

July 3, 1945.

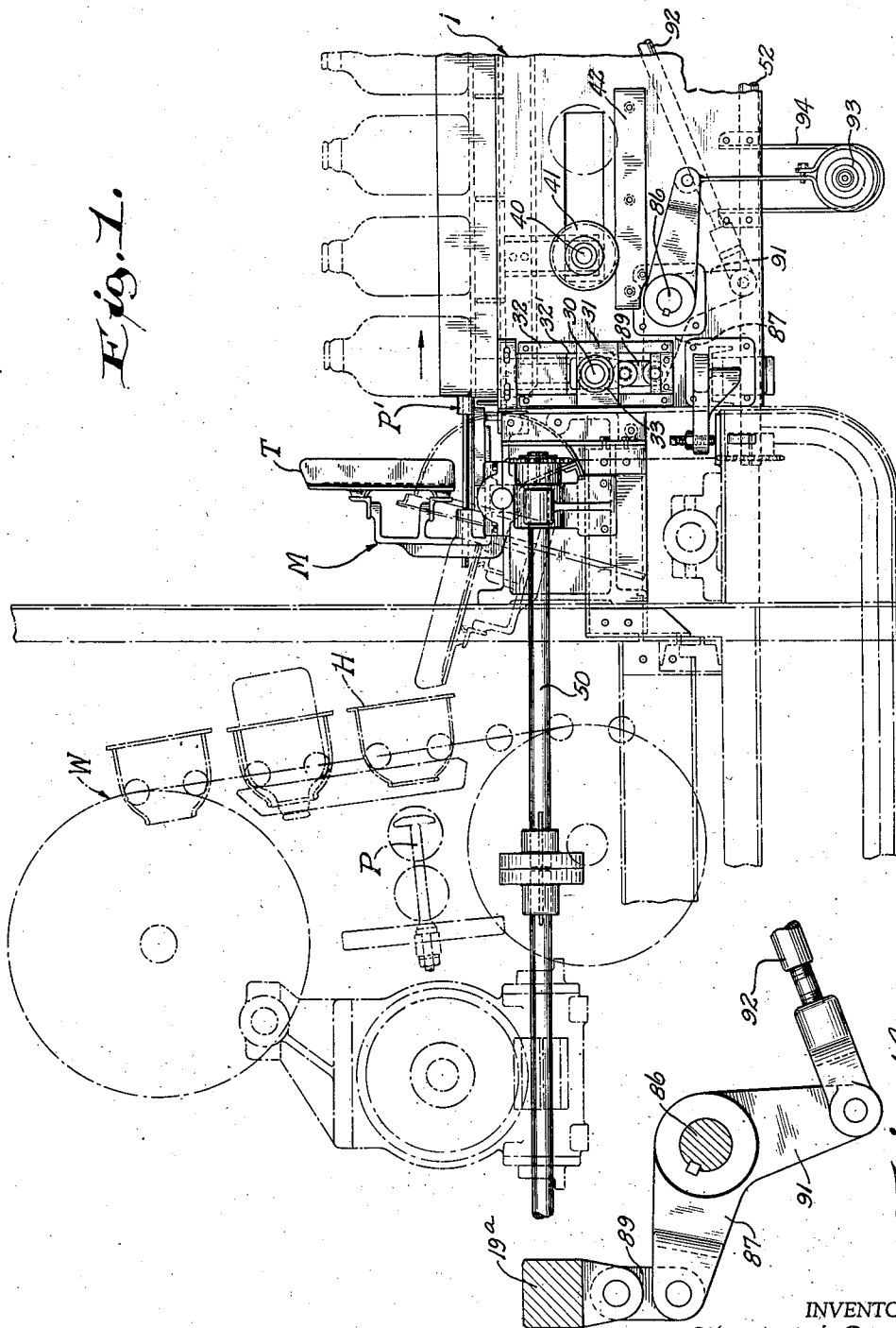
C. L. GERLACH

2,379,571

CONVEYING APPARATUS

Filed March 22, 1943

6 Sheets-Sheet 1



BY

John W. Michael
ATTORNEY

INVENTOR.
CHARLES L. GERLACH.

Fig. 14.

July 3, 1945.

C. L. GERLACH

2,379,571

CONVEYING APPARATUS

Filed March 22, 1943

6 Sheets-Sheet 2

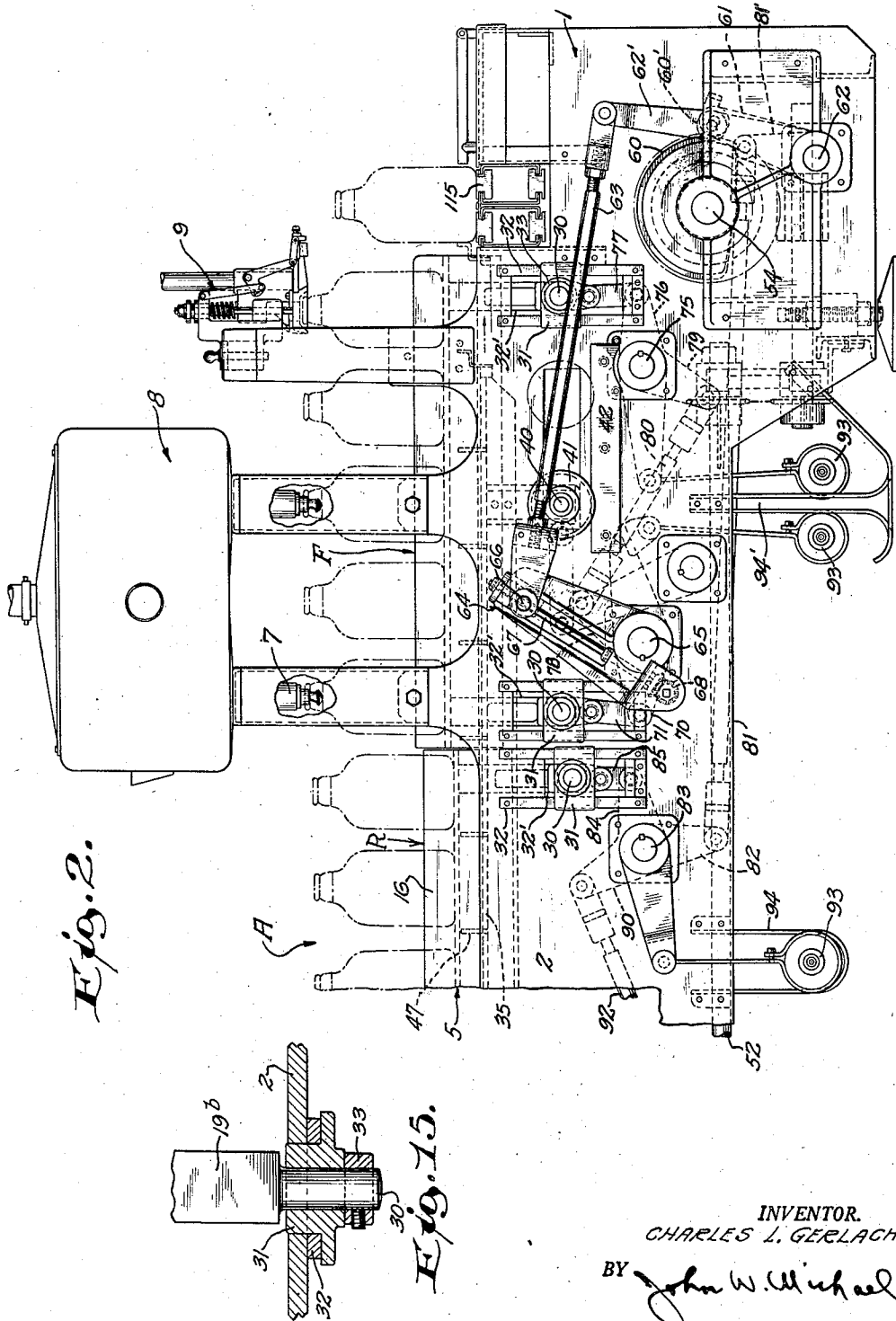


Fig. 2.

Fig. 15.

INVENTOR.
CHARLES L. GERLACH.
BY *John W. Michael*
ATTORNEY

July 3, 1945.

C. L. GERLACH

2,379,571

CONVEYING APPARATUS

Filed March 22, 1943

6 Sheets-Sheet 3

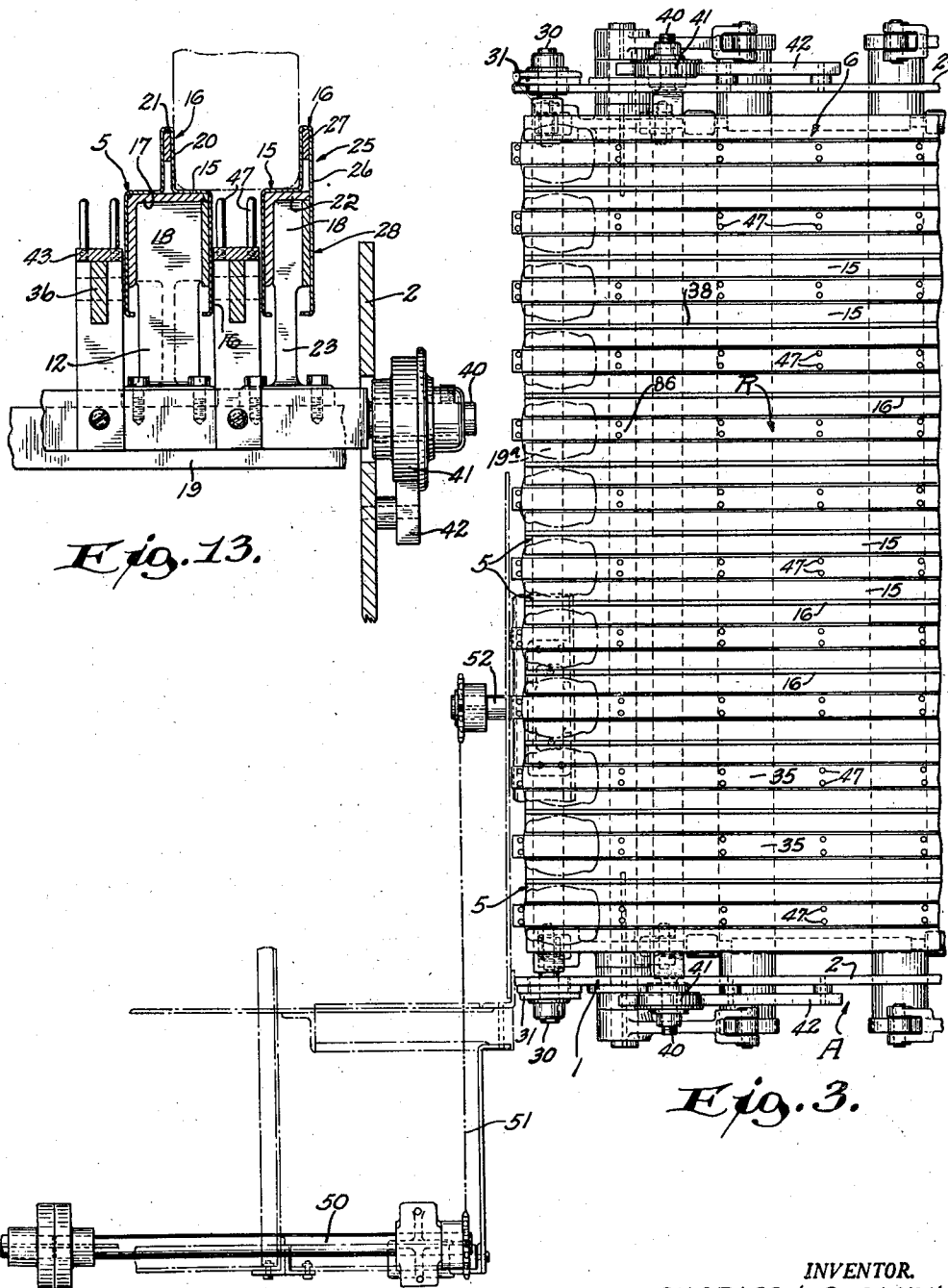


Fig. 13.

Fig. 3.

INVENTOR.
 CHARLES L. GERLACH.
 BY *John W. Michael*
 ATTORNEY.

July 3, 1945.

C. L. GERLACH

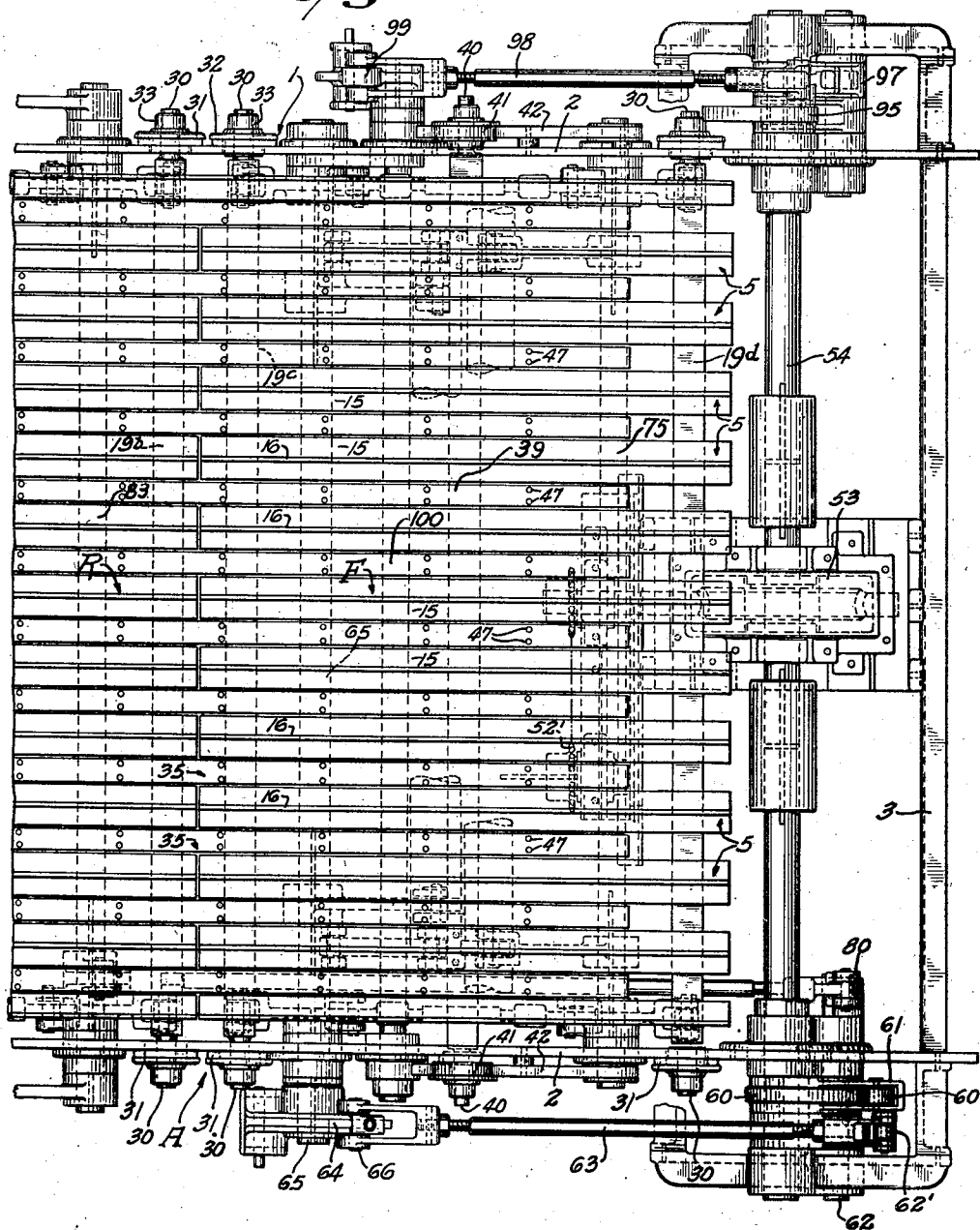
2,379,571

CONVEYING APPARATUS

Filed March 22, 1943

6 Sheets-Sheet 4

Fig. 4.



INVENTOR.
CHARLES L. GERLACH
BY *John W. Michael*
ATTORNEY.

July 3, 1945.

C. L. GERLACH

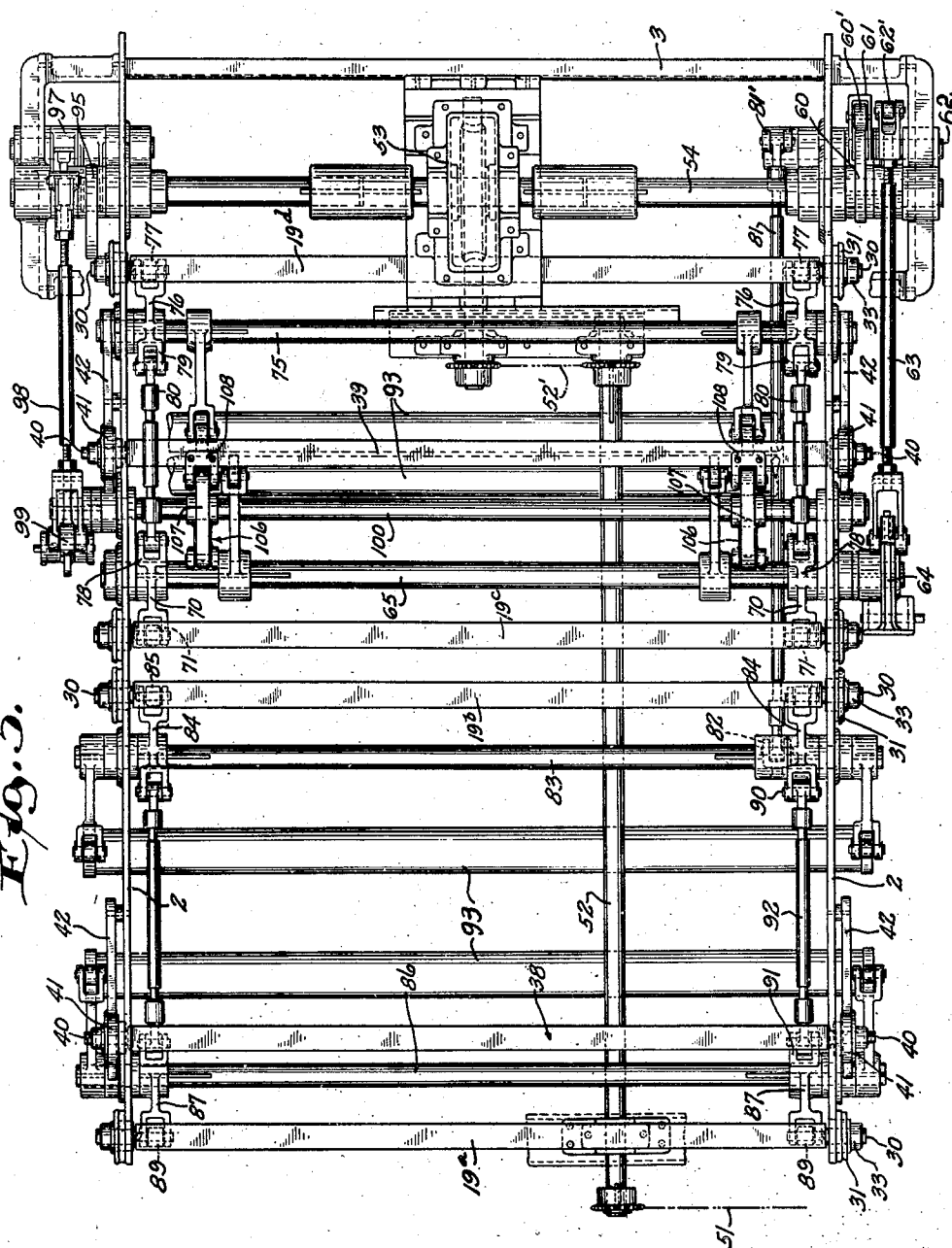
2,379,571

CONVEYING APPARATUS

Filed March 22, 1943

6 Sheets-Sheet 5

Fig. 5.



INVENTOR.
CHARLES L. GERLACH.
BY *John W. Michael*
ATTORNEY.

July 3, 1945.

C. L. GERLACH

2,379,571

CONVEYING APPARATUS

Filed March 22, 1943

6 Sheets-Sheet 6

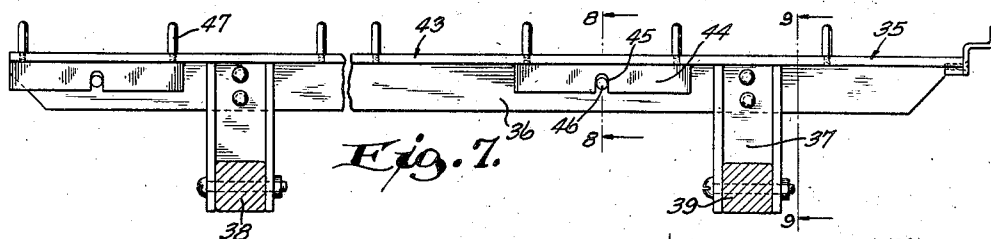


Fig. 7.

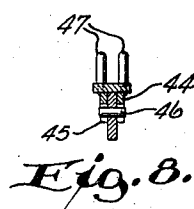


Fig. 8.

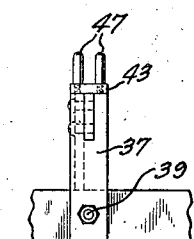


Fig. 9.

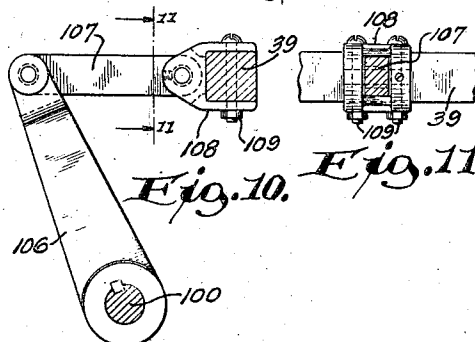


Fig. 10. Fig. 11.

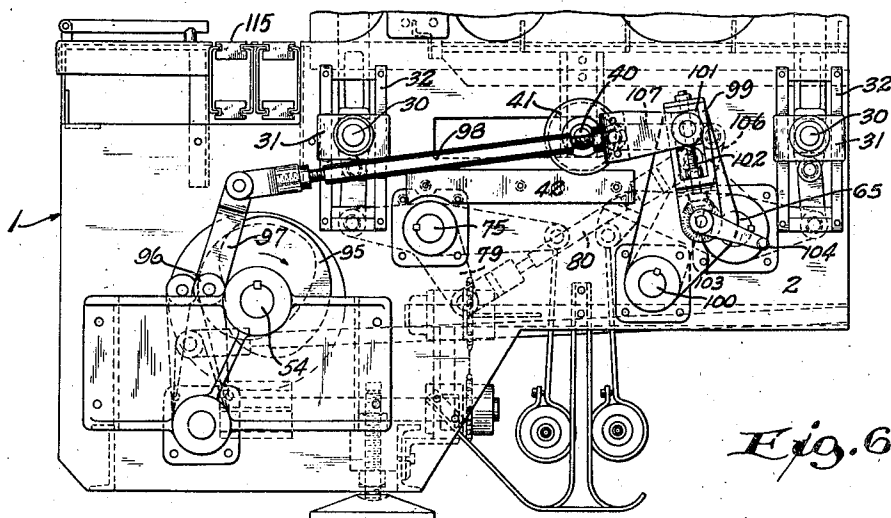


Fig. 6.

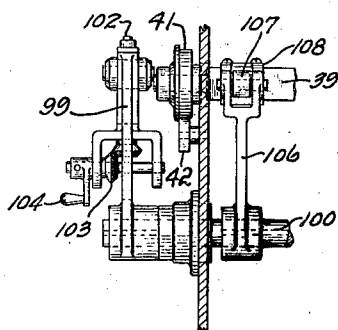


Fig. 12.

INVENTOR.
CHARLES L. GERLACH.

BY John W. Michael

ATTORNEY.

UNITED STATES PATENT OFFICE

2,379,571

CONVEYING APPARATUS

Charles L. Gerlach, Waukesha, Wis., assignor to
Michael Yundt Company, Waukesha, Wis., a
corporation of Wisconsin

Application March 22, 1943, Serial No. 480,000

9 Claims. (Cl. 198—219)

This invention relates to an apparatus for filling and closing portable receptacles such as milk bottles or the like.

An object of the invention is to provide a machine of this character which may be readily combined or operatively associated with a milk bottle washer of the type which discharges a row of clean bottles from bottle-holders at its discharge end, the apparatus embodying the present invention taking over the control of the bottles as they are discharged as it is synchronized in its action with the discharge cycles of the washing machine.

Another object of the invention is to provide an apparatus of this character which feeds successive rows of bottles to the filling and capping stations with a step-by-step movement. When the bottles arrive at the filling station or stations they are automatically elevated in cooperation with the filling means thereof so that the bottles are automatically filled. Preferably a filling means is employed which is of the type wherein the movement of the bottle to filling position initiates the delivery or flow of the milk into the bottle and the displacement of the air therefrom and wherein the movement of the bottle from filling position cuts off or stops the flow or delivery of the milk. After they are filled the bottles are lowered and advanced to a capping station, at which station they are again elevated and capped. After capping, the bottles are lowered and finally are transferred to an off-take conveyor.

A further object of the invention is to provide an apparatus of this character having these advantages and which is adapted for use in filling pint, quart, half-gallon, or other size bottles, the mechanism being adjustable for effective use with any size.

A still further object of the invention is to provide an apparatus for filling and closing portable receptacles having the advantages and capacities mentioned, and which has positive and precision control over the bottle movements so that the bottles will be correctly and properly positioned with respect to the filling and capping means to insure efficient cooperation therewith and consequently effective delivery of the milk or other liquid in proper quantities to the bottles without spilling and thereafter effective capping or closing of the bottles.

An apparatus embodying the present invention comprises generally a plurality of parallel, longitudinal guides or ways on which the bottoms of the bottles are supported and along which they

slide. These guides or ways are divided transversely to provide two sections, one a receiving section on to which the bottles are transferred by suitable transfer mechanism from the bottle washer and the other a filling and capping section serving not only to guide but also to elevate the bottles into cooperative relation with the filling and capping means. Interposed between the adjacent, parallel ways are bottle-feed carriages or pushers which have upstanding bottle-engaging elements, preferably pins. The feed carriages are reciprocated back and forth, and when moving in one direction serve to advance or feed the bottles through the apparatus and when moving in the opposite direction simply idle or return. During feeding movement of the carriages both sections of the ways are lowered so as to bring the lower portions of the bottles into the range of action of the bottle-feeding elements or pins. On the return movement of the feed carriages the tracks or ways are elevated so that the bottoms of the bottles are above the tops of the bottle feed pins.

Means is provided for reciprocating the bottle-feed carriages or bottle pushers in timed relation to the other movements, and means is also provided for raising and lowering the receiving and filling sections of the guides or ways and is so constituted that a variable degree of elevation may be imparted to the sections which make up the guides or ways of the filling section to adapt the apparatus for use in filling different size bottles, for example pint, quart, half-gallon, or other size bottles. Obviously, with the filling and capping stations in fixed position, it is necessary to elevate the smaller size bottle through a greater distance than the larger size bottles. The means which reciprocates the bottle feed carriages or pushers also includes a variable stroke device of the like so that the feeding movement may be varied to properly feed bottles of different sizes.

Other objects and advantages reside in certain novel features of the construction, arrangement, and combination of parts, which will be hereinafter more fully described and particularly pointed out in the appended claims, reference being had to the accompanying drawings forming a part of this specification, and in which:

Figure 1 is a view in side elevation of a portion of an apparatus embodying the present invention;

Figure 2 is a similar view of the remaining portion of the apparatus;

Figure 3 is a view in top plan of a portion of the machine shown in Figures 1 and 2;

Figure 4 is a view in top plan of the remaining portion of the machine shown in Figures 1 and 2;

Figure 5 is a view in top plan of the operating mechanism for the feed carriages and the guides or ways of the receiving and filling sections, the carriages and the ways, however, being removed in order to illustrate the elements which make up the operating mechanism for these parts;

Figure 6 is a fragmentary view in side elevation of the opposite side of the machine from that shown in Figure 2 and showing the operating mechanism employed for reciprocating the feed carriages;

Figure 7 is a view partly in side elevation and partly in longitudinal, vertical section, showing one of the feed carriages, its bottle feed pins, and the reciprocating cross bars which move the feed carriages back and forth;

Figures 8 and 9 are views in transverse cross sections taken on lines 8—8 and 9—9 of Figure 7;

Figure 10 is a fragmentary view partly in side elevation and partly in vertical, longitudinal cross section showing how motion is imparted from the operating shaft to one of the actuating cross bars of the feed carriages;

Figure 11 is a fragmentary detail in vertical cross section taken on line 11—11 of Figure 10;

Figure 12 is a detail view partly in elevation and partly in transverse, vertical cross section, illustrating the mechanism for adjusting the stroke of the feed carriages;

Figure 13 is a detail view partly in end elevation and partly in vertical, transverse cross section, showing the manner in which the feed carriages and the sections of the tracks or ways are supported for their respective movements;

Figure 14 is detail view partly in side elevation and partly in vertical cross section, showing the motion transmission means employed between one of the operating shafts and one of the raising or lowering bars for the tracks or ways;

Figure 15 is a fragmentary detail view in horizontal cross section showing how the raising and lowering bars for the tracks or ways are supported for the up and down or vertical movement.

Referring to the drawings, and more particularly to Figures 1 and 2, it will be seen that the apparatus for filling and capping milk bottles, or other receptacles, embodying the present invention, is designated generally at A and is operatively interrelated with the discharge end of a milk bottle washer, a portion of which is diagrammatically illustrated and designated as a whole at W. The washer W may be of any suitable or standard construction, a number of which are commercially available. Such washers usually have means for soaking the bottles, scrubbing their insides and outsides, rinsing the same thoroughly, and delivering successive rows of bottles at the discharge end of the machine. One type of bottle-washing machine which may be employed is that shown in United States Letters Patent 1,729,193, granted September 24, 1929, to Henry F. Stock, for a "Bottle cleaning apparatus." Such a bottle washer delivers the rows of bottles to the discharge station by means of holders H, the holders being mounted on an endless conveyor which is actuated with a step-by-step or intermittent motion. The present invention proposes to transfer the rows of bottles from the holders H to the apparatus A embodying the present invention by suitable transfer mechanism, designated at M. This transfer mechanism is only diagrammati-

cally illustrated as it per se forms no part of the present invention. An appropriate transfer M includes bottle tilters T which receive the bottles from the holders H and move them from a substantially horizontal position to a vertical position. Pusher P transfers the bottles from the holders H to the tilters T and pusher P' transfers the bottles from the tilters T to the apparatus A embodying the present invention.

The apparatus A embodying the present invention comprises a main or stationary frame, designated as a whole at 1. This frame may be constructed in any suitable way and comprises vertically disposed and suitably cross connected side members 2. Only one cross member 3 is illustrated, but, of course, a suitable number are provided. Adjacent the top of the frame are longitudinally extending and parallel guides or ways for the bottles, these tracks or ways being designated generally at 5. Approximately midway of the machine these tracks or ways are transversely divided or separated so as to provide a receiving and inspection section R on to which the bottles are deposited by the transfer mechanism M and an elevating or filling section F, which is designed first to raise the bottles into cooperation with the filler valves 7 of a bottle filler, designated generally at 8, and thereafter to raise the bottles into cooperative relation with a bottle capper, designated generally at 9. The guides or ways 5 are all of identical construction, and their action is the same save that the guides or ways of the elevating section F are raised and lowered through a greater vertical distance than the guides or ways 5 of the receiving section R.

All of the guides or ways are constituted to provide a slotted track made up of longitudinally extending, transversely spaced track members 15. Longitudinally extending and vertically disposed partitions or dividers 16 are provided along the outer edges of the guides or ways.

The structural details of the guides or ways may be varied.

In the drawings, one practical manner of constituting them is illustrated. As shown in the drawings, all of the members which make up the guides or ways, save the two outer ones which extend along the sides of the frame, are of double construction and form a part of two guides or ways. All of the intermediate guide- or way-forming members, that is, all except for the two outer ones mentioned, are constituted first of an inverted channel 17 fitted down over a pair of longitudinally spaced and vertically extending brackets 18. The bases of the brackets 18 rest on and are secured to cross bars 19a, 19b, 19c, and 19d. The cross bars 19a, 19b, 19c, and 19d extend transversely of the frame and are supported thereon for reciprocating movement in a vertical plane. Superposed on each channel 17 is a sheet metal stamping 20 which is first doubled on itself and then formed into a box-like structure designed to embrace and be supported on its channel. A reinforcing rail 21 may be provided in the upper part of the double wall structure of each stamping 20. With such a construction, the stamping 20 and its supporting structure just described provide track members and also a divider or partition. The two outside members, which are of single construction, also comprise an inverted channel 22 resting on and supported by longitudinally spaced brackets 23, the brackets 23 in turn resting on and being fastened to the cross bars 19a, 19b, 19c, and 19d. A sheet metal stamping 25 is mounted on each channel 22 and is very

much in design like the stampings 20 except that it is of single construction since it serves to provide only one track member and one vertical partition or divider. It does, however, have the double wall construction 26 reinforced with a rail 27 and the box-like construction 28 which embraces and is mounted on its inverted channel.

The means which supports the cross bars 19a, 19b, 19c, and 19d for vertical sliding movement on the frame members may be constituted by forming the ends of the cross bars of circular cross section, thereby providing axles or trunnions 30. These trunnions 30 extend through the slide blocks 31 which are interfitted with vertical guides or ways 32 fastened to the main frame members and paralleling the side edges of vertical slots 32' provided in the frame members. Collars 33, fixedly secured on the ends of the trunnions 30 by means of set screws, or in any other suitable way, to engage the slide blocks 31, retain the parts assembled.

A horizontally reciprocable feed carriage, or bottle pusher 35 is provided for each guide or way and is disposed in vertical alinement with the slot thereof. Each pusher 35 comprises a rail-like body portion 36 (see Figures 7, 8, and 9). Adjacent its ends the rail-like body portion 36 is attached to and supported on vertical brackets 37 which in turn are suitably fastened to the cross bars 38 and 39.

These cross bars 38 and 39 extend transversely of the frame and are supported on the frame for horizontal reciprocatory motion.

For this purpose the ends of the cross bars 38 and 39 may be provided with trunnions or axle-like portions 40. Flanged wheels or rollers 41 are rotatably mounted on the trunnions 40 and ride on horizontal tracks or rails 42 secured to the side members of the frame.

A feed plate 43 rests on the top of each pusher body rail 36.

Means is provided for interconnecting each feed plate with its rail so that as the pusher body rail 36 is reciprocated a corresponding movement will be imparted to the feed plate 43. One structure which is practical for this purpose may comprise one or more attaching plates 44 which may be welded to the underside of the feed plate 43, and which has a vertical notch 45 fitted over a laterally projecting pin 46 fixed to the rail on which the feed plate is mounted.

Bottle feed pins 47 are carried by the feed plates 43, the lower ends of the pins being fastened to their feed plate 43 and the pins themselves projecting upwardly or vertically from the feed plates. The bottle feed pins 47 are spaced to accommodate the particular size bottle which is being handled by the machine, and it is for this purpose that the pins are carried by removable feed plates so that a set of pins properly spaced may be employed for different size bottles.

The vertical motion imparted to the ways 5, and the horizontal motion imparted to the feed carriages or pushers 35, are synchronized with each other and with the action of the bottle washer. For this purpose the washer may be provided with a shaft 50 synchronized in its drive with that of the endless conveyor which advances the bottle holders with a step-by-step motion. Chain and sprocket gearing 51 transmits motion from the shaft 50 to a drive shaft 52 for the apparatus A. This drive shaft 52 extends longitudinally under the apparatus A and is operatively connected by chain and sprocket gearing 52' to worm gearing 53 which drives a cross shaft 54.

The cross shaft 54 is employed to rotate or actuate suitable cams which act through links and levers, or other suitable motion transmission mechanism, to raise and lower the guides or ways 5 and to reciprocate the horizontal pushers 35 at the proper time.

In carrying out this purpose, one end of the shaft 54 has a cam 60 fixed thereto. The cam 60 acts on roller 60' rotatably mounted on a cam follower lever 61. The lower end of the lever 61 is fixed to a short shaft 62 rotatably supported in suitable bearings provided therefor on the frame of the machine. A crank or lever arm 62' is fixed to the shaft 62 and extends upwardly therefrom along one side of the cam 60. The upper end of the crank or lever arm 62' is pivotally connected to one end of the connecting rod or link 63. The opposite end of the link 63 is adjustably and pivotally interconnected with a crank arm 64 fixed to one end of a cross shaft 65 supported in suitable bearings on the frame of the machine. The crank arm 64 has a longitudinal slot therein. A traveling block is slidably fitted in this slot and has trunnions 66 which pivotally interconnect with the yoke formation at the adjacent end of the connecting rod 63. Centrally the traveling block is provided with an internally threaded opening operatively engaged with an adjusting screw 67 supported on the arm 64 for rotation although held against axial movement with respect thereto. Wrench-operated beveled gearing 68 may be provided to facilitate turning of the screw 67. The screw and traveling block provide a variable stroke device since when the screw is turned it moves the block toward or away from the shaft 65 thereby increasing or decreasing the effective length of the crank arm 64 and consequently varying the angular distance through which the cross shaft 65 is rocked by the cam 60. Rocking motion of this cross shaft 65 is utilized to raise and lower the ways 5 of the filling section F. For this purpose the cross shaft 65 is provided with crank arms 70 fixed thereto and projecting toward the adjacent cross bar 19c. The outer ends of these crank arms 70 are pivotally connected to the lower ends of links 71, the upper ends of which are pivotally connected to cross bar 19c. Obviously, as the cross shaft 65 is rocked, its motion will be transmitted through the crank arm 70, links 71, and the slides 31, to the cross bar 19c, to raise and lower the same. Adjacent the cross bar 19d a countershaft 75 is rotatably mounted on the frame and is provided with crank arms 76 which project toward the cross bar 19d and are operatively interconnected with the slides 31 thereof by means of links 77 similar to the links 71. Motion is imparted to the countershaft 75 from the rock shaft 65 through crank arms 78 and 79 fixed to the shafts 65 and 75, respectively, and interconnected with each other by connecting link or connecting rod 80. The parts are so dimensioned and arranged that shaft 65 and its countershaft 75 partake of corresponding motion and properly apply the force to the cross bars 19c and 19d to raise and lower the ways of the filling section of the machine at the proper time.

The shaft 62 also has a crank arm 81' fixed to its inner end and the upper end of the crank arm 81' is pivotally connected to one end of the long connecting rod 81 which extends longitudinally of the machine and at its end opposite the crank arm 81' is pivotally connected to a crank arm 82 fixed to and projecting downwardly from a cross shaft 83 supported for rocking or oscil-

lating movement on the frame of the machine. The shaft 83 is disposed adjacent the cross bar 19b and has a pair of cranks 84 fixed to spaced portions thereof and projecting under the slides 31 of the cross bar 19b and operatively connected with these slides by means of links 85. A countershaft 86 extends crosswise of the machine and is supported for rotation thereon, the shaft 86 being disposed adjacent to the cross bar 19a. Crank arms 87 are fixed on the countershaft 86 and extend toward and under the cross bar 19a and they are operatively interconnected with the slide block 31 thereof by means of links 89. The countershaft 86 is rocked in a manner corresponding to the cross shaft 83 by interconnecting linkage between these shafts which comprise crank arms 90 and 91 mounted on the rock shaft 83 and counter shaft 86, respectively, and interconnected with each other by means of a connecting rod 92. Hence, the cam 60 serves to raise and lower not only the filling section F but also the receiving section. The amplitude of the movement imparted to the filling section F is varied by adjustment of the variable stroke device.

Counterweights 93 are hung from the shafts 65, 75, 83, and 86 and freely slide vertically along guides 94 and 94' provided therefor on the frame of the machine. These weights counter-balance the weight of the ways and their supporting structure so that the action is smoother and the operating mechanism need only serve to move the ways and their supports and, of course, the bottles thereon.

The end of the cross shaft 54 opposite to that on which the cam 60 is mounted has a double cam 95 fixed thereon, the cam 95 acting on the rollers 96 of the cam follower lever 97 which is pivotally mounted on the frame and extends upwardly with respect thereto. The upper end of the cam follower lever 97 is pivotally connected to one end of a connecting link 98, the opposite end of which is adjustably and pivotally interconnected with a crank arm 99 fixed to and projecting upwardly from a rock shaft 100 mounted in suitable bearings provided therefor on the frame of the machine. The crank arm 99 is also longitudinally slotted and a traveling block 101 slides in the slot of the arm and is adjusted thereon by adjusting screw 102 in much the same manner as described in connection with the variable stroke device for the elevating means of the filler section F. In this instance, however, although the structure functions in the same way as the other variable stroke mechanism, the operating means for facilitating rotation of the adjusting screw is changed slightly in that its beveled gearing 103 is actuated by hand crank 104. By varying the extent to which the shaft 100 is rocked in either direction the amount of the feeding movement and of the return movement, which is transmitted from the rock shaft to the feed carriages or reciprocable pushers, is varied. The purpose of this is to effect the feed of different size bottles.

The shaft 100 is provided with a pair of crank arms, designated at 105, the crank arms projecting upwardly from the shaft 100 at an angle. The upper ends of the crank arms are pivotally connected to links 107, and the links in turn are pivotally connected to clevis or attaching brackets 108 which embrace and are bolted, as at 109, to the cross bar 39. With this construction, as the rock shaft 100 is oscillated its motion will be transmitted to the cross bar 39 through the crank 106 and link 107 so that the cross bar 39

will be reciprocated back and forth. Since the cross bar 39 is tied to the cross bar 38 through the rails 36 and brackets 37, the cross bar 38 partakes of the corresponding movement.

In a construction such as described, bottles are advanced through the apparatus in row formation and with a step-by-step motion. Their movements are precision-controlled so that they are brought into correct vertical alinement with the filling and capping stations. When in such alinement and in a state of rest, they are elevated to effect filling and capping. Finally they are advanced from the ways 5 through the apparatus on to and off the off-take conveyor 115.

While I have shown and described one construction in which the invention may be advantageously embodied, it is to be understood that the construction shown has been selected merely for the purpose of illustration or example, and that various changes in the size, shape, and arrangement of parts may be made without departing from the spirit of the invention or the scope of the subjoined claims.

I claim:

1. An apparatus of the character described comprising a frame including side members, cross members connecting said side members, a plurality of parallel ways extending longitudinally of the frame adjacent the top thereof, each way being made up of transversely spaced tracks with vertical dividers extending along the outer edges of the tracks, said ways being transversely divided approximately midway between their ends, a separate set of raising and lowering means for each section of the ways, each raising and lowering means comprising a pair of raising and lowering bars extending transversely of the frame and longitudinally spaced from each other, supporting brackets on said bars and engaged with and secured to the undersides of the ways, means coacting with the ends of the bars and with the frame for constraining the bars to raising and lowering movement, a separate operating mechanism for each pair of raising and lowering bars, one of said operating mechanisms including a variable stroke device adjustable to regulate the extent of vertical motion imparted to its ways, a horizontally disposed reciprocable pusher bar interposed between the tracks of each way, each of said pusher bars having a series of vertically extending bottle-engaging feed pins, and means for imparting a forward feeding motion to each pusher bar when the ways are lowered and for imparting a return movement to each pusher bar when the ways are elevated.

2. An apparatus of the character described comprising a frame, a plurality of parallel ways extending longitudinally of the frame adjacent the top thereof, each way being constituted of a slotted track and vertical dividers extending along the outer edges of each slotted track, said ways being transversely divided approximately midway between their ends to provide a plurality of sections, a horizontally disposed reciprocable pusher positioned in vertical alinement with the slot of each way, individual operating mechanisms for raising and lowering the way sections, and means for imparting a forward motion to each pusher when the ways are lowered and for imparting a return movement thereto when the ways are elevated.

3. An apparatus of the character described comprising a plurality of parallel ways each including a slotted track along which bottles slide, a horizontally disposed reciprocable pusher posi-

tioned in vertical alinement with the slot of each way, means including a variable stroke mechanism for raising and lowering the ways, and means including a variable stroke mechanism for imparting a feeding movement to the pushers when the ways are elevated and a return movement thereto when the ways are lowered.

4. In a device for conveying different sizes of bottles to a predetermined position, a supporting frame, a way mounted on the frame for receiving and for guiding movement of the bottles, means for raising and lowering the way, a carriage for moving the bottles horizontally relative to the way and including a removable plate positively determining the positioning of a given size of bottle thereon, and means for moving the carriage in one direction when the way is lowered and in the return direction when the way is raised.

5. In a device for conveying different sizes of bottles to a predetermined position, a supporting frame, a way mounted on the frame for receiving and for guiding movement of the bottles, means for raising and lowering the way, a carriage for moving the bottles horizontally relative to the way and including a removable plate positively determining the positioning of a given size of bottle thereon, the plate being replaceable by another plate for receiving and positioning a different size of bottle, and means for moving the carriage in one direction when the way is lowered and in the return direction when the way is raised.

6. In a device for conveying different sizes of bottles to a predetermined position, a supporting frame, a way mounted on the frame for receiving and for guiding movement of the bottles, the way being divided transversely into sections and being movable vertically, means for individually moving the way sections to secure different vertical positioning thereof, a carriage for moving the bottles horizontally relative to the way when the way is in lowered position, and means for returning the carriage when the way is raised.

7. In a device for conveying different sizes of

bottles to a predetermined position, a supporting frame, a way mounted on the frame for receiving and for guiding movement of the bottles, adjustable means for raising and lowering the way to secure different vertical positioning thereof and of the bottles thereon, a carriage for moving the bottles horizontally relative to the way when the way is in lowered position, and adjustable means for moving the carriage in one direction when the way is lowered and in the opposite direction when the way is raised whereby different horizontal positioning of the bottles is obtained.

8. In a device for conveying different sizes of bottles to a determined position, a supporting frame, a way mounted on the frame for receiving and guiding movements of the bottles, a carriage for moving the bottles relative to the way, a single driving means for actuating both the way and the carriage, adjustable means connecting the way with the driving means for raising and lowering the way to different vertical positions, and adjustable means connecting the carriage with the driving means for moving the carriage horizontally to different positions, movement of the carriage in one direction occurring when the way is lowered and in the other direction when the way is raised.

9. In a device for conveying different sizes of bottles to a predetermined position, a supporting frame, a way mounted on the frame for receiving the bottles, the way being divided transversely into sections vertically movable, a carriage for moving the bottles relative to the way, a drive means for actuating both the way and the carriage, adjustable means connecting the way sections severally with the driving means for raising and lowering the individually sections thereof to different vertical positions, and adjustable means connecting the carriage with the driving means for moving the carriage horizontally to different positions, the carriage moving in one direction when the way is lowered and moving in the other direction when the way is raised.

CHARLES L. GERLACH.