

No. 808,955. PATENTED JAN. 2, 1906.  
B. W. TUCKER.  
MACHINE FOR APPLYING LABELS AND THE LIKE TO BOTTLES AND OTHER  
ARTICLES.

B. W. TUCKER.

## ARTICLES.

8 SHEETS—SHEET 1.



By his Attorney Phar. C. Gill

No. 808,955.

B. W. TUCKER.

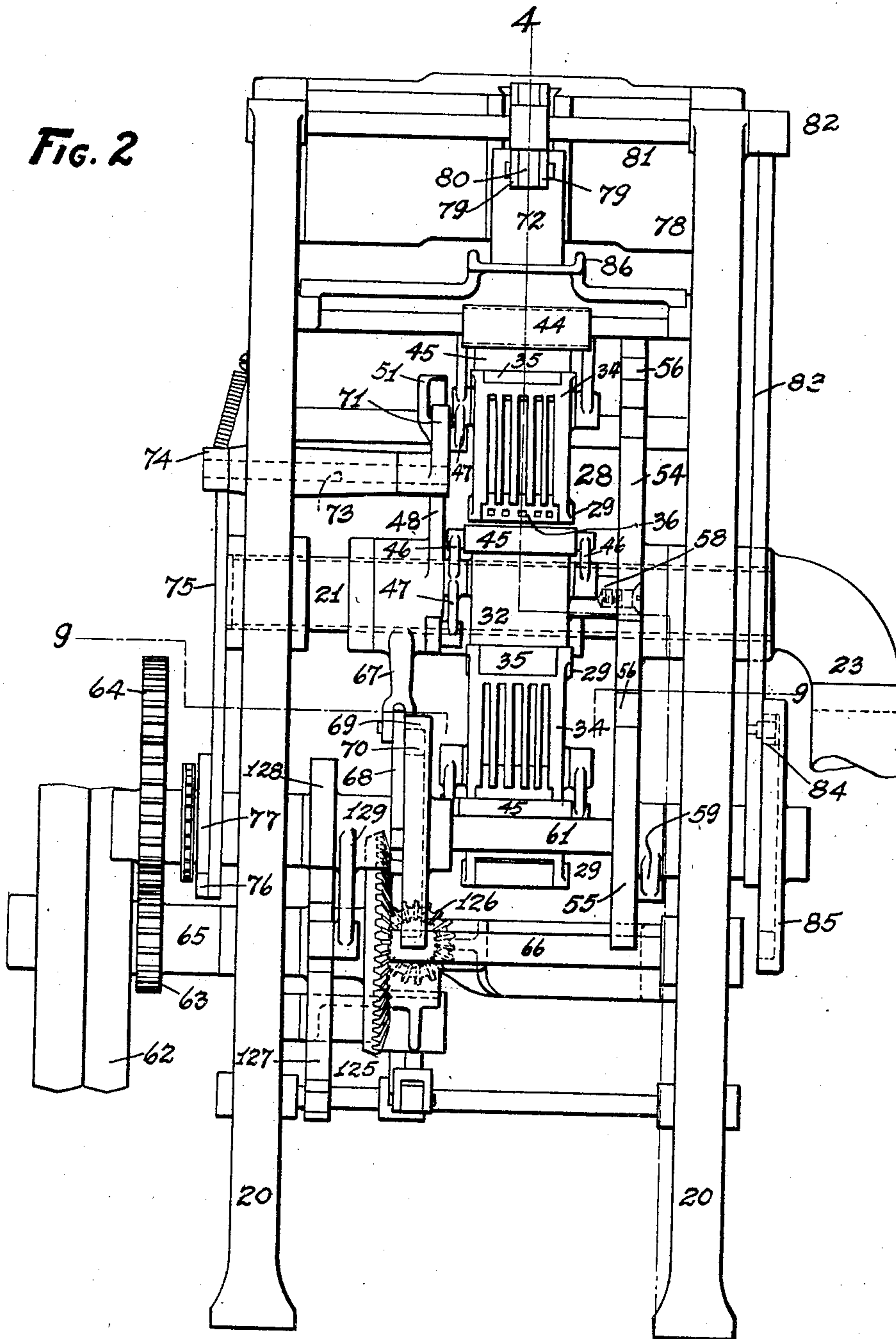
PATENTED JAN. 2, 1906.

MACHINE FOR APPLYING LABELS AND THE LIKE TO BOTTLES AND OTHER ARTICLES.

APPLICATION FILED APR. 20, 1905.

8 SHEETS—SHEET 2.

Fig. 2



Witnesses  
P. H. Ducker  
L. R. Compton

Inventor  
Benjamin W. Tucker.  
By his Attorney Chas. O. Gill



No. 808,955.

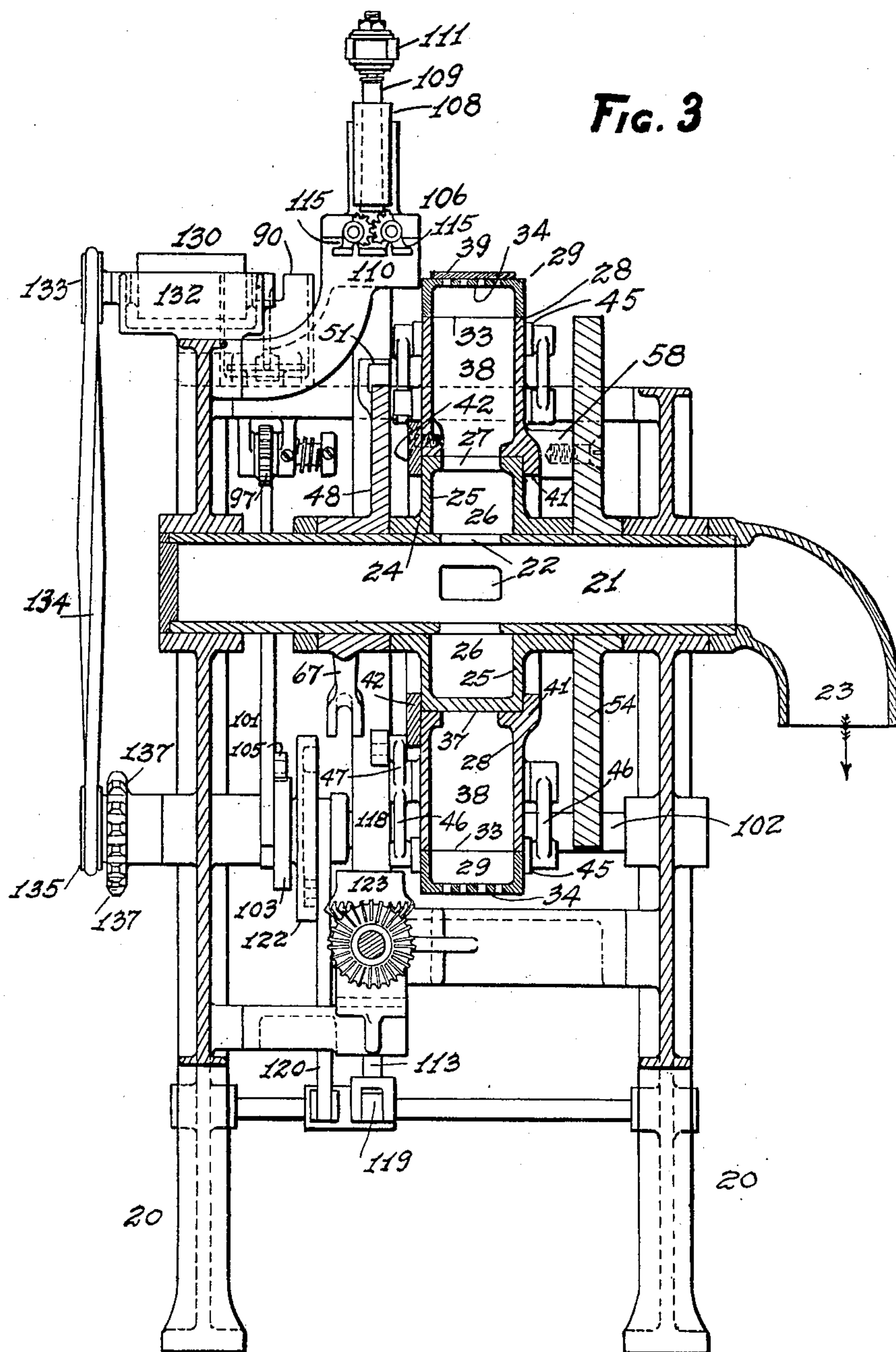
PATENTED JAN. 2, 1906.

B. W. TUCKER.

MACHINE FOR APPLYING LABELS AND THE LIKE TO BOTTLES AND OTHER ARTICLES.

APPLICATION FILED APR. 20, 1905.

8 SHEETS—SHEET 3.



Witnesses  
P. H. Tucker  
L. R. Compton

Inventor  
Benjamin W. Tucker,  
By his Attorney Chas. C. Gill

No. 808,955.

PATENTED JAN. 2, 1906.

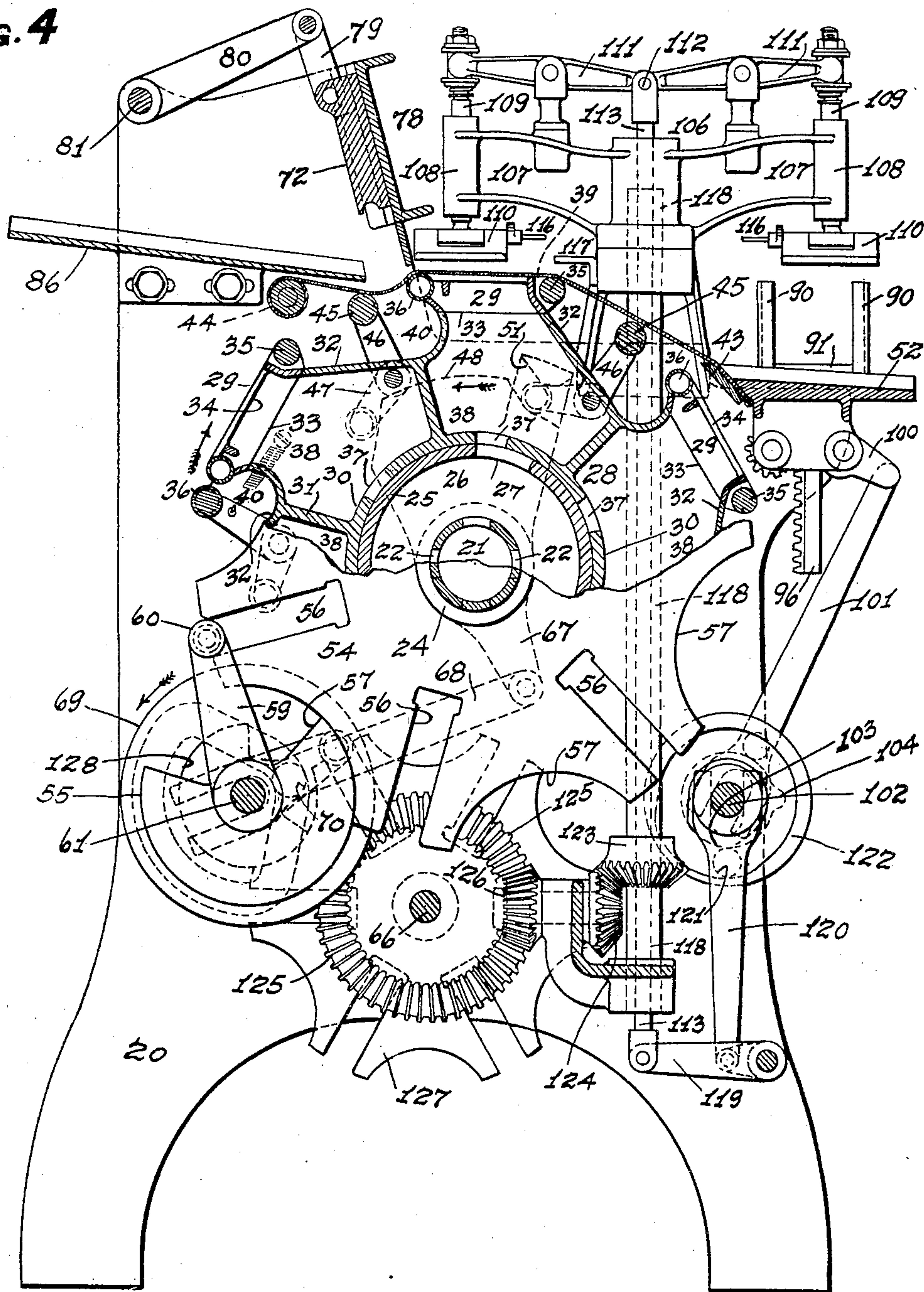
B. W. TUCKER.

MACHINE FOR APPLYING LABELS AND THE LIKE TO BOTTLES AND OTHER ARTICLES.

APPLICATION FILED APR. 20, 1905.

8 SHEETS—SHEET 4.

Fig. 4



Witnesses  
P. H. Ducker  
L. R. Compton

Inventor  
Benjamin W. Tucker,  
By his Attorney Chas. C. Gill



No. 808,955.

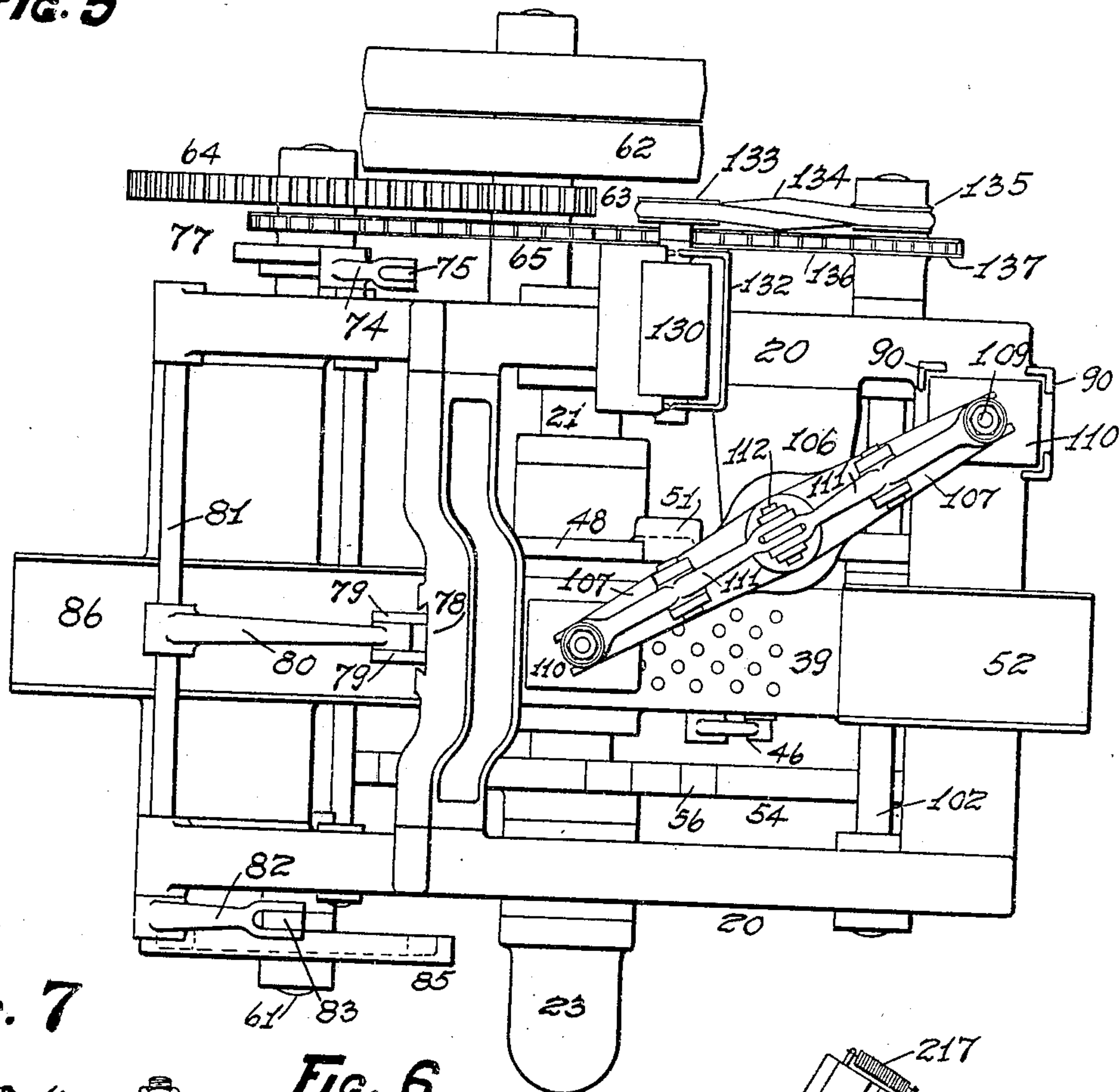
PATENTED JAN. 2, 1906.

B. W. TUCKER.  
MACHINE FOR APPLYING LABELS AND THE LIKE TO BOTTLES AND OTHER ARTICLES.

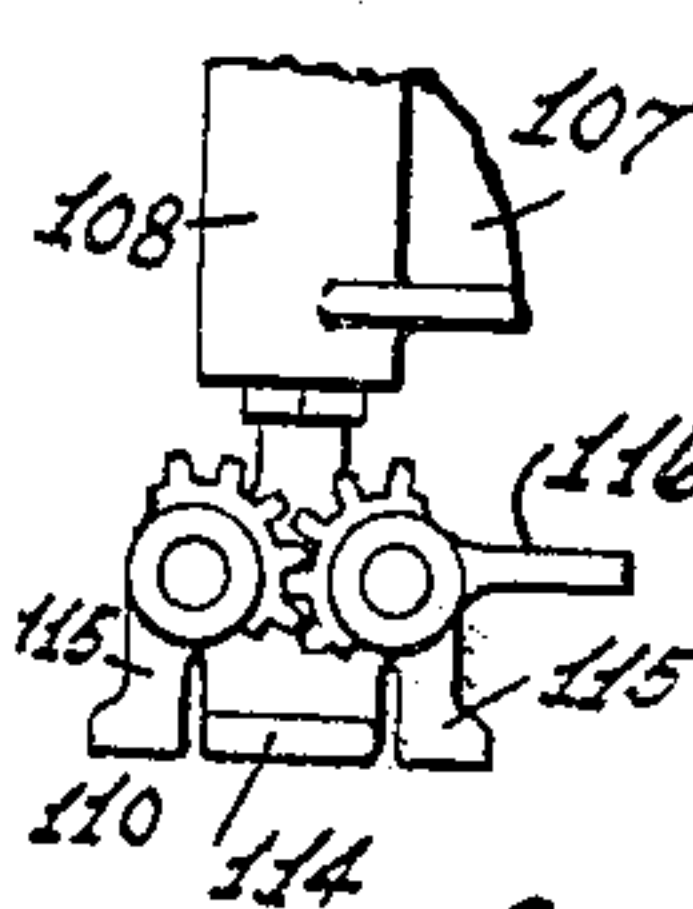
APPLICATION FILED APR. 20, 1905.

8 SHEETS—SHEET 5.

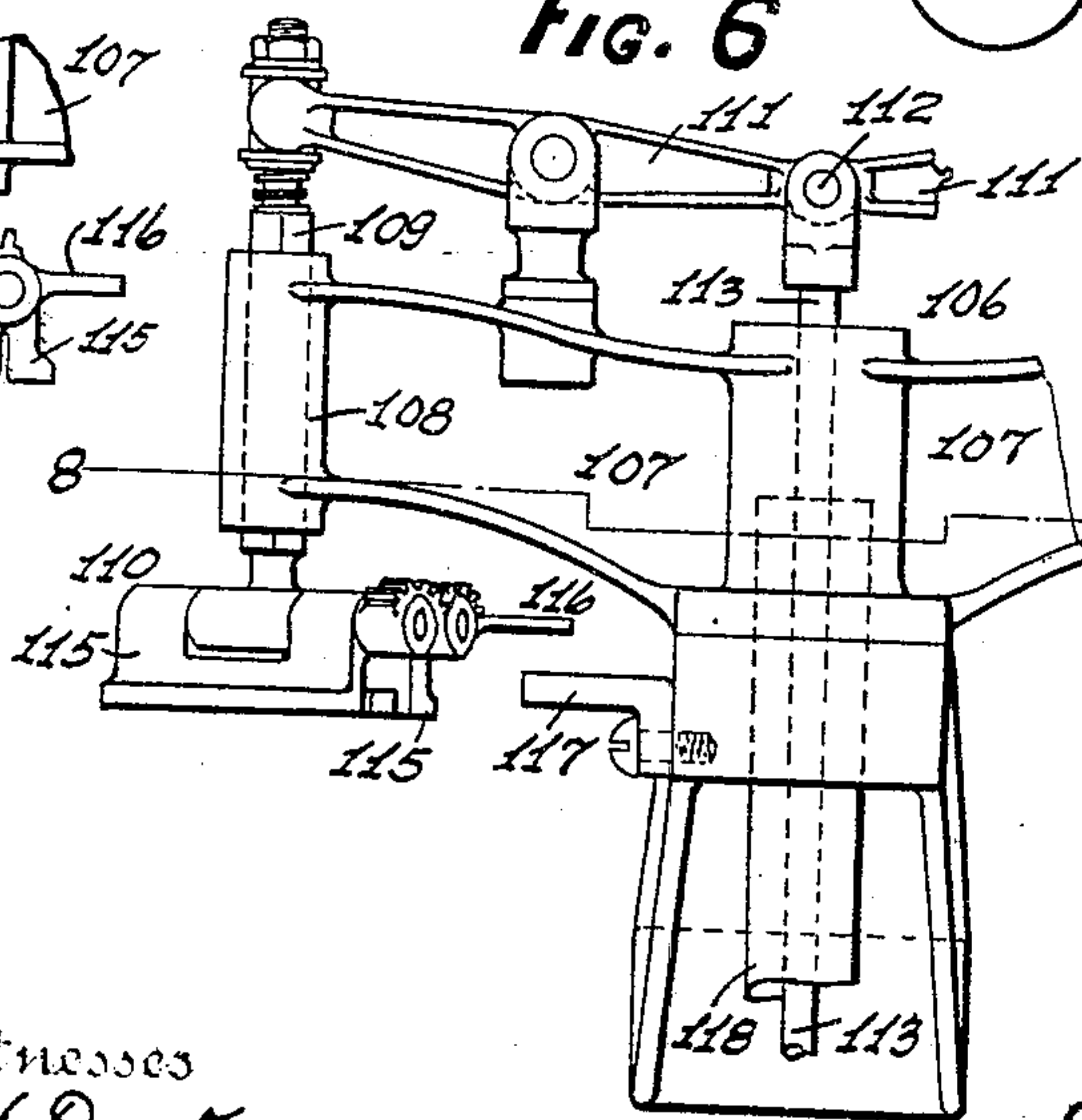
**Fig. 5**



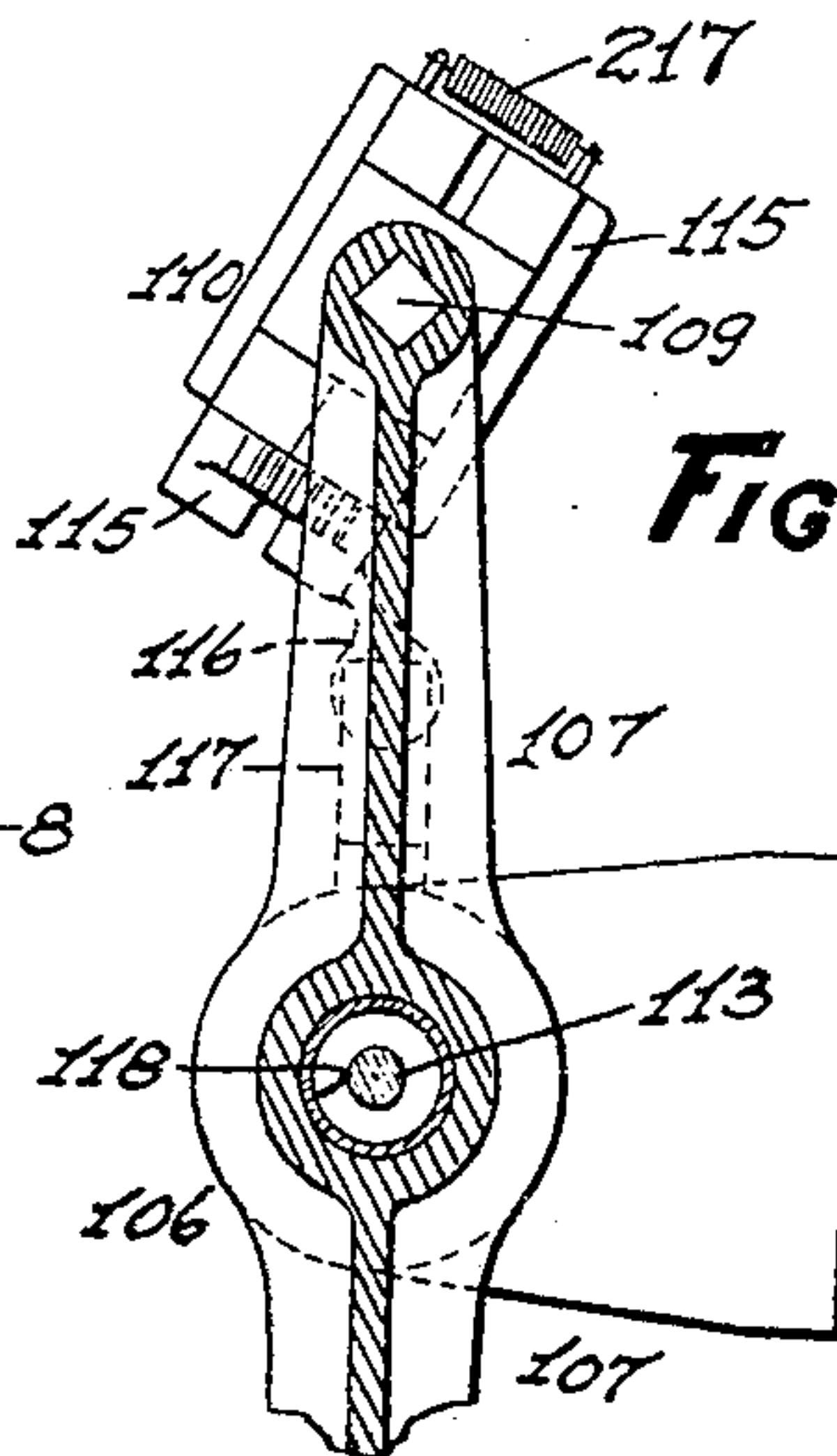
**Fig. 7**



**Fig. 6**



**Fig. 8**



Witnesses  
P. H. Ducker  
L. R. Compton

Inventor  
Benjamin W. Tucker.  
By his Attorney Chas. C. Gill

No. 808,955.

B. W. TUCKER.

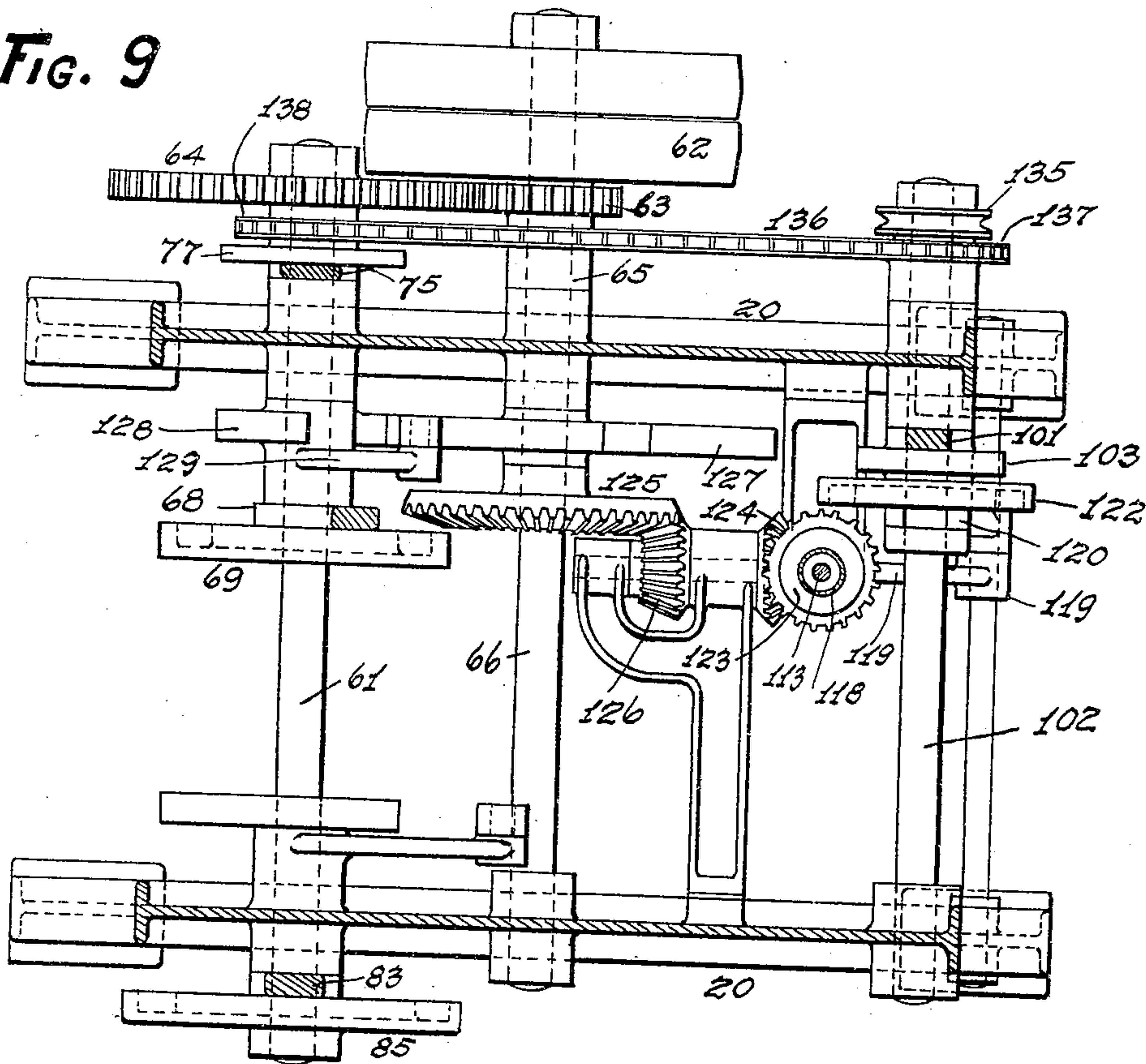
PATENTED JAN. 2, 1906.

MACHINE FOR APPLYING LABELS AND THE LIKE TO BOTTLES AND OTHER ARTICLES.

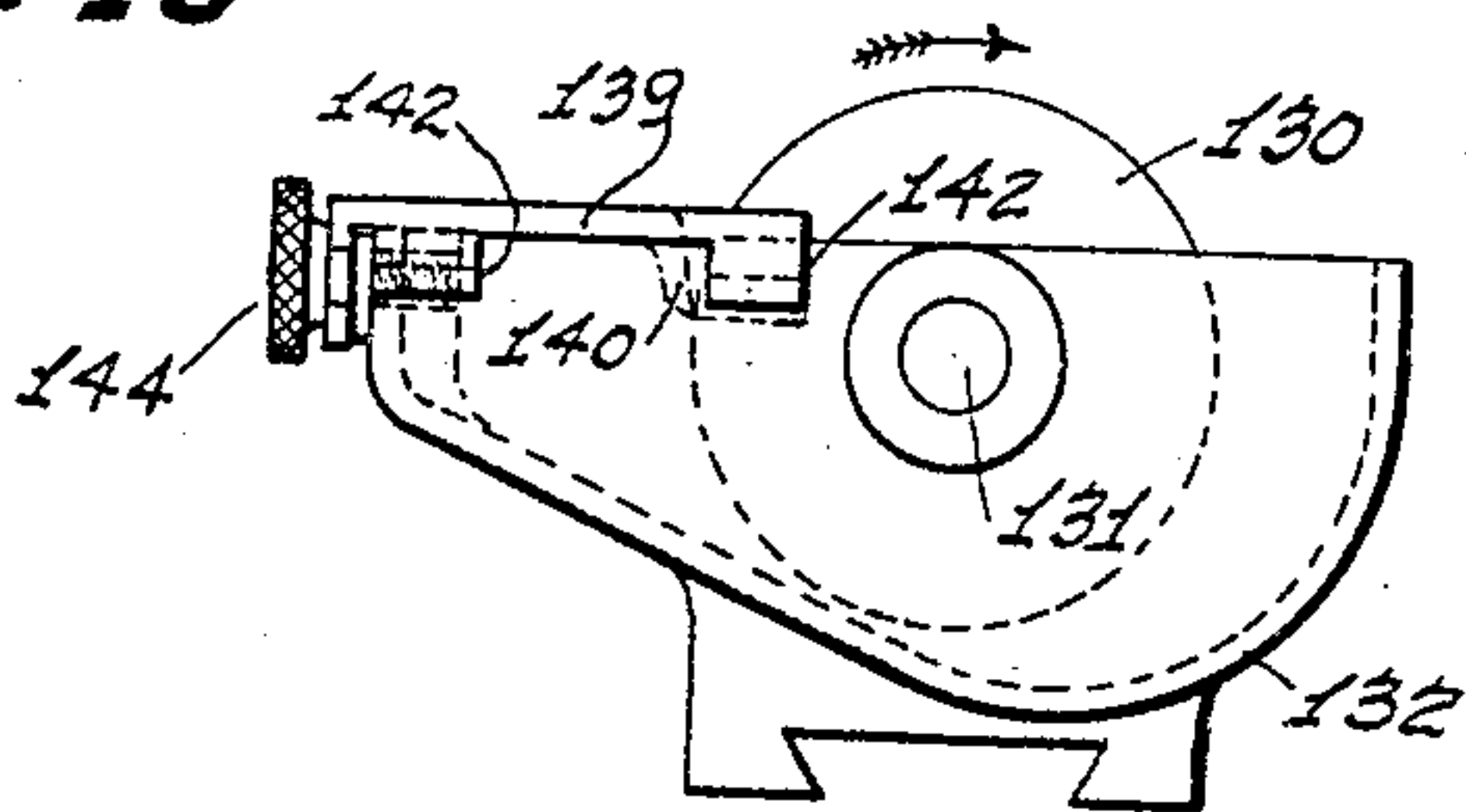
APPLICATION FILED APR. 20, 1905.

8 SHEETS—SHEET 6.

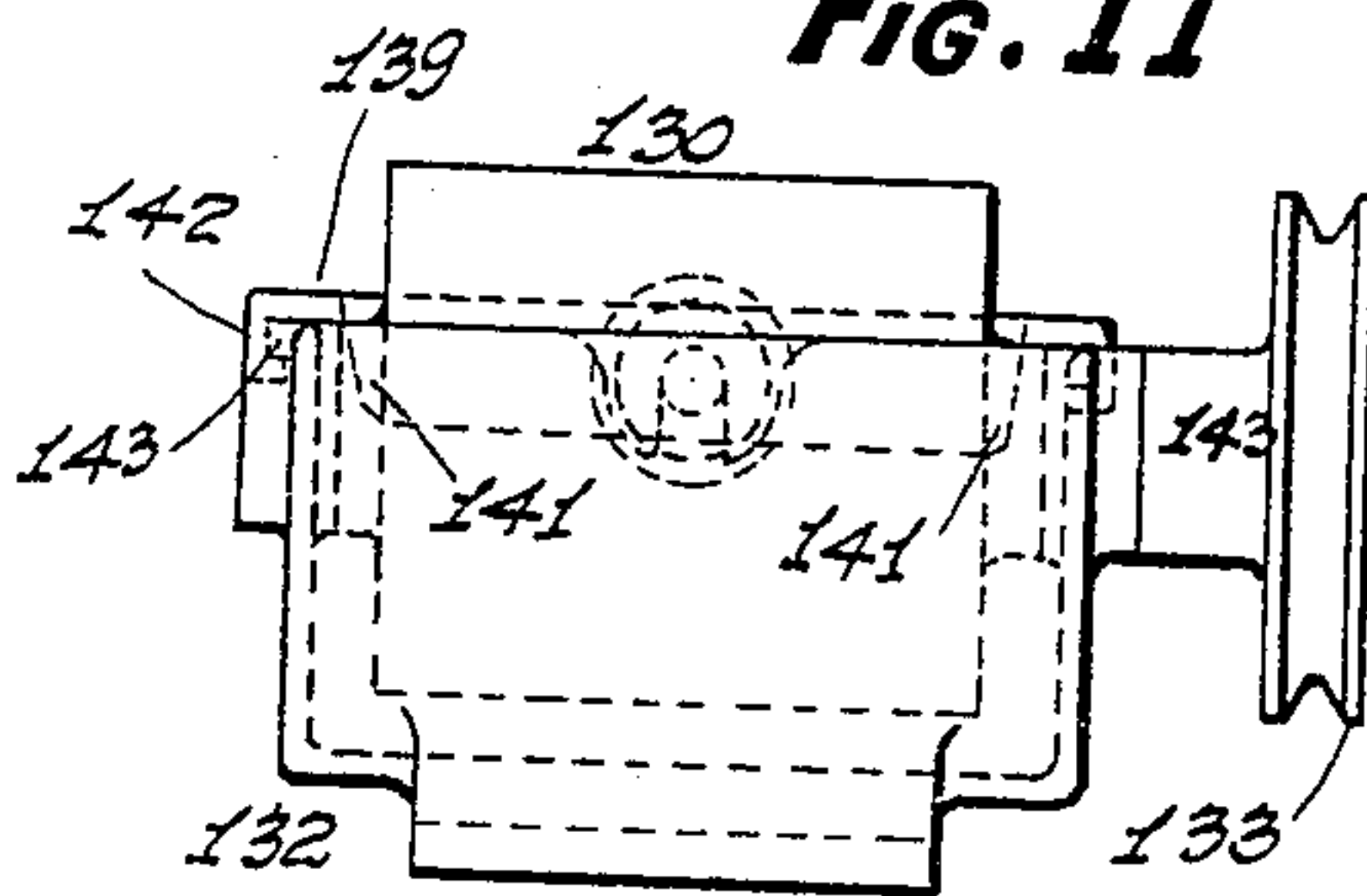
**Fig. 9**



**Fig. 10**



**Fig. 11**



Witnesses  
P. H. Ducker  
L. R. Compton

Inventor  
Benjamin W. Tucker  
By his Attorney Phat O'Gill



No. 808,955.

PATENTED JAN. 2, 1906.

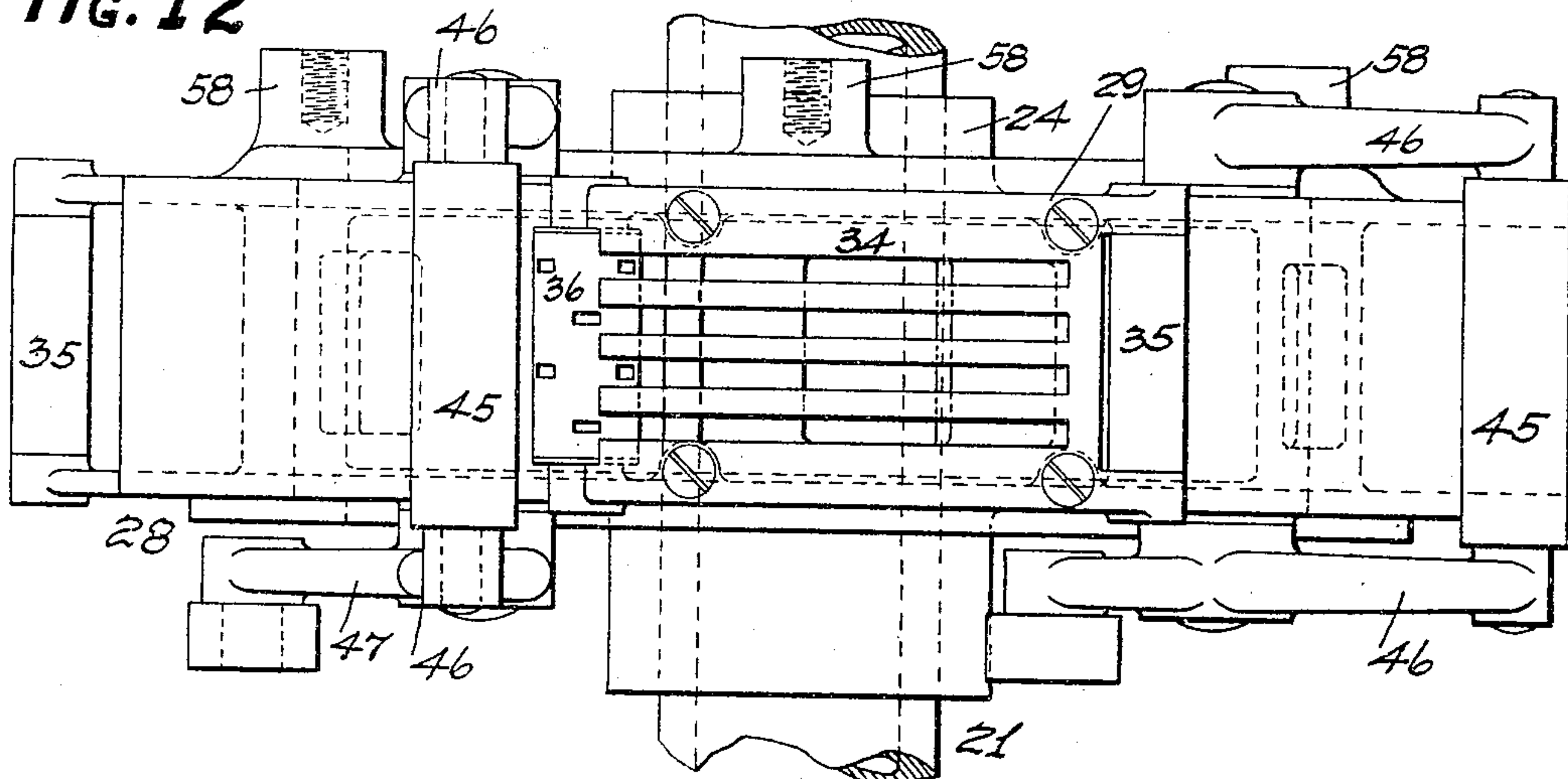
B. W. TUCKER.

MACHINE FOR APPLYING LABELS AND THE LIKE TO BOTTLES AND OTHER ARTICLES.

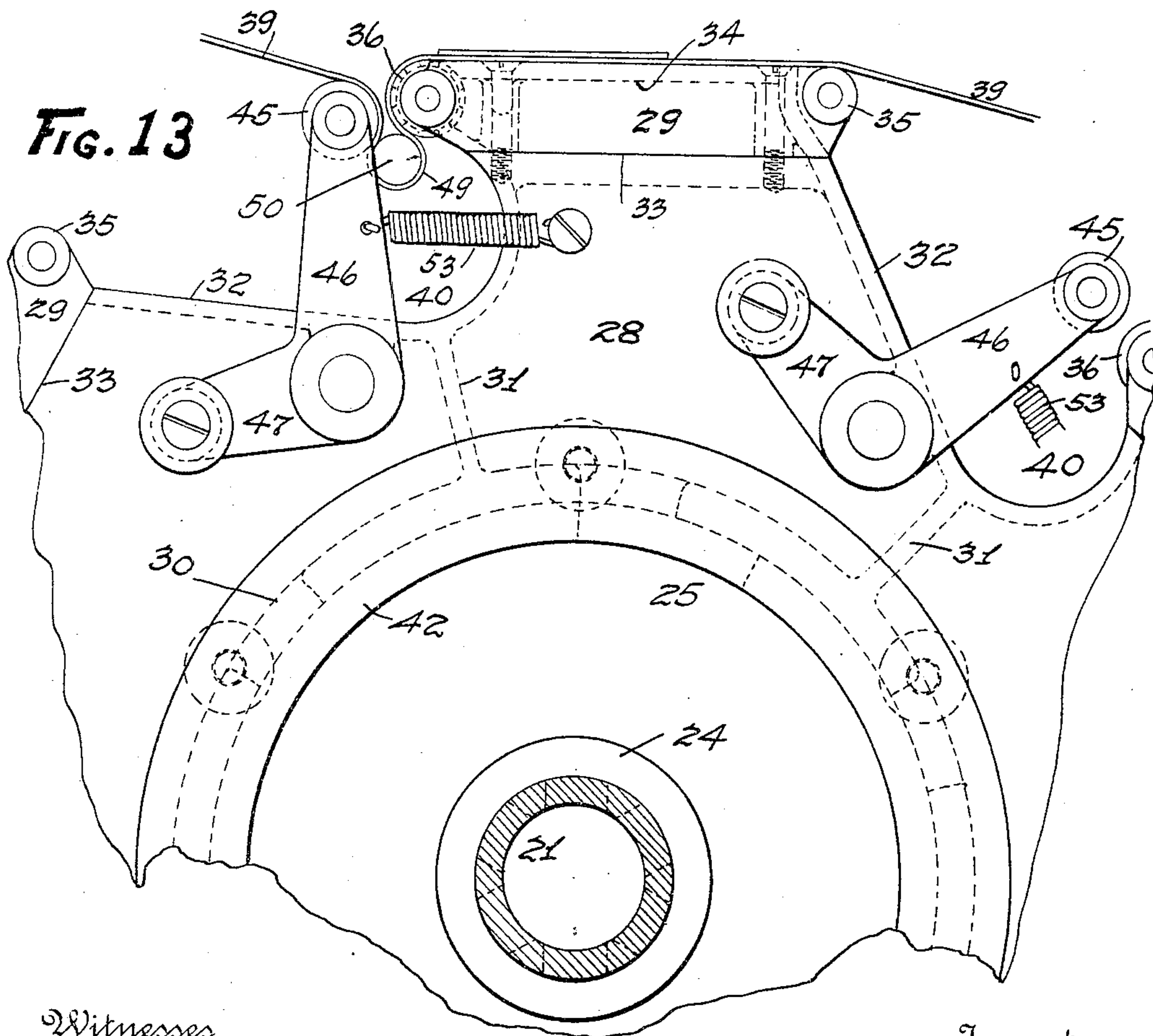
APPLICATION FILED APR. 20, 1905.

8 SHEETS—SHEET 7.

**Fig. 12**



**Fig. 13**



Witnesses  
P. H. Ducker  
L. R. Compton

Inventor  
Benjamin W. Tucker,  
By his Attorney Chas. C. Gill

No. 808,955.

B. W. TUCKER.

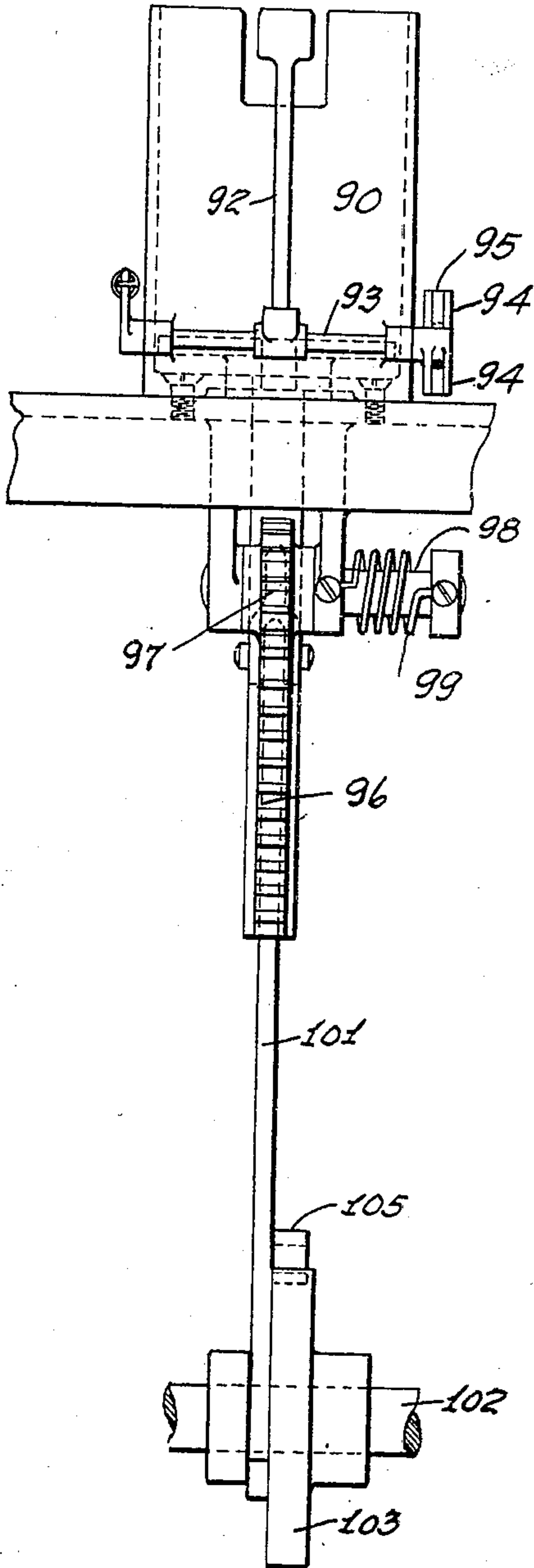
PATENTED JAN. 2, 1906.

MACHINE FOR APPLYING LABELS AND THE LIKE TO BOTTLES AND OTHER ARTICLES.

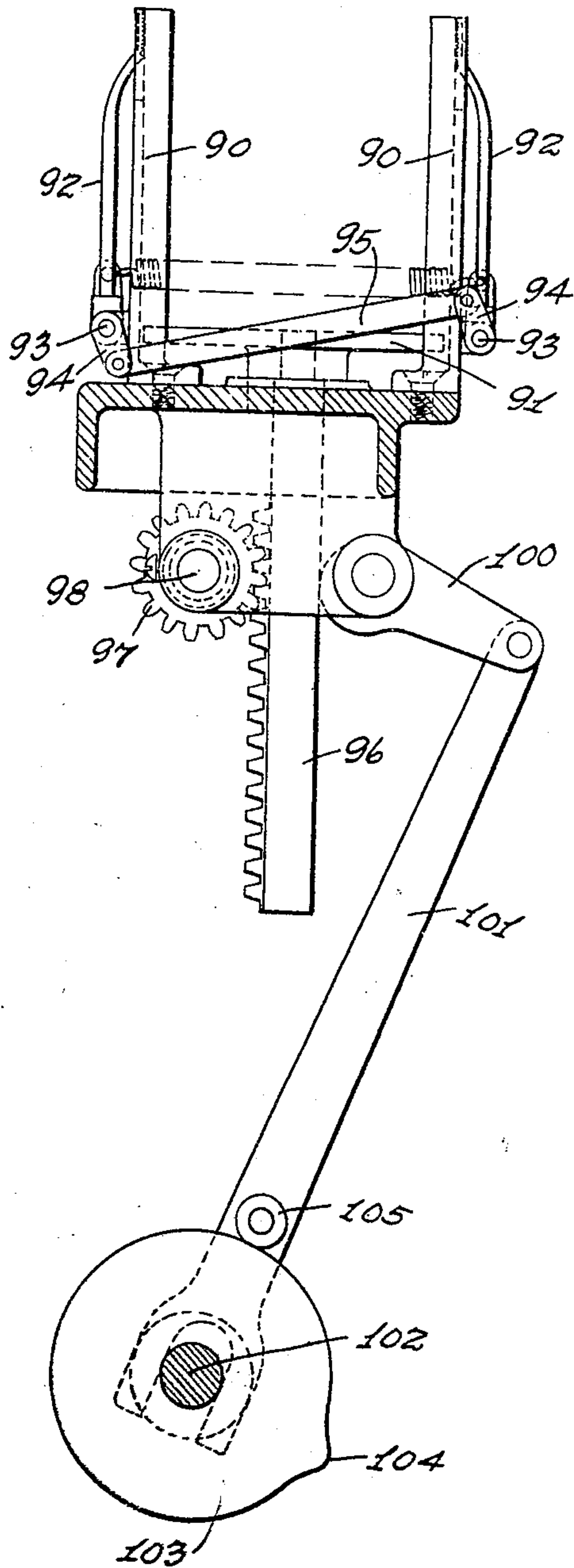
APPLICATION FILED APR. 20, 1905.

8 SHEETS—SHEET 8.

**Fig. 14**



**Fig. 15**



Witnesses  
P. H. Ducker  
L. R. Compton

Benjamin W. Tucker, Inventor  
By his Attorney Chas. O. Gill



# UNITED STATES PATENT OFFICE.

BENJAMIN W. TUCKER, OF NEWARK, NEW JERSEY.

MACHINE FOR APPLYING LABELS AND THE LIKE TO BOTTLES AND OTHER ARTICLES.

No. 808,955.

Specification of Letters Patent.

Patented Jan. 2, 1906.

Application filed April 20, 1905. Serial No. 256,546.

*To all whom it may concern:*

Be it known that I, BENJAMIN W. TUCKER, a citizen of the United States, and a resident of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Machines for Applying Labels and the Like to Bottles and other Articles, of which the following is a specification.

10 The invention relates to improvements in machines for applying labels and the like to bottles, cans, and other articles; and it consists in the novel features, arrangements, and combinations of parts hereinafter described, and particularly pointed out in the claims.

15 In its preferred form the machine of my invention comprises a rotary hollow frame or drum having a series of rolling tables to be brought one after another by intermittent motions below a rolling belt or apron upon which the labels one after another will be placed and within a loop in which the labels will be rolled or drawn around the bottles or other articles, the said belt or apron being 25 perforated or of porous character and said tables being slotted and connected with air-suction apparatus, whereby when a table is below said belt or apron and a label is placed upon the belt said label may be held smooth and flat by such suction and become evenly 30 and smoothly applied upon the bottle, the construction being such that the entire label is held by the air suction and is only released from the same in proportion as it is wrapped around the bottle. The rotary hollow frame contains partitions forming air-chambers for the respective rolling tables, and provision is made for intermittently applying the air suction to said chambers, so that 40 only the table which may be below the rolling belt or apron may be subjected thereto.

45 The machine of my invention also comprises means for holding a stack or pile of the labels to be used, a label-carrier for automatically taking said labels one after another and depositing them upon the rolling belt, means for applying paste upon the face of said carrier so that said labels may adhere to it for transit purposes and become covered 50 therefrom on their then upper blank faces or backs with the paste for enabling the labels to finally adhere to the bottles, and means for in part loosening the labels from the carrier when the latter is in position to deposit the same upon the rolling belt or apron, the 55 air suction exerted through the said belt or

apron finally effecting the complete detachment of the labels from the carrier and holding said labels in proper condition and position to be applied around the bottles or other 60 articles.

The machine of my invention also comprises means for forming the loop in the belt or apron to receive the bottle and finally the label, means for effecting the rolling of the 65 bottle within said loop, means for discharging the bottle after the same has received the label, and suitable mechanism for imparting proper movements to the several cooperating parts of the machine. 70

The machine of my invention is new in its general combinations and in many of its individual parts and is applicable for applying labels or wrappers to various articles in addition to bottles, to which I specifically refer, 75 as illustrative of the utility of the invention without meaning thereby to limit my invention only to use in applying labels to bottles.

The invention will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which— 80

Figure 1 is a side elevation of a machine constructed in accordance with and embodying my invention. Fig. 2 is an end view of 85 same. Fig. 3 is a vertical transverse section of same on the dotted line 3 3 of Fig. 1. Fig. 4 is a vertical longitudinal section of same on the dotted line 4 4 of Fig. 2. Fig. 5 is a top elevation of same. Fig. 6 is an enlarged detached view of a portion of the label-carrier 90 mechanism. Fig. 7 is a detached end view of a portion of same. Fig. 8 is a horizontal section of same on the dotted line 8 8 of Fig. 6. Fig. 9 is a horizontal section through the machine on the dotted line 9 9 of Fig. 2. Fig. 95 10 is a detached side elevation of the paste-receptacle. Fig. 11 is an end view of same. Fig. 12 is an enlarged detached top view of the hollow rotary frame affording the series 100 of rolling tables. Fig. 13 is a side elevation of a portion of same, the hollow supporting-shaft being shown in section. Fig. 14 is an enlarged detached view of the receptacle for holding the labels or wrappers with the operative mechanism connected therewith, this 105 figure having been taken from the right-hand side of Fig. 1; and Fig. 15 is a side elevation, partly in section, of same, this figure having been taken from the right-hand side of Fig. 14. 110

In the drawings, 20 20 designate suitable side frames for supporting the operative



mechanism of the machine. Extending transversely between the side frames 20 and held at its ends therein is a tubular supporting non-rotary shaft 21, having at about its center a series of apertures 22 and being closed at one end, Fig. 3, and at its other end provided with an elbow 23, to which by usual piping the said shaft may be connected with a suction - blower or other suitable form of suction apparatus. (Not shown.) Upon the hollow shaft 21 is rigidly mounted a sleeve 24, within the annular projecting portion 25 of which is formed an air-chamber 26 in communication with all of the aforesaid openings 22 in the shaft 21, and which chamber 26 is entirely closed, except at its upper side, where the said annular portion 25 of the sleeve is formed in its periphery with an inlet-opening 27.

Upon the periphery of the annularly-projecting portion 25 of the sleeve 24 is mounted the hollow rotary frame or drum 28, which carries the series of rolling tables 29 and comprises side walls, a hub 30, Fig. 4, radial partitions 31, and peripheral walls 32, the latter being in the form of corresponding sections around the frame and at their ends extending outwardly to the edges 33, whereon are secured the box-like rolling tables 29, comprising a slotted rolling-bed 34, a rear roller 35, and a hollow apertured front roller 36, as hereinafter more fully explained. The hub 30 of the hollow rotary frame 28 is formed with apertures 37, an aperture 37 being in communication with each air-chamber 38 formed by the partitions 31 within the said rotary frame. All of the apertures or air-openings 37 in the hub 30 are closed by the periphery of the chambered portion 25 of the sleeve 24 with the exception of that particular opening 37 which may at the time be in communication with the single opening 27 therein, as shown in Fig. 4, the purpose being that the air suction through the hollow shaft 21 shall only act through the opening 37 for that particular rolling table 29 which may at the time be below the rolling-belt 39. The hollow rotary frame 28 is thus composed of the apertured hub 30, partitions 31, side walls, and a periphery made up of equally-spaced rolling tables 29 and corresponding wall-sections 32 intermediate said tables and so shaped as to present recesses 40 adjacent to the front or receiving ends of said tables, these recesses 40 being provided to enable the proper formation of the loop in the rolling belt or apron 39 and permit the proper rolling or wrapping of the label or wrapper around the bottle or other article held in said loop. The radial air-chambers 38, formed in the hollow rotary frame 28, correspond in number with the rolling tables 29, there being one chamber 38 for each table 29 and the inlet to said chamber being through the slotted rolling-bed 34 of the table and through

the apertures of the hollow roller 36 at the front end of said table. The manner of mounting the hollow rotary frame 28 upon the chambered portion 25 of the sleeve 24 is shown in Fig. 3, wherein it will be seen that said frame 28 is merely slipped upon the said portion 25 from the right-hand edge thereof and is secured in position by the integral flange 41, formed on one side wall of said frame 28, and by a ring 42, secured upon the other side wall of said frame and lapping over upon the edges of said chambered portion 25, said flange 41 and said ring 42 serving to locate the frame upon the periphery of the sleeve 24 and permit of the rotary motion of said frame upon said sleeve.

The rotary frame 28 does not carry the rolling belt or apron 39, which is always in a fixed location, being held at one end by an ordinary clamp 43 and at the other end by a usual roller 44, the purpose of said rotary frame being by its intermittent motions to carry the tables 29 one after another to position below said rolling belt or apron 39.

The hollow rotary frame 28 carries a series of pivotally-mounted rollers 45 for coöperation with the rolling tables 29 and belt or apron 39, one of said rollers 45 being provided for each of said tables, and each of said rollers being mounted between the upper ends of pivoted crank-arms 46, one of which is in the form of a bell-crank lever having a lower arm 47, Fig. 13, to be engaged at the proper time by a cam 48 for holding the loop 49 in the belt or apron 39 closed around the bottle or other article 50 and maintaining this condition during the movement of the table and while the label or wrapper is being applied upon said bottle. The cam 48 is formed with a portion 51 to engage the crank-arm 47 for moving the roller 45 in a direction from its rolling table for the purpose of opening the loop 49 and effecting the convenient discharge of the labeled bottle or other article upon a table or chute 52. The crank-arms 46 are given a normal spring tension toward their respective rolling tables 29 by means of coiled springs 53, Fig. 13, and the cam 51 acting against the crank-arms 47 46 serves to overcome the tension of the springs 53 in opening the loop 49 when it is desired to discharge the labeled bottle therefrom. Construction and operation of the cams 48 51 will be hereinafter referred to.

The means for imparting intermittent rotary motion to the hollow frame 28 comprise a Geneva movement, Fig. 4, consisting of the plate 54 and lock 55, the said plate having the series of equally-spaced radial slots 56 and on its periphery the concave arc recesses 57 to receive the periphery of the lock 55. The plate 54 is secured by screws to studs 58, cast on the side of the hollow rotary frame 28, and hence said frame 28 can only have the movement which may be imparted to it by said



plate 54, and the plate 54 receives its movement from the crank-arm 59, integral with the lock 55 and carrying a small wheel 60, which in a known manner enters the slots 56 of the plate 54 and effects the intermittent rotation of the latter. The lock 55 is mounted upon a driving-shaft 61 and receives its rotary motion therefrom. Geneva movements for imparting intermittent rotary motion from a driving-shaft to a part to be driven are well-known mechanical expedients, and therefore no further special description of the plate 54, lock 55, and crank-arm 59 is required, nor is the present invention confined to any special means for imparting intermittent rotary motion to the hollow frame 28. The shaft 61 receives its motion from the belt-wheel 62, Fig. 2, pinion-wheel 63, integral therewith, and spur gear-wheel 64, secured upon said shaft 61. The belt-wheel 62 and pinion-wheel 63 are integral with a sleeve 65, loosely mounted upon the shaft 66, which has an intermittent motion imparted to it from the shaft 61, as hereinafter explained, while the shaft 61 is a constantly-rotating shaft.

The cam 48 coöperates with the rotary frame 28 in effecting the application of the labels to the bottles or other articles, in that said cam controls the position of the roller 45 for each rolling table 29, as the said rolling tables, one after another, reach a position below the rolling belt or apron 39, and the outline of the cam 48 is clearly illustrated in Figs. 1 and 4. The cam 48 is also illustrated in edge view in Fig. 2 and in section in Fig. 3, and the said cam is of segmental form and pivotally mounted upon the hollow shaft 21 and is provided with a downwardly-extending-arm 67, to which is pivoted a rod 68, which, looking at Fig. 4, extends downwardly and toward the left and is bifurcated to straddle and ride on the shaft 61 adjacent to a cam 69, secured upon said shaft and having a groove which engages a pin or wheel 70, Figs. 2 and 4, carried by said rod 68. The purpose of the cam 69, rod 68, and arm 67 is to impart a timed oscillatory motion to the cam 48, so that the latter may perform its duties and not interfere with any other portion of the machine. The cam 48 is directly below the rolling belt or apron 39, and its purposes are, first, as each rolling table reaches a position below said belt or apron and the latter receives a bottle to lock the roller 45 of said table in the position shown in Fig. 13; second, to maintain the loop 49 in the belt or apron during the intermittent motion of the table to the right, looking at Fig. 4, below said belt or apron, so as to insure the application of the label to the bottle 50, and, third, at the concluding portion of the intermittent motion of the table to (through its supplemental portion 51) move the said roller 45 in a direction toward the left from

said table and permit the straightening out of the belt or apron 39 and the discharge of the labeled bottle upon the receiving-table 52. The springs 53 normally close the rollers 45 toward the end rollers 36 of the rolling tables 29; but when a table is at its position below the rolling belt or apron 39 a pivoted toe 71, Fig. 1, will, as hereinafter described, descend upon the lower arm 47 of the crank-arms 46 and move the roller 45 outwardly from the roller 36 of the said table 29, thus leaving a space, as shown in Fig. 4, between said roller 45 and said roller 36 preparatory to the descent of the plunger 72 for delivering a bottle upon the apron or belt 39 and forming the loop 49 therein. Upon the partial ascent of the plunger 72 the roller 45 will be freed to close the loop 49 in the apron or belt 39, as shown in Fig. 13, and thereupon the cam 48 will move slightly toward the left, looking at Fig. 4, so as to engage the crank-arm 47 and lock the roller 45 in its closed position, after which the rotary frame 28 will perform its partial rotation, during which the engagement of the cam 48 with the crank-arm 47 will continue for the purpose of maintaining the roller 45 in its closed position until the wrapper has been completely applied to the bottle, after which and during the concluding portion of the motion of the frame 28 the roller on the said crank-arm 47 will enter the groove of the supplemental cam 51, carried by the cam 48, and the said cam 51 will, as shown in Fig. 4, operate to turn or throw the roller 45 from its adjacent roller 36, thereby releasing the loop 49 and bottle 50 and permitting the discharge of the latter. During a portion of the intermittent travel of the upper rolling table 29 toward the right, looking at Fig. 4, below the rolling belt or apron 39 the cam 48 is through the cam 69, rod 68, and arm 67 turned slightly toward the right, so that when the succeeding rolling table 29 reaches the top of the machine the left-hand edge of said cam 48 may not interfere with the action of the toe 71 in moving the roller 45 of said succeeding rolling table 29 from the roller 36 thereof, and thereafter the cam 48 will after another loop 49 has been formed in the belt or apron 39 return to its position to the left to lock the said roller 45 and maintain the said loop 49 in the rolling belt or apron. The cam 48 thus has only a slight oscillatory motion, and the one cam, with its supplemental part 51, serves for all of the rollers 45 of all of the rolling tables 29.

The toe 71, which is provided merely to open or move the rollers 45 from the tables 29 as the latter, one after another, reach their upper position, is secured upon a rod or rock-shaft 73, Fig. 2, which extends through the side frame 20 and at the outer side thereof, Figs. 1 and 2, has secured to it a crank-arm 74, which is pivotally connected to the upper end of a downwardly-extending rod 75,



carrying a wheel or pin 76 in engagement with a cam 77, secured upon the shaft 61, said rod 75, wheel 76, and cam 77 being of usual character and intended merely to rock the shaft 73 at the proper time to effect, first, the descent of the toe 71 against the then-positioned crank-arm 47 for moving the roller 45 from its table, and then the ascent of said toe from said arm 47, so as to permit the spring 53 to return the roller 45 toward said table and close the loop 49 then formed therein.

The plunger 72 guides in a dovetail, Fig. 5, on a front plate 78 and is not of unusual construction, comprising simply a suitable board concaved at its lower edge and at its upper central portion pivotally connected with links 79, carried by a crank-arm 80, which is secured upon a rock-shaft 81, the latter being mounted in the upper left-hand corner of the side frames 20, Figs. 1, 4, and 5, and at one end, which extends beyond the side frame, having a crank-arm 82, to which is pivoted the upper end of a vertical rod 83, whose lower portion carries a trundle or wheel 84, which is engaged by the groove of a cam 85, Fig. 2, fastened on the shaft 61. The cam 85, rod 83, crank-arm 82, rock-shaft 81, crank-arm 80, and link 79 are provided simply to effect an up-and-down reciprocating movement of the plunger 72, and the purpose of the plunger 72 is to press the bottles, one after another, down upon the rolling belt or apron 39 and to form the loop 49 in said belt or apron. The bottles to be labeled are placed upon an inclined feed table or chute 86, which terminates at its lower end above the belt or apron 39 and in near relation to the path traveled by the plunger 72. The plunger 72 in its action is preferably timed with respect to the movement of the toe 71, which acts to move the roller 45 to the left, looking at Fig. 4, from the then-uppermost table 29, the operation being that the toe 71 will move said roller 45 outwardly toward the left before the plunger 72 descends and that said toe will release the said roller as the said plunger is about leaving its lower position, so as to leave said roller under the tension of the spring 53, which will promptly move the roller 45 to the right and close the loop in the belt or apron 39 against the side of the plunger, the latter being still in a lower position. The toe 71 therefore moves the roller 45 out of the way, so as to permit the formation of the loop 49 and the delivery therein of the bottle to receive the label, and this loop 49 is formed in the belt or apron 39 just following the release of the labeled bottle from the right-hand portion of said belt or apron 39 or just after the cam 51 has performed its duty. The plunger 72 on its ascent has two stages of movement, the first one being up to about the position in which said plunger is shown in Fig. 1, where it will act to prevent any bottles from prematurely roll-

ing off the lower end of the chute 86, and the second being to its upper position, (shown in Fig. 4,) so as to allow the succeeding bottle to roll off from the lower end of the chute 86 in position to be forced down against the apron or belt 39 during the succeeding descent of the plunger 72. The release of the toe 71 from the arms carrying the upper roller 45 while the plunger 72 is in its lower position enables the spring 53 to close said roller 45 against said plunger and assure the retention of the bottle in the loop 49. The descent of the plunger 72 to form the loop 49 serves to straighten out the right-hand portion of the belt or apron 39 and aid in the discharge of the labeled bottle from said end of said belt or apron.

The means for holding a stack of the labels to be applied upon the bottles or other articles are illustrated in detail in Figs. 14 and 15 and in position upon the machine in Figs. 1 and 4, and said means comprise a receptacle having flanged opposite sides 90 and vertically-movable bottom 91, upon which the labels will be placed, spring-pressed arms 92 having roughened facing upper portions to engage the edges of the pile of labels for loosening the same in a well-known manner, and rock-shafts 93, carrying said arms 92 and connected by cranks 94 and rod 95, so as to compel simultaneous movement toward and from each other of said arms 92. The means shown in Figs. 14 and 15 for holding the labels are not in themselves new, and they are not, therefore, separately claimed herein, but present suitable means for holding a stack of labels and releasing said labels one after another. The bottom 91 of the label-receptacle is secured on the upper end of a rack-bar 96, which is in mesh with a pinion-wheel 97, the latter being mounted upon the shaft 98, to which is applied a spring 99, whose tension is exerted through the pinion-wheel 97 and rack-bar 96 to move the bottom 91 and such labels as may be thereon upwardly toward the top of the label-receptacle, it being my purpose that when the label-carrier hereinafter described is lowered upon the stack of labels the bottom 91, under the action of the spring 99, shall press the labels upwardly, so that the top label may assuredly adhere to the said carrier and that then and before the carrier is withdrawn from the label-receptacle the bottom 91 and rack-bar 96 shall be locked in rigid position and remain locked until a label-carrier again reaches the stack of labels, at which time I release the said bottom 91 and rack-bar 96, so that the spring 99 may again press the stack of labels against the carrier. The means I provide for locking the rack-bar 96 as each label is removed from the stack comprise an eccentric 100, Fig. 15, which may engage the edge of the bar 96 and press the same against the teeth of the wheel 97 and lock said bar and wheel against move-



ment. The eccentric 100 has an outwardly-extending arm, which is pivoted to the upper end of a rod 101, which extends downwardly and at its lower bifurcated end straddles the shaft 102, whereon is provided a cam-wheel 103, having on its periphery a projection or toe 104, said cam 103 at every other point presenting a smooth uniform periphery. Upon the rod 101 is fastened a pin or roller 105, which rides upon the periphery of the cam 103. During all of the period that the pin or roller 105 is upon the smooth portion of the periphery of the cam 103 the eccentric 100 will remain in position, locking the rack-bar 96 against movement, and when the toe 104 of the cam 103 rides under the pin or roller 105 the rod 101 will be thereby lifted upwardly momentarily and to a slight extent, so as to permit the spring 99 to press the stack of labels against the carrier, which will then be in position to take the upper label from said stack.

The mechanism for removing the labels from the label-receptacle and depositing them upon the rolling belt or apron 39 comprises a turn-table frame 106, having laterally-extending arms 107, at whose ends are vertical sleeves 108, within which are arranged vertical plunger-rods 109, upon whose lower ends are secured the carriers 110, there being in the use of this machine two corresponding label-carriers, one of which deposits a label upon the rolling belt or apron 39 at the same time that the other carrier is engaged in removing a label from the label-receptacle. The plunger-rods 109 have a vertical reciprocating movement imparted to them by means of the pivoted levers 111, whose outer ends engage collars on the plunger-rods 109 and whose inner ends are secured upon a pin 112, carried by the upper end of a vertically-movable rod 113. When the rod 113 is moved upwardly, the outer ends of the levers 111 will depress both carriers 110, and when the rod 113 moves downwardly it will act, through the levers 111, to elevate both carriers 110. I will hereinafter describe the means for moving the rod 113 vertically and also the means for swinging the frame 106 upon its center, so that after one label has been deposited upon the belt or apron 39 the carrier 110, which released the label, may swing around to the label-receptacle and the other carrier be brought to position over said belt or apron for depositing its label thereon. The carriers 110 are of special construction, and their details may be more readily understood upon reference to Figs. 6, 7, and 8, wherein it will be seen that the carriers comprise a central portion 114 and two side portions 115, which are pivotally mounted upon the portion 114 and are geared together, as shown in Fig. 7, so that said side portions 115 may have corresponding movement at their lower portions toward

and from the central portion 114. The lower surface presented by the portions 114 and 115 is intended to be equal to that of the label to be applied, and since the said lower surface of the carrier is to receive a coating of paste before it is depressed upon the label it is to carry I provide the hinged side portions 115, so that when the carrier is to deposit the label upon the belt or apron 39 I may by moving the portions 115 outwardly help to break the adherence of the label to the carrier, so that the air suction acting downwardly through said belt or apron may assuredly and without fail detach the entire label from the carrier preliminarily to the latter ascending and leaving the label upon said belt or apron. One of the said sections 115 of the carrier is formed with an arm 116, which during the descent of the carrier to deposit a label upon the belt or apron 39 will strike against an arm 117, secured on a rigid portion of the machine, and by being arrested by such arm 117 operated to turn its section 115 outwardly, the motion of this portion 115 being communicated to the other portion 115 due to the fact that said portions are geared together. The arm 116 is simply a small crank, which when it strikes the arm 117 will effect the separation of the lower parts of the said portions 115 from the middle portion 114 of the carrier. A small spring 217, Fig. 8, serves to restore the side portions against the middle portion 114 after the arm 116 has ascended clear of the arm 117. The rod 113, which effects the depression and elevation of the label-carriers 110, extends downwardly, Fig. 4, through a tubular shaft 118 and is pivoted at its lower end to a crank-arm 119, connected with a vertical rod 120, whose upper end is bifurcated to straddle the shaft 102 and carries a roller 121 within a grooved cam 122, the latter being secured upon said shaft. The groove in the cam 122 is so timed that normally the carriers 110 are held in their elevated position and that at one point during each rotation of said cam 122 said carriers are both caused to descend, one to take a label from the label-receptacle and the other to deposit a label upon the rolling belt or apron 39.

The means provided for imparting horizontal rotary motion to the turn-table frame 106 comprises the tubular shaft 118, which is secured to said frame and at its lower portion carries a bevel gear-wheel 123 in mesh with a corresponding wheel 124, which is on a short shaft and is actuated from a large bevel gear-wheel 125, which is in constant engagement with a beveled gear-wheel 126, also on the shaft of the wheel 124. The beveled gear-wheel 125 is on the shaft 66 and derives its motion from the shaft 61 through a Geneva movement, Figs 2, 4, and 9, comprising the slotted plate 127 on said shaft 66 and the lock or slide 128 on the shaft 61 and



carrying the arm 129 to engage the slots of said plate 127 and effect the intermittent rotary motion of the same, said lock or slide 128 engaging said plate 127 and locking the latter against rotation during such periods as the arm 129 is not engaged in actuating said plate. The plate 127, lock 128, and arm 129 are similar in outline and construction to the plate 54, lock 55, and arm 59, provided for imparting intermittent rotary motion to the hollow frame or drum 28, and with each rotation of the shaft 61 the plate 127, gear-wheel 125, and shaft 66 perform one-sixth of a rotation, and this movement of the wheel 125 imparts, through the beveled pinions 126, 124, and 123, a one-half rotation to the tubular shaft 118, with the result that during each rotation of the shaft 61 the turn-table frame 106 has imparted to it a one-half turn, this being sufficient for moving the carrier 110 which may be over the rolling-apron 39 to its position over the label-receptacle and of moving the carrier 110 which was at the time over the label-receptacle to a position directly over said rolling-apron 39.

During the movement of a carrier 110 from position over the rolling belt or apron 39 to the label-receptacle to take up a label therefrom paste must be applied upon the lower surface of said carrier, so that the carrier may adhere to the top label and also so that the label may be supplied with paste therefrom in order that it (the label) may adhere to the bottle or other article when applied thereon, and hence I interpose in the path of the carrier 110 from the rolling-apron to the label-receptacle a paste-roller 130, against which the lower surface of the carrier will rub on its way to the label-receptacle. The paste-roller 130 is of ordinary character and is mounted on a shaft 131, journaled in the walls of a suitable paste-receptacle 132 and having on one outwardly-projecting end a pulley-wheel 133, which is connected by a belt 134, Figs. 3 and 5, with a corresponding pulley-wheel 135 on the shaft 102, which is a constantly-rotating shaft and derives its motion from the shaft 61 through a sprocket-chain 136, Fig. 9, engaging a sprocket-wheel 137 on the shaft 102 and a similar sprocket-wheel 138 on said shaft 61. The paste-roller 130 has therefore a rotary motion imparted to it from the shaft 61. The paste-receptacle 132 is applied upon a rigid portion of the machine and is provided with a detachable cover 139, Fig. 10, which is preferably of metal and will be flanged at its inner edges to form scrapers for the face and end edges of the roller 130, one of said scraper-flanges (numbered 140) being shown in Fig. 10 and the two end scraper-flanges being numbered 141 and shown in Fig. 11. The side edges of the cover 109 are formed with downwardly-extending recessed lugs or flanges 142, which guide upon small ribs or

studs 143, extending laterally from the sides of the receptacle 132. A screw 144 is provided for securing the cover 139 in place and for adjusting the scraper 140 with relation to the surface of the roller 130. There is no special novelty in the paste-roller 130, receptacle 132, and cover 139, and hence no further detailed description of the same is required, nor is the invention limited to the special pasting means shown.

The operation of the machine will be understood from the foregoing description without further elaborate explanation. Power is applied to the belt-wheel 62, and this, through the pinion-wheel 63 and gear-wheel 64, will impart constant rotation to the driving-shaft 61. The motion of the shaft 61 is imparted intermittently to the shaft 66 through the plate 127, lock 128, and crank-arm 129, and the motion of said shaft 61 is imparted continuously to the shaft 102. The rotary drum or frame 28 has an intermittent rotary motion imparted to it from the shaft 61 through the slotted plate 54, lock 55, and crank-arm 59, and the crank-arms 46, carried by the rotary frame 28, are initially moved toward their respective rolling-tables by the springs 53; but as each table reaches its upper position below the rolling belt or apron 39 its arms 46 are acted upon by the toe 71 to move their roller 45 outwardly from its rolling-bed, so as to permit the formation of the loop in said belt or apron and the depositing of the bottle or other article therein. During the intermittent rotation of the rotary frame 28 the label is wrapped upon the bottle, and the latter is thereafter discharged upon the table 52, and during such rotation the cam 48 first acts to lock the roller 45 in position to maintain the loop in the apron or belt, and then that portion of said cam numbered 51 acts to release the roller 45 from the loop, so that the labeled bottle may be discharged and another loop be formed by the descent of the plunger 72 at the front end of the said belt or apron. The plunger 72 receives its motion from the cam 85 on the shaft 61 through the medium of the vertical rod 83, arm 82, rock-shaft 81, arm 80, and links 79. The rotary turn-table frame 106, supporting the label-carriers 110, receives its axial or turning motion from its tubular shaft 118, which at each stage has a one-half rotation imparted to it from the driving-shaft 61 through the slotted plate 127, lock 128, arm 129, shaft 66, beveled gear-wheel 125, and beveled pinion-wheels 126, 124, and 123. The label-carriers 110 are given their vertical reciprocation through the vertical rod 113 and from the shaft 102 through the medium of the cam 122 thereon, rod 120, and crank-arm 119, the latter being secured to the lower end of said rod 113. The paste-roller 130, with which the carriers 110 cooperate, receives its motion from the shaft 61 and shaft 102



through the medium of the sprocket-wheel 136 and belt 134. The vertically-movable bottom 91 of the label-receptacle has a normal upward tension under the action of the spring 99, but is locked in rigid position, except when a carrier is ready to take a label from said receptacle, by means of the eccentric 100, and this eccentric is temporarily released, so as to permit the bottom 91 to press the labels against the carrier at the proper time by means of a toe 104 on the cam 103, which is mounted upon and rotates with the shaft 102.

The rolling belt or apron 39 is in itself of known character and preferably has no movement, said belt being held stationary at each end and being enabled to effect the rolling of the label upon the bottle by reason of the travel of the rolling-bed below said belt or apron. The belt or apron 39 is perforated, and the beds of the rolling-tables are slotted or perforated, so that air suction may be applied to hold the labels upon the belt or apron and insure the even and regular application of the labels to the bottles. The table-rollers 36 are hollow and perforated, so that the air suction may act through them, and thus be enabled to evenly hold the label until all of the same has been applied upon the bottle. I have described the rolling-tables as being each provided with rollers 35, 36, and 45; but while these parts should be capable of rotating they need not necessarily rotate and may simply be fixed parts with smooth surfaces. I do not, therefore, limit the invention to the matter of the rotation of the rollers 35, 36, and 45 and regard said parts as simply smooth rods to coöperate with the rolling belt or apron 39. The perforated roller 36 constitutes, in effect, a continuation of the perforated or slotted rolling-bed of the rolling-table.

In the present instance I illustrate the rotary frame 28 as carrying six of the rolling-tables 29; but I do not limit my invention to the use of any special number of said rolling-tables, since the number thereof employed will depend upon the size of the frame 28 and the size of the labels to be applied upon the articles, as well as upon the size of the articles themselves. The frame 28 might be constructed to carry more than six of the tables if the labels are small and the bottles likewise small, and when labels of some considerable size are to be applied to reasonably-large articles it may be necessary to construct the frame 28 with fewer rolling-tables, so as not to have a frame of undue size. The length of the rolling-tables 29 will be governed by the size of the labels to be applied.

The machine of my invention is adapted to smoothly and effectually apply the labels with the least possible loss of time, since one rolling-bed after another rapidly takes its position below the rolling belt or apron 39, and

as one labeled bottle is discharged at one end of the said belt or apron a loop is formed at the other end of said belt or apron to take the succeeding bottle. A great saving of time and also great uniformity in the result are attained by reason of the use of air suction in detaching the labels from the carriers and holding them upon the rolling belt or apron until finally attached to the bottles.

I illustrate my invention as embodied in a machine for applying and pasting wrappers to cylindrical bottles; but I contemplate the employment of said machine for applying labels, wrappers, and the like to articles other than bottles, and therefore I desire it to be understood that my invention is not limited merely to use in pasting labels upon bottles; nor is my invention limited to all of the details of form and construction shown and described, since these parts admit of change in form and arrangement without departing from the scope of my invention as claimed; nor is my invention in every instance confined to the employment of a stationary belt or apron 39 in connection with the rotary frame 28, carrying the series of rolling-tables and provided with means for creating suction for holding the labels; nor is my invention limited to other details further than as specified in the claims.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a machine of the character described, a rotary frame carrying a series of independent rolling-beds spaced apart, and means for imparting intermittent motion to the same, combined with a stationary rolling belt or apron with which each of said beds in series coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, the series of movable rollers carried by said frame for coöperation with said beds and belt or apron, means supporting said rollers, and means for holding said rollers in their closed position to maintain said loop during the rolling action; substantially as set forth.

2. In a machine of the character described, a rotary frame carrying a series of rolling-beds, and means for imparting intermittent motion to the same, combined with a rolling belt or apron with which each of said beds in series coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, means for forming said loop, means for applying a label or the like upon said belt or apron in advance of said loop, and means for maintaining said loop during the rolling action; substantially as set forth.

3. In a machine of the character described, a rotary frame carrying a series of rolling-beds, and means for imparting intermittent motion to the same, combined with a rolling belt or apron with which each of said beds in



series coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, means for forming said loop, means for holding a stack of labels or the like, a carrier adapted to convey said labels from said stack to said rolling belt or apron, means in the path of said carrier for applying a layer of paste thereto on its movement to said stack, means for detaching the label from the carrier when the same is to be taken by said belt or apron, and means for maintaining said loop during the rolling action; substantially as set forth.

4. In a machine of the character described, a rotary frame carrying a series of rolling-beds, and means for imparting intermittent motion to the same, combined with a rolling belt or apron with which each of said beds in series coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, means for forming said loop, means for holding a stack of labels or the like, a carrier adapted to convey said labels from said stack to said rolling belt or apron, means in the path of said carrier for applying a layer of paste thereto on its movement to said stack, and pneumatic means for detaching the label from the carrier when the same is to be taken by said belt or apron, and means for maintaining said loop during the rolling action; substantially as set forth.

5. In a machine of the character described, a rotary frame carrying a series of rolling-beds, and means for imparting intermittent motion to the same, combined with a rolling belt or apron with which each of said beds in series coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, means for forming said loop, means for holding a stack of labels or the like, a carrier adapted to convey said labels from said stack to said rolling belt or apron, means in the path of said carrier for applying a layer of paste thereto on its movement to said stack, and pneumatic means for detaching the label from the carrier when the same is to be taken by said belt or apron, and means for maintaining said loop during the rolling action, said carrier being formed of sections to be opened from one another when the label is to be removed therefrom so as to aid in the detachment of the label; substantially as set forth.

6. In a machine of the character described, a rotary frame carrying a series of rolling-beds, and means for imparting intermittent motion to the same, combined with a rolling belt or apron with which each of said beds in series coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, the crank-arms carried by said frame for each

bed and carrying a roller for closing the loop in the belt or apron, means for firmly holding said roller in its closed position to maintain the loop during the rolling action, and means for moving said roller to its open position at the conclusion of the rolling action; substantially as set forth.

7. In a machine of the character described, a rotary frame carrying a series of rolling-beds, and means for imparting intermittent motion to the same, combined with a rolling belt or apron with which each of said beds in series coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, the crank-arms carried by said frame for each bed and carrying a roller for closing the loop in the belt or apron, a cam for locking said roller in its closed position to maintain the loop during the rolling action, and a cam for moving said roller to its open position at the conclusion of the rolling action; substantially as set forth.

8. In a machine of the character described, a rotary frame carrying a series of rolling-beds, and means for imparting intermittent motion to the same, combined with a rolling belt or apron with which each of said beds in series coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, the crank-arms carried by said frame for each bed and carrying a roller for closing the loop in the belt or apron, means for firmly holding said roller in its closed position to maintain the loop during the rolling action, means for moving said roller to its open position at the conclusion of the rolling action, and means for then forming the succeeding loop at the receiving end of said belt or apron and thus effecting the straightening out of the other end of said belt or apron and the discharge of the article therefrom; substantially as set forth.

9. In a machine of the character described, a rotary frame carrying a series of rolling-beds, and means for imparting intermittent motion to the same, combined with a rolling belt or apron with which each of said beds in series coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, the crank-arms carried by said frame for each bed and carrying a roller for closing the loop in the belt or apron, a cam for locking said roller in its closed position to maintain the loop during the rolling action, a cam for moving said roller to its open position at the conclusion of the rolling action, and means for then forming the succeeding loop at the receiving end of said belt or apron and thus effecting the straightening out of the other end of said belt or apron and the discharge of the article therefrom; substantially as set forth.

10. In a machine of the character de-



scribed, a rotary frame carrying a series of rolling-beds, and means for imparting intermittent motion to the same, combined with a rolling belt or apron with which each of said  
 5 beds in series coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, the crank-arms carried by said frame for each bed and carrying a roller for closing  
 10 the loop in the belt or apron, springs connected with said crank-arms for drawing said rollers toward their respective rolling-beds, the toe and its actuating means for moving the roller of the bed below the belt or apron  
 15 outwardly to permit the formation of said loop, a cam for locking said roller in its closed position to maintain the loop during the rolling action, a cam for moving said roller to its open position at the conclusion of the rolling  
 20 action, and means for forming the loop in the belt or apron as the beds become successively positioned; substantially as set forth.

11. In a machine of the character described, a rotary frame carrying a series of  
 25 rolling-beds, and means for imparting intermittent motion to the same, combined with a rolling belt or apron with which each of said beds in series coöperates and which is normally sufficiently slack to permit a loop to be  
 30 formed therein to receive the article to be treated, means for maintaining said loop during the rolling action, and means for applying pneumatic pressure against the label or the like placed upon said belt or apron for  
 35 holding the same during the rolling action; substantially as set forth.

12. In a machine of the character described, a rotary frame carrying a series of  
 40 rolling-beds, and means for imparting intermittent motion to the same, combined with a rolling belt or apron with which each of said beds in series coöperates and which is normally  
 45 sufficiently slack to permit a loop to be formed therein to receive the article to be treated, means for maintaining said loop during the rolling action, and means for applying air  
 suction through the rolling beds and belt or apron for holding the label during the rolling  
 50 action; substantially as set forth.

13. In a machine of the character described, a rotary frame carrying a series of  
 55 rolling-beds, and means for imparting intermittent motion to the same, combined with a rolling belt or apron with which each of said beds in series coöperates and which is normally  
 60 sufficiently slack to permit a loop to be formed therein to receive the article to be treated, means for maintaining said loop during the rolling action, and means for applying  
 air suction through the rolling beds and belt or apron for holding the label during the  
 65 rolling action, said belt or apron being perforated and said bed slotted; substantially as set forth.

14. In a machine of the character de-

scribed, a rotary frame carrying a series of rolling-beds, and means for imparting intermittent motion to the same, combined with a rolling belt or apron with which each of said  
 70 beds in series coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, means for maintaining said loop during the rolling action, and means for applying  
 75 air suction through the rolling beds and belt or apron for holding the label during the rolling action, said belt or apron and said beds having openings in them to permit the  
 80 air suction action and the front edges of said tables having hollow rollers which also have air-openings; substantially as set forth.

15. In a machine of the character described, a rotary frame carrying a series of  
 85 rolling-beds, and means for imparting intermittent motion to the same, combined with a rolling belt or apron with which each of said beds in series coöperates and which is normally  
 90 sufficiently slack to permit a loop to be formed therein to receive the article to be treated, means for maintaining said loop during the rolling action, means for applying air  
 suction through the belt or apron and the  
 95 rolling-beds as the latter become successively positioned below said belt or apron for holding the label on the latter during the rolling  
 action, and means for excluding the air suction from the beds until they become thus  
 100 positioned; substantially as set forth.

16. In a machine of the character described, a rotary frame carrying a series of  
 105 rolling-beds, and means for imparting intermittent motion to the same, combined with a rolling belt or apron with which each of said beds in series coöperates and which is normally  
 110 sufficiently slack to permit a loop to be formed therein to receive the article to be treated, means for forming the loop in said belt or apron, means for depositing the label on said belt or apron in advance of said loop,  
 115 means for maintaining said loop during the rolling action, and means for applying air suction through the belt or apron and the rolling-beds as successively positioned below  
 the same for holding the label during the  
 120 rolling action; substantially as set forth.

17. In a machine of the character described, a rotary frame carrying a series of  
 125 rolling-beds, and means for imparting intermittent motion to the same, combined with a rolling belt or apron with which each of said beds in series coöperates and which is normally  
 130 sufficiently slack to permit a loop to be formed therein to receive the article to be treated, means for forming the loop in said belt or apron, means for applying air suction  
 through the belt or apron and the rolling-beds  
 as successively positioned below the same  
 for holding the label during the rolling action,  
 the crank-arms carried by said frame for  
 each bed and carrying a roller for closing the



loop in the belt or apron, means for firmly holding said roller in its closed position to maintain the loop during the rolling action, and means for moving said roller to its open position at the conclusion of the rolling action; substantially as set forth.

18. In a machine of the character described, a rotary frame carrying a series of rolling-beds, and means for imparting intermittent motion to the same, combined with a rolling belt or apron with which each of said beds in series coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, means for forming the loop in said belt or apron, means for applying air suction through the belt or apron and the rolling-beds as successively positioned below the same for holding the label during the rolling action, the crank-arms carried by said frame for each bed and carrying a roller for closing the loop in the belt or apron, a cam for locking said roller in its closed position to maintain the loop during the rolling action, and a cam for moving said roller to its open position at the conclusion of the rolling action; substantially as set forth.

19. In a machine of the character described, a rotary frame carrying a series of rolling-beds, and means for imparting intermittent motion to the same, combined with a rolling belt or apron with which each of said beds in series coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, means for applying air suction through the belt or apron and the rolling-beds as successively positioned below the same for holding the label during the rolling action, the crank-arms carried by said frame for each bed and carrying a roller for closing the loop in the belt or apron, means for firmly holding said roller in its closed position to maintain the loop during the rolling action, means for moving said roller to its open position at the conclusion of the rolling action, and means for then forming the succeeding loop at the receiving end of said belt or apron and thus effecting the straightening out of the other end of said belt or apron and the discharge of the article therefrom; substantially as set forth.

20. In a machine of the character described, a rotary frame carrying a series of rolling-beds, and means for imparting intermittent motion to the same, combined with a rolling belt or apron with which each of said beds in series coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, means for applying air suction through the belt or apron and the rolling-beds as successively positioned below the same for holding the label during the rolling action, the crank-arms carried by said frame

for each bed and carrying a roller for closing the loop in the belt or apron, a cam for locking said roller in its closed position to maintain the loop during the rolling action, a cam for moving said roller to its open position at the conclusion of the rolling action, and means for then forming the succeeding loop at the receiving end of said belt or apron and thus effecting the straightening out of the other end of said belt or apron and the discharge of the article therefrom; substantially as set forth.

21. In a machine of the character described, a rotary frame carrying a series of rolling-beds, and means for imparting intermittent motion to the same, combined with a rolling belt or apron with which each of said beds in series coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, means for applying air suction through the belt or apron and the rolling-beds as successively positioned below the same for holding the label during the rolling action, the crank-arms carried by said frame for each bed and carrying a roller for closing the loop in the belt or apron, springs connected with said crank-arms for drawing said rollers toward their respective rolling-beds, the toe and its actuating means for moving the roller of the bed below the belt or apron outwardly to permit the formation of said loop, a cam for locking said roller in its closed position to maintain the loop during the rolling action, a cam for moving said roller to its open position at the conclusion of the rolling action, and means for forming the loop in the belt or apron as the beds become successively positioned; substantially as set forth.

22. In a machine of the character described, a rotary frame carrying a series of rolling-beds having openings therein and said frame being hollow and having a hub and containing partitions whereby air-chambers are provided for said beds, said hub being apertured for each of said chambers, a chambered sleeve supporting said frame and upon which it rotates and having an aperture to successively communicate with said chambers as said rolling-beds are successively positioned, means for exhausting the air through said chambered sleeve and said air-chambers as the latter are successively brought into communication with the chamber of said sleeve, and means for imparting intermittent rotary motion to said frame, combined with a perforated rolling belt or apron with which each of said beds successively coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, and means for maintaining said loop during the rolling action; substantially as set forth.

23. In a machine of the character described, a rotary frame carrying a series of



rolling-beds having openings therein and said frame being hollow and having a hub and containing partitions whereby air-chambers are provided for said beds, said hub being apertured for each of said chambers, a chambered sleeve supporting said frame and upon which it rotates and having an aperture to successively communicate with said chambers as said rolling-beds are successively positioned, means for exhausting the air through said chambered sleeve and said air-chambers as the latter are successively brought into communication with the chamber of said sleeve, and means for imparting intermittent rotary motion to said frame, combined with a perforated rolling belt or apron with which each of said beds successively coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, means for forming said loop, means for applying a label or the like upon said belt or apron in advance of said loop, and means for maintaining said loop during the rolling action; substantially as set forth.

24. In a machine of the character described, a rotary frame carrying a series of rolling-beds having openings therein and said frame being hollow and having a hub and containing partitions whereby air-chambers are provided for said beds, said hub being apertured for each of said chambers, a chambered sleeve supporting said frame and upon which it rotates and having an aperture to successively communicate with said chambers as said rolling-beds are successively positioned, means for exhausting the air through said chambered sleeve and said air-chambers as the latter are successively brought into communication with the chamber of said sleeve, and means for imparting intermittent rotary motion to said frame, combined with a perforated rolling belt or apron with which each of said beds successively coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, means for forming said loop, means for holding a stack of labels or the like, a carrier adapted to convey said labels from said stack to said rolling belt or apron, means in the path of said carrier for applying a layer of paste thereto on its movement to said stack, and means for maintaining said loop during the rolling action; substantially as set forth.

25. In a machine of the character described, a rotary frame carrying a series of rolling-beds having openings therein and said frame being hollow and having a hub and containing partitions whereby air-chambers are provided for said beds, said hub being apertured for each of said chambers, a chambered sleeve supporting said frame and upon which it rotates and having an aperture to successively communicate with said chambers as said rolling-beds are successively positioned, means for exhausting the air through said chambered sleeve and said air-chambers as the latter are successively brought into

communication with the chamber of said sleeve, and means for imparting intermittent rotary motion to said frame, combined with a perforated rolling belt or apron with which each of said beds successively coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, means for forming said loop, means for holding a stack of labels or the like, a carrier adapted to convey said labels from said stack to said rolling belt or apron, means in the path of said carrier for applying a layer of paste thereto on its movement to said stack, and means for maintaining said loop during the rolling action, said carrier being formed of sections to be opened from one another when the label is to be removed therefrom; substantially as set forth.

26. In a machine of the character described, a rotary frame carrying a series of rolling-beds having openings therein and said frame being hollow and having a hub and containing partitions whereby air-chambers are provided for said beds, said hub being apertured for each of said chambers, a chambered sleeve supporting said frame and upon which it rotates and having an aperture to successively communicate with said chambers as said rolling-beds are successively positioned, means for exhausting the air through said chambered sleeve and said air-chambers as the latter are successively brought into communication with the chamber of said sleeve, and means for imparting intermittent rotary motion to said frame, combined with a perforated rolling belt or apron with which each of said beds successively coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, the crank-arms carried by said frame for each bed and carrying a roller for closing the loop in the belt or apron, means for firmly holding said roller in its closed position to maintain the loop during the rolling action, and means for moving said roller to its open position at the conclusion of the rolling action; substantially as set forth.

27. In a machine of the character described, a rotary frame carrying a series of rolling-beds having openings therein and said frame being hollow and having a hub and containing partitions whereby air-chambers are provided for said beds, said hub being apertured for each of said chambers, a chambered sleeve supporting said frame and upon which it rotates and having an aperture to successively communicate with said chambers as said rolling-beds are successively positioned, means for exhausting the air through said chambered sleeve and said air-chambers as the latter are successively brought into



communication with the chamber of said sleeve, and means for imparting intermittent rotary motion to said frame, combined with a perforated rolling belt or apron with which  
 5 each of said beds successively coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, the crank-arms carried by said frame for each bed and carrying a roller  
 10 for closing the loop in the belt or apron, a cam for locking said roller in its closed position to maintain the loop during the rolling action, and a cam for moving said roller to its open position at the conclusion of the rolling  
 15 action; substantially as set forth.

28. In a machine of the character described, a rotary frame carrying a series of rolling-beds having openings therein and said frame being hollow and having a hub and  
 20 containing partitions whereby air-chambers are provided for said beds, said hub being apertured for each of said chambers, a chambered sleeve supporting said frame and upon which it rotates and having an aperture to  
 25 successively communicate with said chambers as said rolling-beds are successively positioned, means for exhausting the air through said chambered sleeve and said air-chambers as the latter are successively brought into  
 30 communication with the chamber of said sleeve, and means for imparting intermittent rotary motion to said frame, combined with a perforated belt or apron with which each of  
 35 said beds successively coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, the crank-arms carried by said frame for each bed and carrying a roller for  
 40 closing the loop in the belt or apron, means for firmly holding said roller in its closed position to maintain the loop during the rolling action, means for moving said roller to its open position at the conclusion of the rolling  
 45 action, and means for then forming the succeeding loop at the receiving end of said belt or apron and thus effecting the straightening out of the other end of said belt or apron and the discharge of the article therefrom; substantially as set forth.

29. In a machine of the character described, a rotary frame carrying a series of rolling-beds having openings therein and said frame being hollow and having a hub and containing partitions whereby air-chambers  
 55 are provided for said beds, said hub being apertured for each of said chambers, a chambered sleeve supporting said frame and upon which it rotates and having an aperture to successively communicate with said chambers  
 60 as said rolling-beds are successively positioned, means for exhausting the air through said chambered sleeve and said air-chambers as the latter are successively brought into communication with the chamber of  
 65 said sleeve, and means for imparting inter-

mittent rotary motion to said frame, combined with a perforated rolling belt or apron with which each of said beds successively coöperates and which is normally sufficiently  
 70 slack to permit a loop to be formed therein to receive the article to be treated, the crank-arms carried by said frame for each bed and carrying a roller for closing the loop in the belt or apron, a cam for locking said roller in  
 75 its closed position to maintain the loop during the rolling action, a cam for moving said roller to its open position at the conclusion of the rolling action, and means for then forming the succeeding loop at the receiving  
 80 end of said belt or apron and thus effecting the straightening out of the other end of said belt or apron and the discharge of the article therefrom; substantially as set forth.

30. In a machine of the character described, a rotary frame carrying a series of  
 85 rolling-beds having openings therein and said frame being hollow and having a hub and containing partitions whereby air-chambers are provided for said beds, said hub being apertured for each of said chambers, a  
 90 chambered sleeve supporting said frame and upon which it rotates and having an aperture to successively communicate with said chambers as said rolling-beds are successively positioned, means for exhausting the air through  
 95 said chambered sleeve and said air-chambers as the latter are successively brought into communication with the chamber of said sleeve, and means for imparting intermittent rotary motion to said frame, combined with  
 100 a perforated rolling belt or apron with which each of said beds successively coöperates and which is normally sufficiently slack to permit a loop to be formed therein to receive the article to be treated, the crank-arms carried  
 105 by said frame for each bed and carrying a roller for closing the loop in the belt or apron, springs connected with said crank-arms for drawing said rollers toward their respective rolling-beds, the toe and its actuating means  
 110 for moving the roller of the bed below the belt or apron outwardly to permit the formation of said loop, a cam for locking said roller in its closed position to maintain the loop during the rolling action, a cam for moving  
 115 said roller to its open position at the conclusion of the rolling action, and means for forming the loop in the belt or apron as the beds become successively positioned; substantially as set forth.

31. In a machine of the character described, a rolling-bed, a rolling belt or apron, and means for maintaining the loop in said  
 120 belt or apron during the rolling action, combined with carrier mechanism for depositing  
 125 the labels, one after another, on said belt or apron, said mechanism comprising a turntable frame having a laterally-extending arm, a plunger-rod mounted in said arm and having the carrier on its lower end, a pivoted  
 130



lever connected at one end with said plunger for imparting vertical movement to the same, a rod connected with the other end of said lever with means for imparting vertical movement to the same, and means for turning said frame whereby to move the said carrier from the stack of labels to said belt or apron and then back to said stack; substantially as set forth.

32. In a machine of the character described, a rolling-bed, a rolling belt or apron, and means for maintaining the loop in said belt or apron during the rolling action, combined with carrier mechanism for depositing the labels, one after another, on said belt or apron, said mechanism comprising a turntable frame having laterally-extending arms, plunger-rods mounted in said arms and having carriers on their lower ends, pivoted levers connected at their outer ends with said plungers for imparting simultaneous vertical movement to the same, an actuating-rod connected with the inner ends of said levers for operating the same, and means for turning said frame whereby to move one of said carriers from the stack of labels to said rolling belt or apron and the other carrier to said stack of labels; substantially as set forth.

33. In a machine of the character described, a rolling-bed, a rolling belt or apron, and means for maintaining the loop in the belt or apron during the rolling action, combined with a carrier composed of separable sections for conveying the labels, one after another, to and depositing the same upon said belt or apron, means for moving said carrier horizontally and also vertically, pasting means in the path of said carrier for applying a layer of paste thereto before it engages the label, and means for separating said sections at the time of the deposit of the label on the belt or apron for aiding in the detachment of the label; substantially as set forth.

34. In a machine of the character described, a rolling-bed, a rolling belt or apron, and means for maintaining the loop in the belt or apron during the rolling action, combined with a carrier composed of separable sections for conveying the labels, one after another, to and depositing the same upon said belt or apron, means for moving said carrier horizontally and also vertically, pasting means in the path of said carrier for applying a layer of paste thereto before it engages the label, means for separating said sections at the time of the deposit of the label on the belt or apron, and means for creating pneumatic pressure against said label for detaching the same from said carrier and holding the same against said belt or apron; substantially as set forth.

35. In a machine of the character described, a rolling-bed, a rolling belt or apron, and means for maintaining the loop in the belt or apron during the rolling action, com-

bined with a carrier composed of separable sections for conveying the labels, one after another, to and depositing the same upon said belt or apron, means for moving said carrier horizontally and also vertically, pasting means in the path of said carrier for applying a layer of paste thereto before it engages the label, means for separating said sections at the time of the deposit of the label on the belt or apron, and means for creating air suction through said bed and belt or apron for drawing said label from said carrier and holding it upon said belt or apron, said belt or apron and said bed having openings therein to permit the suction action against said label; substantially as set forth.

36. In a machine of the character described, a rolling-bed, a rolling belt or apron, and means for maintaining the loop in said belt or apron during the rolling action, combined with a label-carrier having hinged sections geared together for conveying the labels, one after another, to and depositing the same upon said belt or apron, means for moving said carrier horizontally and also vertically, pasting means in the path of said carrier for applying a layer of paste thereto before it engages the label, an actuating-arm on one of said hinged sections, a fixed arm in the path of said actuating-arm when the carrier is lowered upon the belt or apron to engage the same and turn said hinged sections outwardly, and means for creating pneumatic pressure against said label for detaching the same from said carrier and holding the same against said belt or apron; substantially as set forth.

37. In a machine of the character described, a rolling-bed, a rolling belt or apron, and means for maintaining the loop in said belt or apron during the rolling action, combined with a label-carrier for conveying the labels to and depositing the same upon said belt or apron, means in the path of said carrier for applying a layer of paste thereto before it engages a label, and means for creating pneumatic pressure for detaching said label from the carrier and holding it upon said belt or apron; substantially as set forth.

38. In a machine of the character described, a rolling-bed, a rolling belt or apron, and means for maintaining the loop in said belt or apron during the rolling action, combined with a label-carrier for conveying the labels to and depositing the same upon said belt or apron, means in the path of said carrier for applying a layer of paste thereto before it engages a label, and means for creating air suction through said belt or apron and bed for drawing the label from said carrier and holding it upon said belt or apron, said belt or apron and said bed having openings therein to permit the suction action against said label; substantially as set forth.

39. In a machine of the character de-



scribed, a rolling-bed having openings there-  
in, a hollow roller at the receiving end of  
said bed and having openings in its walls, a  
perforated rolling belt or apron upon said  
5 bed, and means for creating air suction  
through said bed, roller and apron, combined  
with means for forming a loop in said belt or  
apron adjacent to said hollow roller, means  
for closing said loop around the article to be  
10 treated, and means for maintaining said loop  
during the rolling action; substantially as set  
forth.

40. In a machine of the character de-  
scribed, a rolling-bed having openings there-  
15 in, a hollow roller at the receiving end of  
said bed and having openings in its walls, a  
perforated rolling belt or apron upon said

bed, and means for creating air suction  
through said bed, roller and apron, combined  
with means for forming a loop in said belt or 20  
apron adjacent to said hollow roller, means  
for closing said loop around the article to be  
treated, means for maintaining said loop dur-  
ing the rolling action, and means for open-  
ing said loop at the conclusion of such action; 25  
substantially as set forth.

Signed at New York city, in the county of  
New York and State of New York, this 19th  
day of April, A. D. 1905.

BENJAMIN W. TUCKER.

Witnesses:

CHARLES C. GILL,  
ARTHUR MARION.