

988,373.

J. NAZEL.
SEAM SETTING MECHANISM.
APPLICATION FILED APR. 5, 1909.

Patented Apr. 4, 1911.

2 SHEETS—SHEET 1.

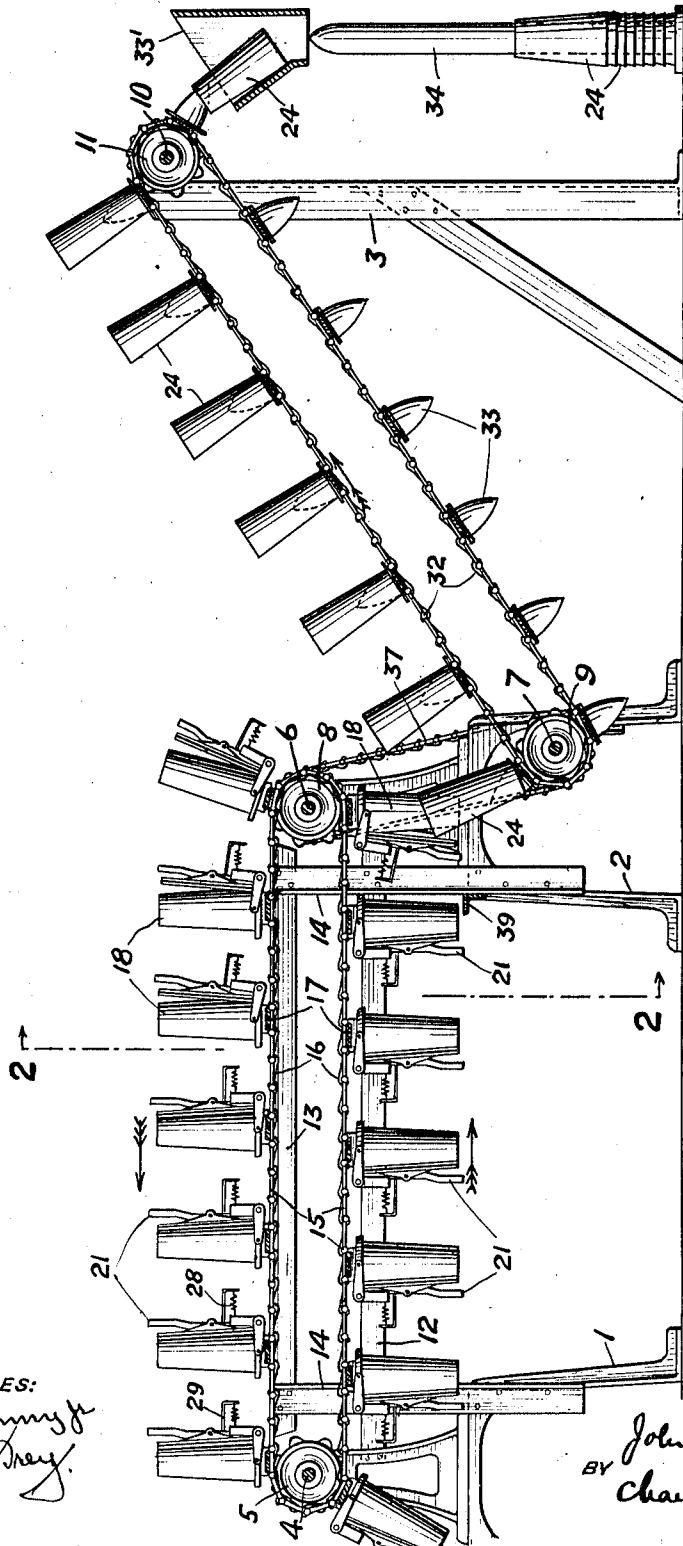


FIG. 1.

WITNESSES:

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Victor Tracy

INVENTOR

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ATTORNEY.

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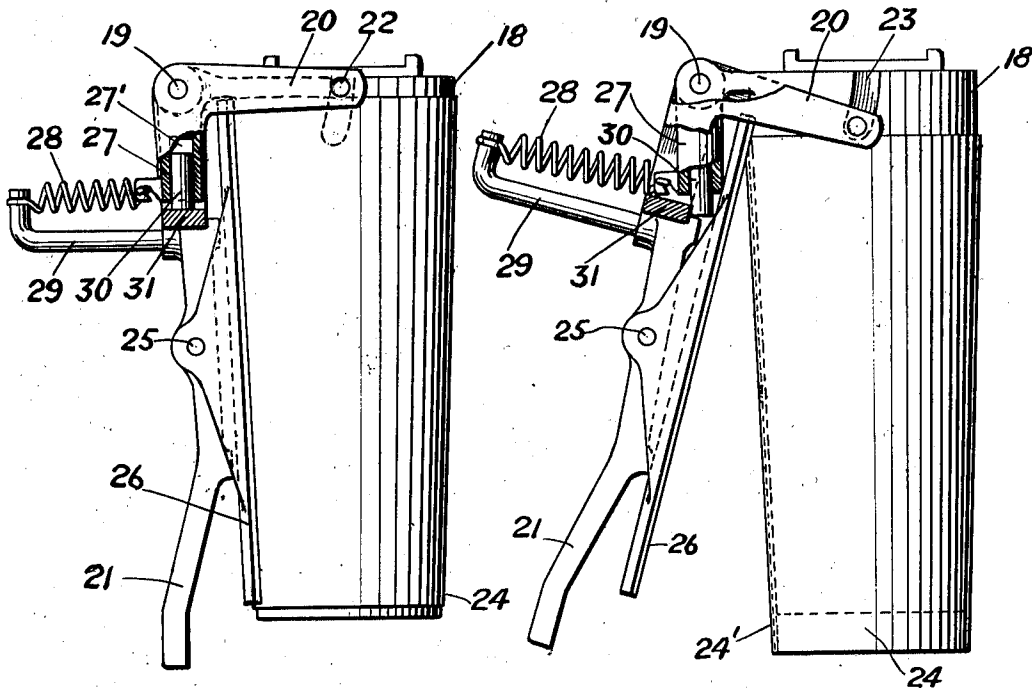


FIG. 3.

FIG. 4.

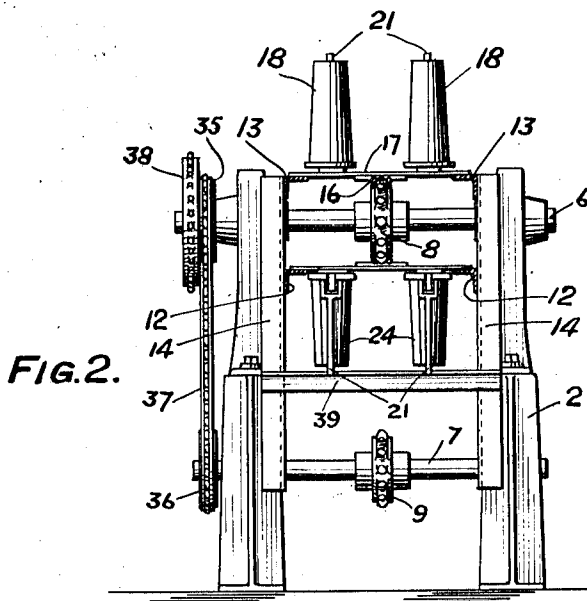


FIG. 2.

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UNITED STATES PATENT OFFICE.

JOHN NAZEL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO SANITARY PAPER BOTTLE COMPANY, OF WILMINGTON, DELAWARE, A CORPORATION OF DELAWARE.

SEAM-SETTING MECHANISM.

988,373.

Specification of Letters Patent.

Patented Apr. 4, 1911.

Application filed April 5, 1909. Serial No. 487,870.

To all whom it may concern:

Be it known that I, JOHN NAZEL, a citizen of the United States, residing in the city of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented certain Seam-Setting Mechanism, of which the following is a specification.

My invention is a seam setting mechanism designed primarily for use in the manufacture of tubular bodies of paper receptacles. Its characteristic features comprise a traveling mechanism with tube holders thereon, means for pressing the seams of tubes on said holders, means for ejecting the tubes from the holders, means for holding the seam pressing devices out of action, and means for receiving the ejected tubes and stacking them.

In the accompanying drawings, Figure 1 is a longitudinal section taken vertically through a machine embodying my invention; Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1; Fig. 3 is an enlarged view with parts broken away showing a holder having a tube thereon with the seam pressing device in action, and Fig. 4 is an enlarged view with parts broken away showing the holder having the tube thereon with the seam pressing device out of action and the tube ejecting device in action.

The machine, as shown in the drawings, comprises the housings 1, 2, and 3. The housings 1 have journaled thereon the shaft 4 which carries the sprocket wheel 5; the housings 2 have journaled thereon the shafts 6 and 7 which carry the respective sprocket wheels 8 and 9, and the housings 3 have journaled thereon the shaft 10 which carries the sprocket wheel 11. Guide bars 12 are fixed on the housings 1 and 2, and guide bars 13 are fixed to struts 14, the latter being fixed to the respective housings 1 and 2 and to the guide bars 12. An endless or belt-like conveyer 15 is carried by the sprocket wheels 5 and 8, the conveyer comprising the connected links 16 which are engaged by these sprocket wheels and, fixed to certain links, the cross bars 17 whose ends move on the guide bars 12 and 13. Conical tube holders or mandrels 18 are fixed on the cross bars 17 and on bearings 19 fixed to the bases of the mandrels are fulcrumed elbows of crank levers having the arms 20 and 21. The arms 20 of each lever are provided with the respective studs 22 which are adapted to

move in curved slots 23 of the bases of the mandrels to throw the tubes 24 therefrom. The lever arms are provided with bearings 25 on which are fulcrumed the bars 26 which are adapted for pressing the tube seams 24'. A post 27 is fixed to the base of each mandrel and has engaged thereto one end of a coiled spring 28 which has its other end engaged to a post 29 projecting outwardly from the corresponding arm 21, the spring acting to throw the arm 20 toward the base of the mandrel and the arm 21 toward the mandrel, whereby the studs 22 are withdrawn from interference with the tube placed on the mandrel and the bar 26 is pressed against the seam of the tube. A bolt 30 is adapted to move freely in a socket 27' of the post 27 and coacts with the cross piece 31 connected with the lever arm 21, so that when the top or smaller end of the mandrel is up the bolt will drop into the socket to permit the spring to throw the lever to the position shown in Fig. 3, and when the top or smaller end of the mandrel is downward the bolt is adapted to move outwardly with reference to the socket to engage the cross bar by which the parts may be held in the position shown in Fig. 4. An endless or belt-like conveyer 32, similar to the conveyer 15, is carried by the sprocket wheels 9 and 11 and has thereon the conoidal studs or tube holders 33 which are adapted for receiving thereon the contracted ends of the tubes 24 delivered thereto by the mandrels 18 and delivered thereby to the funnel 33', the latter being placed above a post 34 onto which the tubes are passed large end downward and stacked. The shafts 6 and 7 have thereon the respective sprocket wheels 35 and 36 which are connected by the sprocket chain 37, and the shaft 6 has thereon the driving wheel 38.

In operation, upon revolving the wheel 38 the conveyers 15 and 32 are caused to travel in unison, through the mechanism described, in the direction of the arrows applied thereto. When the mandrels 18 are in the upper part of their course and the crank levers held in the position shown in Fig. 4, tubes 24 are placed on the mandrels, the levers 21 are drawn back to permit the bolts 30 to drop out of the way of the cross pieces 31, and the springs 28 throw the levers so that the parts occupy the position shown in Fig. 3, the tubes dropping down on the

mandrels as the parts 22 and 26 move to their positions shown in Fig. 3. The parts 26 are pressed by the springs 28 against the seams 24' during the period required for carrying the tubes through the greater part of the circuit of travel of the conveyer 15 and until the arms 21 strike the bar 39 on the housing 2, whereupon these bars are withdrawn from their engagements with the tubes and the studs 22 push the tubes down so that they drop from the mandrels onto the holders 33 on the traveling conveyer 32, being delivered therefrom by way of the funnel 33' to the posts 34.

It will be understood that when the arms 21 are engaged by the bar 39 the bolts 30 drop and the lever mechanism is held in the position shown in Fig. 4 until the mandrels reach the upper part of their course when the bolts are released by drawing back the levers. It will also be understood that while a double series of devices are shown for holding the tubes, the conveyers may be provided with any convenient number thereof.

Having described my invention, I claim:

1. The combination of a belt-like conveyer, mandrels carried by said conveyer, fulcrumed crank levers carried by said mandrels and having means for disengaging from said mandrels articles placed thereon, and means comprising springs for rocking said levers.

2. The combination of a traveling conveyer, holders carried thereby, crank levers connected with the respective holders, bars pivotally connected to the respective levers and adapted for acting upon articles placed on said holders, means connected with said levers and adapted for disengaging articles placed on the respective holders, means acting upon said levers for actuating the respective bars, and detents automatically moving into position for holding the respective levers out of action in one part of their course and automatically moving out of po-

sition for holding said levers in a further part of their course.

3. The combination of a traveling conveyer, a holding device carried thereby, a crank lever having a fulcrumed connection with said device, means carried by said lever for acting upon an article placed on said device, means adapted for operating said lever, means in the path of said lever for rocking it against the action of said operating means, and a detent adapted for automatically engaging said lever and holding it against the action of said means for operating it.

4. The combination of a traveling conveyer, a tube holding device connected therewith, a fulcrumed crank lever having connected with one arm thereof a rocking bar adapted for pressing the seam of a tube on said device and studs for disengaging said tubes from said device, a spring adapted for causing said lever to press said bar against said seam, means in the path of travel of said lever for engaging it and withdrawing said bar against the action of said spring, and automatic means for holding said lever with said bar in its withdrawn position.

5. The combination of a traveling conveyer, tapered holders on said conveyer, mechanisms connected with the respective holders for acting upon tubes carried thereby, means in the path of travel of said mechanisms for effecting the disengagement of said tubes on said holders, a second traveling conveyer, tube holders carried by said second conveyer and adapted for receiving tubes from said conveyer first named, and tube stacking means to which said second named holders deliver said tubes.

In witness whereof I have hereunto set my name this 2nd day of April 1909, in the presence of the subscribing witnesses.

JOHN NAZEL.

Witnesses:

ROBERT JAMES EARLEY,
JOS. G. DENNY, Jr.