May 14, 1929. N. P. BACH 1,713,068

CAN SPACING MECHANISM

Filed July 18, 1925 2 Sheets-Sheet 1

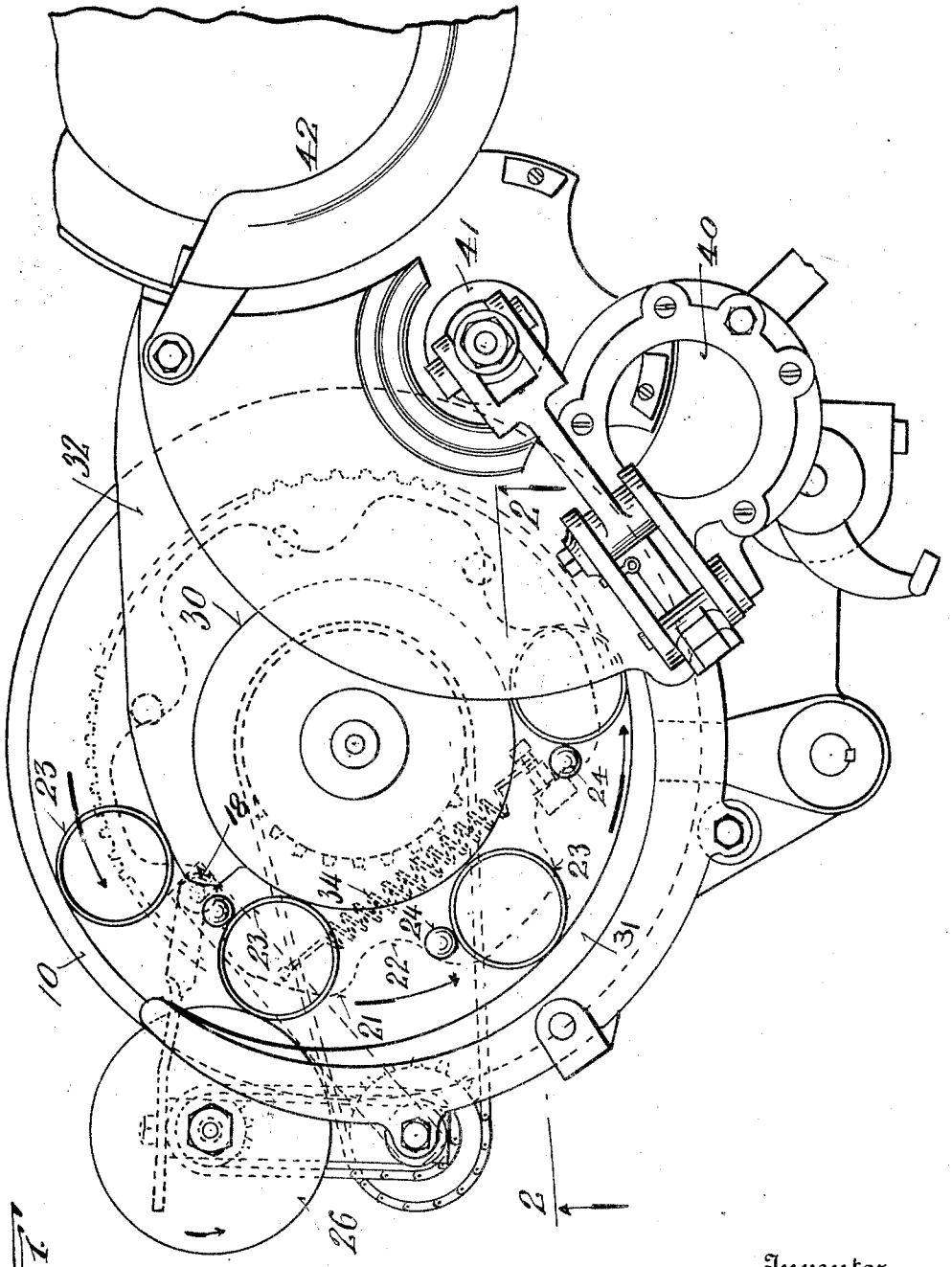


Fig. 1.

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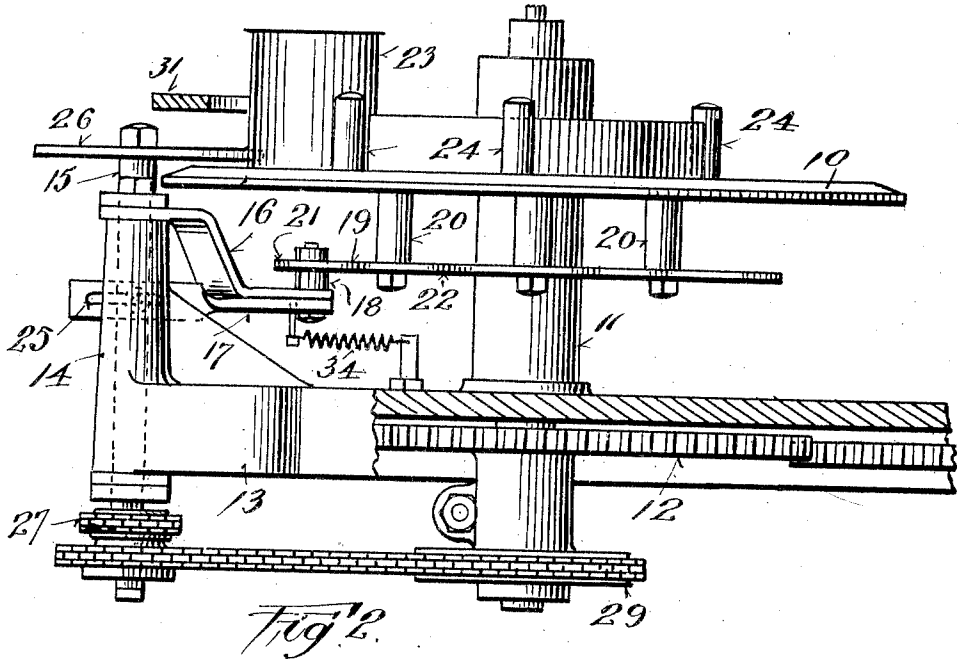


Fig. 2.

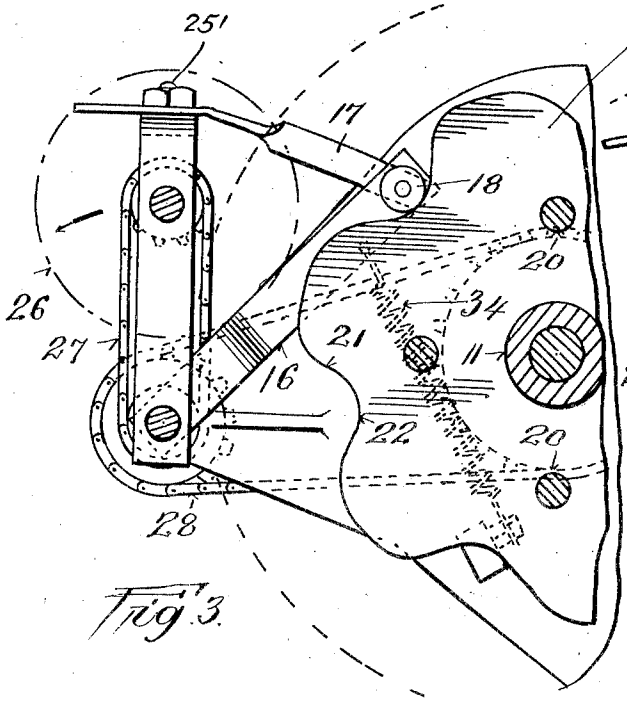


Fig. 3.

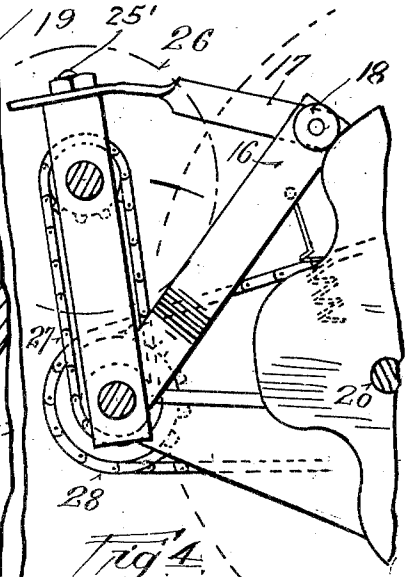


Fig. 4.

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UNITED STATES PATENT OFFICE.

NEILS P. BACH, OF MILLBURN, NEW JERSEY, ASSIGNOR TO THERMOKEPT CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

CAN-SPACING MECHANISM.

Application filed July 18, 1925. Serial No. 44,433.

This invention relates to improvements in can spacers for properly adjusting and feeding filled cans into a cover supplying and attaching machine or into a vacuumizing and sealing machine, and for other purposes.

The object of my invention includes the provision of a can arranging and spacing mechanism which is simple in construction, efficient in operation and wherein filled cans are successfully readjusted without spilling the contents thereof.

Another object includes the provision of a construction for synchronizing the movements of the cans with the cover supplying mechanism, which mechanism may cooperate with vacuumizing means and with cover attaching means.

Another object includes the provision of an automatically adjusting device for readjusting the cans and properly spacing the same, for the purpose stated above.

Other objects will appear hereinafter, and I attain these objects by the construction illustrated in the accompanying drawings, in which:—

Fig. 1 is a plan view of a construction which embraces the principles of my invention.

Fig. 2 is a view taken on the line 2—2 of Fig. 1.

Fig. 3 is a view of the self-adjusting mechanism whereby the cans are brought in spaced relation for feeding into the machine.

Fig. 4 is a view similar to Fig. 3, showing the mechanism in operation.

Like numerals refer to the same parts wherever they occur throughout the several views.

It is among the principal objects of my invention to provide a simple and efficient can readjusting and spacing mechanism for properly aligning cans and feeding the same into a can handling machine. This machine may be a cover supplying and sealing mechanism or it may be a vacuumizing machine, or the device may be applied for other purposes.

In this type of machine cans are usually supplied by some means of conveyor (not shown) and which cans are then crowded on to the conveying mechanism more or less irregularly.

It is the object of my invention to properly readjust and space cans from this condition, and this spacing must be accomplished in such a way as to avoid any danger of spilling the contents of the full can and usually before the cover is supplied. For this purpose I provide a rotating disc 10 of suitable size and to convey the cans into position for receiving the covers or for being otherwise acted upon. The conveyor 10 forms a portion of the well-known can handling machine, such as is illustrated in my Patent No. 1,529,416, granted March 10, 1925, for can capping and marking machines. For the purpose of illustrating my present invention I have shown only a portion of a can handling machine wherein the conveyor 10 is mounted on a journal 11 to be operated by a driving gear 12. A frame 13 is provided to support the operating mechanism. This frame has a main standard 14 and a secondary standard 15. On the main standard there is provided a strap 16 which is bent down and flatwise unites with a second strap 17. Both straps are united at one end and carry a roller 18 which engages a cam member 19. The cam member 19 is secured by bosses 20 on to the conveyor disc 10 and rotates therewith. The cam member 19 is provided with a number of elevations 21 and depressions 22 spaced apart at convenient distances and of such dimensions as to appropriately space the incoming cans 23. On the top of the conveyor disk 10 and in relation with the irregularities of the spacing cam, there are provided can moving studs 24, for the purpose more fully discussed below. Strap 17 is provided at its outer end with a slot 25 to engage bolt 25′ of its frame to permit movement thereof in and out, as is best shown in Figs. 1 and 3. The secondary standard 15 is provided with a can adjusting disc 26 which is caused to rotate by a drive member 27 in the direction indicated by the arrow. Drive member 27 is caused to rotate from the main drive member 28 which is operated from the sprocket 29 of the main driving mechanism. An inner guard member 30 in the form of a disc is provided to hold the cans in proper relation with reference to the can moving studs. An outer guard 31 performs a similar function on the outer surface. The outer guard is in the shape of a finger which terminates near the can adjusting disc 26. A main guide member 32 feeds the cans to the can adjusting mechanism. The self-adjusting can feeding

mechanism is tensioned into position by a spring 34. By this means the cam roller 18 is constantly caused to be tensioned against the irregular cam surface of cam member 19.

From the above description the operation of the mechanism will be readily understood.

Filled cans are fed into position on to disc 10 and are thereby crowded more or less into position at the tip of the outer guide finger. As the conveyor disc 10 rotates these cans have a tendency to be carried along with the conveyor but are stopped by a can moving stud 24, providing the stud is in a position as shown in Fig. 1. The rotation of the can adjusting disc 26 will gently push the can sufficiently far back from the tip of the outer guide finger so as to permit the can moving stud to pass the can, which is then permitted to enter the guide passage to be moved along by the can moving stud 24, guided by the inner and outer guide members. The next can is again positioned in the manner similar to that just described and as the succeeding can moving stud picks up the can it, too, is advanced, so that each stud in succession picks up a can and moves it into position for receiving a cover from the cover station 40, where it is supplied with a cover 41 to be then moved with the cover to the cover attaching station 42, in the manner fully discussed in my previous patent above identified.

Many modifications and changes in detail of construction will readily occur to those skilled in the art without departing from the spirit and scope of my invention as defined in the appended claims. Therefore, what I claim as new and useful, of my own invention, and desire to secure by Letters Patent, is:—

1. In a can spacing and can arranging mechanism, the combination of a can carrying disc having spacing studs thereon, a cam member mounted to move in unison with said can carrying disc, said cam member being provided with spaced depressions, an adjustable cam member mounted to follow said spaced depressions, and a rotating disc carried on said adjustable cam member for arranging said cans in the path of the studs.

2. In a can spacing and can arranging mechanism, the combination of a can carrying disc having spacing studs thereon, a cam member mounted to move in unison with said can carrying disc, said cam member being provided with spaced depressions, an adjustable cam member mounted to follow said spaced depressions, a can adjusting disc carried by said adjustable cam member, and means for rotating said adjusting disc to thereby cause the cans to be rearranged.

3. In a can spacing and can arranging mechanism, the combination of a can carrying disc having spacing members, a can spacing cam carried by said can carrying disc and attached thereto, means on said disc for engaging said cans, an adjustable member engaging said cam, a can arranging disc on said adjustable member, and means for rotating said can arranging disc for arranging and aligning said cans.

4. In a can spacing and can arranging mechanism, the combination of a can carrying disc having spacing members, a can spacing cam attached to said can carrying disc to move therewith, means on said disc for engaging said cans, an adjustable member engaging said cam, a can arranging disc on said adjustable member, means for rotating said can arranging disc for arranging and aligning said cans, and guide members between which said cans are caused to move in spaced relation.

In testimony whereof I have hereunto set my hand on this 15th day of July A. D., 1925.

NEILS P. BACH.