Dec. 8, 1953 M. E. FRANCISCO 2,661,882

PACKING APPARATUS

Filed Sept. 18, 1952 3 Sheets-Sheet 1

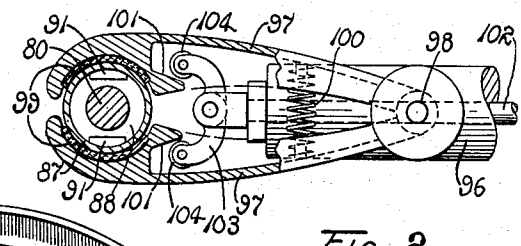


FIG. 2.

FIG. 1.

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Filed Sept. 18, 1952 3 Sheets-Sheet 2

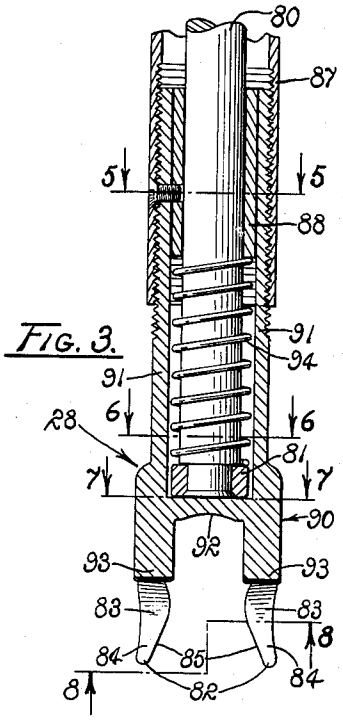


FIG. 3.

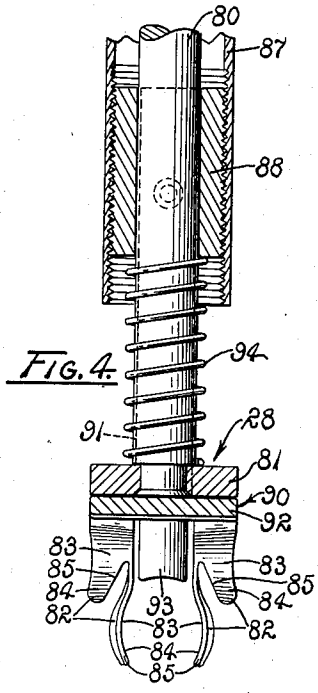


FIG. 4.

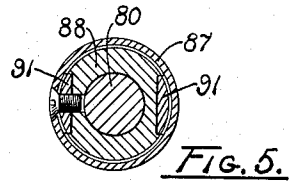


FIG. 5.

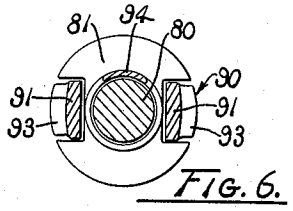


FIG. 6.

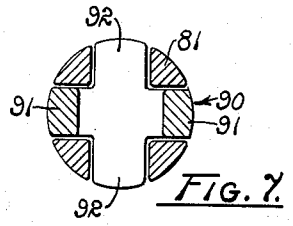


FIG. 7.

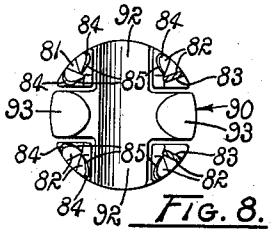


FIG. 8.

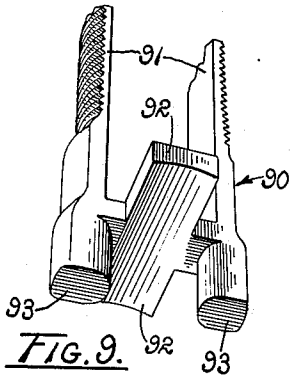


FIG. 9.

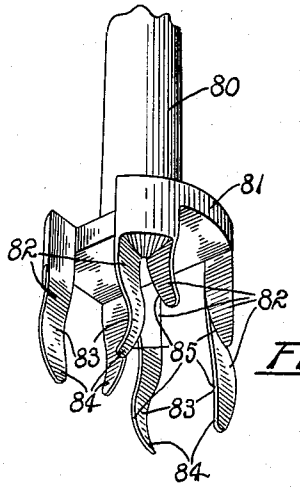


FIG. 10.

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PACKING APPARATUS

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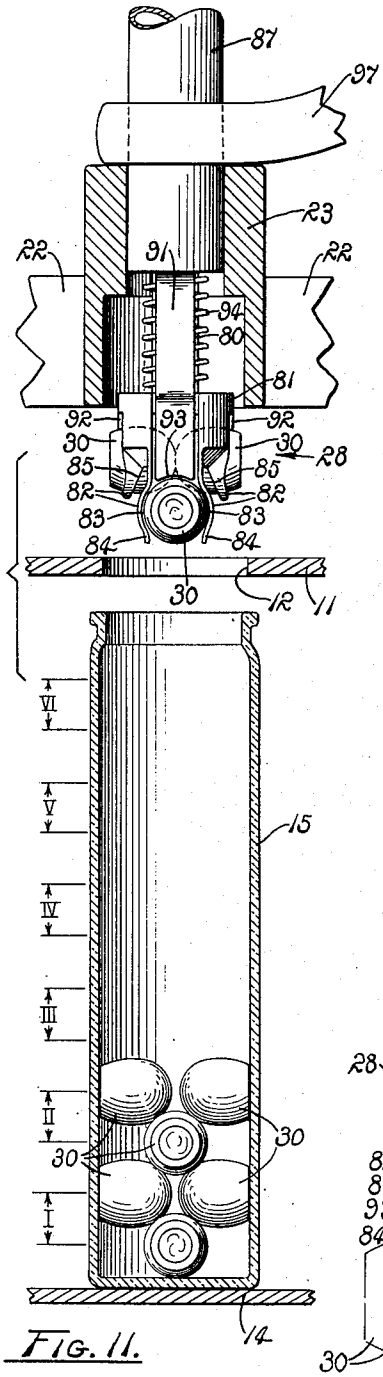


FIG. 11.

FIG. 12.

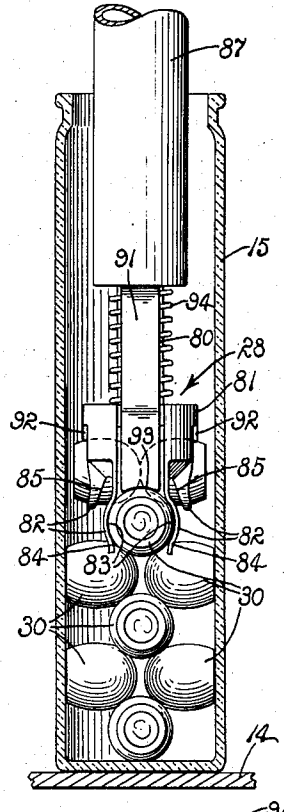
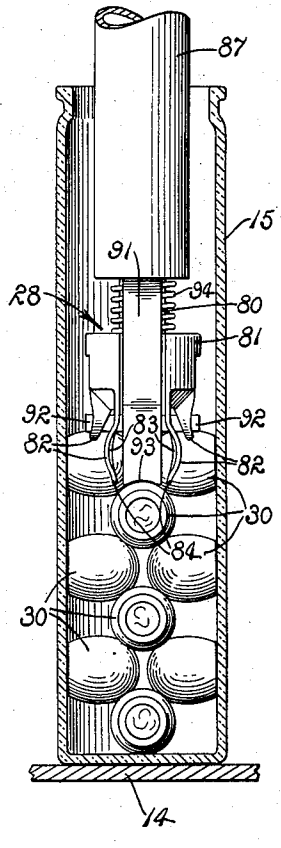


FIG. 13.



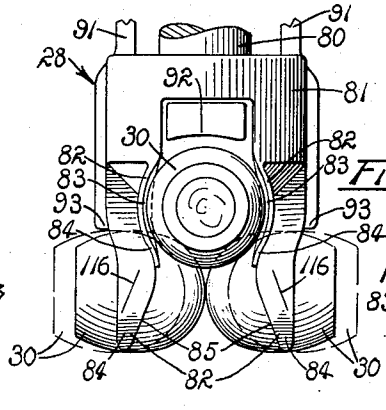


FIG. 14.

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Patented Dec. 8, 1953

2,661,882

UNITED STATES PATENT OFFICE

2,661,882

PACKING APPARATUS

Marshall E. Francisco, San Jose, Calif.

Application September 18, 1952, Serial No. 310,198

8 Claims. (Cl. 226—14)

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The present invention relates to a packing apparatus adapted to receive a plurality of articles such as stuffed olives and the like, to be packed, and to deposit the same in a jar, bottle, or other container therefor in predetermined attitudes and relations as for display purposes.

The apparatus is of the general character described in my copending patent application, filed April 5, 1950, Serial No. 154,099, entitled "Automatic Packing Apparatus," and constitutes an improvement therein. The problems which the invention constituting the subject matter of the above identified patent application has overcome are conveniently illustrated by reference to the packing of stuffed olives in transparent glass bottles. Stuffed olives are generally received in bulk from various Southern European sources and previously were hand packed in the United States into the small glass bottles of the type generally displayed in grocery stores, delicatessens, and the like. Prior to the previous invention, the olives were selected from bulk and placed by hand with the aid of tweezers in the bottles with the stuffing outwardly disposed and faced against the bottle walls so as exteriorly to present a smooth and pleasing appearance. The olives were circularly arranged in the bottles and compacted so that by their own resilience in the circular arrangement, firm engagement with the walls of the bottles was maintained. Successively superimposed circular layers of the olives were usually positioned in the container to provide vertical alignment of corresponding olives in each layer in stacked arrangement. This tedious and expensive process was at one time universal practice in the packing of stuffed olives and even at the present is followed by many packers who have not yet been able to mechanize their operation. The labor for such hand packing, is of such extent that a substantial portion of the total cost of each bottle of olives resuls from the packing operation.

Although the device of the previous invention was the first apparatus known to the applicant capable of packing stuffed olives and the like in their containers in a speedy and economical manner, the apparatus under certain conditions was subject to difficulties which the present invention has overcome.

In facing the olives outwardly against their containers it is necessary that the olives be thrust outwardly. This was accomplished by the previous invention by drawing a spreader rod, having an enlarged frusto-conical end portion, upwardly between the olives while the olives were

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held downwardly in position. Although entirely satisfactory in most instances, the use of such a spreader rod occasionally tips the olives so that the stuffing thereof is not displayed in the most advantageous positions.

An object of the present invention is to provide for the outward thrusting of olives and the like into facing engagement with a container in which they are packed by an apparatus of the character described so as to avoid the tipping incident to the utilization of a spreader rod.

Another object is more economically to make available to restaurants, bars, consumers, and the like, stuffed olives and similar articles frequently packed by tedious and expensive hand operations.

Another object is to minimize the expenses and wasted time incident to the packing of fruit and the like by hand in containers therefor under conditions requiring predetermined ordered arrangement of the fruit and proper facing thereof, as for display purposes.

Another object is automatically and mechanically to pack articles in selected numbers in predetermined relation and attitudes in containers provided therefor.

Another object is to provide an improved mechanical packing aid adapted simultaneously to position a plurality of articles in predetermined circular arrangement in a container therefor and upon release of the articles in the containers to urge the same radially outwardly in predetermined attitudes.

Another object is to provide improved releasable holding and positioning means for fruit and the like adapted dependably to support and release the same with a minimum of damage thereto.

Other objects are to provide improved elements and arrangements thereof in a device of the character and for the purposes set forth that is dependable in operation, economical to produce and rapid in the performance of its packing function.

Further objects and advantages will become apparent in the subsequent description in the specification.

In the drawings:

Fig. 1 is a fragmentary side elevation partially in vertical section of a packing apparatus embodying the principles of the present invention.

Fig. 2 is a section taken on line 2—2 of Fig. 1.

Fig. 3 is a fragmentary enlarged vertical section of a releasable holding device for olives and the like utilized in the apparatus of the present invention taken approximately in the position of line 3—3 in Fig. 1.

Fig. 4 is a vertical section of the structure shown in Fig. 3 taken in a plane normal to the section of Fig. 3.

Fig. 5 is a transverse section of the device taken in the approximate position indicated by line 5—5 on the vertical section of Fig. 3.

Fig. 6 is a transverse section of the device in the approximate position indicated by line 6—6 on the vertical section of Fig. 3.

Fig. 7 is a transverse section of the device in the approximate position indicated by line 7—7 on the vertical section of Fig. 3.

Fig. 8 is a transverse section of the device in the approximate position indicated by line 8—8 on the vertical section of Fig. 3.

Fig. 9 is an enlarged perspective of an ejector utilized in the releasable holding device.

Fig. 10 is a fragmentary perspective of a holding device and manipulating rod utilized therewith shown with the ejector removed therefrom.

Fig. 11 is a vertical section of an olive bottle and fragmentarily enlarged portion of the packing apparatus of the present invention as viewed at the loading station subsequent to the packing of four layers of olives in the bottle.

Fig. 12 is similar to Fig. 11 but shows the described structure positioned to locate a pair of successive layers of olives in the bottle.

Fig. 13 is similar to Fig. 12 but illustrates a successive step in which holding fingers are withdrawn from the olives while the olives are held downwardly in the bottle and thrust radially of the bottle into facing engagement therewith.

Fig. 14 is a fragmentary enlarged side elevation of a packing head illustrating the radial thrusting of olives during release therefrom.

Referring in greater detail to the drawings:

Preliminary to a description of the packing head of the present invention, attention is invited to associated structure shown in Figs. 1 and 2, part of which constitutes the subject matter of a United States patent application in the process of preparation. Any suitable support frame is represented generally at 10 having a horizontal table 11 mounted thereon providing an opening 12 therethrough at a packing locus. A sub-table 13 is located beneath the table 11 in parallel relation thereto. A conveyor belt 14 or any other suitable means of conveying bottles 15 to the packing locus is mounted for travel in the sub-table directly beneath the opening 12.

A star wheel 17, of well known form, is rotatably mounted in the sub-table 13 on a substantially vertical shaft 18 and is driven by means not shown so as periodically to locate a bottle 15 in alignment with the opening 12 and to retain the bottle in such alignment until packed. An arm 19 is pivotally mounted on the sub-table transversely of the belt 14 from the star wheel 17 and is urged by a spring 20 into bottle engagement so that the bottle is dependably held in star wheel engagement.

A spider member 22 is mounted on the table 11 in spanning relation to the opening 12 and provides a cylindrical guide portion 23 in axial alignment with the opening and in elevated spaced relation to the table 11.

A gooseneck housing 25 is rigidly mounted on the table 11 and extended over the opening 12. A bearing 26 is mounted in the housing in vertical concentric alignment with the opening. A rack gear 27 is slidably mounted in the bearing 26 for reciprocal elevational movement, and a packing head, indicated generally by the numeral 28 is coupled to the rack gear at 29 and provides a lower end slidably mounted in the guide portion 23 of the spider member 22. The significant structure of the packing head will subsequently be described, it being sufficient at this point to observe that the packing head is elevationally reciprocated between a loading station, illustrated in Fig. 1, and a succession of elevationally spaced packing positions in a bottle 15 so as to pack successive layers of olives or other articles therein. The system for vertically reciprocating the rack gear and the packing head coupled thereto in the manner described is to constitute the subject matter of a patent application now in the process of preparation but for purposes of disclosing an operable entity, attention is briefly devoted thereto at this point.

A pinion 34 is rotatably mounted in the housing 25 in mesh with the rack gear 27 and has a driving pinion 35 integral therewith. A sector gear 36 is rotatably mounted in the housing as at 37 for reciprocal pivotal movement. A lever 38 is upwardly extended from the sector gear and it will be evident that pivotal movement of the lever serves to impart reciprocal rectilinear movement to the rack gear 27 and packing device 28.

So that the upper limit of reciprocal movement of the rack gear 27 and packing head 28 may be constantly maintained and the lower limit of the movement be regulated to achieve the elevational stepped progression for the packing of successive layers of olives, a slide member 42 is mounted on the lever 38 and provides a downwardly disposed concave cam surface 43. A compression spring 44 is provided between the slide member and a head 45 mounted on the upper end of the lever and serves to urge the slide member downwardly.

A bracket 48 is mounted in the housing 25 and provides a vertical guide channel 49 therein vertically aligned with the pivotal mounting 37 of the sector 36. A bar 50 is mounted in the channel 49 for reciprocal elevational movement and mounts a cam positioning roller 51 on the upper end thereof in engagement with the cam surface 43.

A shaft 52 is rotatably mounted horizontally in the housing in vertical alignment below the bar 50. A progression cam 53 is removably mounted on the shaft for unitary rotational movement therewith in any suitable manner. A cam following roller 54 is rotatably mounted on the lower end of the bar 50 and rests on the cam 53. As the cam 53 rotates in a clockwise direction, as viewed in Fig. 1, the bar 50 is elevated, elevating the slide member 42 on the lever 38.

A pair of pillow blocks 57 are mounted in the housing 25 and provide a pair of slide bearings 58 in horizontal alignment with the mounting 37 of the sector gear 36. A pair of shafts 59 are mounted in the bearings for axial reciprocal movement toward and from said mounting 37. The shafts and their respective bearings are preferably complementarily splined and grooved so that the shafts cannot rotate in the bearings but are restricted to axial reciprocation therein. An internal closed cam 60 is rigidly mounted between the shafts in a substantially vertical plane. A push-pull arm 61 pivotally interconnects the slide member 42 and the cam 60.

A shaft 64 is journaled in the housing 25 in substantially right angular relation to the aligned shafts 59 and mounts a sprocket 65 thereon. A crank 66 is externally extended from the shaft into the closed cam 60. Driven connection is made to the drive shaft 67 of an electric motor or

the like having a triple sprocket 68 mounted thereon by means of a chain 69 circumscribing the sprockets 65 and 68.

To rotate the cam 53 in stepped progression synchronized with pivotal movement of the lever 38 and sector gear 36, a ratchet wheel 72 is mounted on the shaft 52. A pawl arm 73 is pivoted on the shaft and mounts a pawl 74 in ratchet wheel engagement. An eccentric 75 having a sprocket 76 integral therewith is rotatably mounted in the housing in substantial alignment with the ratchet wheel. A push-pull arm pivotally interconnects the eccentric and the pawl arm. The eccentric is rotated synchronously with the crank 66 by means of a chain 78 fitted to the sprocket 76 and about the triple sprocket 68 mounted on the drive shaft 67. The packing head 28 includes an elongated rod 80 pinned to the rack gear 27. As best shown in Figs. 3, 4, and 10, the rod has a lower end which mounts a substantially cylindrical head 81 thereon. A plurality of pairs of elongated transversely flat resilient fingers 82 are mounted on the head in a substantially circular arrangement and endwardly extended downwardly therefrom. The fingers provide inner edges and outer edges and the fingers of each pair are mounted on the head transversely substantially parallel to a plane radial to the head passed midway therebetween. The fingers of each pair are also longitudinally arcuate to provide facing concave surfaces 83 adapted to receive therebetween articles to be packed and are endwardly convergent therefrom as at 84. The article holding receptacles defined by the facing concave surfaces 83 may be at a common elevation to pack olives or the like in a single layer or may be at different elevations so as to pack a plurality of layers during each packing step. For illustrative convenience, a form is shown with which two layers of olives are packed each consisting of a pair of axially aligned olives and with the olives in the adjacent layers right angularly related, as shown in Figs. 6, 7, and 8. Of particular significance is the form of the fingers which dependably holds olives or the like in ordered arrangement and upon release thereof urges the same outwardly into facing engagement with the bottle 15. One finger of each pair is dextrorsally twisted in its convergent portion and the opposite finger sinistrorsally twisted so that the inner edges of the fingers of each pair approach each other endwardly of the fingers. It has been found that the utilization of this form of finger obviates the need for a spreading pin of the character described in my copending patent application referred to and of article tipping or displacement incident thereto. Although the inner and outer edges of each finger are substantially parallel from the top of each finger throughout most of its length, the inner edge thereof is obliquely slanted toward its respective outer edge adjacent to the extended end of each finger further to facilitate outward thrusting of the articles during discharge.

A cylindrical sleeve 87 is slidably mounted concentrically on the rod 80 for endward movement relative thereto by slide bearings 88. A sleeve preferably extends from a portion adjacent to the head 81 into the housing 25.

A crosshead ejector or holding member 90, best shown in Fig. 9, is rigidly mounted on the sleeve by means of a pair of arms 91 and provides an ejecting element 92 extended between the pairs of fingers 82 on the upper level of the packing head and a pair of ejector elements 93 downwardly extended between the fingers 82 of the lower level. The head 81 is vertically grooved slidably to receive the arms 91 which are screw-threadably or otherwise mounted within the sleeve. A compression spring 94 is mounted concentrically on the rod 80 under compression between the head 81 and the lower slide bearing 88. The spring urges the head and fingers downwardly relative to the ejector so that ejecting elements 92 and 93 define upper limits for olive or other article holding receptacles defined between the fingers.

As described to this point, it will be evident that the ejector and fingers are vertically reciprocated together upon rotation of the drive shaft 67. In order to eject olives or other articles from between the fingers at the lower limits of reciprocation of the packing head 28, it is necessary to hold the sleeve 87 and ejector 90 downwardly upon initial return travel of the rod 80, head 81, and fingers 82. Thus, as the fingers are returned upwardly, the ejecting elements can hold the olives in place and the outwardly flared character of the fingers urge the olives slidably outwardly into facing engagement with the bottle.

For the purpose of periodically interrupting the reciprocal movement of the ejector 90, a tubular brake housing 96 is mounted in the housing 25 radially of the sleeve. A pair of jaws 97 are pivotally mounted in the housing as at 98 and are loosely fitted to the sleeve 87, as best shown in Fig. 2. The jaws are preferably provided with any suitable brake shoes 99. A spring 100 is mounted under compression between the jaws and serves to urge the jaws outwardly from the sleeve for free movement of the sleeve with the rod 80. To actuate the jaws, a pair of camways 101 which diverge toward the sleeve 87 are provided in the jaws. A brake rod 102 is slidably mounted in the brake housing 96 and pivotally mounts a yoke 103 thereon having cam followers 104 rotatably mounted on opposite ends thereof in rolling camway engagement.

The brake rod 102 is extended from the housing away from the sleeve and mounts a collar 106 thereon which serves to hold a compression spring 107 between the collar and brake housing 96 so as to urge the rod away from the sleeve so as to release the jaws 97 from the closing effect of the cam followers 104. A shaft 110 is rotatably mounted in the housing 25 in alignment with the brake rod 102 and provides a cam 111 thereon periodically engageable with the brake rod to force the same toward the sleeve to cause the cam followers to draw the jaws together so as to hold the sleeve 87 against movement with the rod 80.

A brake sprocket 112 is rotatably mounted in the housing 25 and has driven connection to the sprocket 68 by means of a chain 113. A pair of bevel gears 114 provide driving connection between the brake sprocket and the shaft 110.

Operation

The operation of the packing apparatus of the present invention is believed to be clearly apparent and is briefly summarized at this point. Although the means for reciprocating the packing head 28 in the specified manner described has been referred to in some detail, it is to be emphasized that the instant application is principally concerned with the packing head itself.

Empty bottles 15 are fed to the packing locus aligned below the opening 12 by any suitable means and held successively in precise packing

position by the star wheel 17. At the initiation of the packing operation, the packing head 28 is elevated to its loading station, as shown in Fig. 1, and stuffed olives 30 or other articles to be packed are manually or otherwise positioned in the fingers, as shown in Fig. 6.

Upon actuation of the drive shaft 67, the crank 66 is rotated and by engagement with the internal cam 60, the cam and shafts 59 reciprocate horizontally. As the cam moves to the right, as viewed in Fig. 1, the lever 38 is pivoted into the position shown in dashed line, lowering the packing head into the bottle 15 so that the lowermost olives held between the fingers 82 are rested upon the bottom of the bottle. Upon return travel of the cam 60 to raise the packing head, the cam 111 actuates the brake rod 102 to clamp the jaws 97 tightly about the sleeve 87 holding the sleeve and ejectors 90 in their lowermost position against the urging of the spring 94. As demonstrated in Fig. 14, as the fingers move upwardly relative to the olives, the downwardly convergent twisted portions of the fingers thrust the olives radially outwardly into facing engagement with the bottle. Not only do the twisted surfaces of the fingers urge the olives outwardly into the position shown in full line in Fig. 14, but such thrusting is substantially aided by the oblique inner edges 85 which slant outwardly and ride against the olives. The effect of the edges is such that immediately upon being packed, slight depression lines 116 are evident on the olives which gradually disappear.

The shape of the cam 111 is such that the jaws 97 are released as soon as the fingers are withdrawn from the olives and under the influence of the spring 94 the sleeve 87 and the ejector 90 are returned to their initial position in the packing head 28.

The packing head is returned to the position shown in Fig. 1 at which the fingers are again loaded. In the meantime, the pawl 74 has moved the progression cam 53 a single step so that the slide member 42 is now somewhat elevated on the lever increasing the lever arm effect thereof and decreasing the distance of travel of the sector gear 36 incident to reciprocation of the cam 60.

As the lever is then pivoted, the packing head 28 is again lowered into the bottle 115 but because of the reduced pivotal movement of the lever, the head descends a distance only sufficient to postiion the next layer of olives on those previously packed. It will be apparent that by substitution of cams 53 of various sizes and shapes, the device can be adapted to various olive sizes, packing heads adapted to locate one or more layers at a time, and the like.

Again the brake operates to retain the ejector at the lower limit of travel while the fingers 82 are withdrawn from the olives to thrust the olives outwardly against the bottle subsequent to which the brake is released and the operations repeated until the bottle is filled.

Upon return travel of the packing head 28 from the bottle after having positioned the uppermost layer therein, the cam 53 rotates past its high point so that the follower 54 and bar 50 drop to their initial position and as a new bottle is fed to packing position, the apparatus is automatically conditioned for repeated operation.

The packing apparatus of the present invention has made possible accurate mechanical place packing of olives and the like into containers, and the urging of the olives into facing engagement with the bottles for most advantageous display. The utilization of the fingers described avoids all displacement of the olives from desired position incident to their lateral thrusting. The device has been entirely successful during extensive operation.

Although the invention has been herein shown and described in what is conceived to be the most practical and preferred embodiment, it is recognized that departures may be made therefrom within the scope of the invention, which is not to be limited to the details disclosed herein but is to be accorded the full scope of the claims so as to embrace any and all equivalent devices and apparatus.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a packing apparatus of the character described, a packing head comprising a mounting member, a pair of elongated resilient fingers mounted on the mounting member and extended therefrom, said fingers being adapted to receive articles to be packed therebetween and being oppositely twisted to define an outwardly flared article discharge path therebetween endwardly of the fingers, and means movable relatively longitudinally between the fingers adapted to urge articles longitudinally of the fingers along the outwardly flared discharge path whereby the articles are released from the fingers and thrust outwardly therefrom.

2. In a packing apparatus adapted simultaneously to place a plurality of articles in predetermined arrangement in a container therefor and to urge the articles outwardly in the container comprising a mounting member mounted for reciprocal rectilinear movement between a predetermined loading station and packing station, a plurality of pairs of elongated fingers mounted on the mounting member and endwardly extended therefrom in the direction of the packing station, the fingers of each pair being longitudinally arcuate to define an article holding receptacle therebetween and having convergent ends oppositely twisted to provide an outwardly flared article discharge path endwardly of the fingers, and means for retaining articles at the packing station upon return movement of the mounting means and the fingers whereby the fingers are withdrawn from the articles forcing the articles outwardly as they are traversed by the outwardly flared portions of the fingers.

3. In a packing apparatus of the character described, a packing head comprising a substantially cylindrical head, a plurality of pairs of elongated resilient fingers mounted on the head in a circular arrangement having inner edges and outer edges and being endwardly extended from the head, the fingers of each pair being longitudinally arcuate providing facing concavities and being endwardly convergent, the endwardly convergent portions of the fingers of each pair being oppositely twisted with the inner edges of the fingers advanced toward each other longitudinally of the fingers, and means mounted on the head for relative movement endwardly of the fingers having ejector portions extended between the fingers of each pair.

4. A packing apparatus adapted simultaneously to place a plurality of articles in predetermined circular arrangement in a container therefor and to urge the articles radially outwardly in their circular arrangement comprising an elongated rod, a substantially cylindrical head

mounted on an end of the rod, pairs of elongated resilient fingers mounted on the head concentrically of the rod and endwardly extended from the rod, the fingers of each pair being longitudinally arcuate to define an article holding receptacle therebetween intermediate the head and the extended ends of the fingers, one finger of each pair being dextrorsally twisted between the receptacle and its extended end and the other finger being sinistrorsally twisted between the receptacle and its extended end to define an outwardly flared article path of travel between the fingers, means mounting the rod and endwardly reciprocating the same between a loading station and a packing station, and means responsive to endward reciprocation of the rod for retaining articles at the packing station upon return movement of the rod therefrom while the fingers are withdrawn from the articles forcing the articles outwardly as they traverse the outwardly flared portions of the fingers.

5. In a packing apparatus of the character described, a substantially cylindrical head mounted for endward reciprocal rectilinear movement, a plurality of pairs of elongated transversely flat resilient fingers mounted on the head in a substantially circular arrangement and endwardly extended therefrom, the fingers providing inner edges and outer edges and the fingers of each pair being mounted on the head transversely substantially parallel to a plane radial to the head midway between the fingers, the fingers of each pair also being longitudinally arcuate to provide facing concave surfaces adapted to receive therebetween articles to be packed and being endwardly convergent therefrom, the convergent portion of a finger of each pair being dextrorsally twisted and the convergent portion of the opposite finger being sinistrorsally twisted whereby the inner edges approach each other endwardly of the fingers, said approaching inner edges being convergent relative to their respective outer edges, and ejector means slidably mounted on the head for relative movement longitudinally thereof having portions extended between the fingers of each pair.

6. A packing device, adapted simultaneously to place a plurality of olives or other ovoid articles in predetermined substantially circular arrangement in a container therefor and to urge the articles radially outwardly in their circular arrangement, comprising an elongated rod, driving means connected to the rod adapted to reciprocate the same between a predetermined loading station and a plurality of successively elevated packing stations, a head mounted on the rod, pairs of elongated resilient fingers mounted on the head substantially concentrically of the rod and endwardly extended therefrom, the fingers providing inner edges and outer edges and the fingers of each pair being mounted on the head transversely parallel to a plane radial to the head passed midway therebetween, the fingers of each pair also being longitudinally arcuate to provide facing concave surfaces adapted to receive therebetween the articles to be packed, and being endwardly convergent therefrom, the convergent portion of a finger of each pair being dextrorsally twisted and the convergent portion of the opposite finger being sinistrorsally twisted whereby the inner edges approach each other endwardly of the fingers, a sleeve slidably mounted on the rod, a cross head having ejector portions disposed between the fingers, arm means interconnecting the cross-head and the sleeve in predetermined spaced relation, a compression spring mounted concentrically of the rod between the head on the rod and the sleeve urging the sleeve and cross head endwardly of the rod away from the extended ends of the fingers, a releasable friction brake engageable with the sleeve, and a synchronous actuating linkage interconnecting the brake and the rod reciprocating means for momentarily restraining the sleeve and cross head downwardly during initial return movement of the rod at the successively elevated packing stations.

7. In a packing apparatus adapted simultaneously to place a plurality of articles in predetermined arrangement in a container therefor and to urge the articles outwardly against sides of the container into pressed engagement thereagainst comprising a mounting member mounted for reciprocal movement between a predetermined loading station and packing station, pairs of resilient fingers mounted on the mounting member in substantially circular arrangement and extended therefrom, the fingers of each pair defining an article holding receptacle therebetween having a discharge path extended away from the mounting member and directed outwardly away from the other pairs of fingers, the fingers being disposed within a container when the mounting member is at its packing station and being retracted from the container when the mounting member is in its loading station, and means for retaining articles borne by the fingers within the container upon return movement of the mounting means to loading station whereby the fingers are withdrawn from the articles and by their outwardly directed pathways force the articles outwardly into pressed engagement with the sides of the container.

8. In a packing apparatus adapted simultaneously to place a plurality of articles in predetermined arrangement in a container therefor and to urge the articles outwardly in the container comprising a mounting member mounted for reciprocal movement between a predetermined loading station and packing station, a plurality of pairs of elongated resilient fingers mounted on the mounting member in a circular arrangement having inner edges and outer edges and being endwardly extended from the head, the fingers of each pair being longitudinally arcuate providing facing concavities and being endwardly convergent, the endwardly convergent portions of the fingers of each pair being oppositely twisted with the inner edges of the fingers advanced toward each other longitudinally of the fingers, the fingers of each pair being adapted slidably to receive articles to be packed therebetween, and means for retaining articles at the packing station upon return movement of the mounting means and the fingers whereby the fingers are withdrawn from the articles forcing the articles outwardly as they are traversed by the inner edges of the fingers.

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