W. A. ZEIDLER.

COLLAR PACKAGING MACHINE.

APPLICATION FILED OCT. 3, 1919.

1,374,975.

Patented Apr. 19, 1921.

2 SHEETS—SHEET 1.

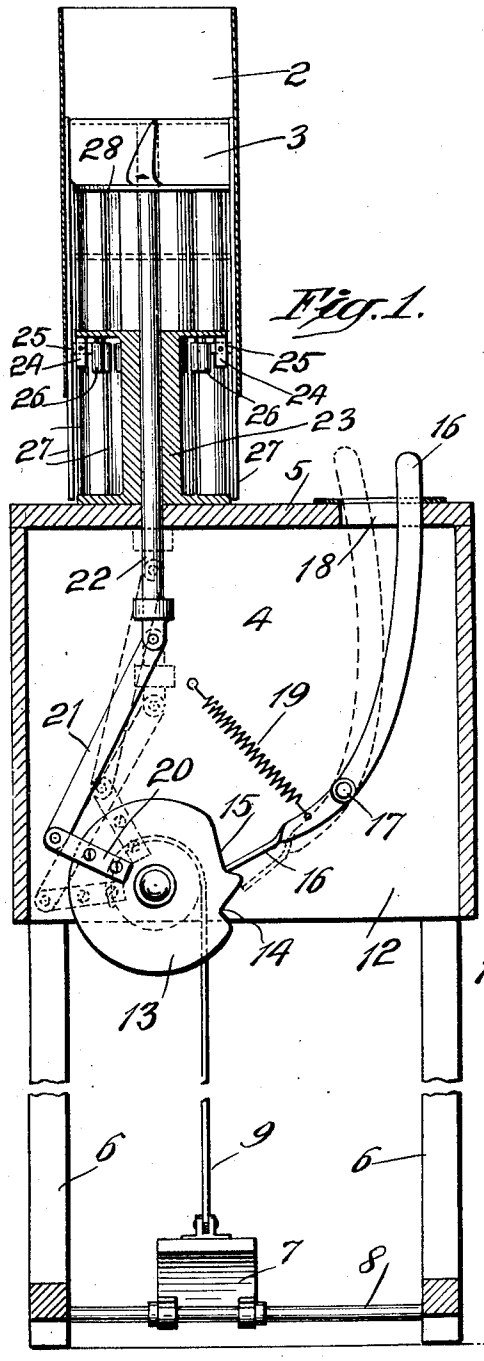


Fig. 1.

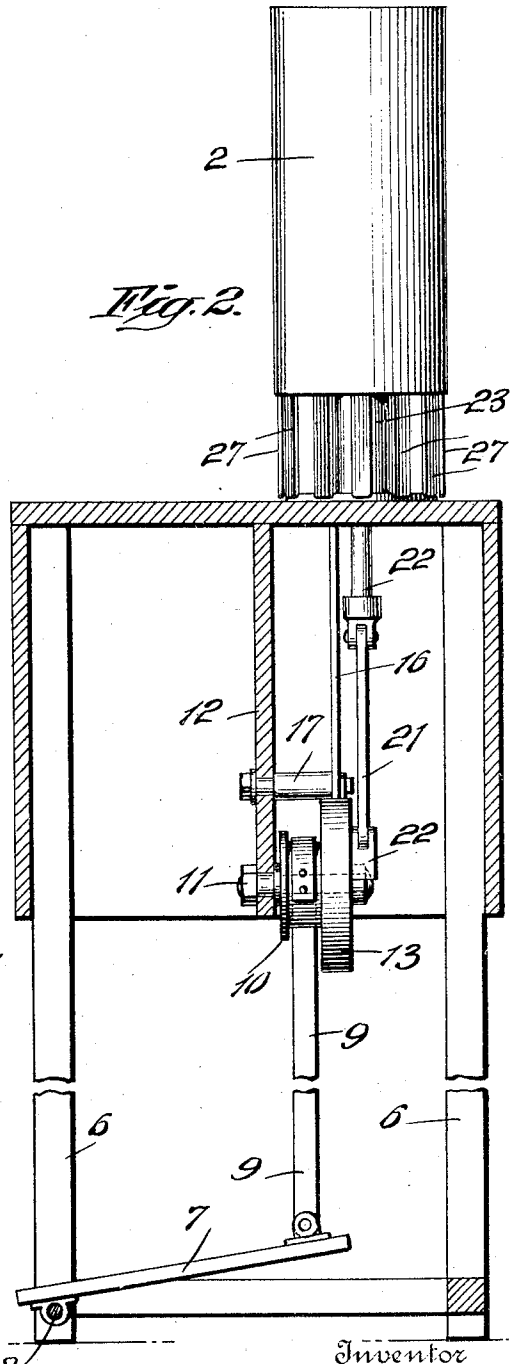


Fig. 2.

Inventor

WILLIAM A. ZEIDLER

By Its Attorney

O. Alby Edwards

W. A. ZEIDLER.

COLLAR PACKAGING MACHINE.

APPLICATION FILED OCT. 3, 1919.

1,374,975. Patented Apr. 19, 1921.

2 SHEETS—SHEET 2.

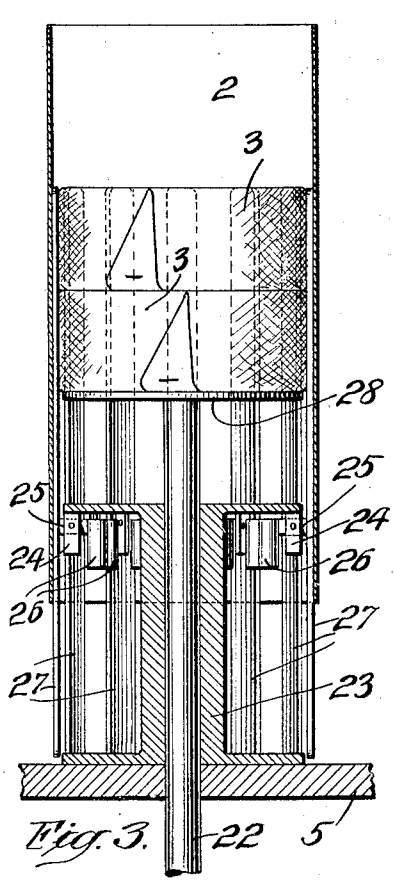


Fig. 3.

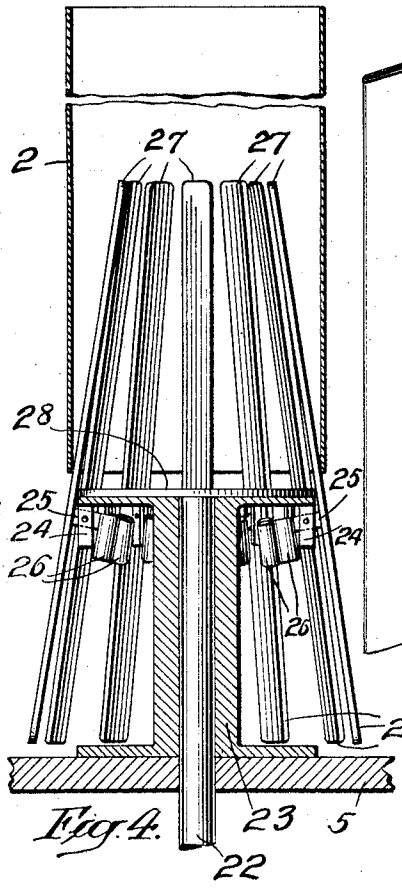


Fig. 4.

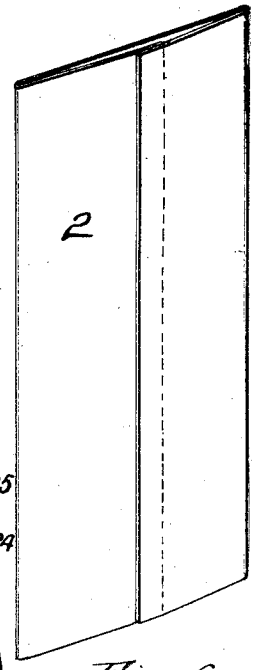
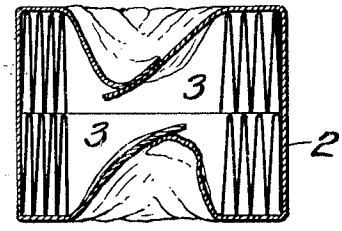


Fig. 6.

Fig. 7.



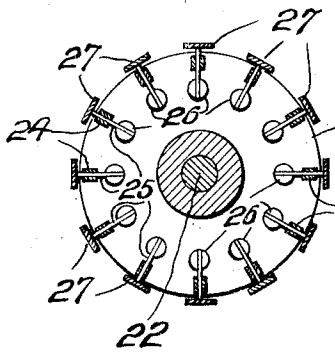


Fig. 5.

Inventor

WILLIAM A. ZEIDLER

By his Attorney

O. Ellen Edwards

UNITED STATES PATENT OFFICE.

WILLIAM A. ZEIDLER, OF NEW YORK, N. Y.

COLLAR-PACKAGING MACHINE.

1,374,975. Specification of Letters Patent. Patented Apr. 19, 1921.

Application filed October 3, 1919. Serial No. 328,323.

To all whom it may concern:

Be it known that I, WILLIAM A. ZEIDLER, a citizen of the United States, and a resident of the city of New York, county of Bronx, and State of New York, (whose post-office address is 401 East 163rd street, Bronx, N. Y.,) have invented a new and useful Improvement in Collar-Packaging Machines, of which the following is a specification.

The object of my invention is to provide a machine of this character whereby collars may be packed with ease, rapidity and firmness so that when the package is formed it will be stable and not become prematurely undone.

This object is accomplished by my invention, one embodiment of which is hereinafter more particularly set forth.

For a more particular description of my invention, reference is to be had to the accompanying drawings, forming a part hereof, in which—

Figure 1 is a longitudinal section of my invention.

Fig. 2 is a cross section taken at right angles to the section in Fig. 1.

Fig. 3 is a sectional view of the collar inclosing part of the apparatus.

Fig. 4 is a sectional view showing the apparatus of Fig. 3 while a tube is being placed thereon.

Fig. 5 is an inverted sectional view showing the collar inclosing fingers and their supports.

Fig. 6 is a perspective view of a tube.

Fig. 7 is a sectional view of a collar package made according to my invention.

Throughout the various views of the drawings, similar reference characters designate similar parts.

My improved machine 1 is adapted to receive a paper tube 2 in which are placed collars 3 and finally the ends of the tube are forced inside the collars, as shown in Fig. 7. The means and method of making this package will now be described in detail.

The machine 1 is provided with a table 4 which has a top 5, legs 6 and a treadle 7 which is mounted in any suitable manner near the bottom of the machine. In the embodiment of my invention which is here illustrated, this treadle 7 is pivoted at one end to a bar 8 which is mounted between two legs 6 and it has its other end pivotally connected to a strip 9 that runs to a small pulley 10 to which it is fixed in any suitable manner and this pulley 10 turns on a stud-shaft 11 fixed in a partition 12 of the table 4 or in any other suitable support. A notched wheel or disk 13 is fixed to the pulley 10 and preferably made integral therewith, and this wheel 13 has two notches 14 and 15, either of which may be engaged by a spring pressed pawl or detent 16 which is pivoted at 17 on a stud which projects from the partition 12 and its upper end extends through a slot 18 in the top 5 so that the upper end of the pawl 16 may be grasped by the fingers of the operator of the machine. The notches 14 and 15 are so arranged and disposed that they do not oppose the movement of the treadle 7 when the same is pressed downwardly, but when the pawl 16 operates under the influence of a spring 19, which is secured as shown in Fig. 1, the disk 13 cannot shift in the opposite direction and thereby raise the treadle 7.

The disk 13 has a crank arm 20 fixed thereon, and at its upper end this arm 20 is pivotally connected to a link 21 which runs to a rod 22, to which it is pivotally connected and which slides in the direction of its length through the table 5 and through a suitable guide 23 which is fixed to the top of the table and extends upwardly therefrom. This guide is preferably made in the form of a spool with its lower flange resting on the table 5 and its upper flange is provided with downwardly extending brackets 24 in which are pivoted small levers 25, which at their inner ends carry weights 26 and at their outer ends carry fingers 27. The rod 22 is surmounted by a disk 28 which is of substantially the same diameter as the flanges of the support 23, so that as the rod 22 rises and falls, the disk 28 will do likewise and when it is on the guide 23, as shown in Fig. 4, the weights 26 are sufficient to incline the fingers 27 so that the tube 2 may be readily inserted over these fingers. After the tube 22 has been properly inserted and reached the proper level, the treadle 7 is depressed and thereby the strip 9 is caused to rotate the disk 13 so as to cause it to shift the crank 20, link 21 and rod 22 so as to lift the disk 28, and thereby cause the fingers 27 to assume their vertical position against the action of the weights 26 and fit snug against the interior of the tube 2 which may then be raised or lowered on these fingers until its desired position is obtained. The disk 28

can then be held at either of two levels, or at any of several levels according to the number of notches 14 and 15 employed. In the embodiment of my invention here shown, three levels are employed. One with the disk 28 against the guide 23, another in the position shown in Fig. 3, and yet a third in the position shown in Fig. 1. Obviously, this detail may be changed at the option of the builder of the machine. It is important that these positions of the disk 28 should correspond with the width of the collars to be packed so that a bunch of collars may be first placed true on the disk 28 when it is as shown in Fig. 1, and thereafter the operator may grasp the upper end of the pawl 16 and throw the same to the position shown in dotted lines, and then release it and meanwhile the weight of the rod 22 and its attached parts will cause the disk 28 to drop to a lower level, such as is indicated by dotted lines in Fig. 1, and then another group of collars may be rolled up and inserted on top of the first row or group. This operation may be repeated several times if desired. When the proper number of collars has been placed, as above specified in the tube 2, the upper end of the tube is crushed into the center space of the collars as shown in Fig. 7, and then the tube may be removed and inverted, and the lower end of the tube crushed into the collars, as shown at the bottom of Fig. 2 and then the package is complete. The handle 16 may be grasped and the disk 28 allowed to rest on the guide 23 for a further use of the apparatus. If desired, the treadle 7 may be depressed so as to bring the rod 22 to the extreme upper limit of its movement, as indicated in Fig. 1 by dotted lines, and then the disk 28 will be on the top of the finger 27 so that the package may be removed from the machine with greater facility.

While I have shown and described one embodiment of my invention, it is obvious that it is not restricted thereto but is broad enough to cover all structures that come within the scope of the annexed claims.

Having thus described my invention, what I claim is:

1. In a machine of the class described, a series of fingers and means for pivotally mounting the same, a disk adapted to move between said fingers and be held at different levels, and means for mounting the same so that a tube may be placed over said fingers and the disk raised or lowered according to the depth of the collar receiving space to be occupied.

2. In a machine of the class described, a series of fingers and means for pivotally mounting the same so that normally these fingers will stand inclined, a disk adapted to expand said fingers and cause the same to stand straight and means for raising and lowering the disk or holding the same at a predetermined level so that collars may be placed on the disk and in the space impressed by the fingers and be packed while so held and in a tube which may be placed on the fingers while inclined and held about the fingers while straight.

3. In a machine of the class described, pivoted means for expanding a tube and holding the same while expanded and means for determining the level at which articles may be packed in the tube.

4. In a machine of the class described, a guide having weighted fingers pivotally connected thereto, and adapted to normally assume an inclined position, a rod passing through said guide and means for holding the same at any of several positions and a disk on said rod and surrounded by said fingers and adapted to cause the fingers to assume a straight position when the rod is raised.

5. In a machine of the class described, a table having a guide resting thereon, weighted fingers pivotally mounted on said guide and surrounding the same and adapted to normally assume an inclined position, a rod passing through said guide with a disk on the top of the same for causing said fingers to assume a vertical position, a pitman connected to said rod, a crank connected to said pitman, a disk supporting said crank and means for holding said disk in any of several positions according to the level of the disk at the top of the rod.

WILLIAM A. ZEIDLER.