A. R. THOMPSON.

CAN FEED DEVICE.

APPLICATION FILED NOV. 25, 1916.

1,238,217.

Patented Aug. 28, 1917.

2 SHEETS—SHEET 1.

Fig. 1.

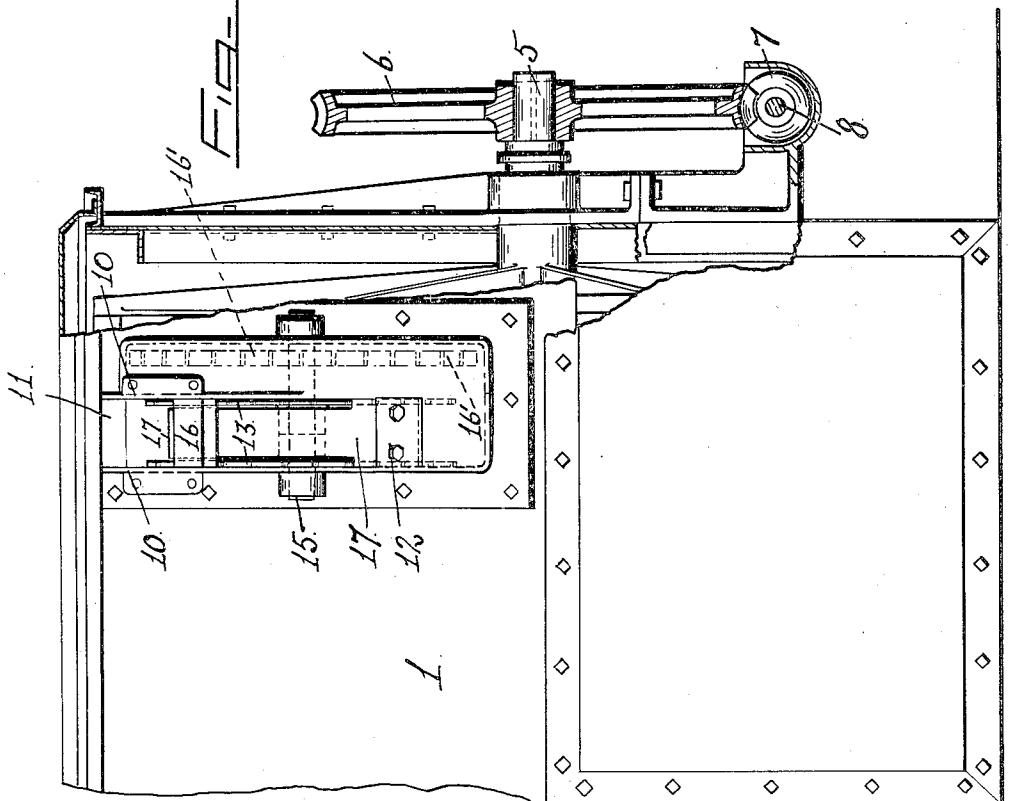
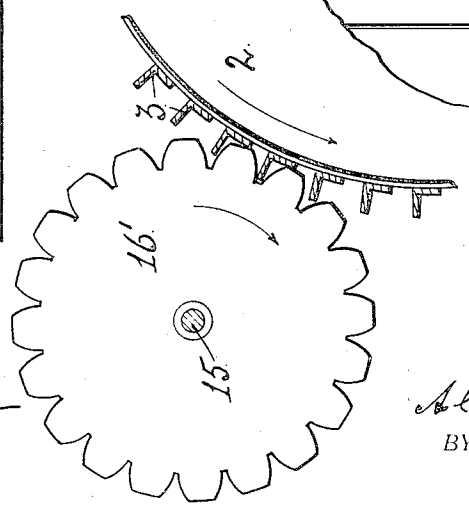


Fig. 3.



WITNESS

Wm. H. Drew

INVENTOR.

Albert R. Thompson

BY

Booth & Booth

ATTORNEYS

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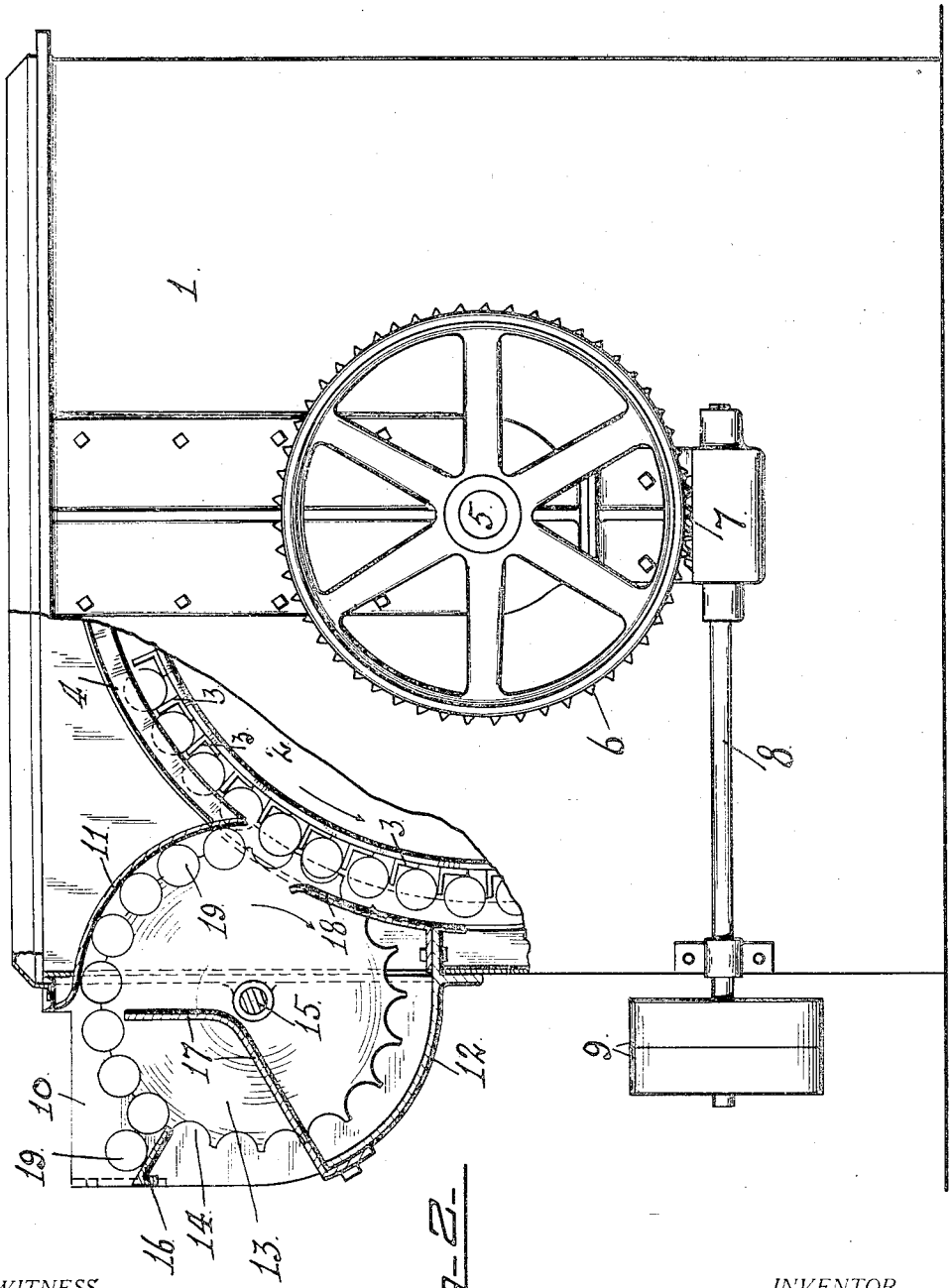


Fig. 2.

WITNESS

Wm. A. Shaw

INVENTOR.

Albert R. Thompson

BY

Booth & Booth

ATTORNEYS

UNITED STATES PATENT OFFICE.

ALBERT R. THOMPSON, OF SAN JOSE, CALIFORNIA, ASSIGNOR TO ANDERSON-BARNGROVER MFG. CO., OF SAN JOSE, CALIFORNIA, A CORPORATION OF CALIFORNIA.

CAN-FEED DEVICE.

1,238,217. Specification of Letters Patent. Patented Aug. 28, 1917.

Application filed November 25, 1916. Serial No. 133,472.

To all whom it may concern:

Be it known that I, ALBERT R. THOMPSON, a citizen of the United States, residing at San Jose, in the county of Santa Clara and State of California, have invented certain new and useful Improvements in Can-Feed Devices, of which the following is a specification.

My invention relates to can-feed devices. In the canning art, as, at present, practised, it has become of prime importance that the continuous and voluminous stream of cans passing through the line of apparatus shall at no point be interrupted. Serious results and loss of time follow any disarrangement of the can procession, and much care and personal supervision are given to prevent interruption of the stream. This is particularly the case in the matter of feeding the cans into the stream at whatever point in the line, or in connection with whatever machine of the series, it may be necessary to supply or transfer the cans. For the sake of example, I will describe my invention in connection with feeding the cans to a cooker, though it must be understood that my device is applicable to any apparatus or machine to which it is necessary to feed cans with precision and under proper control in order to inaugurate or to maintain the can-stream continuity.

The object of my invention is to provide a can-feed device which will automatically supply the cans in succession under conditions of accuracy as to time and position as to insure the continuance and uninterruption of the can-stream; and to this end my invention consists in the novel can-feed device which I shall now fully describe by reference to the accompanying drawings, in which—

Figure 1 is a side elevation, broken, of a cooker, showing in front elevation the application thereto of my can-feed device.

Fig. 2 is an end view, broken, of the same, showing my can-feed device in section.

Fig. 3 is a detail showing the feed-turret drive.

1 is the box of the receptacle to which the cans are to be fed. This receptacle may be for any purpose, say, for example, for cooking the canned commodity. Within the receptacle is a rotating member which in the present instance is composed of a reel 2 having around its circumference a series of spaced rails 3 parallel with its axis, and forming in connection with an exterior helically directed fixed rail 4 a helical can-path for advancing the cans through the box, in a manner now well known in the art.

The rail-reel 2 is driven from a central shaft 5 by means of a worm gear 6, worm 7 and driving shaft 8 with fast and loose pulleys at 9.

To the feed-inlet of the box 1, is fixed a housing, comprising side walls 10, an arcuate roof-hood 11 and a bottom 12. The inner extremity of the hood approaches closely the path of rotation of the reel-rails 3.

13 are two spaced disks each having peripheral pockets 14, and together forming a feed-turret. The disks are separated by a space greater than the diameter of the cans to be fed, so that a can coming end on or one standing upright or otherwise disarranged or out of true will fall between them. To make their action of thus discharging a can as delicate as possible, the disks are relatively thin plates, spaced by a distance but little less than the length of the cans they are to receive, and they lie close up to the side walls 10 of the feeder housing, which walls are separated by a distance but little greater than the length of the cans. The turret-disks are mounted on a shaft 15, and are rotated by the engagement of a toothed wheel 16′ also mounted on the shaft 15, which wheel is directly engaged by the reel-rails 3, as shown in the detail Fig. 3. The turret-disks are so located that their path of rotation approaches closely that of the reel-rails, and they are so spaced from the arcuate hood 11 of the housing that a can lying in and bridging their pockets will pass freely but closely under said hood.

16 is the can-feed chute which leads down into and between the side walls 10 of the housing and directs the cans to the pockets of the feed turret.

17 is a fixed discharge plate lying between the disks of the feed turret. 18 is a fixed finger disposed by contact with the cans 19, to positively deliver them from the pockets of the feed-turret into the reel-rails, and to prevent them from falling out again.

The operation of the device is as follows:—The cans indicated by 19 roll down the chute 16 and under normal circumstances of accurate alinement being guided by the side walls 10 of the housing, they en-

ter and bridge the corresponding pockets 14 of the spaced thin-disks 13 of the turret feed. By the turret they are carried under and are guided by the arcuate hood 11 of the housing until they are successively transferred after leaving the hood, to and upon the reel-rails 3 of the cooker. But, if a can coming down the chute 16, should be end on or upright or twisted so that it does not lie exactly true between the side walls of the housing, it will not fall into the pockets 14 of the closely housed spaced, thin disks 13, but will at once drop down between the two disks and, falling on the plate 17, will be rolled out of the device, thereby avoiding any possible obstruction.

It will now be seen that provision is made for the control and accurate feed of the cans, so that no obstruction of the can stream will occur. The direct power transmission from the rail-reel in the cooker to the can-feed turret, effected through the engagement of the reel-rails with the toothed wheel of the turret is of importance, in that no lost-play or back-lash can occur as would result from a gear-train. The operation of the rail-reel and the turret feed is, therefore, in such precise timely unison that the cans cannot be displaced or disarranged in the transfer and the stream of cans will be continuous and uninterrupted and under perfect control in its determined path. The initial insurance of each can's position in the stream, by the automatic discharge of a vitally displaced can, due to the spaced thin-turret disks and the intervening plate 17, avoids the necessity of personal supervision and attention at this point.

I claim:

1. A can-feed device comprising a pair of rotatable turret-disks spaced by a distance greater than the diameter and but little less than the length of the cans to be fed, and disposed to deliver the cans to the can-path of an associated receptacle; and means for directing the cans to bridge the spaced turret-disks.

2. A can-feed device comprising a pair of rotatable turret-disks spaced by a distance greater than the diameter but less than the length of the cans to be fed, and disposed to deliver the cans to the can-path of an associated receptacle; means for directing the cans to bridge the spaced turret-disks; and means between said disks for directing outwardly therefrom a can falling between them.

3. A can-feed device comprising a pair of rotatable turret-disks spaced by a distance greater than the diameter and but little less than the length of the cans to be fed and disposed to deliver the cans to the can-path of an associated receptacle; and fixed side guides spaced by a distance but little greater than the length of the cans and lying closely adjacent the outer faces of said disks, to direct the cans to bridge the spaced turret disks.

4. A can-feed device comprising a pair of rotatable turret-disks spaced by a distance greater than the diameter and but little less than the length of the cans to be fed and disposed to deliver the cans to the can-path of an associated receptacle; fixed side guides spaced by a distance but little greater than the length of the cans and lying closely adjacent the outer faces of said disks, to direct the cans to bridge the spaced turret disks; and means between said disks for discharging a can falling between them.

5. A can-feed device comprising a pair of rotatable turret-disks spaced by a distance greater than the diameter and but little less than the length of the cans to be fed and disposed to deliver the cans to the can-path of an associated receptacle; a housing for said disks the side walls of which are separated by a distance but little greater than the length of the cans and lie closely adjacent the outer faces of the disks to direct the cans to bridge said disks; and a fixed plate lying between the turret disks for discharging a can falling between them.

6. In combination with a receptacle having an interior rotatable member comprised in its can path, a can-feed device comprising a pair of rotatable turret-disks spaced by a distance greater than the diameter and but little less than the length of the cans to be fed and disposed to deliver the cans to the rotatable member of said receptacle; a housing for said disks, the side walls of which are separated by a distance but little greater than the length of the cans and lie closely adjacent the outer faces of the disks to direct the cans to bridge said disks, said housing having an arcuate roof-hood coacting with the turret-disks to hold the cans thereon prior to their delivery to the rotatable member of the receptacle; means disposed between the disks to discharge a can falling between them; and a fixed finger disposed to positively roll the cans from the turret disks into the receptacle member.

7. In combination with a receptacle having an interior rotatable reel of rails comprised in its can-path; a can feed device comprising a pair of rotatable, turret-disks spaced by a distance greater than the diameter and but little less than the length of the cans to be fed and disposed to deliver the cans to the rotatable rail-reel of the receptacle; fixed side guides closely adjacent the outer faces of said disks to direct the cans to bridge the disks; a shaft carrying said turret-disks; and a toothed wheel on said shaft with which the reel-rails of the receptacle engage to rotate the said disks in timely unison with the reel.

8. In combination with a receptacle hav-

ing an interior rotatable reel of rails comprised in its can-path, a can feed device comprising a pair of rotatable, turret-disks spaced by a distance greater than the diameter and but little less than the length of the cans to be fed and disposed to deliver the cans to the rotatable rail-reel of the receptacle; fixed side guides closely adjacent the outer faces of said disks to direct the cans to bridge the disks; means disposed between the disks to discharge a can falling between them; a shaft carrying said turret-disks; and a toothed wheel on said shaft with which the reel-rails of the receptacle engage to rotate the said disks in timely unison with the reel.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALBERT R. THOMPSON.

Witnesses:
WM. F. BOOTH,
D. B. RICHARDS.