C. H. AYARS.

CAN DELIVERING MACHINE.

APPLICATION FILED DEC. 8, 1915.

1,190,236

Patented July 4, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

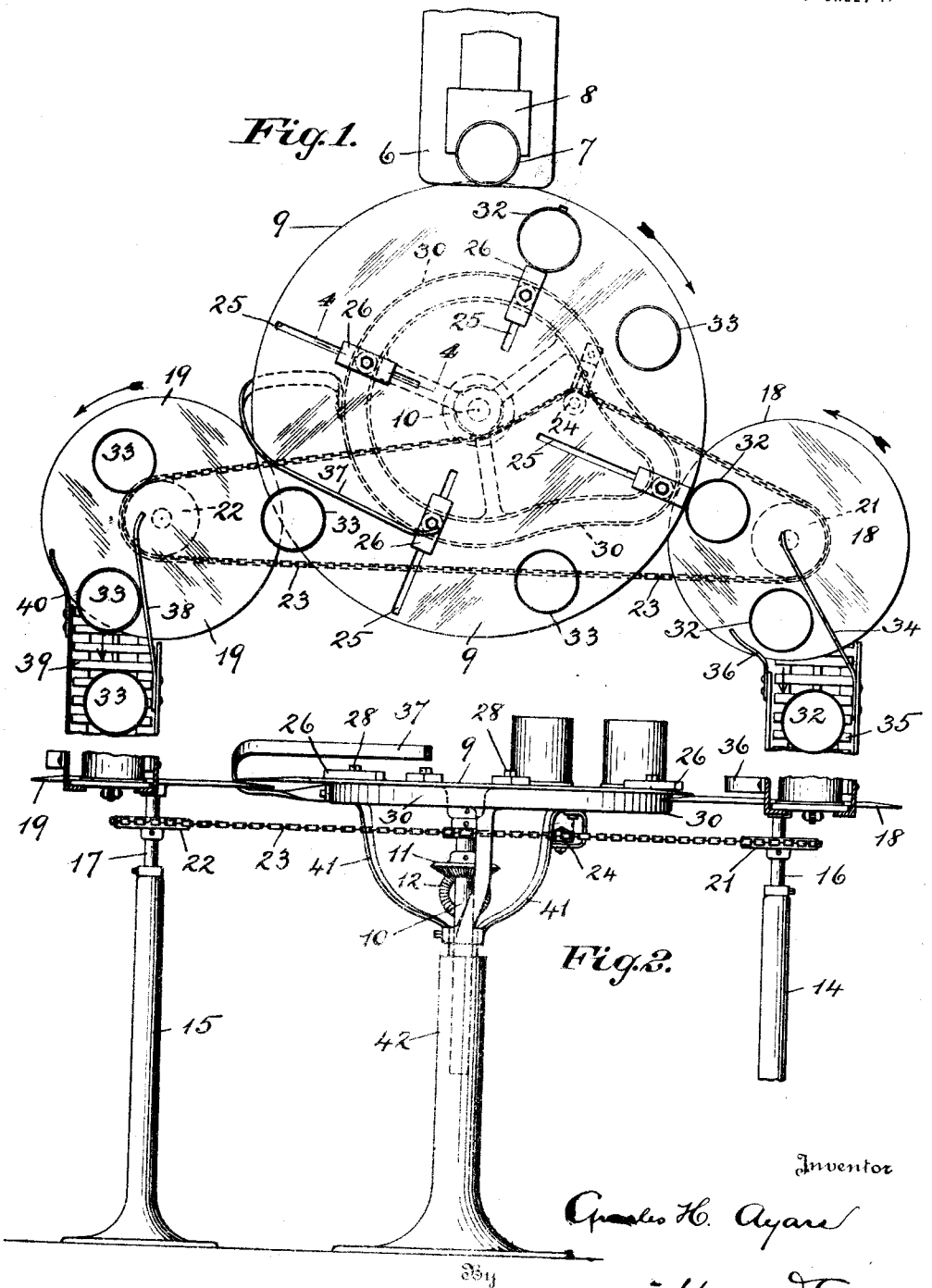


Fig. 2.

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2 SHEETS—SHEET 2.

Fig. 3.

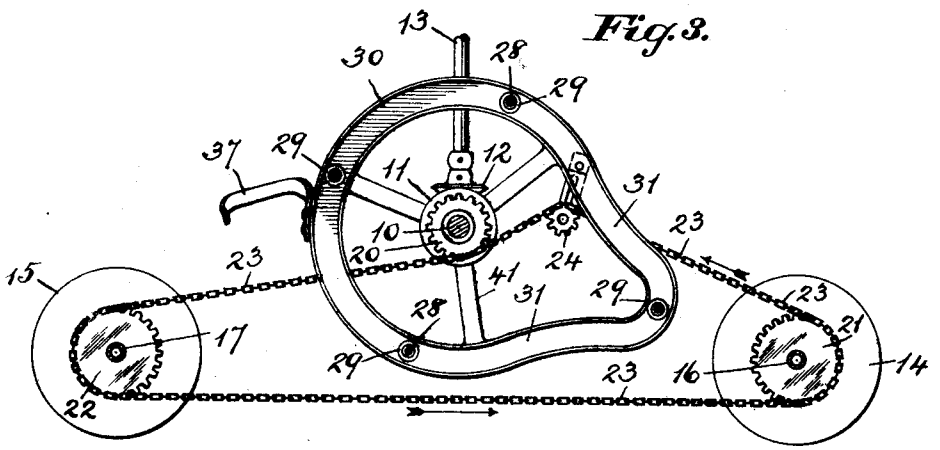


Fig. 4.

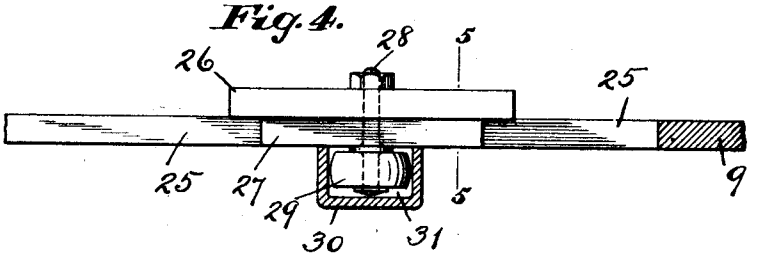
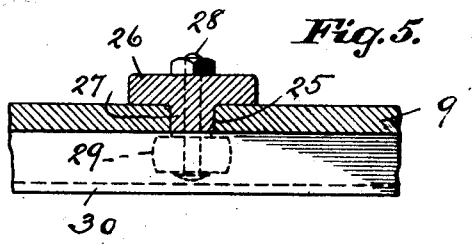


Fig. 5.



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UNITED STATES PATENT OFFICE.

CHARLES H. AYARS, OF SALEM, NEW JERSEY, ASSIGNOR TO AYARS MACHINE COMPANY, OF SALEM, NEW JERSEY, A CORPORATION OF NEW JERSEY.

CAN-DELIVERING MACHINE.

1,190,236. Specification of Letters Patent. Patented July 4, 1916.

Application filed December 8, 1915. Serial No. 65,729.

To all whom it may concern:

Be it known that I, CHARLES H. AYARS, a citizen of the United States, residing at Salem, in the county of Salem and State of New Jersey, have invented certain new and useful Improvements in Can-Delivering Machines, of which the following is a specification.

This invention relates to an improved can-feed mechanism by means of which a series of cans may be received from one source of supply and then delivered so that some of the cans may be carried in one direction while others may be conveyed in a different direction.

While the invention may be utilized to meet various contingencies in the art of can-making or canning, it is especially useful in the canning art where the use of the open top or so called sanitary can is employed, because cans of this type are filled more rapidly than they can at present be closed owing to the fact that during the closing operation the cans successively are temporarily held against forward travel to permit a revolving seaming tool to roll the can-head and body flanges into locked engagement. As the filling operation is more rapid than the heading or closing operation, and it is undesirable to reduce the speed of the filler to equal that of the header, the next best thing to do is to provide a plurality of headers and also to divide the filled cans after they are discharged from the filler and deliver some of the cans to one header, and the other cans to another header.

The present invention, therefore, relates to an improved mechanism whereby the cans may be received from one machine and then discharged at a plurality of points to be conveyed to other machines for further operations.

With these and other objects in view the accompanying drawings illustrate a form of machine for practically carrying out the inventive idea just indicated.

Figure 1, shows the machine in top plan. Fig. 2, illustrates the same in front elevation. Fig. 3, shows the driving mechanism and guide cam in top plan, as viewed on a horizontal line directly beneath the conveyer disks. Fig. 4, illustrates a vertical sectional detail on an enlarged scale, through one of the guide slots in the main disk,—the section being taken on the line 4—4 of Fig. 1, and Fig. 5, shows another cross-sectional detail through the same, as though taken on the line 5—5 of Fig. 4.

In the present illustration the numeral 6, designates the discharge portion of a filling, or other machine from which the cans 7, are discharged by some means, such as a plunger 8, and deposited on to a rotary disk conveyer 9. This disk is carried on a vertical shaft 10, that is driven by gears 11 and 12,—the latter preferably being carried on a horizontal shaft 13,—that is revolved by suitable means on the filling or other machine 6, not shown.

In the form of machine illustrative of the invention, I have preferred to show two vertical supports 14 and 15, respectively, which sustain vertical shafts 16 and 17, of which the shaft 16, carries a disk conveyer 18, at its upper end, and shaft 17, carries a disk conveyer 19, at its upper end. These conveyers, 18 and 19, are located at different points with respect to the circumference of the conveyer 9, and the peripheries of said two disks underlap the periphery of the said disk 9, as clearly shown in Figs. 1 and 2.

In order that all of the disks may be revolved I provide a sprocket-wheel 20, on the vertical shaft 10, another sprocket-wheel 21, on the vertical shaft 16, and a sprocket-wheel 22, on the shaft 17, and a chain 23, extends about and is engaged by each of said sprockets so that motion is derived from shaft 10, and transmitted by the sprocket chain 23, to the shafts 16 and 17. An idle wheel 24, serves as a chain tightener, and is provided for obvious purposes.

The disk 9, is provided with a series of radial slots 25, and a slidable block 26, is seated on the disk at each slot and each block is provided with a bottom rib 27, that projects down through the slot so that the block may slide radially across the said disk, being directed in such movement by the bottom rib and the slot. Each block has a bolt 28, extending vertically therethrough so that its lower end will project below the bottom rib 27, and said lower projecting end of the bolt carries a roller 29 that is free to turn thereon.

Directly beneath the disk 9, I provide a horizontal stationary cam-guide 30, which has a channel 31, in its upper side that re-

ceives the rollers 29, which are carried on the under side of each block, and as the disk 9, revolves, these rollers will follow the guide channel 31, and will thereby cause the blocks 26, to make one complete radial reciprocation on the disk during each revolution of the latter. The cam-guide 30, is between the disk 9 and chain 23.

The speed of the disk 9, is such with respect to the receipt of the on-coming cans, that one can 32, will be pushed thereon directly in front of a block 26, while the next can 33, will be pushed on to said disk at a point between two blocks, as shown in Fig. 1 of the drawing. The cans 32, go on disk 18, and alternating cans 33, on disk 19. By this means, as the disk 9, revolves in the direction of the dart, those cans 32, that are positioned in front of the blocks, will be gradually pushed by the sliding blocks 26, toward the periphery of the said disk as the later revolves and approaches the disk 18, so that when those cans 32, reach the point where the disk 18 underlaps the disk 9, they will be ejected or pushed from disk 9, by the sliding blocks, and deposited on said disk 18. After each can 32 is deposited upon disk 18, the latter, which is continually traveling, will convey that can around to a point where it is engaged by an arm or bar 34, which projects over the top of the disk 18, and by such engagement will cause said can 32, to move laterally from disk 18, and pass on to a conveyer 35, which will convey it to a header, or other machine for further operation.

An arm or bar 36, is provided and projects over the disk 18, and prevents the cans 32, from accidentally passing off said disk before reaching the conveyer 35.

As to the cans, 33, it will be seen that as they are delivered on to disk 9, at points between the blocks 26, they will simply travel around on said disk 9, until they are engaged by a bar or arm 37, that extends inwardly over the disk from the periphery of the cam, and said cans 33, when brought into contact with this arm will be gradually moved laterally toward the periphery of said disk as they approach the revolving disk 19. As these cans 33, are advanced during their engagement with the arm 37, they will obviously be pushed laterally onto the disk 19, and the latter will then carry them around until they engage an arm 38, that projects over the top of said disk 19, which latter arm will direct them onto the conveyer 39, that will carry them to another header or another machine for further operation.

A short arm 40, projects over the rotary disk 19, from the receiving end-of conveyer 39, to aid in directing the cans onto the latter conveyer, and to prevent accidental discharge of the cans before reaching arm 38.

The cam-guide 30, may be sustained in any suitable manner, but in the present instance I provide a series of arms 41, that extend upwardly from a support 42, that forms a bearing for the vertical shaft 10, and said arms sustain said cam-guide.

Having described my invention, what I claim is,—

1. The combination with a rotating table on which cans may be placed and bodily carried, of a conveyer branching from the periphery of the said rotary table, and means for moving some of the cans from the periphery of the rotating table onto the said branch conveyer and allowing other cans to remain on the table and pass said branch conveyer.

2. The combination with a rotary table on which cans may be placed and bodily carried, of a plurality of conveyers extending radially from the periphery of the rotary table; means for moving some of the cans from the periphery of the rotary table onto one of the said radially-extending conveyers, and means for moving other of said cans from the periphery of the rotary table onto another of said radially-extending conveyers.

3. The combination with a rotary table to support and bodily carry cans, of means for feeding cans onto said rotary table; a plurality of conveyers extending radially from the periphery of the rotary table; means for moving some of the cans from the periphery of the rotary table onto one of said radially-extending conveyers and allowing other of said cans on the said rotary table to pass onto another radially-extending conveyer.

4. The combination with a rotary table to support and bodily carry cans, of means for feeding cans onto said rotary table; a plurality of conveyers extending away from the periphery of the rotary table; reciprocating means to move some of the cans across the periphery of the rotary table onto one of the said conveyers and means for moving other of said cans across the periphery of said rotary table onto another of said conveyers.

5. The combination with a circular disk to support and bodily carry cans, of means for revolving said disk; means for feeding cans onto the disk; two conveyers traveling away from the periphery of said disk; means for moving some of the cans across the periphery of the disk onto one of said traveling conveyers and means for moving others of said cans also across the periphery of the disk onto the other of said two conveyers.

6. The combination with a flat circular disk to support and bodily carry cans, of means for revolving said disk; two conveyers traveling away from the periphery

of the revolving disk; reciprocating means carried by the disk; means for moving the reciprocating means toward the periphery of the disk as it approaches one of said two conveyers to push a can across the periphery of the disk onto one of said conveyers and means for moving another of said cans across the periphery of the disk onto the other of said conveyers.

7. The combination with a circular disk to support and bodily carry cans, of means for revolving said disk; two separate conveyers traveling away from the periphery of the circular disk; a plurality of ejecting devices above the circular disk; means for radially reciprocating said devices to move some of the cans across the periphery of the disk onto one of said conveyers and means for moving other cans across the periphery of said disk onto the other of said conveyers.

8. The combination with a circular disk to support and bodily carry cans, of two conveyers extending away from the periphery of the disk; a plurality of ejecting devices above the disk; means for feeding some cans onto the disk in the paths of the ejecting devices and feeding other cans onto said disk out of the path of said ejecting devices; means for reciprocating the ejecting devices to push some of the cans from the periphery of the disk onto one of said two conveyers and means for moving the other of said cans from the disk onto the other of said two conveyers.

9. The combination with a rotary can conveyer, of two rotary disks; means for feeding cans onto the rotary conveyer; means for moving some of the cans from the rotary conveyer onto one of said disks and means for moving other of said cans from the rotary conveyer onto the other of said disks.

10. The combination with a rotary can conveyer, of two rotary disks; can-ejecting means movable with the rotary conveyer to move some of the cans onto one of said disks; and means for moving other of said cans onto the other of said disks.

11. The combination with a rotary can conveyer, of two rotary disks,—a conveyer adjacent to each disk; means for moving some cans from the rotary conveyer onto one disk; means for moving other cans from the rotary conveyer onto the other disk; means for transferring cans from one disk to one conveyer and means for transferring cans from the other disk to the other conveyer.

In testimony whereof I affix my signature in the presence of two witnesses.

CHARLES H. AYARS.

Witnesses:
MARY D. BANKS,
I. OAKFORD ACTON.