March 18, 1947. C. M. HESSON 2,417,753

CAN ARRANGING CONVEYER MECHANISM

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FIG. 1.

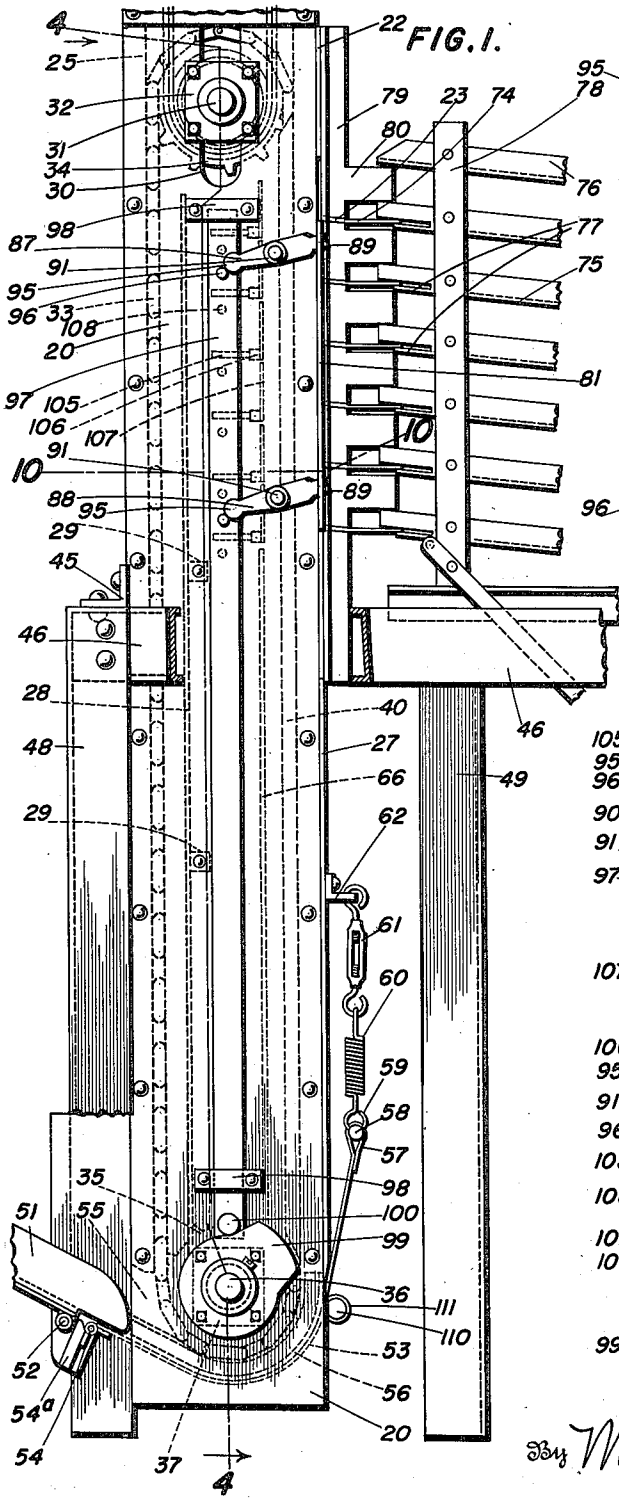


FIG. 2.

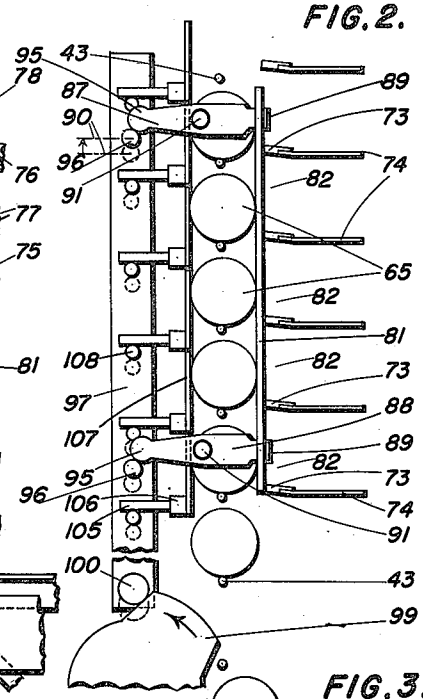
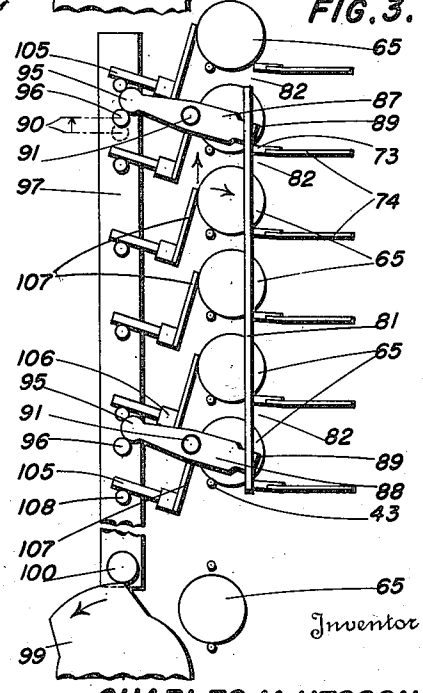


FIG. 3.



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FIG. 4.

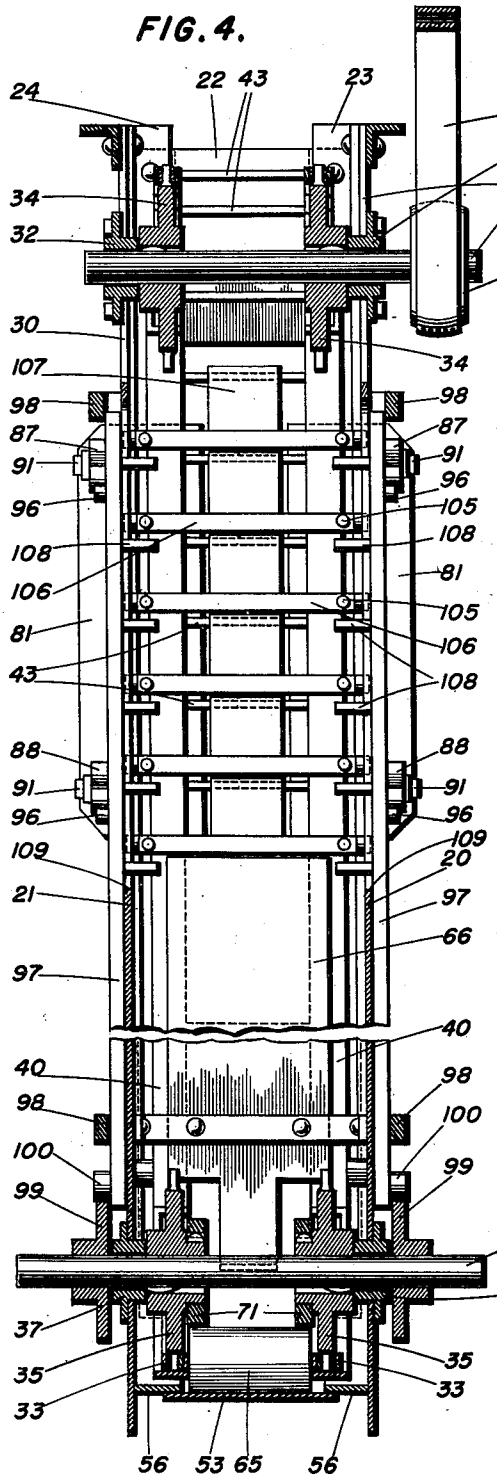


FIG. 5.

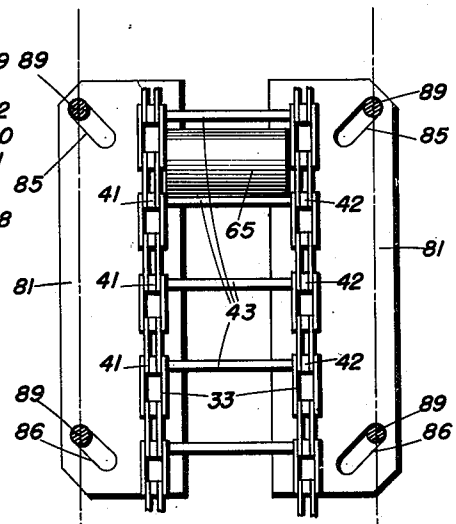
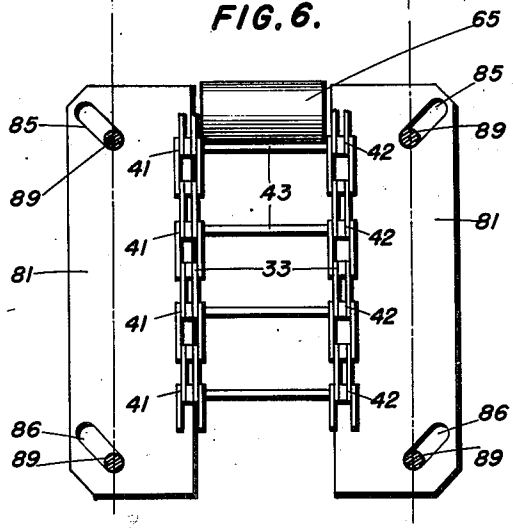


FIG. 6.



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CAN ARRANGING CONVEYER MECHANISM

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FIG. 7.

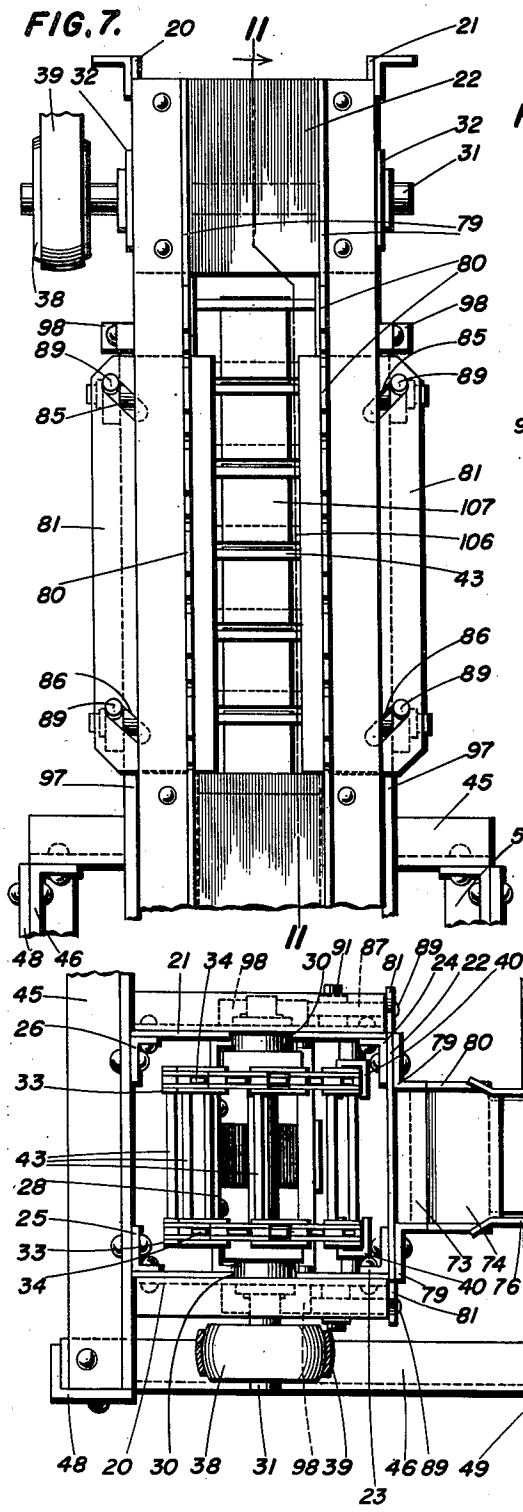


FIG. 8.

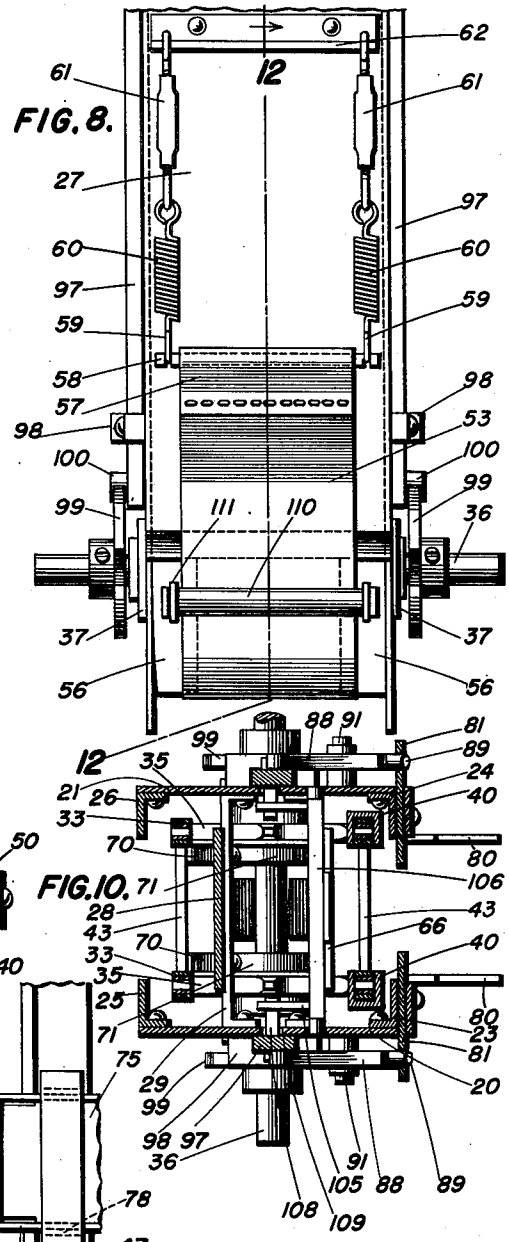


FIG. 10.

FIG. 9.

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CAN ARRANGING CONVEYER MECHANISM

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FIG. 11.

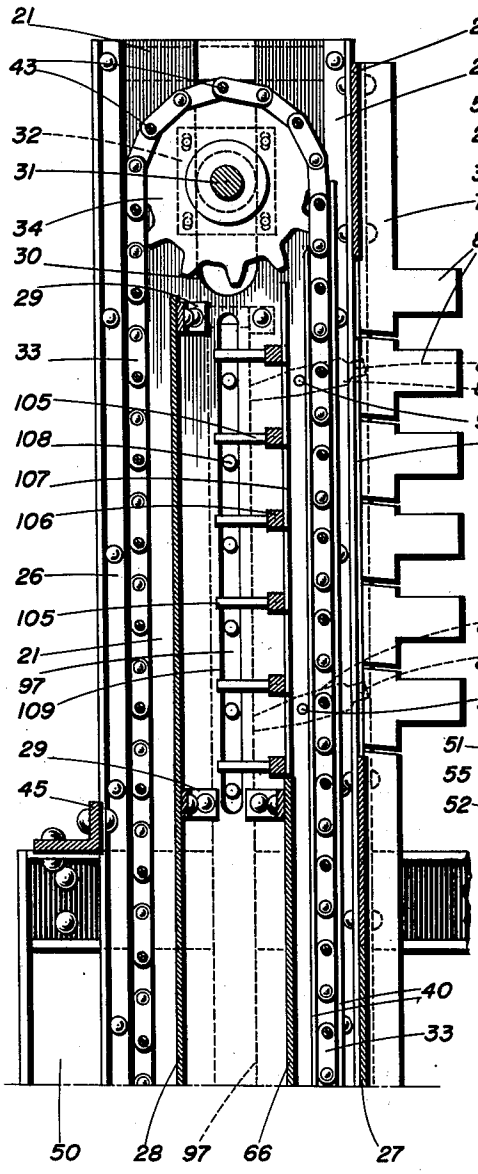
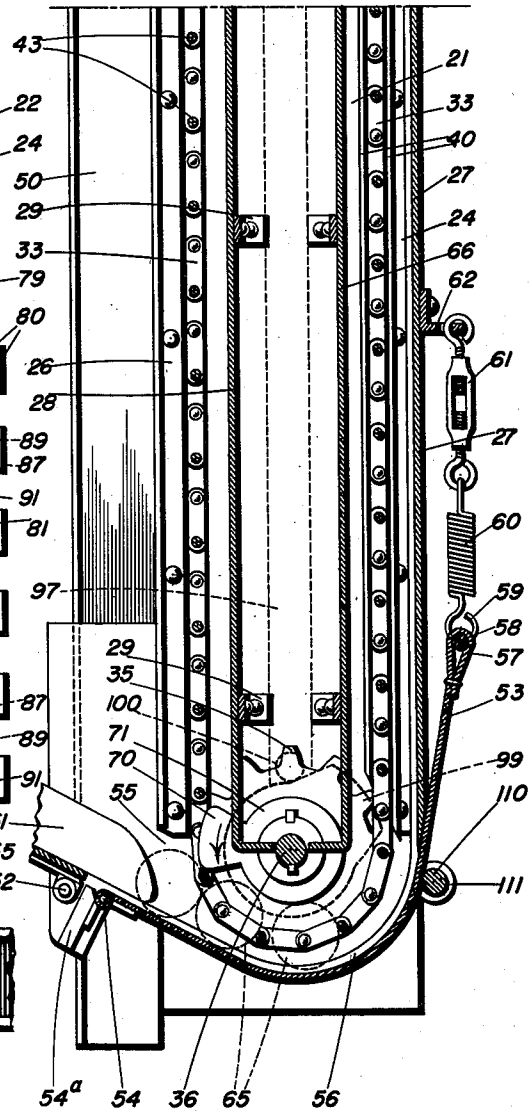


FIG. 12.



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2,417,753

UNITED STATES PATENT OFFICE

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CAN ARRANGING CONVEYER MECHANISM

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Application May 23, 1944, Serial No. 537,008

17 Claims. (Cl. 198—31)

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This invention relates to a can arranging mechanism.

An object of the invention is the provision of a machine adapted to receive and elevate a plurality of successive groups of cans from a lower level to a higher level, so that when each group of cans reaches a predetermined height they may be discharged in a plurality of lines equal to the number of cans in each group, the cans in the lines being adapted for packing the cans in groups in boxes.

Another object of the invention is the provision of a machine in which is fed a single row of cans, with means for restraining the feeding of the cans to provide successive groups of cans which are elevated and then discharged in a plurality of lines, doors for maintaing each group of cans within the elevator until said cans reach a plurality of discharge openings, whence the doors are opened for discharging the cans into a plurality of tracks which carry the cans to a point where the cans are packed in boxes as they emerge from the plurality of tracks.

A further object of the invention is the provision of a machine for receiving a single line of cans, with means for moving the cans along a definite path until they reach a plurality of discharge openings, whence the cans are simultaneously discharged into a plurality of lines to facilitate the packing of the cans in boxes, doors controlling the closing of the openings until each group of cans has been alined with the openings, said doors being periodically opened for discharging the cans in synchronism with the movement of the groups of cans through the path.

A still further object of the invention is the provision of a device for receiving and elevating cans from a low level to a high level, said machine containing a periodically actuated device for permitting the cans to enter the machine in groups so that successive groups will be ejected from the machine at a discharge point with doors normally retaining discharge openings closed until a complete group of cans has been alined with the openings, whence the cans will be discharged into a plurality of lines by periodically operated ejectors, the groups of cans being spaced from each other to permit the doors to be closed after the discharge of one group so that all of the cans in the group will be alined before the openings for simultaneous discharge.

This invention will be best understood from a consideration of the following detailed description, in view of the accompanying drawings forming a part of the specification; nevertheless, it is

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to be understood that the invention is not confined to the disclosure, being susceptible of such changes and modifications as define no material departure from the salient features of the invention as expressed in the appended claims.

In the drawings:

Fig. 1 is a side elevation of a can arranging mechanism with parts broken away.

Fig. 2 is a fragmentary side view showing the can ejectors and elements of the door opening mechanism in an inoperative position.

Fig. 3 is a similar view, showing the can ejectors in operation after doors which maintain the cans in the mechanism have been opened.

Fig. 4 is a vertical section taken along the line 4—4 of Fig. 1.

Fig. 5 is a fragmentary front view showing the doors in closed position.

Fig. 6 is a fragmentary front view of the machine, showing the doors in open position.

Fig. 7 is a fragmentary view in elevation of the discharge end of the machine, showing the doors in closed position.

Fig. 8 shows the lower portion in elevation of the discharge end of the machine.

Fig. 9 is a top plan view of the machine with the motor and operating mechanism removed.

Fig. 10 is a horizontal section taken along the line of 10—10 of Fig. 1.

Fig. 11 is a vertical section taken along the line 11—11 of Fig. 7.

Fig. 12 is a vertical section taken along the line 12—12 of Fig. 8.

Referring more particularly to the drawings 20 and 21 designate a pair of side plates which are located in parallel relation and vertically disposed for forming part of a frame which supports the elements of the machine. A plate 22 is bolted or riveted to the upper ends of a pair of vertically disposed angle irons 23 and 24, and these angle irons are also bolted or riveted to the side plates 20 and 21. A second pair of vertically disposed angle irons 25 and 26 are located at the other two corners of the vertically disposed frame and are secured to the respective side plates 20 and 21. A plate 27 is secured to the angle irons 23 and 24 at the lower portion of the frame.

A reenforcing plate 28 has flanges 29 secured respectively to the side plates 20 and 21 for a considerable portion of the height of the frame. This plate aids in retaining the side walls or plates 20 and 21 in parallel relation with each other.

The side plates 20 and 21 at their upper ends

are each provided with a slot 30 through which projects the ends of a driven shaft 31 carried in bearings 32 which are adjustable vertically for maintaining tension on a pair of endless chains 33 forming part of the elevators in the frame. A pair of sprockets 34 are secured to the shaft 31 in spaced relation, while a pair of sprockets 35 are secured to a shaft 36 mounted in bearings 37 at the lower end of the frame. The chains 33 are trained on the sprockets 34 and 35 so that when the shaft 31 is driven by a pulley 38 and a belt 39 leading from a source of power (not shown) the chains will be continuously moved.

A pair of U-shaped guides 40 receive the chains and these guides are vertically disposed within the frame and extend over those portions of the chains between the sprockets 34 and 35. These guides are supported in any approved manner from the side walls 20 and 21.

At spaced points on the chains, and connected with specially formed links 41 and 42 of said chains, are spaced rods 43, and the distance between each pair of rods is slightly greater than the diameter of a can, as shown in Figs. 5 and 6.

It will be noted from Figs. 1, 7 and 9 that an angle iron 45 is secured to the vertically disposed angle irons 25 and 26 midway between the top and bottom of the frame. An angle iron 46 is secured to one end of the angle iron 45. The other end of the angle iron 46 is secured to a horizontally disposed angle iron 47. Angle irons 48 and 49 are secured to the angle iron 46 and form a pair of legs for supporting the frame. A pair of legs of angle iron construction are secured to the horizontal bars 45 and 47 and they cooperate with the legs 48 and 49 for supporting the framework. Only one of the second pair of legs thus mentioned, however, is shown at 50 in Fig. 7.

A chute 51 is hingedly mounted at 52 on the framework so that the other end of the chute may be raised or lowered to increase or decrease the speed of the cans which are fed in a single line to the chute, when the cans are fed by gravity into the lower end of the elevator represented by the chains 33 and the spaced rods 43.

A flexible strip of fabric 53 has a hinge 54 at the underside of the chute 51 on the bracket 54a just below an open portion 55 of the framework, and this fabric is extended around the pair of curved flanges 56 at the bottom of the frame and then outwardly of the frame where its free end is formed into a loop 57. A rod 58 is received by the loop and this rod in turn is received by an eye 59 at one end of a coil spring 60. The other end of the coil spring is connected to a turnbuckle 61 which is supported by a bracket 62, carried by the rear wall 63 which is secured to the lower ends of the vertically disposed angle irons 23 and 24, of which the flanges 56 form extensions.

The purpose of the strip of fabric 53 is to support the cans 65 after they leave the chute 51 and enter the lower part of the frame and when the cans are being carried around the curved bottom portion of the frame before they enter the vertical tracks defined by the plate or wall 27, and the plate 66 which is located inwardly of the wall 27, and is spaced a sufficient distance from said wall to provide for the ready travel of the cans in a vertical direction. This strip of fabric through its resilient support 60 permits the fabric to be depressed if for any reason one of the cans reaches the opening 55 at a time when one of the bars 43 will press downwardly in a vertical plane which passes through the long

axis of the cam. In this case, the pressure exerted on the can will force the fabric downwardly and prevent crushing of the can and the can will slip to one side of the plane, passing through the descending bars 43.

An inspection of Figs. 4 and 12 will show that the curved flanges 56 are spaced a greater distance apart than the length of the cans, and that the flexible fabric 53 is sufficiently wide to have its side edges supported by the curved flanges 56. Thus, pressure exerted on the cans by one of the descending rods 43 will act only on the fabric and the springs 60.

The second plate 28 is vertically disposed and in parallel relation with the plate 66. It will be noted from Figs. 10, 11 and 12 that the members 66 and 28 are secured to the side walls 20 and 21 of the frame. The member 28, however, is of greater height than the member 66 since the last mentioned member is cut off to provide an open space for the discharge of the cans as will be presently explained.

The cans 65 are fed into the tilted chute 51 in any approved manner and they move by gravity through the opening 55 and on to the curved flexible support 53. As the descending rods 43 engage the side walls of the cans said cans are carried around the flexible support and then elevated through the channel formed between the rear wall 27 and the vertically disposed member 66. However, the admission of the cans is so controlled that they are carried upwardly in the framework to the discharge point in spaced groups. The spacing of the groups is controlled by a pair of cams 70 which are secured to the driven shaft 36 at the bottom of the frame. These cams are so proportioned that they will allow a predetermined number of cans to enter the lower end of the elevator, as long as the circular portions 71 of the cams are revolving adjacent the opening 55. However, when the cams 70 reach the opening they will block the entrance of any further cans so that the cans entering the elevator will be formed into groups as shown in Fig. 3. In other words, as the circular portions of the cams will permit six cans to enter the elevator the cams will restrain further admission of cans for the length of time that it takes one rod or bar 43 to pass the entrance of opening 55, so that no can will be received between a pair of the bars at this time. In other words, six cans will be admitted as a group, then one can will be eliminated from admission so that when the next group of cans enters the elevator there will be a space between each group The reason for such spacing will be set forth presently. The cams 70 may be adjustably positioned on the shaft 36 in any well known manner, but the cams must be in alinement.

It has been stated that the vertical wall member 66 which cooperates with the wall 27 to form a channel for the ascending cans terminates short of the top of the framework as shown in Figs. 1 and 11 to provide an open space for the discharge of the cans. This open space is shown more particularly in Figs. 1 to 3, inclusive, and 7. However, this discharge space is divided into a plurality of passages, one for each can in the group, by means of lips 73 (Figs. 1, 2 and 3) from which extend flexible plates 74 with the free ends of the plates received by tracks 75 which are of angle iron construction, having vertical side flanges 76 and right angle horizontal flanges 77. At the inner ends the tracks are supported by vertically disposed bars 78, which are in turn car-

ried by angle irons 47 with the outer free edges of the plates 74 resting upon the inner ends of the horizontal flanges 77.

Pairs of plates 79 are secured to the rear wall 27 and have rearwardly projecting guide flanges 80 which are disposed at the wide edges of the lips 73 and the plates 74. The flanges 80 are spaced a distance apart which is slightly greater than the length of the cans so that when the cans leave their elevated positions in the frame they will be guided on to the tracks 75.

The tracks 75 extend away from the frame and may be any length. However, these tracks are inclined and provide a means for conveying the cans away from the frame in a plurality of lines so that these cans may be deposited at a packing station in groups for facilitating the packing of the cans in boxes for shipment.

A pair of doors 81 (Figs. 5, 6 and 7) are adapted to maintain all of the openings 82 formed between the lips 73 normally closed. These doors are maintained closed until one entire group has been sufficiently elevated that a can is located directly opposite each opening where they are discharged from the elevator to be carried away by the tracks 75. Each door is provided with a pair of cam slots 85 and 86. Levers 87 and 88 are located at each side of the openings 82 and in line with the respective slots 85 and 86. Each lever has its free end rounded as shown at 89, and this free end is received by a slot 85 or 83, so that as the levers are oscillated the ends are moved vertically, as indicated by the lines 90. Since these slots are inclined, the doors will be moved to the closed position when the free ends 89 of the levers are in the upper portions of the slots (Fig. 5), and the doors will be opened (Fig. 6) when the free ends of the levers are in the lower portions of the slots. In other words, the inclined side walls af the slots 85 and 86 act as cams against the oscillating free ends 89 of said levers.

Said levers are pivoted as shown at 91 (Figs. 1 to 3) on the outer faces of the side walls 20 and 21 (Fig. 10). An inner end of each lever is rounded as shown at 95 and this rounded portion is engaged by a pin 96 projecting outwardly from a reciprocating bar 97 slidably mounted in brackets 98, secured to the side walls 20 and 21 at each side of the frame.

Reciprocating bars 97 are moved upwardly by a pair of cams 99 with one cam located at each side of the frame and secured to the shaft 36 (Fig. 4). These cams engage rollers 100 mounted on the lower ends of the bars 97. These cams are adjustably mounted on the shaft 36 and are so constructed and arranged on the shaft that they will move the bars 97 upwardly at the time that the individual cans of a single group are disposed before the discharge openings 82. In other words, when the individual cans of a group have been located before the openings 82 the doors are rapidly opened by the reciprocation of the bars 97 and the oscillation of the levers 88. When the cams 99 pass the roller 100 the bars 97 are lowered by gravity or springs, causing closing of the doors. At this time, however, it will be appreciated that the elevator is moving continually but the space between each group of cans, that is, the distance between the pair of rods 43 which does not carry a can, gives sufficient time for the doors to be closed before the initial can of the succeeding group reaches the lowermost discharge opening in group, so that at all times a group of cans is alined with the openings 82, but the spacing of the groups of cans permits the doors to be closed

to prevent individual cans of succeeding groups from rolling out of the openings.

When the frame is vertical, or substantially so, the cans 65 will not roll through the openings by gravity. In view of this, an ejector is located adjacent each opening 82 at the rear of the ascending cans 65 for forcing the cans through the openings after the doors have been opened.

Referring more particularly to Figs. 2 and 3, it will be seen that an arm 105 is connected to each rock shaft 106 having bearings on the opposite side walls of the frame. Rising from each shaft 106 which forms the pivots for the ejectors is a plate 107, which is normally located in a position at the rear of each can. The reciprocating bars 97 are provided with a plurality of inwardly extending spaced fingers 108 which pass through slots 109 formed in the side walls 20 and 21, and the members 105 rest on these rods normally.

Thus, when the bars 97 are elevated the fingers 108 will likewise be elevated, raising the trip members 105 rapidly and causing the plates 107 to act on the rear walls of the cans for forcing said cans through the openings 82 after the doors have been opened. When the bars 97 return to their lowermost positions after the cams 99 have completed their operation the ejectors will move to their normal positions, shown in Fig. 2, by gravity since the trip members 105 have sufficient weight for the purpose.

A roller 110 is carried by brackets 111 secured to the rear wall of the frame at the lower end thereof and this roller contacts the flexible member 53 as shown in Figs. 8 and 12 for aiding in maintaining said flexible member in contact with the curved flanges 56.

The operation of my device is as follows:

As has been stated, cans are supplied to the chute 51 at the supply station in any approved manner, and these cans enter the opening 55 and are received between the rods 43 of the elevator. These rods then carry the cans upwardly until they reach the openings 82 in the rear wall of the frame.

As soon as the individual cans of a group have been alined with the respective discharge openings the levers 87 and 88 are operated through the medium of the reciprocating bars 97 and the cams 99 for causing opening of the doors 81. Immediately after the doors are opened the trip members 105 are actuated by the fingers 108 on the elevated bars 97, and the cans are forced outwardly through the openings 82 and onto the tracks 75, whence they are carried to the packing station, which may be adjacent the frame or located remotely therefrom.

In other words, a can arranging mechanism is provided for the purpose of elevating cans from a supply station, and the elevator may be of sufficient length to carry the cans upwardly through two or more floors of a building, or the frame may be horizontally arranged for carrying the cans from one end of a building to another, or for a portion of the length of the building.

The elevator may also be tilted at a vertical angle so that the cans will fall out of the frame by gravity when they reach the discharge openings 82. However, in either case, the doors 81 are maintained shut until one group of cans has arrived and is ready to be discharged to the various tracks 75 so that at all times a predetermined number of cans will be discharged in groups to facilitate the packing of the cans at the packing station.

I claim:

1. A can arranging mechanism, comprising an upstanding frame, an elevator for cans mounted in the frame, means for feeding a plurality of spaced groups of cans into the lower end of the elevator, said frame having a plurality of openings, one above the other in a vertical plane, a door normally closing each opening until the cans in a group have been elevated and alined with the openings, means causing the doors to be opened simultaneously for discharging the cans in a plurality of horizontal rows, and for causing closing of the doors when the cans have been discharged, and means for ejecting the cans through the open door.

2. A can arranging mechanism, comprising an upstanding frame, an elevator for cans mounted in the frame, means for feeding a plurality of spaced groups of cans into the lower end of the elevator, said frame having a plurality of discharge openings for the cans at the top of said frame, doors normally closing the openings, means operating the elevator, means actuated by the operating means for causing opening of the doors when one group of cans is alined with the openings, means forcing the cans through the openings, and means carrying the cans away from the opening in horizontal rows.

3. A can arranging mechanism, comprising an upstanding frame, an elevator for cans mounted in the frame, means for feeding a plurality of spaced groups of cans into the lower end of the elevator, means for operating the elevator, said frame having a plurality of vertically alined openings for the discharge of the cans in groups, doors normally closing the openings, means operated in synchronism with the elevator-operating means for causing opening of the doors when the cans of a group are individually placed before the openings, means forcing the cans through the openings and actuated by the door opening means, and means for guiding the cans in a plurality of paths away from doors.

4. A can arranging mechanism, comprising an upstanding frame, an elevator for raising cans from the bottom of the frame to the top thereof where the cans are discharged in a plurality of lines, means feeding cans into the lower end of the elevator, means periodically restraining the feeding of the cans so that spaced groups of the cans are elevated, said frame having a plurality of openings at the top of the frame for discharging groups of the cans from the frame, doors closing the openings, means continuously operating the elevator, means actuated by the elevator operating means for opening the doors when a group of cans reach the openings, and means actuated by said elevator operating means for forcing the cans through the openings.

5. A can arranging mechanism, comprising an upstanding frame, an elevator for raising cans from the bottom of the frame to the top thereof where the cans are discharged in a plurality of lines, means feeding cans into the lower end of the elevator, means periodically restraining the feeding of the cans so that spaced groups of the cans are elevated, said frame having a plurality of openings at the top of the frame for discharging groups of the cans from the frame, doors closing the openings, means continuously operating the elevator, means actuated by the elevator operating means for opening the doors when a group of cans reach the openings, means actuated by said elevator operating means for forcing the cans through the openings, and means causing the doors to be moved to closed position before a can in a succeeding group reaches an opening.

6. A can arranging mechanism, comprising an upstanding frame having a plurality of discharge openings in the top, an elevator for raising spaced groups of cans from the bottom of the frame to be alined with the openings from which the cans are discharged in a plurality of lines, means feeding cans into the lower end of the elevator, means periodically restraining the feeding of the cans so that spaced groups of cans equal in number to the openings, are elevated, doors normally closed for retaining each group of cans in the elevator until a can of the group is alined with a respective opening, means continuously operating the elevator, means actuated by the elevator operating means for causing opening of the doors when a group of cans reach the openings, means actuated by said elevator operating means for forcing the cans through the openings, and means causing the doors to be moved to closed position before a can in a succeeding group reaches an opening.

7. A can arranging mechanism, comprising a frame, an endless conveyor in said frame for moving a plurality of groups of cans along a definite path from a supply station to a remote packing station, means feeding a single line of cans into the conveyor, means operating said conveyor, means actuated by the conveyor operating means for stopping the feeding of the cans periodically into the elevator to maintain spaced groups of cans carried by the conveyor, the frame having a plurality of discharge openings opening on to packing station chutes, doors normally closing the openings, means actuated by the elevator operating means for causing the doors to open when the successive cans in a group are alined with the openings so that an entire group of cans may be discharged, the successive groups of cans being spaced a distance apart, approximately equaling the diameter of a can to permit the doors to be closed after each discharge before the conveyor moves the first can of a succeeding group into alinement with an opening and means associated with the door-opening means for closing the doors after each discharge.

8. A can arranging mechanism, comprising a frame having a plurality of discharge openings, an endless conveyor in said frame for moving a plurality of groups of cans along a definite path from a supply station to a remote packing station, means supplying cans in a single line to the conveyor, means operating the conveyor, means actuated by the conveyor operating means for preventing the admission of a can periodically into the conveyor to form spaced groups of cans in the conveyor, slidable supports for retaining the cans from discharging through the openings until all cans in a group have been alined with the openings in succession, means actuated by the operating means for the conveyor for causing opening of the slidable supports when the cans in a group have been alined with the openings, said supports being closed by the actuated means after the cans have been discharged for retaining the cans of the succeeding group against discharge until all the cans of said group have reached their individual discharge points, and chutes for guiding the cans away from the openings in a plurality of lines.

9. A can arranging mechanism, comprising a frame having a plurality of discharge openings, an endless conveyor in said frame for moving a

plurality of groups of cans along a definite path from a supply station to a remote packing station, means supplying cans in a single line to the conveyor, means operating the conveyor, means preventing the admission of a can periodically to form spaced groups of cans in the conveyor, slidable supports for retaining the cans from discharging through the openings until all cans in a group have been alined with the openings in succession, means actuated by the operating means, causing opening of the slidable supports when the cans in a group have been alined with the openings, said supports being closed by the actuated means after the cans have been discharged for retaining the cans of the succeeding group against discharge until all the cans of said group have reached their individual discharge points, means for guiding the cans away from the openings in a plurality of lines, and means operated by the actuated means for positively forcing the cans through the openings.

10. A can arranging mechanism, comprising a substantially vertical frame having a plurality of vertically arranged discharge openings at one end, an endless conveyor in said frame, means operating said conveyor, spaced bars in the conveyor for moving cans from the bottom of the frame to the discharge openings, means feeding cans in a single line into the spaces between the spaced bars at the bottom of the conveyor, cams operated by the conveyer periodically blocking the ingress of one can out of a specified number of cans so that spaced groups of cans will be elevated by the conveyor, doors slidably closing the discharge openings, means opening the doors to release a group of cans from the openings, and means forcing the cans through the openings into a plurality of lines, said opening means causing closing of the doors before a succeeding group of cans begins to enter the region containing the discharge openings, the space between a pair of bars of the conveyor at the opposite ends of each group being devoid of a can so that when the empty spaces in the conveyor are moving toward the lowest discharge opening the doors are being closed.

11. A can arranging mechanism, comprising a substantially vertical frame having a plurality of vertically arranged discharge openings at the upper end, an endless conveyor in the frame, means feeding cans into the lower end of the conveyor, means stopping the feeding of the cans periodically after a predetermined number of cans has entered the conveyor to provide spaced groups of cans to be elevated by the conveyor, means operating the conveyor continuously, bars slidably mounted on the frame and provided with projecting pins, doors slidably mounted before the openings and normally closing said openings, said doors provided with cam slots, levers pivoted intermediate their ends on the frame and having one free end in a cam slot, the other free ends of said levers being engaged by the pins when the bars are reciprocated in one direction for causing opening of the doors, and cams actuated by the operating means for the conveyor, causing reciprocation of the bars to open the doors.

12. A can arranging mechanism, comprising a substantially vertical frame having a plurality of vertically arranged discharge openings at the upper end, an endless conveyor in the frame, means feeding cans into the lower end of the conveyor, means stopping the feeding of the cans periodically after a predetermined number of cans has entered the conveyor to provide spaced groups of cans to be elevated by the conveyor, means operating the conveyor continuously, bars slidably mounted on the frame and provided with projecting pins, doors slidably mounted before the openings and normally closing said openings, said doors provided with cam slots, levers pivoted intermediate their ends on the frame and having one free end in a cam slot, the other free ends of said levers being engaged by the pins when the bars are reciprocated in one direction for causing opening of the doors, cams actuated by the operating means for the conveyor, causing reciprocation of the bars to open the doors, means forcing the cans through the openings and means carried by the bars for operating the forcing means after the doors have been opened.

13. A mechanism for selecting cans in groups for packaging purposes comprising a frame having runways at its upper end for separate cans of a group of cans, a continuously movable elevator having spaced can receiving pockets, means for retaining cans therein and periodically discharging them in groups, a feed chute for supplying cans successively to the pockets, means for driving the elevator continuously, an arrester for periodically halting the movement of cans in the chute, and separate operating connections between the driving means and the arrester and the group can discharges timed relatively to each other to interrupt the supply of cans to one end of the elevator at the moment a group of cans is being discharged from its other end.

14. A mechanism for selecting cans in groups for packaging purposes comprising a frame having runways at its upper end for separate cans of a group of cans, a continuously movable elevator having spaced can receiving pockets, means for retaining cans therein and periodically discharging them in groups, and doors movable laterally in front of said runways for simultaneously releasing a group of cans, an arrester for periodically halting cans in the chute, means for driving the elevator continuously, separate means for actuating the arrester and said doors operated by the driving means and timed to interrupt the supply of cans after each group and to open the doors to permit the discharge of a preceding group and close said doors in advance of the movement of a succeeding group of cans into alinement with the runways.

15. A group selecting mechanism for packaging cans comprising a substantially vertical frame having a plurality of discharge openings at its upper end, an endless continuously movable conveyor guided in the frame and means for driving it, means for feeding cans on to the lower end of the conveyor, an arrester actuated by the driving means for intermittently stopping the feeding of the cans after a predetermined number have entered the conveyor to provide spaced groups, can dischargers also actuated by said driving means for forcing all the cans of a group simultaneously through said openings, and runways guiding the discharged cans in a plurality of lines away from said frame openings.

16. A group selecting mechanism for packaging cans comprising a substantially vertical frame having a plurality of discharge openings at its upper end, an endless continuously movable conveyor guided in the frame and means for driving it, means for feeding cans on to the lower end of the conveyor, an arrester actuated by the driving means for intermittently stopping the feeding of the cans after a predetermined number have

entered the conveyor to provide spaced groups, means normally retaining the openings closed until all the cans of a single group are alined with the discharge openings and actuating connections operated by the conveyor driving means for shifting the retaining means away from the openings, can dischargers also actuated by the conveyor driving means for forcing all the cans of a group simultaneously through the openings and runways for the cans in front of said openings.

17. A group selecting mechanism for packaging cans comprising a substantially vertical frame having a plurality of discharge openings at its upper end, an endless continuously movable conveyor guided in the frame and means for driving it, means for feeding cans on to the lower end of the conveyor, an arrester actuated by the driving means for intermittently stopping the feeding of the cans after a predetermined number have entered the conveyor to provide spaced groups, means for operating the conveyor, means for

preventing release of the cans through any of the discharge openings until all of the cans of a group have been alined with their respective openings, a control member also actuated by the conveyor operating means for maintaining the preventing means operative until a group of cans has been alined with the openings and then rendering it inoperative and means for forcing all the cans of a group through the openings simultaneously with the rendering of the inoperative condition of the preventing means.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
921,672	Burr	May 18, 1909
2,043,763	Mewer et al.	June 9, 1936
2,335,618	Thompson	Nov. 30, 1943