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WITH

C. T.

Katherin

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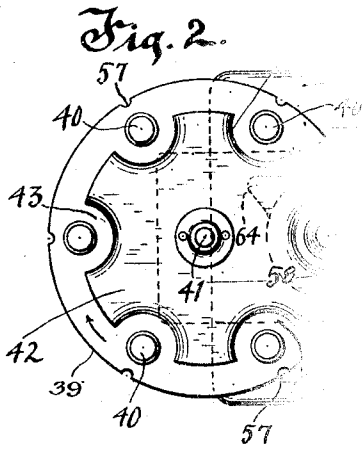
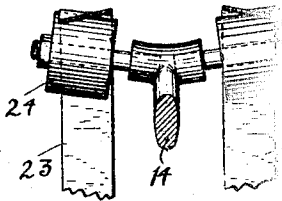
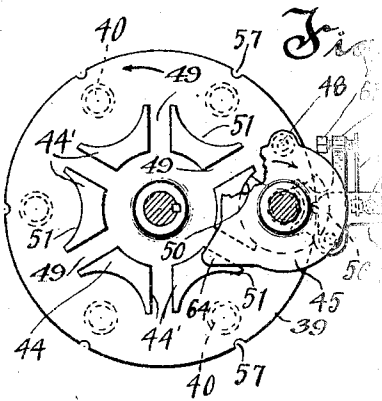


Fig. 5.



WITNESSES

C. F. Miller.

Katherine Holt

UNITED STATES

MAXIMILLIAN P. JANISCH, OF MILWAUKEE,
INVENTOR, BY
JANISCH, TO WISCONSIN PAPER PRODUCTS
A CORPORATION OF WISCONSIN.

PAPER-BOTTLE-BOTTOM

1,283,786.

Specification

Application filed April 17, 1914, Serial No. 881

To all whom it may concern:

Be it known that I, MAXIMILLIAN P. JANISCH, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Paper-Bottle-Bottom-Spinning Machines, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention relates to improvements in paper bottle bottom spinning machines.

It is one of the objects of the present invention to provide a paper bottle spinning machine for spinning the lower edge of a paper bottle over the bottom portion which has been inserted in the bottle to form a water-tight closure.

A further object of the invention is to provide a paper bottle bottom spinning machine in which means are provided for properly positioning the bottom within the bottle before spinning the edge of the bottle thereover.

A further object of the invention is to provide a paper bottle bottom spinning machine which will automatically engage and attach the bottoms to the bottles when the bottles are fed and moved into the path of movement of the machine.

A further object of the invention is to provide a paper bottle bottom spinning machine which is simple in construction, is strong and durable and is well adapted for the purpose desired.

With the above and other objects in view the invention consists of the improved paper bottle bottom spinning machine and its parts and combinations as set forth in the claims, and all equivalents thereof.

In the accompanying drawings in which the same reference characters indicate the same parts in all of the views:

Figure 1 is a side view of the improved paper bottle bottom spinning machine, partly being broken away to show interior construction;

Fig. 2 is a transverse sectional view thereof taken on line 2—2 of Fig. 1;

Fig. 3 is a transverse sectional view thereof taken on line 3—3 of Fig. 1;

Fig. 4 is a detail sectional view taken on line 4—4 of Fig. 1;

Fig. 5 is another sectional detail view thereof taken on line 5—5 of Fig. 1;

means of a coiled spring 37 which surrounds the spinning shaft 21 and is interposed between the flanged pulley 22 and a set collar 38 mounted on the upper end of the said spinning shaft.

A revoluble bottle holding table 39 mounted on the base portion 11 of the frame and in front of the column is provided with a plurality of upwardly extending bottle holding knobs 40 over which the necks of the inverted paper bottles are placed. The table is also provided with an upstanding spindle 41 which adjustably carries a recessed bottle holding plate 42. The plate is of annular form and is provided with curved bottle recesses 43 around its periphery which register with the knobs of the table and are adapted to receive and hold the upper portions of the inverted bottles which are placed over the knobs.

The revoluble table is so mounted on the frame that it may be intermittently revolved to bring the knobs successively into vertical alinement with the spinning head of the vertical shaft so that the bottles carried by the table may be engaged by the head.

The lower face of the revoluble table is provided with an intermittent gear 44 which is in mesh with an intermittent pinion 45 journaled on the base frame 11. The pinion 45 is mounted fast on a bevel pinion 46 and the bevel pinion is in mesh with another bevel pinion 47 mounted on the inner end of the counter-shaft 16 and is driven thereby. The intermittent pinion 45 is formed in part of a pin tooth 48 which enters one of the intertooth spaces 49 of the gear 44 once each revolution of the pinion 45 and revolves said gear one tooth or the distance of one knob and the other part 50 of the pinion engages the outer recesses 51 of the teeth 44' of the gear and intermittently locks the table in its positions of rest.

In spinning the lower edge of the bottle over the inserted bottom of the bottle it is necessary to firmly clamp and hold the bottle against rotation and to accomplish this result a clamping mechanism is provided which consists of an arm 52 slidably extending through an opening 53 in the upstanding column 12 and is provided with an anti-friction roller 54 on its rear end. The roller 54 bears against the face of a semi-circular cam 55 formed on the inner face of the gear 17 and is pushed outwardly thereby. The forward end of the arm is provided with a tooth 56 which is adapted to enter the notches 57 formed in the periphery of the table 39 and hold said table from rotating while the bottle edge is being spun over the bottom of the bottle. The forward end portion of the arm 52 carries a bottle holder 58 pivotally mounted thereon which is provided with a bottle engaging

curved recess 59, and the curved edge of the arm forming the recess bears against the neck of the bottle and tightly clamps it against the knob over which it extends. The holder 58 is yieldingly held to its work by a flat spring 60 which is mounted on the arm 52 and bears against one end of the holder and is adjustable as to tension by means of a bolt 61.

A pin 62 projecting downwardly from the slidable arm 52 carries a roller 63 on its lower end which is engaged by a cam 64 projecting from the edge of the intermittent pinion 45. This cam serves to force the slidable arm 52 to its rearward position when the arm is not engaged by the cam 55.

A brace member 65 projecting outwardly from the curved column serves to hold and brace the bottles when in position to be engaged by the spinning head.

The spinning head is provided with an annular spinning groove 66 and a bottom holding portion 67 which is adapted to position the bottom while the bottle edge is being spun over.

In operation the flanged bottoms are inserted in the open bottom ends of the bottles and the bottles are then inverted and placed over the knobs of the revoluble table and into the recesses of the bottle holding plate. As the table revolves the bottles will be successively clamped to the knobs and the spinning head will successively engage the edge of each bottle and spin it over the flange of the bottom portion and form a tight joint.

From the foregoing description it will be seen that the paper bottle bottom spinning machine is of simple construction and is well adapted for the purpose desired.

What I claim as my invention is:

1. A paper bottle bottom spinning machine, comprising a revoluble bottle holding table, a revoluble head for spinning over the edges of the bottles held by the table, intermittent drive means for the table to successively bring the bottles into position to be engaged by the head, means for locking the table in its positions of rest, means carried by said locking means to successively clamp each bottle in head engaging position, and means for moving the head successively into engagement with each bottle when so clamped.

2. A paper bottle bottom spinning machine, comprising a frame, a revoluble bottle holding table mounted thereon, a revoluble head for spinning over the edges of bottles held by the table, intermittent drive means for revolving the table to bring the bottles held thereby successively into head engaging positions, means for locking the table in its positions of rest, means carried by said locking means and operable therewith for successively clamping each bottle against rotation when in said positions, and means for

moving the head into engagement with each bottle when so clamped and to gradually further move said head in the same direction during the spinning operation.

- 5 3. A paper bottle bottom spinning machine, comprising a frame having an up-
standing column, a revoluble table mounted
on the frame, and provided with a plurality
of bottle holding knobs, a plate carried
10 and spaced above the table and having pe-
ripheral recesses registering with said knobs,
a revoluble and reciprocal shaft journaled on
the column and having a spinning head
mounted on one end, means for intermit-
15 tently revolving the table to bring the knobs
successively into alinement with the head,
a locking member movable toward and away
from the table to secure it in its positions of
rest, a clamping member movable with said
20 locking member to successively engage the
side of the bottle presented to it, and means
for reciprocating the shaft each time a knob
is in alinement therewith.

4. A paper bottle bottom spinning ma-
chine, comprising a frame having an up-
25 standing column, a revoluble table mounted
thereon and provided with a plurality of
bottle holding knobs, a recessed plate car-
ried by the table and spaced above the same
30 the recesses of said plate registering with