flat bar 270 confines the compression springs 268 in position to push the ball 267 against the surface portion 262*a* so as to hold the gate 262 in elevated position when it is raised to the position shown in Figure 8, since the leg 262*a* has a depression 271 near its lower end which is adapted to be entered by the ball 267 to hold the gate 262 in elevated position. The gate 262 when in lowered position is adapted to close the lower end of the chutes 215 to 219 inclusive to prevent a cracker from falling downwardly to where it can be expelled from the chute.

Secured to the lower surface of the angle bar 230 is a plurality of spaced cracker receiving and supporting members or platforms broadly referred to by reference character 275 (Figures 8, 9 and 10). This member 275 has a leg 276 which is secured to the lower surface of angle bar 230 by means of suitable screws 277. The leg 276 has integral therewith a downwardly and forwardly projecting platform portion or ledge 278.

The portion 276, as is clearly visible in Figures 8 and 10, has integral therewith side walls 282 and 283 which have inturned flanges or spaced supporting members 284 and 285 at their lower edges which provide a space therebetween of less dimensions than the width of a cracker. These spaced supporting members 284 and 285 project substantially beyond the ends of the side walls 283 and 282. The downturned portion 278 has a pair of gaps 286 and 287 cut in the lower edges thereof through which the pins 165 pass to remove a cracker from the inturned portions or ledges 284 and 285 and to carry the cracker along to the free ends of these inturned portions or ledges 284 and 285 to where it will fall by gravity onto the conveyor chain in the first cracker dispensing assembly whereas in the second conveying assembly the cracker will fall onto the filling which will have been deposited onto the first cracker.

There is provided a plate 290 (Figures 8 and 10) which is turned at right angles at its upper ends as at 291 and to the upper side of this plate 290 and to its portion 291 is secured, by means to be presently described, a closure plate 292. It will be noted in Figure 8 that the plate 292 terminates a substantial distance short of the lower edge of the plate 290 thus forming a leaf portion or member projecting below the closure plate 292. The sheet metal plate 290 projects at each end beyond the ends of plate 292 and these ends are slidably mounted in grooves 293 and 294 in the angularly disposed posts 251 and 252. The lower surface of plate 290 is reinforced by means of a bar 295 which is secured to the plate 290 and to the plate 292 by means of bolts 296 penetrating the above named parts.

Secured to the outer surface of this plate 290 and near the top portion thereof by any suitable means such as bolts 300 penetrating plates 290 and 292, is an angle bar 301 which is also penetrated by the bolts 300. At each end of angle bar 301 suitable bolts 303 penetrate the forwardly projecting leg of angle bar 301 and the lower portion of these bolts 303 are penetrated by pivot pins 305. These pivot pins 305 pivotally support the upper ends of connecting rods 306 whose lower ends are pivotally connected by pivot pins 307 (Figure 8) to forked bolts 310 which penetrate a bar 311 and these bolts are confined in position by means of nuts 312 on the lower end thereof.

The shaft 311 near its ends has abutting thereagainst the upper ends of inclined levers 313 and 314 (Figures 1, 2, 9 and 10) which project downwardly and forwardly and are fixed to the two ends of a shaft 315 mounted in suitable bearing blocks 316 disposed on the horizontal intermediate bars 34 and 42. It is to be noted that the bearing blocks 316' are mounted on similar intermediate horizontal bars 33 and 40.

The bar 311 is rounded on its right-hand end in Figure 10 or the end nearest the observer in Figure 1 and has pivotally mounted thereon a connecting rod 317 which has its lower end eccentrically connected to an eccentric wheel 320 which is fixed on the shaft 118 mounted in bearing blocks 117. The structure for the first cracker dispensing means is identical to the second means except that the connecting rod 317' is connected to an eccentric wheel 325 which, in-

stead of being mounted on shaft 118, is mounted on shaft 126 previously described.

Mounted on the transverse bar 57 is a plurality of spaced vertically slidable weights 325 (Figures 8, 11 and 13), an isometric of which is shown in Figure 13. There is one of these members 325 for each row of crackers passing through the machine and these members 325 are associated only with the second cracker dispensing mechanism as they are not necessary in the first cracker dispensing mechanism. These members designated broadly as 325, each have an upper lip 326 which has a vertically disposed hole therethrough which is penetrated by a shoulder screw 327 and allows vertical sliding movement of the portion 326 as well as the member 325 with relation to bar 57.

The lower portion of each member 325 has a horizontally disposed portion 328. This has a pair of grooves 330 and 331 in its lower surface through which the pins 165 may pass if no cracker is present to hold the member 325 in elevated position and thus this arrangement prevents the pins 165 from having to raise the member 325 in the event no cracker is in position to hold a member 325 in elevated position (Figure 8).

The purpose of the member 325 is to cause the lower horizontal portion 328 to engage the crackers as they travel through the machine and, as will be observed in Figure 8, it will hold the crackers C–2 in horizontal position until they are entirely removed from the inturned flanges 284 and 285 so that the cracker will fall in a horizontal attitude onto the filling F deposited onto the previously deposited cracker C–1.

Also mounted on the shaft 106 is a V-pulley 350 (Figure 2) which has mounted thereon a V-belt 351 which is also mounted on a pulley 352 fixedly secured on a shaft 353. The shaft 353 is supported by bearings 354 at the ends thereof which are secured on the lower surfaces of frame members 10 and 11 (Figures 1 and 2).

The end of the shaft 353 remote from the observer in Figure 2, but nearest the observer in Figure 1, has a sprocket wheel 364 mounted thereon on which is mounted a sprocket chain 365 which is also mounted on a sprocket wheel 366 fixedly mounted on a shaft 358. Shaft 358 also has fixedly mounted thereon a sprocket wheel 367 which has mounted thereon a sprocket chain 370 which is also mounted on a sprocket wheel 371 fixedly secured on a shaft 372 which is part of a filling feeding apparatus. The filling feeding apparatus may be of any desired construction provided that it operates to dispense filling material at predetermined intervals in timed relation to movement of the conveyor. Thus, the driving means for the filling feeding apparatus is shown in detail, but the filling feeding apparatus is shown schematically and indicated generally at 375. The apparatus 375 does not, necessarily, constitute a part of the present invention and, therefore, a detailed description thereof is deemed unnecessary. This apparatus 375 may be of the type disclosed in my co-pending application entitled Dispensing Apparatus for Viscous Material and Method, Serial No. 251,725, filed October 17, 1951.

In this instance, the filling feeding apparatus 375 is supported in spaced relation to the pockets 156 of the conveyor by means of four spacer blocks 376, there being two on top of each of the bars 32 and 41. Resting on top of these blocks is a plate member 377 and the plate member 377, as well as the spacer blocks 376 are penetrated by screws 380 which are threadably imbedded in the horizontal bars 32 and 41. This plate 377 is the base portion of the filling feeding apparatus 375.

One great advantage of having the cake holding chutes at an incline such as shown in the drawings, is that the plate 200 supports the greater portion of the weight of the column of cakes and therefore the reciprocating member 292 in removing the lowermost cake will not grind the upper surface thereof or sometimes break the lowermost cake because there will not be nearly as much pressure exerted on the lowermost cake as there would be if the chutes were vertical.

Mounted on suitable uprisers 590 rising from upper horizontal bars 32 and 41 is a transverse bar 592 (Figures 1, 2, 14, 15 and 16) which has vertically disposed holes therein in which are oscillatably mounted bolts 593 and 594. The lower ends of these bolts 593 and 594 are slotted longitudinally of the machine and have a pivot pin 595 therein on which are mounted one end of bars 596 and 597. The bars 596 and 597 project forwardly in close proximity to the discharge orifices of the filling feeding means 375.

Also mounted on suitable uprisers 600 and 601 is a transverse bar 602 which has pivoted as at 603 and 604 bell crank levers 605 and 606 whose short legs abut each other and have semi-circular cavities therein which are penetrated by a pin 607 which is dropped down through a suitable hole 608 in the bar 602 and serves as a roller bearing between the short legs of the bell crank members 605 and 606.

The bell crank members 605 and 606 have their free long legs normally biased and moved toward each other by means of a tension spring 610. The hole 608 is normally covered by a cap member 611. Near the free ends of the bell cranks 605 and 606 is pivoted a link member 614 as at 617. The free ends of bell cranks 605 and 606 have downwardly projecting pins 612 and 613. Loosely mounted on the lower ends of pins 612 and 613 which are headed, are the members 615 and 616 which have horizontal upwardly projecting legs which project toward each other and then an upright portion and then an upper horizontal portion designated at 618 and 619 respectively which lie flush against the free ends of the members 596 and 597. The purpose of this arrangement is to properly align the first cracker C–1 which has been deposited on the conveyor chain sections, and immediately after it has had the filling F applied thereto so that when the second cracker C–2 is fed onto the top thereof they will be in proper superposed relation. The description is for one of the mechanisms associated with one of the five longitudinal sections of the conveyor chain and like reference characters will apply as they are identical to each other.

Attention is especially called to the flared out portions at 618 and 619 in Figure 14 which serve to align the cakes in proper position immediately beneath the discharge openings of the filling depositor 375. Also attention is called to the fact that these portions 618 and 619 in Figure 16 project out over the edges of the cakes and therefore hold them down on the conveyor and thus prevent the filling while it is being deposited from dragging the cakes backwardly due to the fact that the portions 618 and 619 will hold the cakes C–1 down on the conveyor so that they

will be carried along the conveyor by the pins 165.

Immediately below the short legs of bell cranks 605 and 606 is mounted a bar 622 which is secured at its ends by the same uprisers, 600 and 601, which secure the transverse bar 602 at its ends. This bar 622 is used to slidably support the short legs of the bell cranks 605 and 606 and the pins 607.

Transverse bar 57 has already been described as supporting a plurality of vertically slidable members 325 as is shown in Figures 8 and 11. As has already been described, the conveyor chain in the present invention has five rows of cracker supporting members 156 in addition to the means for properly aligning the crackers C–1 and, as has been described, it is necessary to properly align the top crackers C–2 after they have been deposited by the second cracker depositing mechanism.

Secured to the lower side of bar 57 and in the spaces between the points where the vertically movable members 325 are mounted are intermediate bars 630 (Figures 8 and 13) for the intermediate rows of cracker sandwiches and outside bars 631. The outside bars 631 and each of the intermediate bars 630 have oscillatably mounted therein vertically disposed pins 632 and 633. The upper ends of these pins have fixed thereon levers 634 and 635 respectively.

The levers 634 and 635 are joined together by a tension spring 636. Secured to the lower ends of pins 632 and 633 are guiding vanes 640 and 641. The outside members 631 also have pins 632 and 633 as well as levers 634 and 635 and guiding vanes 641 thereon, their structure being identical to one side of the structure affixed to the members 630.

The members 640 and 641 are located on opposed sides of the cracker supporting members and serve to properly laterally align the top crackers C–2 which have been deposited on top of the filling material F, which has been discharged from the filling feeding apparatus 375. The pins 165 which convey the crackers through the machine serve to align the top and bottom crackers longitudinally.

While the top and bottom crackers C–1 and C–2 are being aligned transversely by the vanes 640 and 641, additional aligning means are provided to assist in this operation.

Disposed on each side of each longitudinal row of sandwiches disposed on the conveyor belt mechanism is a pair of angle bars 700 and 701 (Figures 5 and 7) which support the finished sandwiches S for sliding movement and there is disposed between these angle bars 700 and 701; a bar 703 with suitable slots between the bar 703 and the angle bars 700 and 701, for the pins 165 to project into as they lift the finished sandwiches S onto the angle bars 700 and 701.

It will be noted that the right-hand end of these angle bars 700 and 701, as well as the middle bar 703, slant downwardly so as to provide an inclined surface up which the finished sandwiches S may be moved by the pins 165 before the pins 165 cease to be in engagement with the finished sandwiches S. These bars 700, 701 and 703 are suitably supported by the angle bracket 74 previously described. The sandwiches may move along these bars 700, 701 and 703 to a suitable container or onto another conveyor for further processing.

The trackways 170 and 171 which support the ends of the transverse bars 166 and the pins 165 therein, determine the elevation of the top ends of these pins as they progress through the machine. By referring to Figure 6, one of the trackways 171 is there visible and the other trackway 170 is identical on the other side of the machine (Figures 5, 6 and 7). There it is noted that the upward movement of the pins 165 is begun and this elevation is maintained until after the pins 165 pass the first cracker magazine. This causes the pins 165 to be raised up sufficiently to pass through the slots 286' and 287' in the first set of cracker supporting members 275'.

After they have passed the first cracker receiving position, the trackways 170 and 171 are somewhat lower and occupy the position shown in the right-hand portion of Figure 15 and this allows the top ends of the pins 165 to pass beneath the filling feeding apparatus 375, but will still be high enough to engage the rear edges of the first deposited crackers C–1 to receive the filling F. After they have received the filling and have gradually started to rise as shown in Figure 6 and in the left-hand portion of Figure 15 to where the pins 165 are elevated approximately to the position shown in Figure 8, they will pass through the slots or notches in the second cracker dispensing mechanism to engage the crackers C–2 disposed on the horizontal platform formed by the flanges 284 and 285. Then, after they have deposited the cracker C–2 on top of the filling F which has been deposited on cracker C–1, they remain in this high position as shown in Figure 7 until they discharge their sandwiches onto the bars 700, 701 and 703 and move downwardly from behind the rear edge of the finished sandwiches, thus, discharging the sandwiches from the machine.

The sandwiches discharged from the ends of bars 700, 701 and 703 might be delivered to a suitable wrapping mechanism if desired, but in common practice, they are delivered onto a conveyor mechanism where operators on each side of an extended endless conveyor pick up a plurality of sandwiches and wrap them into a package ready for sale.

In the event that the sandwiches are discharged from the bars 700, 701 and 703 faster than desired and it is desired to cut down the capacity of the machine, then one or more of the discharge orifices of the filling feeding apparatus 375 can be closed. Before this is done, however, one of the gates 262 in one of the cracker feeding chutes 215' to 219' inclusive will be moved, in the first cracker feeding station, to closed position for that line in the conveyor in which the orifice is to be closed to stop the filling material. Then, of course, in the same line along the conveyor, the cracker dispensing gate 262 in the second cracker feeding magazine would be moved to closed position to thus entirely cut out one of the five rows of the conveyor from productive operation.

In the drawings and specification there has been set forth a preferred embodiment of the invention, and although specific terms are employed, they are used in a generic and descriptive sense only, and not for purposes of limitation, the scope of the invention being defined in the claims.

I claim:

1. In a machine for making sandwiches, a frame, an endless conveyor mounted in the frame, and having a plurality of spaced projections ex-

tending outward from the conveyor and being movable at right angles to the conveyor, a first feeding station disposed above the upper reach of the conveyor for feeding cakes to the conveyor and a second feeding station disposed above the upper reach of the conveyor for feeding cakes to the conveyor, the first and second feeding stations each comprising reciprocal means for removing one cake at a time and feeding it downwardly toward the conveyor, a pair of spaced supports onto which the cake is adapted to fall, said supports extending along each side of the conveyor to allow the projections on the conveyor to pass between the supports and engage the cake to move it longitudinally of the shelf and off the shelf and allow it to fall onto the conveyor, and means for aligning the top and bottom cakes with respect to their line of travel to superpose the same.

2. In a machine for making sandwiches from two cakes, crackers and the like, an endless conveyor mounted in said machine, a plurality of spaced pockets mounted on the conveyor, a plurality of transversely disposed bars mounted for sliding movement toward and away from the conveyor and having outwardly projecting pins, a first cake feeding station and a second cake feeding station disposed in spaced relation to each other and above the upper reach of the conveyor, each of the cake feeding stations comprising reciprocable means for feeding one cake at a time downwardly, a slotted platform disposed immediately above the conveyor and extending longitudinally of the conveyor, the inwardly and outwardly slidable bars on the conveyor having pins extending outwardly therefrom, a trackway on which the conveyor is adapted to move, a second trackway on which the inwardly and outwardly slidable bars are adapted to move, said trackway for the transversely disposed bars having an elevated portion at each cake feeding station onto which the transversely disposed bars are adapted to rise to cause the pins thereon to move upwardly and pass through the slotted portion of the platform supporting the cakes and to remove the cakes from the slotted platform to allow them to fall onto the conveyor, cam means for engaging the transversely disposed bars and lowering the same after they shall have passed by the first cake feeding station and other cam means for elevating the transversely disposed bars to cause one of their pins to traverse the slotted platform of the second cake feeding station to remove a cake therefrom.

3. In a machine for making peanut butter sandwiches and the like, a magazine for holding a stack of crackers and a second magazine for also holding a stack of crackers, each of the cracker magazines having a reciprocable member for removing one cracker at a time therefrom, a horizontally disposed shelf member disposed below each of the magazines and onto which the cracker is adapted to fall when delivered, an endless conveyor mounted in the machine and having its upper leaf disposed below the cracker magazines, a trackway on which the upper leaf of the conveyor is supported, the conveyor having a plurality of inwardly and outwardly slidable bars mounted thereon, the shelf members supporting the crackers being slotted, pins extending from the bars and a second trackway on which the ends of the pins are adapted to rest, the second trackway having an elevated portion at each of the cracker feeding stations for raising the transversely disposed bars and causing the pins to pass through the slots in said shelf members to remove a cracker therefrom, means also for operating the second magazine in timed relation to deposit a cracker therefrom onto the top of the first cracker, and means for aligning the topmost cracker with relation to the bottommost cracker.

4. In a machine for making sandwiches from two cakes, crackers and the like, an endless conveyor mounted in said machine, a plurality of spaced pockets mounted on the conveyor, a plurality of transversely disposed bars mounted for sliding movement toward and away from the conveyor, a first cake feeding station and a second cake feeding station disposed in spaced relation to each other and above the upper reach of the conveyor, each of the cake feeding stations comprising reciprocable means for feeding one cake at a time downwardly, a slotted platfrom disposed immediately above the conveyor and extending longitudinally of the conveyor, the transversely disposed bars on the conveyor having pins extending outwardly therefrom, a trackway on which the conveyor is adapted to move, a second trackway on which the transversely disposed bars are adapted to move, said trackway for the transversely disposed bars having an elevated portion at each cake feeding station onto which the transversely disposed bars are adapted to rise to cause the pins thereon to move upwardly and pass through the slotted portion of the platform supporting the cakes and to remove the cakes from the slotted platform to allow them to fall on the conveyor.

5. In a machine for making peanut butter sandwiches and the like, a cracker feeding magazine for holding a stack of crackers and a second cracker feeding magazine for also holding a stack of crackers, each of the cracker feeding magazines having a reciprocable member for removing one cracker at a time therefrom, a horizontally disposed longitudinally slotted shelf member disposed below the magazines and onto which the cracker is adapted to fall when delivered, an endless conveyor mounted in the machine and having its upper reach disposed below the cracker magazines, a trackway on which the upper reach of the conveyor is supported, the conveyor having a plurality of inwardly and outwardly slidable bars mounted thereon, pins extending from the bars, a second trackway on which the ends of the bars are adapted to rest, the second trackway having an elevated portion at each of the cracker feeding stations for raising the transversely disposed bars and causing the pins to pass through the slots in said platforms to remove a cracker therefrom, means also for operating the second magazine in timed relation to deposit a cracker therefrom onto the top of the first cracker, and means for aligning the topmost cracker with relation to the bottommost cracker after the topmost cracker has been deposited onto the first cracker.

6. In a machine for making sandwiches from cakes and a suitable filling material, an endless conveyor having a plurality of transverse rows of pockets and having a plurality of transversely disposed bars having outwardly projecting pins mounted for sliding movement toward and away from the conveyor, there being a bar disposed between each transverse row of pockets, a pair of rows of cake magazines disposed in spaced relation to each other and each cake magazine comprising a plurality of chutes for holding a

stack of cakes, a platform disposed below each chute and being disposed in horizontal alignment with the upper reach of the endless conveyor and in spaced relation thereto, each of the platforms having slots therein, a trackway on which the upper reach of the conveyor is adapted to be supported, a second trackway disposed on each side of the endless conveyor and on which the ends of the transverse bars are adapted to travel, said trackway having elevated portions beneath each of the magazines for raising the transverse bars to cause their pins to pass through the slotted platform to remove a cake therefrom, means driven in timed relation to the machine for simultaneously operating all of the means for discharging cakes one at a time from the lower ends of said chutes, and means for selectively rendering inoperable the cake feeding means for any chute or chutes.

7. In a sandwich making machine, a magazine having an inclined chute for holding a stack of cakes, reciprocable means for removing the lowermost cake from the chute, a pair of spaced supporting means disposed below the chute onto which the released cake is adapted to fall by gravity, an endless conveyor having means for receiving the released cake, said endless conveyor having pins thereon adapted to pass between the supporting means and engage the cake and remove it from said supporting means to allow it to fall onto the conveyor.

8. In a sandwich making machine having a plurality of chutes disposed in side by side relation into which cakes are adapted to be stacked, a slidable gate for removing one cake at a time from the lower ends of each of the chutes, a second slidable gate for closing the lower end of each of the chutes for preventing downward movement of the cakes therein, an endless conveyor disposed below the chutes and onto which the cakes are adapted to fall, said endless conveyor having pins projecting upwardly therefrom, a pair of spaced supporting means disposed beneath each of the chutes and between which the pins are adapted to pass, the cake after being removed from the lower end of a chute being adapted to fall onto the spaced supporting means to be engaged by the pins on the endless conveyor for removing it from the spaced supporting means and allowing it to fall onto the endless conveyor.

9. Apparatus for forming sandwiches comprising a conveyor, the upper reach of which is adapted to move in a substantially horizontal plane and a pair of dispensing stations disposed in spaced relation above and along the path of travel of the upper reach of the conveyor, each of the dispensing stations comprising an angularly disposed chute in which a stack of superposed articles may be placed, closure means for closing the lowermost end of said chute, means automatically operable in timed relation to movement of the conveyor for moving the closure means out of engagement with the lowermost end of the stack of superposed articles, said closure means having a platform portion projecting therefrom which is adapted to extend across the lowermost end of said chute when the closure means is moved away from the lower end of the chute, said platform being disposed in spaced relation to the open lower end of the chute when the closure means is moved away from the open end of the chute, thereby permitting the lowermost of the articles in the stack to move, by gravity, against the platform and, whereby, upon the closure means again being moved to closed position for closing the lower end of the chute, the lowermost of the articles will be moved towards the conveyor by the closure means, vertically movable spaced pins on the conveyor and cam means engaging the pins throughout their length of travel while in the upper reach of the conveyor, spaced supporting ledges forming an opening therebetween and onto which the lowermost of the articles is adapted to fall when moved downwardly by the said closure means, said pins projecting through the opening formed between the spaced supporting ledges by virtue of the cam means engaging said pins to thus push the said lowermost of the articles off the supporting ledges and onto the conveyor.

10. In a machine for making sandwiches and cakes, an endless conveyor having a plurality of transversely disposed bars having outwardly projecting pins mounted for sliding movement toward and away from the conveyor, a plurality of shoe members on the conveyor, there being a shoe member for each of said transversely disposed bars, a pair of cake dispensing magazines disposed in spaced relation to each other above the upper reach of the conveyor and each cake dispensing magazine comprising an inclined chute for holding said cakes and being disposed in a vertical plane above the upper reach of the conveyor, a platform disposed at the lower end of each chute and in spaced relation to the upper reach of the endless conveyor, each of said platforms having a longitudinally extending slot therein, a first trackway on which the upper reach of the conveyor is adapted to be supported, a second trackway disposed adjacent opposite sides of the endless conveyor and on which the ends of the transverse bars are adapted to travel, said second trackway having elevated portions beneath each of the cake dispensing magazines for raising the transverse bars to cause their pins to pass through the slotted platforms to remove a cake therefrom, the second trackway having a lowered portion to thus allow the pins to move downwardly, by gravity, to a lower elevation, the second trackway being adapted to again move the pins to a slightly higher elevation to thus remove a cake from the second of the cake dispensing magazines and to deposit the cake from the same onto the cake from the preceding cake dispensing magazine.

11. In a sandwich making machine having an endless conveyor travelling in a substantially fixed closed path in a horizontal plane and the conveyor having a plurality of spaced transverse bars thereon, a plurality of shoe members mounted on each of said bars, a magazine comprising a plurality of inclined chutes adapted to contain a plurality of stacks of superposed articles positioned above the conveyor, each of said chutes having an open bottom, reciprocable closure means for the bottom of each of said chutes, and automatic means for moving the closure means away from the open lower ends of the inclined chutes in times relation to movement of the conveyor, a supporting platform disposed below each chute and extending in a horizontal plane above the path of travel of the shoe members and onto which the articles are adapted to fall upon being released by the reciprocable closure means, each of said supporting platforms having a longitudinally extending slot therein, and means associated with each of the shoe members for removing

each of the articles, as it is positioned on the supporting platform, from the supporting platform and depositing it onto the corresponding shoe member as the conveyor moves beneath said magazine.

12. In a structure according to claim 11, said reciprocable closure means comprising an automatically operable closure plate movable into and out of closing position for closing the lower end of each of the inclined chutes, cam means for moving the closure means in timed relation to movement of the conveyor, a leaf member extending from the closure plate and being disposed in spaced relation to the open lower end of each of the inclined chutes upon the closure plates being moved to open position to thus serve as a guide member against which the lowermost of the articles from the stack in each of the inclined chutes may slide by gravity, means on said supporting platform for restricting downward movement of the said lowermost article upon the article engaging and sliding down the leaf member, said leaf member being adapted to move with the closure plate out of engagement with the former lowermost of the articles in each stack to permit the article to fall onto the supporting platform where it may be engaged by the means associated with the shoe members for removing the articles from the supporting platforms.

13. In a structure according to claim 12, a manually operable gate at the bottom of each of said chutes and disposed between the lower end of each of said chutes and its corresponding closure plate for closing the lower end of the chute and to thus prevent an article from being discharged therefrom upon the said closure plate moving to an open position.

14. In a structure according to claim 11, said supporting platform comprising a pair of spaced ledges extending in a horizontal plane and supported by the magazine and between which the means associated with the shoe members for removing the articles therefrom is adapted to move, a vertically movable weight member positioned above the supporting platform, its trailing edge being positioned in the same vertical plane as the trailing edge of the supporting platform, the bottom of said vertically movable weight member being cut at a slight angle relative to the horizontal so as to permit the article on the supporting platform, as it is slid along said supporting platform by the means associated with the shoe members, to pass beneath said weight member and to be supported by the pressure of the weight member against the platform until its extreme rearmost edge is clear of the supporting platform, thus tending to retain the horizontal attitude of the article until it falls onto the corresponding shoe member.

15. In a structure according to claim 14, spring loaded aligning members disposed on opposed sides of the path of travel of each of the shoe members on the transverse bars, and between which the articles are adapted to be moved by the means associated with the shoe members for removing the articles from the supporting platform, to thus position the article centrally of the shoe member upon the article being slid off the discharge edge of the supporting platform.

16. In a sandwich making machine having an endless conveyor travelling in a substantially fixed closed path in a horizontal plane and the conveyor having a plurality of spaced transverse bars thereon, a plurality of shoe members mounted on each of said bars, a magazine comprising a plurality of inclined chutes adapted to contain a plurality of stacks of superposed articles positioned above the conveyor, each of said chutes having an open bottom, reciprocable closure means for the bottom of each of said chutes, and automatic means for moving the closure means away from the open lower ends of the inclined chutes in timed relation to movement of the conveyor, a supporting platform disposed below each chute and extending in a horizontal plane above the path of travel of the shoe members and onto which the articles are adapted to fall upon being released by the reciprocable closure means, each of said supporting platforms having a longitudinally extending slot therein, and means associated with each of the shoe members for removing each of the articles, as it is positioned on the supporting platform, from the supporting platform and depositing it onto the corresponding shoe member as the conveyor moves beneath said magazine, each of said chutes of the magazine being channel-shaped in cross-section and being open at their upper sides, guide means projecting inwardly from the upper sides of said chutes to thus guide the stack of articles placed in said chutes downwardly and for moving any upwardly protruding articles toward the bottom of said chute.

17. Apparatus for dispensing flat objects comprising a frame having an endless conveyor provided with a plurality of spaced outwardly projecting pins, an inclined storage magazine disposed above the conveyor, a horizontally disposed platform disposed below the lower end of the magazine and having a longitudinally disposed slot therein, means driven in timed relation to the travel of the conveyor for releasing one object at a time from the magazine to allow it to fall by gravity onto the platform so that as a pin on the conveyor moves through said slot the object will be removed from the platform to fall by gravity onto the conveyor.

18. Apparatus for superposing a pair of flat objects comprising an endless conveyor having a plurality of spaced pins extending therefrom, first and second magazine stations spaced apart from each other and adapted to hold flat objects, the endless conveyor being disposed below the stations, means for raising the pins on the conveyor as they travel below the first and second stations to remove a flat object therefrom to allow the flat objects to fall by gravity into superposed relation, and means for lowering the pins on the conveyor while they are passing between the first and second stations.

19. In a machine for making sandwiches from cakes and a suitable filling material, an endless conveyor having a plurality of transversely disposed bars having outwardly projecting pins mounted for sliding movement toward and away from the conveyor, there being a bar disposed between each transverse row of pockets, a pair of cake magazines disposed in spaced relation to each other and each cake magazine comprising a plurality of chutes for holding a stack of cakes, a platform disposed between each chute and being disposed in horizontal alinement with the upper reach of the endless conveyor and in spaced relation thereto, each of the platforms having slots therein, the transverse bars having pins extending upwardly therefrom, a trackway on which the upper reach of the conveyor is adapted to be supported, a second trackway disposed on

each side of the endless conveyor and on which the ends of the transverse bars are adapted to travel, said trackway having elevated portions beneath each of the magazines for raising the transverse bars to cause their pins to pass through the slotted platform to remove a cake therefrom.

20. In a sandwich making machine having an endless conveyor, said endless conveyor having a plurality of pins extending outwardly therefrom, first and second feeding stations disposed above the upper reach of said endless conveyor, and means for raising the pins on said conveyor as they pass beneath the first feeding station, and for lowering the pins on said conveyor, and for again raising the pins on said conveyor as they pass beneath the second feeding station.

21. Apparatus for forming sandwiches comprising a conveyor, the upper reach of which is adapted to move in a substantially horizontal plane and a pair of dispensing stations disposed in spaced relation above and along the path of travel of the upper reach of the conveyor, each of the dispensing stations comprising an angularly disposed chute in which a stack of superposed articles may be placed, closure means for closing the lowermost end of said chute, means automatically operable in timed relation to movement of the conveyor for moving the closure means out of engagement with the lowermost end of the stack of superposed articles, a pair of spaced supports disposed below the lower end of each chute and onto which an article released from the chute is adapted to fall, said conveyor having pins thereon adapted to move between the spaced supports for removing an article therefrom and allowing the article to fall onto the conveyor.

22. In a machine for making peanut butter sandwiches and the like, a cracker feeding magazine for holding a stack of crackers and a second cracker feeding magazine for also holding a stack of crackers, each of the cracker feeding magazines having a reciprocable member for removing one cracker at a time therefrom, a horizontally disposed longitudinally slotted shelf member disposed below the magazines and onto which the cracker is adapted to fall when delivered, an endless conveyor mounted in the machine and having its upper reach disposed below the cracker magazines, a trackway on which the upper reach of the conveyor is supported, the conveyor having a plurality of bars mounted thereon, pins extending from the bars, the pins on the bars being long enough to pass through the slotted shelf member to remove a cracker therefrom to allow it to fall onto the conveyor, means also for operating the second magazine in timed relation to deposit a cracker therefrom onto the top of the first cracker; and means for aligning the topmost cracker with relation to the bottommost cracker after the topmost cracker has been deposited onto the first cracker.

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1,460,825	Peters et al.	July 3, 1923
1,667,692	Salerno	Apr. 24, 1928
1,688,510	Taylor	Oct. 23, 1928
1,771,117	Greer	July 22, 1930
1,822,111	Richardson	Sept. 8, 1931
1,870,443	Cumfer	Aug. 9, 1932
1,897,901	Hagopian	Feb. 14, 1933
2,085,339	Smith	June 29, 1937
2,348,400	Manspeaker	May 9, 1944
2,350,273	Decker	May 30, 1944
2,394,795	Manspeaker	Feb. 12, 1946