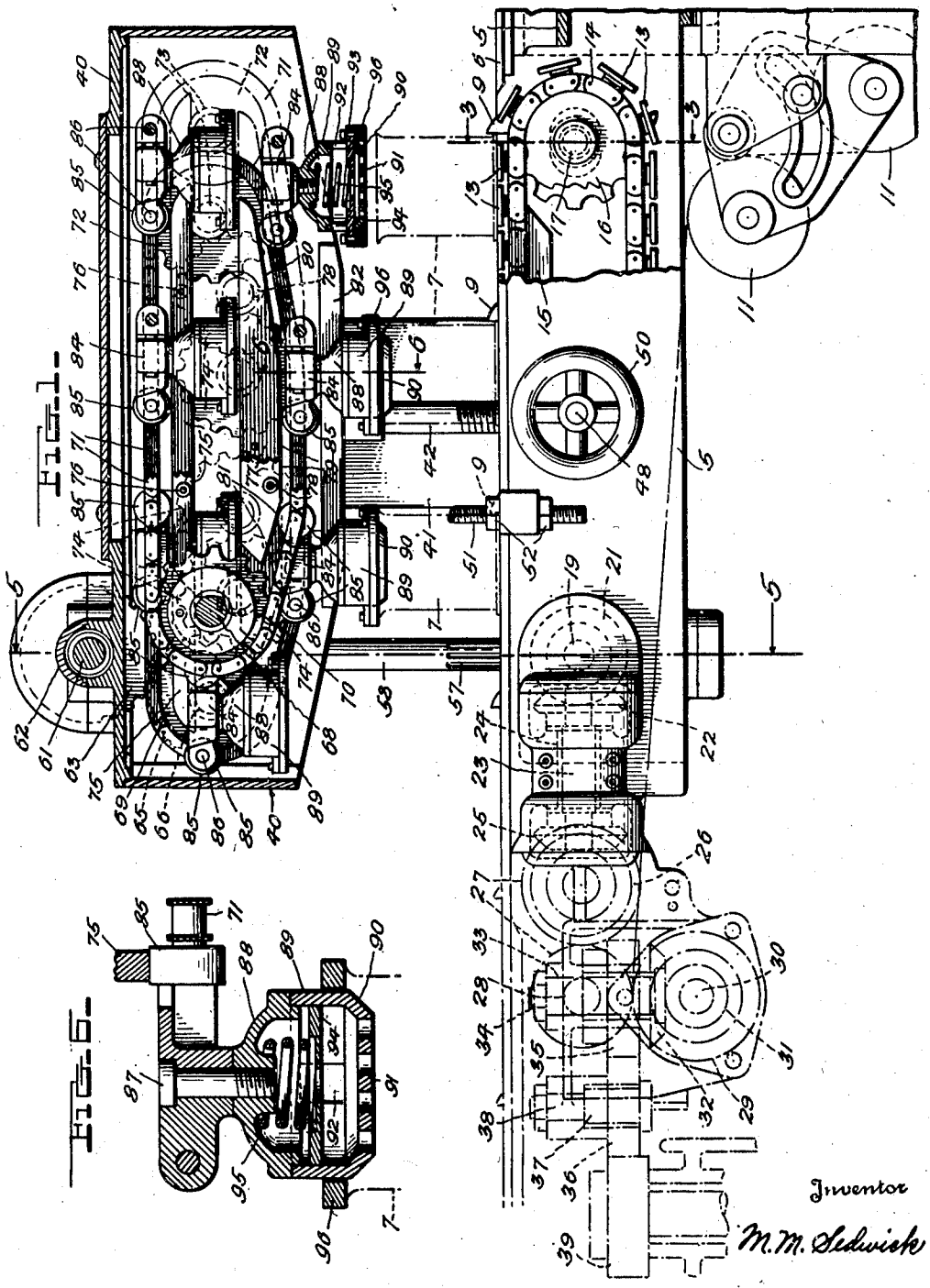
Dec. 16, 1947. M. M. SEDWICK 2,432,823

CONTAINER FILL PACKING APPARATUS

Filed April 1, 1943 4 Sheets-Sheet 1



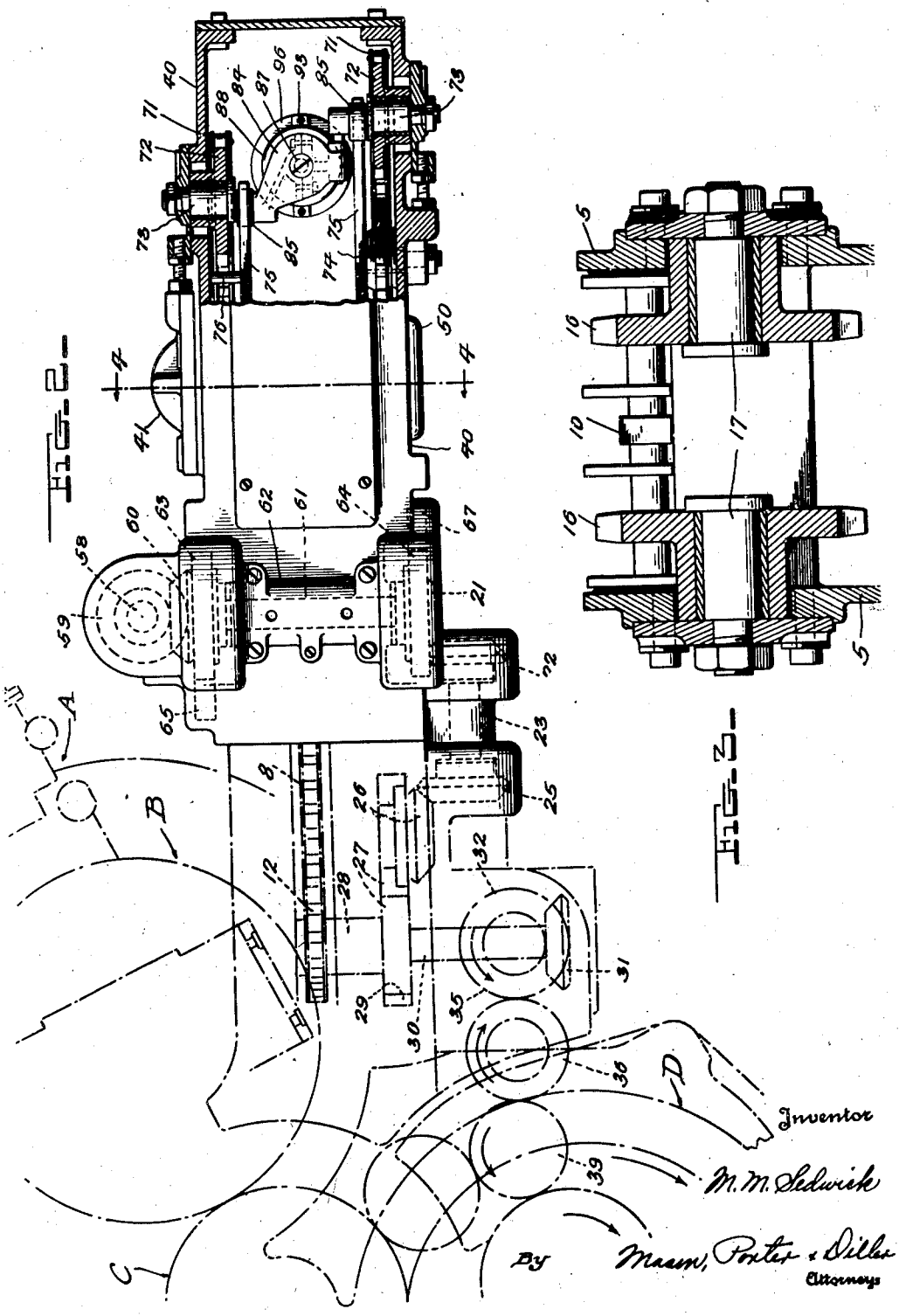
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CONTAINER FILL PACKING APPARATUS

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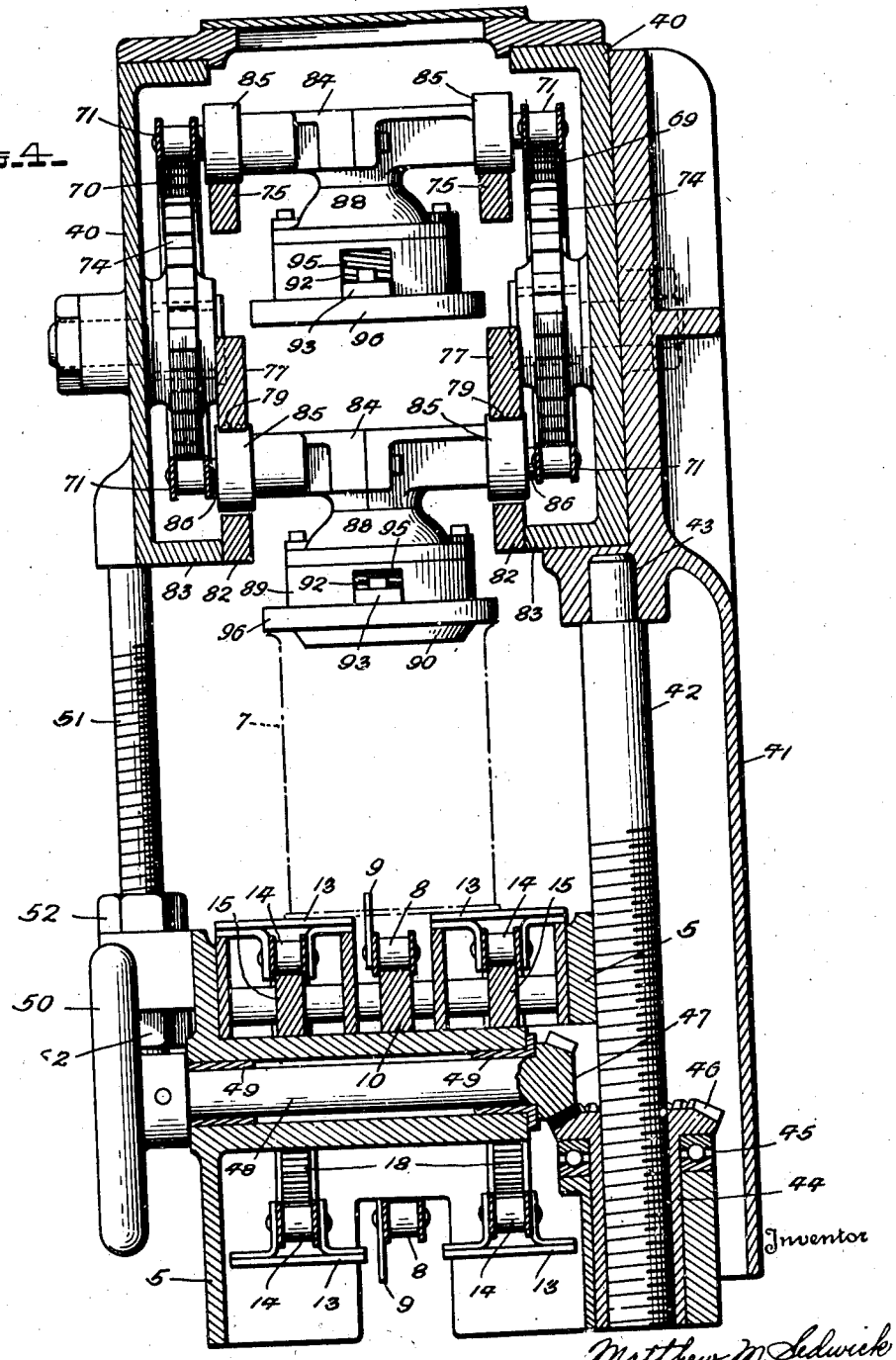


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FIG. 4.



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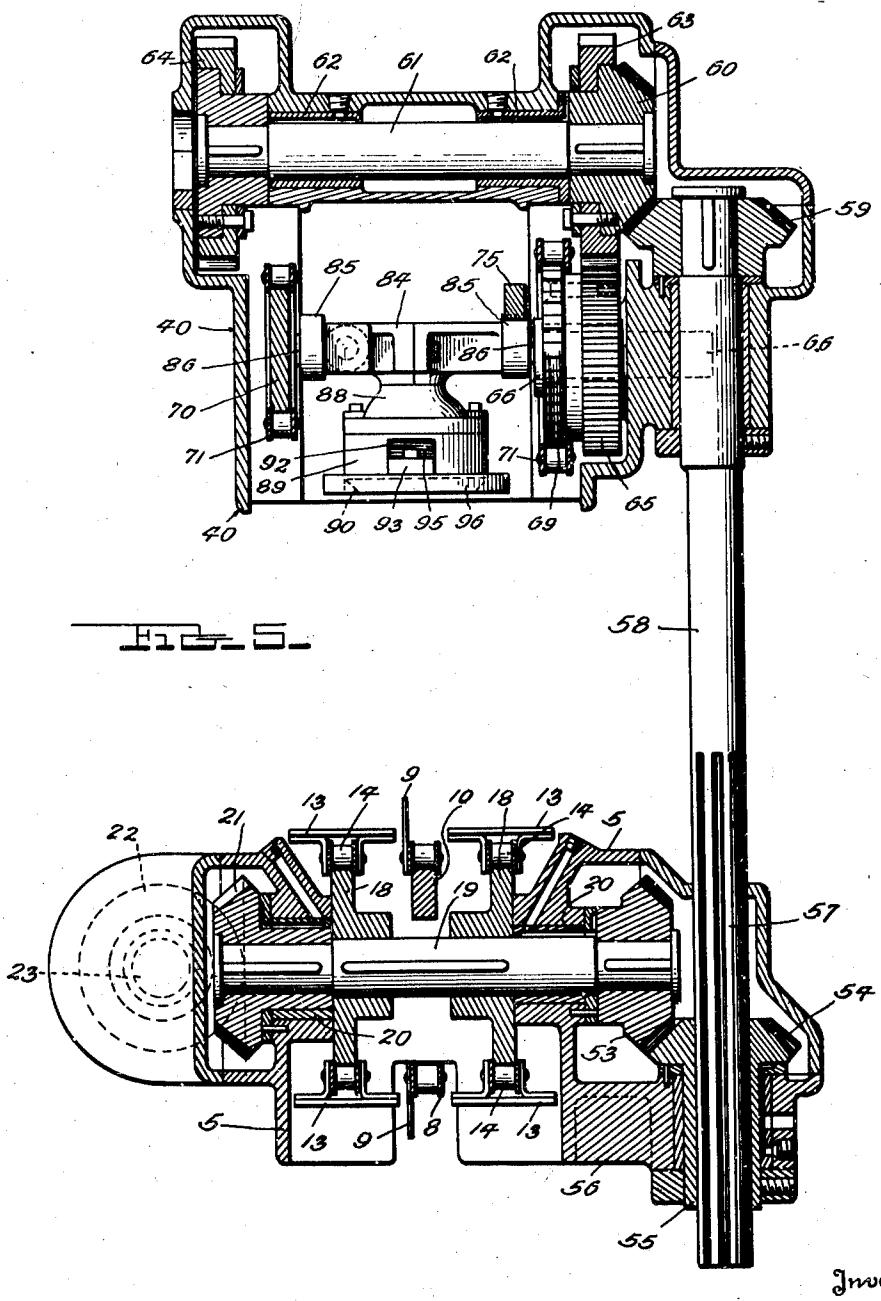


FIG. 5.

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UNITED STATES PATENT OFFICE

2,432,823

CONTAINER FILL PACKING APPARATUS

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Application April 1, 1943, Serial No. 481,459

12 Claims. (Cl. 226—71)

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The invention relates generally to apparatus employed in the packaging of products comprising a combination of liquids and solids, such as fruits in syrup or vegetables in juices, and it primarily seeks to provide a novel apparatus operable efficiently to pack the solids down into the containers traveling to the closing machine so as to depress solids portions below the upper limits of the containers and thereby avoid interference with the container closing functions, the packing down of said solids portions being effected in a manner assuring against spilling over of the syrup or juices in the containers.

In the filling of containers with combinations of liquids and solids, such as fruits in syrup or vegetables in juices, the amount of solids necessary to provide proper fills and the manner of effecting the fills commonly results in the provision of a mound of appreciable size projecting above the top limit of each container, and when the containers thus filled are fed rapidly to the closing machine the upwardly protruding mounds of solids seriously hamper and present problems in the performance of the operations incident to the closing of the containers. Various forms of apparatus have been devised for engaging and packing down the protruding mounds of fill solids while the containers are being fed along, but all such apparatus of which I am presently aware is limited in utility by the nature and duration of the packing contact provided for and by reason of the fact that in such apparatus no provision is made for assuring against spilling over of syrups or juices as an incident to the depression of the solids. It is a purpose of the present invention to provide a simple and efficiently operable container fill packing apparatus in which the fill packing is accomplished rapidly and yet over a sustained interval with respect to each container, and in which provision is made for assuring against spilling of syrups or juices.

In its more detailed nature the invention resides in providing an apparatus of the character stated wherein is included means for feeding the filled containers along a straight line feedway, endless chain means including flight portions traveling along and over said feedway, and packer elements movable with said chain means in spaced relation for engaging each container in its open top for pressing fill solids down into the container and then moving along a distance in the container for holding the fill solids depressed therein and then moving upwardly away from the container, each said element including a gasket plate for closing the top of an engaged container against spilling thereover of syrup or juices and a chamber into which displaced syrup or juice can flood during the depressing of the solids and then again flow out freely as the fill solid depression contact is discontinued.

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Another object of the invention is to provide an apparatus of the character stated in which provision is made for adjusting the apparatus so that it can operate efficiently on different sizes of containers.

Another object of the invention is to provide an apparatus of the character stated in which the chain means comprises a pair of endless chains operable in parallel spaced vertical planes and staggered in the endwise direction, and in which the packing elements are supported on supporting elements each pivoted at diagonally opposite points at its respective ends to the two chains in a manner for always holding the packing elements in horizontal position.

Another object of the invention is to provide an apparatus of the character stated in which each supporting element has a guide roller approximating each pivotal connection thereof with a chain, and in which guide tracks are provided for guiding movement of the supporting elements, certain of said tracks including lower straightaway guide surfaces spaced above and paralleling the path of travel of the tops of the containers, downwardly inclined portions merging into said straightaway guide surfaces, and upwardly inclined guide surfaces leading away from said straightaway surfaces.

With the above and other objects in view that will hereinafter appear, the nature of the invention will be more fully understood by following the detailed description, the appended claims and the several views illustrated in the accompanying drawings.

In the drawings:

Figure 1 is a part side elevation and part vertical longitudinal section illustrating a container fill packing apparatus embodying the invention.

Figure 2 is a plan view of the apparatus illustrated in Figure 1, parts being broken away and in section, portions of a conventional form of container closing machine being illustrated in cooperative relation to the packing apparatus in dot and dash lines.

Figure 3 is an enlarged detail vertical cross section taken on the line 3—3 on Figure 1.

Figure 4 is an enlarged detail vertical cross section taken on the line 4—4 on Figure 2.

Figure 5 is an enlarged detail vertical cross section taken on the line 5—5 on Figure 1.

Figure 6 is an enlarged detail cross sectional view taken on the line 6—6 on Figure 1.

In the example of embodiment of the invention herein illustrated the packing apparatus embodying the invention is shown in proper associated relation to a closing machine, the latter being diagrammatically illustrated in dot and dash lines. In this diagrammatic illustration the cover feed and marking equipment of the closing machine is generally designated A, the container feed turret is generally designated B, the main closing turret is generally designated C, and the discharge turret is generally designated D.

In the container packing apparatus herein illustrated there is included a base framing 5 having tracks 6 thereon over which the filled containers 7 are fed to the apparatus by a chain 8 having suitably spaced feeder lugs 9 projecting upwardly therefrom in the manner clearly illustrated in Figures 1, 4 and 5. The chain 8 shown in dot and dash line plan in Figure 2 and diagrammatically as a single dot and dash line in Figure 1 passes over a suitable central supporting rail 10 (Figures 3 and 4), over idler supports 11 (Figure 1) and over a driver sprocket 12 (Figure 2).

Beneath the packing apparatus, the traveling containers 7 are supported on slat conveyors 13 including endless chains 14 which pass over supporting rails 15, over idler sprockets 16 supported on stud shafts 17 adjustably secured to the base framing, and over driver sprockets 18 secured on a cross shaft 19 which is rotatably mounted in the frame bearings 20. See Figures 1, 3, 4 and 5.

A bevel gear 21 is secured on one end of the cross shaft 19 and has rotation imparted thereto by a meshing bevel gear 22 which is secured upon one end of a shaft 23 rotatably mounted in the base frame bearing 24. The shaft 23 has a bevel gear 25 secured on its other end, and rotation is imparted to the gear 25 by a bevel gear 26 which is in turn driven by a spur gear couple 27 with the cross shaft 28 on which the sprocket 12 is secured. See Figures 1, 2 and 5.

The spur gear of the couple 27 which is mounted on the cross shaft 28 meshes with a spur gear 29 secured on a cross shaft 30 disposed beneath the cross shaft 28 and having a bevel gear 31 secured thereon. Rotation is imparted to the shaft 30 by a bevel gear 32 rotatable about a stud shaft 33 secured as at 34 to the base framing. The bevel gear 32 is secured to a sleeve which also has a spur gear 35 fixed thereon, and rotation is imparted to the gear 35 by a meshing idler gear 36 rotatable about a stud shaft 37 secured at 38 to the base framing, the idler gear 36 being in turn driven by the spur gear 39 forming a part of the closing machine structure. See Figures 1, 2 and 5 of the drawings.

The packing devices proper are mounted and operate in an elongated housing 40 mounted in vertically spaced relation over the feedway over which the filled containers are fed toward the closing machine. A frame standard 41 depends from the housing at one side in the manner clearly illustrated in Figures 1 and 4 of the drawings, and within the standard is mounted a packing apparatus lifting and lowering jack screw 42. The screw 42 is secured in a socket bearing 43 in the housing and its lower end is threaded through an adjuster sleeve 44 supported in an anti-friction bearing 45 on the base framing. See Figure 4. A bevel gear 46 is carried

at the upper end of the sleeve and is adapted to be driven by a bevel pinion 47 carried at one end of the adjuster shaft 48 which is rotatably mounted in frame bearings 49 and is equipped at its end remote from the pinion 47 with a hand wheel 50. It will be obvious that by adjusting the hand wheel 50 the jack screw 42 and the housing 40 supported thereon can be raised or lowered to vary the spaced relation of the housing above the container feedway. Additional suporting screws 51 depend from the housing 40, and adjustable nuts 52 can be utilized to secure adjusted positions of the housing.

It will be observed by reference to Figure 5 of the drawings that the cross shaft 19 has a driver bevel gear 53 secured at the end thereof remote from the bevel gear 21 thereon, and the gear 53 meshes with and drives a bevel gear 54 fixed to the upper end of a sleeve 55 which is rotatably mounted in a base frame bearing 56 and spline connected as at 57 with a vertically disposed driver shaft 58. The upper end of the driver shaft projects into the housing 40 and has a driver bevel gear 59 secured thereon. The bevel gear 59 meshes with and imparts rotation to a bevel gear 60 secured upon one end of a cross shaft 61 which is rotatably mounted in bearings 62 in the housing. See Figures 2 and 5. A spur gear 63 is adjustably secured to the bevel gear 60, and a spur gear 64 is adjustably secured to the other end of the shaft 61.

The gear 63 meshes with and drives a spur gear 65 mounted on a stud shaft 66 which is secured to the housing, and the gear 64 meshes with and drives a spur gear 67 mounted on a stud shaft 68 also secured to the housing. A sprocket 69 rotates with the gear 65, and a sprocket 70 rotates with the gear 67. See Figures 2 and 5 of the drawings. A chain 71 passes over each sprocket 69 and 70, and at their other ends the chains 71 pass over idler sprockets 72 mounted on stud shafts 73 adjustably secured to the housing 40. It will be observed by reference to Figures 1 and 2 of the drawings that the sprockets on which the chains 71 are mounted are arranged in longitudinally offset or staggered pairs so that one chain is longitudinally offset with respect to the other chain, the chains being mounted for travel in independent, parallel and laterally spaced vertical planes.

Each of the chains 71 also passes over a pair of idler sprockets 74 disposed intermediately of the end sprockets 69—72 and 70—72 and at a lower level so as to provide a central dip in each chain and causing each chain to pass downwardly from the sprocket 72 to the adjacent idler sprocket 74, thence horizontally to the companion idler sprocket 74 and thence upwardly to the respective driver sprocket 69 or 70.

It will be observed by reference to Figures 1, 2 and 4 of the drawings that a pair of upper tracks 75 are associated with the upper flights of the chains, they being rigidly mounted as at 76 on the housing. Intermediate and lower guiding and supporting tracks are associated with the lower flights of the chains. The intermediate guide tracks 77 are rigidly supported as at 78 on the housing and each is equipped at its lower edge with a central horizontal guide surface, a downwardly inclined guide surface 80 at its leading end portion and merging into the surface 79, and an upwardly inclined guide portion 81 leading upwardly away from the surface 79 at its trailing end, as shown in Figure 1. The lower supporting tracks 82 are mounted in spaced relation be-

neath the intermediate tracks 77 and are secured to the bottom webs 83 which define the bottom opening centrally of the housing 40, in the manner best illustrated in Figures 1 and 4 of the drawings.

The staggered chains 71 support between them a plurality of equidistantly spaced packer units. Each packer unit includes a two-piece supporting cross head 84 having a guiding and supporting roller 85 at each end thereof and designed to be supported on and guided by the previously described track equipments, each said cross head being pivotally connected as at 86 to both of the chains 71. It will be obvious by reference to Figures 1, 2 and 4 of the drawings that by pivotally connecting the cross heads with the staggered or offset chains in the manner illustrated, the cross heads will be moved in an endless orbital path by the chains and will always be held in the horizontal position illustrated in Figure 1. In passing along the upper flight of the chains the cross heads 84 will be caused to move in a straight line and horizontally by reason of the engagement of their rollers with the upper supporting tracks 75, and while passing along the lower flights of the chains the movement of the cross heads will be guided by the intermediate tracks 77 so as to be caused to move first on a downward incline, but always horizontally, and then along a horizontal straight line, and then on an upward incline, the lower supporting tracks 82 serving to prevent any downward sagging of the lower flight of the chain during the central portion of the lower flight of its travel.

Each of the cross heads carries a centrally mounted supporting screw 87 which removably supports a unit head 88 to which a cylindrical casing 89 is flange secured in the manner clearly illustrated in Figures 1, 4 and 6 of the drawings. Each casing 89 includes a coniform bottom end 90 which terminates in an apertured bottom closure 91. Each casing is equipped with a pair of diametrically oppositely disposed guide slots 92 for slidably receiving arm extensions 93 from a plate 94 vertically slidably mounted within the casing. Each plate is constantly urged downwardly to the normal position illustrated in Figure 1 of the drawings by a compression spring 95 mounted within the casing, and the arms 93 which extend beyond the guide slots 92 have secured thereto a gasket ring 96 which surrounds the casing 89 beneath said arms. It will be noted by reference to Figures 1 and 6 of the drawings that the gasket ring 96 is of a diameter for engaging the upper end extremity of a filled container and forming a closure well about the upper extremity thereof, and each casing 89, and especially the lower end extremity thereof is of a diameter for being readily receivable within the upper end extremity of the container, and yet is large enough to substantially fill said upper end extremity.

In the operation of the apparatus, the containers filled with fruits or vegetables and including both solids, such as the fruits or vegetables, and syrup or juices are fed rapidly over the feedway beneath the housing 40 and toward the closing machine. The driving connections in the apparatus are so timed that as each filled container passes under the housing one of the packing units will move in centered relation thereover in the manner clearly illustrated in Figure 1. As the aligned containers and packer units move along, one unit will move down into engagement with each filled container, the packing ring 96 thereof pressing against and effectively sealing the upper end extremity of the container, and the coniform end extension 90 or casing bottom moving down into the container in a manner for packing down or pressing in the solids in the container so that none thereof will project above the upper extremity of the container as it is fed into the closing machine. As the lower end of the casing presses downwardly on the mass in the filled container, syrup or juices from the container can rise through the apertures in the bottom 91 into the casing 89. After the pressing contact in the container has been effected it is maintained for an interval while the respective packer unit is moving along the straightaway travel of the lower conveyor flight, and then the casing moves upwardly, permitting the syrup or juices which have flooded into the casing to flow back into the upper end of the container while the sealing gasket 96 is still forming a confining well at the upper end of the container, and then finally the gasket ring 96 also moves out of contact with the upper end of the container so as to effect a complete separation between the container and the respective packing unit which has been engaging the same. As previously stated, the packing units are always held in the horizontal position illustrated in Figure 1, and accurate and efficient contact of a unit with each can is thus assured.

It is of course to be understood that the details of structure and the arrangement of parts may be variously changed and modified without departing from the spirit and scope of the invention.

I claim:

1. In a container fill packing apparatus, means for feeding filled containers along a straight line feedway, a pair of endless chains movable over said feedway in parallel laterally spaced vertical planes, cross heads extending across between and pivotally connected to the laterally spaced chains in equidistantly spaced relation, packer elements supported on said crossheads, and means guiding said chains to cause the packers to individually and successively move down into the containers traveling along said feedway, then each to travel a distance horizontally with and in the container, and then each to move up out of the container, each said packer element including a cylindriform hollow casing having a flat apertured packer bottom dimensioned to enter freely and substantially fill the upper end of a container, and a gasket ring slidably surrounding the casing and normally disposed at a level above the bottom of said hollow casing and engageable as a liquid sealing well with the upper end of each container into which the casing is lowered.

2. In a container fill packing apparatus, means for feeding filled containers along a straight line feedway, a pair of endless chains movable over said feedway in parallel laterally spaced vertical planes, cross heads extending across between and pivotally connected to the laterally spaced chains in equidistantly spaced relation, packer elements supported on said crossheads, and means guiding said chains to cause the packers to individually and successively move down into the containers traveling along said feedway, then each to travel a distance horizontally with and in the container, and then each to move up out of the container, each said packer element including a cylindriform hollow casing having a flat apertured packer bottom dimensioned to enter freely and substantially fill the upper end of a container, a gasket ring loosely surrounding the lower end of the casing and normally disposed at a level above the bottom

of said hollow casing, and means yieldably holding the gasket ring depressed so that when the unit is lowered into packing association with a container the ring will first engage the upper extremity of the container and seal it and then yield upwardly while maintaining the seal as the casing moves down in packing relation and liquid in the container top rises in the casing and within the gasket ring.

3. In a container fill packing apparatus, means for feeding containers along a feedway, a conveyor means moving over said feedway, and packer elements carried in equidistantly spaced relation on said conveyor means and individually and successively movable by the conveyor means down into successively fed filled containers then along a horizontal path with said containers a distance at least as great as the diameter of a container then up out of said containers, each said packer element including a cylindriform hollow casing having a flat apertured packer bottom dimensioned to enter freely and substantially fill the upper end of a container, a gasket ring loosely surrounding the lower end of the casing and normally disposed at a level above the bottom of said hollow casing, and means yieldably holding the gasket ring depressed so that when the unit is lowered into packing association with a container the ring will first engage the upper extremity of the container and seal it and then yield upwardly while maintaining the seal as the casing moves down in packing relation and liquid in the container top rises in the casing and within the gasket ring, said yieldable holding means comprising a plate vertically movable in the casing and having radially extended arms secured to the gasket ring and a compression spring bearing down on the plate within the casing, said casing having guide slots therein through which said arms extend.

4. In a container fill packing apparatus, means for feeding filled containers along a generally horizontal straight line feedway, a pair of endless chains movable generally horizontally over said feedway in parallel laterally spaced vertical planes, cross heads extending across between and pivotally connected to the laterally spaced chains in equidistantly spaced relation, packer elements supported on said crossheads, and means guiding said chains to cause each packer to move down into a container traveling along said feedway, then travel a distance with and in the container, and then move up out of the container, one said chain being staggered in the generally horizontal longitudinal direction with respect to the other chain, and the pivotal connections of the crossheads with one chain being staggered diagonally with respect to the pivotal connections thereof with the other chain a distance equivalent to the distance to which the chains are staggered thereby to always hold the cross heads in generally horizontal position paralleling the feedway while traveling with the chains.

5. In a container fill packing apparatus, means for feeding filled containers along a straight line feedway, endless chain means including flight travel portions traveling along over the feedway, packer elements carried in equidistantly spaced relation by the chain means, means guiding the chain means to cause each chain means carried packer to move down into a container traveling along beneath the housing, then travel a distance with and in the container, and then move up out of the container, an anti-friction roller secured to each chain means carried packer element, and track means including a downwardly inclined portion engaged by the rollers as the packer elements move down into the containers, a horizontal portion engaged by the rollers while the packer elements move along in the containers, and an upwardly inclined portion engaged by the rollers as the packer elements move up out of the containers.

6. In a container fill packing apparatus, means for feeding filled containers along a straight line feedway, endless chain means including flight travel portions traveling along over the feedway, packer elements carried in equidistantly spaced relation by the chain means, and means guiding the chain means to cause each chain means carried packer to move down into a container traveling along beneath the housing, then travel a distance with and in the container, and then move up out of the container, said guiding means including a pair of intermediate guide rotors disposed inwardly of the ends of the chain and lower than the chain ends so as to place the lower flight of the chain horizontally at the portion thereof between the guide rotors and provide a downwardly inclined flight portion between one said rotor and the adjacent end of the chain, and an upwardly inclined flight portion between the other rotor and the adjacent end of the chain.

7. In a container fill packing apparatus, means for feeding filled containers along a straight line feedway, endless chain means including flight travel portions traveling along over the feedway, packer elements carried in equidistantly spaced relation by the chain means, means guiding the chain means to cause each chain means carried packer to move down into a container traveling along beneath the housing, then travel a distance with and in the container, and then move up out of the container, said guiding means including a pair of intermediate guide rotors disposed inwardly of the ends of the chain and lower than the chain ends so as to place the lower flight of the chain horizontally at the portion thereof between the guide rotors and provide a downwardly inclined flight portion between one said rotor and the adjacent end of the chain, and an upwardly inclined flight portion between the other rotor and the adjacent end of the chain, an anti friction roller secured to each chain means carried packer element, and track means including a downwardly inclined portion engaged by the rollers as the packer elements move down into the containers, a horizontal portion engaged by the rollers while the packer elements move along in the containers, and an upwardly inclined portion engaged by the rollers as the packer elements move up out of the containers.

8. In an apparatus of the character described, means for feeding filled containers, a packer element, and means for bringing about relative movement between said element and a moving container to cause the element to pack the fill in the container, said element comprising a hollow cylindriform casing having an apertured bottom and a coniform edge terminus, a gasket ring slidably embracing the casing approximately at the top of said coniform edge and above the bottom of said edge in position for engaging the top of a container and sealing the same as a head space surrounding well, and means for yieldably depressing said ring effective to permit the ring to yield upwardly as the casing is received in packing relation in a container to seal the container top against overflooding of the liquid which floods upwardly into the casing and within said ring as the casing

packs the fill in the container, said yieldable depressing means including a plate vertically movable in the casing and having radially extended arm secured to the gasket ring and a compression spring bearing down on the plate within the casing, and said casing having guide slots therein through which said arms extend.

9. In an apparatus of the character described, means for feeding filled containers, a packer element comprising a hollow cylindriform casing having an apertured bottom and a coniform edge terminus, a gasket ring slidably embracing the casing and normally disposed approximately at the top of said coniform edge in position for engaging the top of a container and sealing the same as a head space surrounding well, and means for yieldably depressing said ring effective to permit the ring to yield upwardly as the casing is received in packing relation in a container to seal the container top against overflooding of the liquid which floods upwardly into the casing and within said ring as the casing packs the fill in the container; and means for bringing about relative movement between said element and a moving container to cause the coniform portion of the element to center in said container and said element to pack the fill in the container.

10. In a container fill packing apparatus, means for feeding filled containers along a generally horizontal straight line feedway, a pair of endless chains movable generally horizontally over said feedway in parallel laterally spaced vertical planes, cross heads extending diagonally across between and pivotally connected to the laterally spaced chains in equidistantly spaced relation, packer elements supported on said cross heads, the pivotal connections of said cross heads with one chain being staggered diagonally with respect to the pivotal connections thereof with the other chain a distance equivalent to the distance to which the chains are staggered thereby to always hold the cross heads in generally horizontal position paralleling the feedway while travelling with the chains and each said pivotal connection having a roller mounted thereon, and track means associated with each chain and engaged by the rollers of the cross head connections with that particular chain to guide travel of the chain and cross heads so as to cause each packer to move down into a container travelling along said feedway, then travel a distance with and in the container, and then move up out of the container, and each said track means being staggered with respect to the other track means the same distance to which the chains are staggered.

11. In a container fill packing apparatus, means for feeding filled containers along a generally horizontal straight line feedway, a pair of endless chains movable generally horizontally over said feedway in parallel laterally spaced vertical planes, cross heads extending diagonally across between and pivotally connected to the laterally spaced chains in equidistantly spaced relation, packer elements supported on said cross heads, the pivotal connections of said cross heads with one chain being staggered diagonally with respect to the pivotal connections thereof with the other chain a distance equivalent to the distance to which the chains are staggered thereby to always hold the cross heads in generally horizontal position paralleling the feedway while

travelling with the chains and each said pivotal connection having a roller mounted thereon, and track means associated with each chain and engaged by the rollers of the cross head connections with that particular chain to guide travel of the chain and cross heads so as to cause each packer to move down into a container travelling along said feedway, then travel a distance with and in the container, and then move up out of the container, and each said track means being staggered with respect to the other track means the same distance to which the chains are staggered, each said packer element including a cylindriform hollow casing having a flat apertured packer bottom dimensioned to enter freely and substantially fill the upper end of a container, a gasket ring loosely surrounding the lower end of the casing and normally disposed at a level above the bottom of said hollow casing, and means yieldably holding the gasket ring depressed so that when the unit is lowered into packing association with a container the ring will first engage the upper extremity of the container and seal it and then yield upwardly while maintaining the seal as the casing moves down in packing relation and liquid in the container top rises in the casing and within the gasket ring, said yieldable holding means comprising a plate vertically movable in the casing and having radially extended arms secured to the gasket ring and a compression spring bearing down on the plate within the casing, said casing having guide slots therein through which said arms extend.

12. In a container fill packing apparatus, means for feeding filled containers along a horizontal feedway, a housing overlying the feedway in vertically spaced relation, packer means supported in the housing and engageable with cans on said feedway, means for causing said packer means to travel in a continuous path in part paralleling said feedway, means for driving the container feeding means and the packer means in timed relation from a common source and including driving devices in the housing and driving devices at the feedway and connected with the first mentioned driving devices through a splined shaft, and means for adjusting the vertically spaced relation of the feedway and the housing, said last named means including a single upright elevation adjusting screw socketed at its upper end in the housing, a captive sleeve threadably embracing the screw, means for rotating the sleeve to impart upward or downward movement to the screw, and means for securing adjustments of position of the housing.

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REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
2,370,292	Davies	Feb. 27, 1945
2,367,387	Davies	Jan. 16, 1945
1,677,928	Phillips	July 24, 1928
2,000,417	Perry	May 7, 1935
1,634,464	Johnson	July 5, 1927
1,696,796	Fink	Dec. 25, 1928
2,050,585	Randall	Aug. 11, 1936
2,144,634	Murch	Jan. 24, 1939
1,320,749	Fleischer	Nov. 4, 1919