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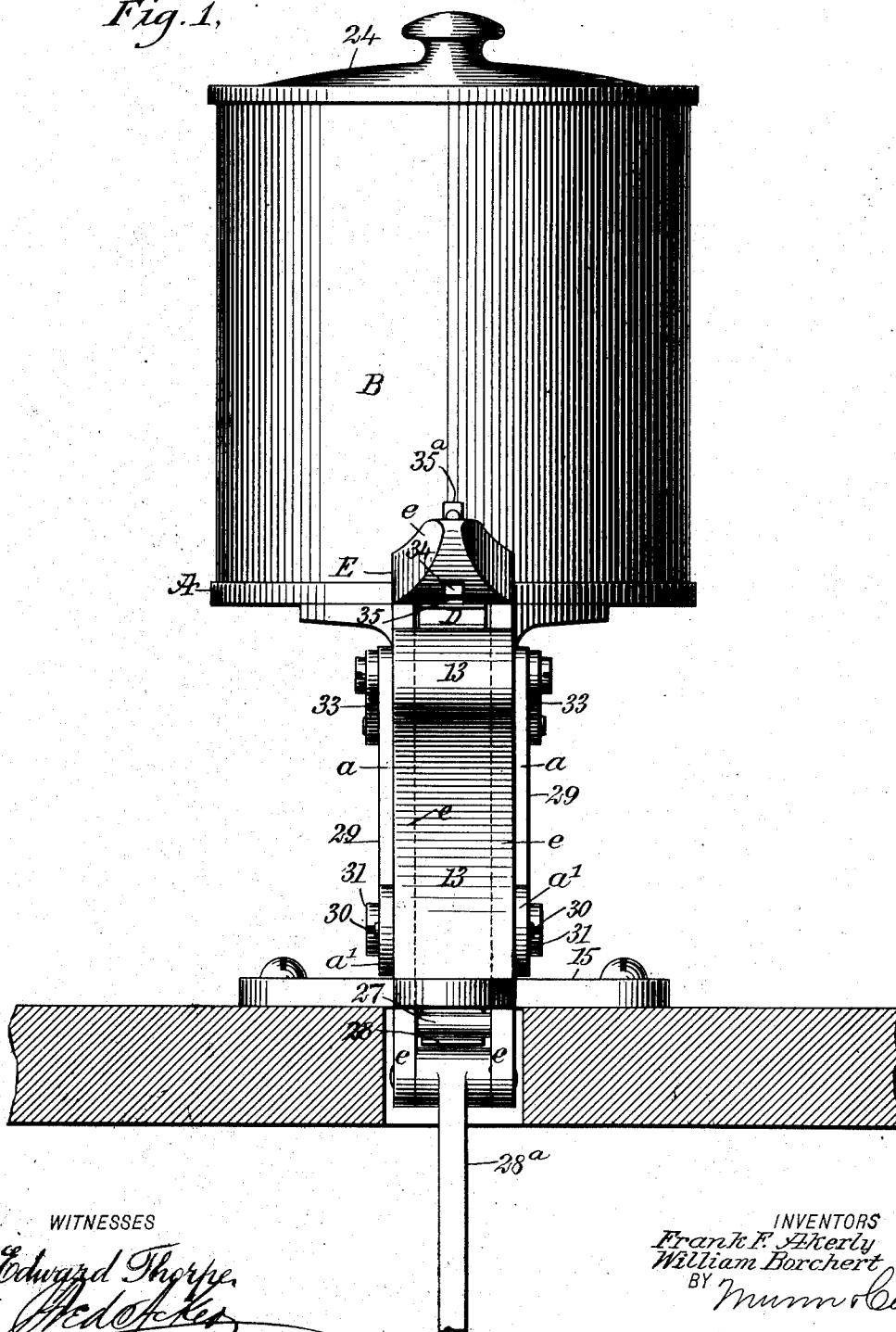
F. F. AKERLY & W. BORCHERT.

MACHINE FOR FEEDING AND AFFIXING LAUNDRY TAGS.

APPLICATION FILED MAY 4, 1907.

3 SHEETS—SHEET 1.

Fig. 1.



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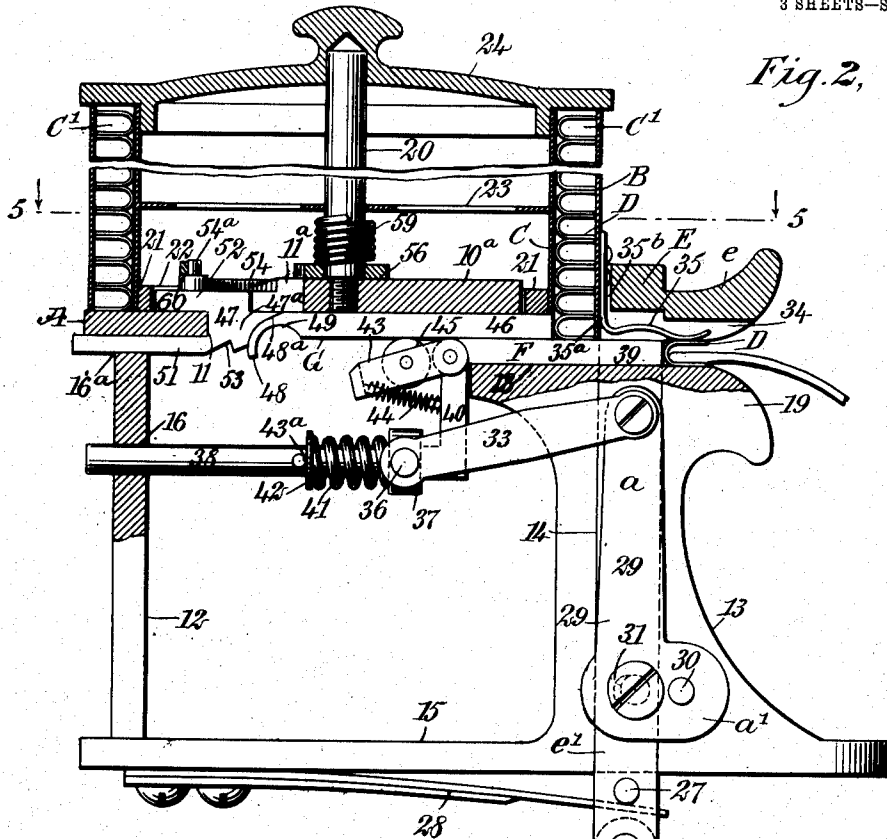
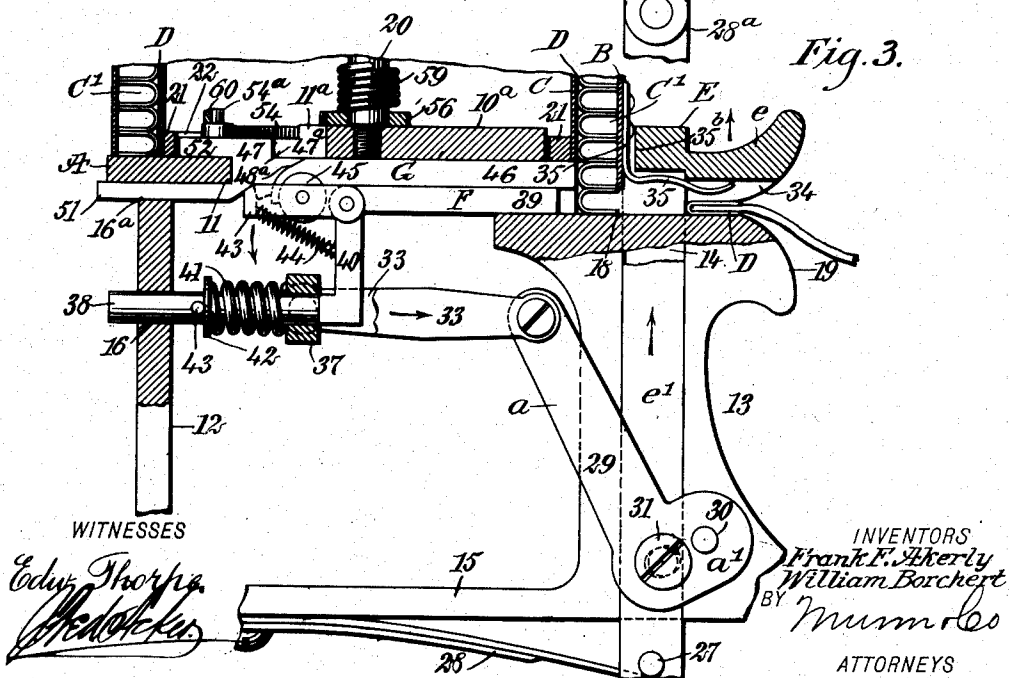
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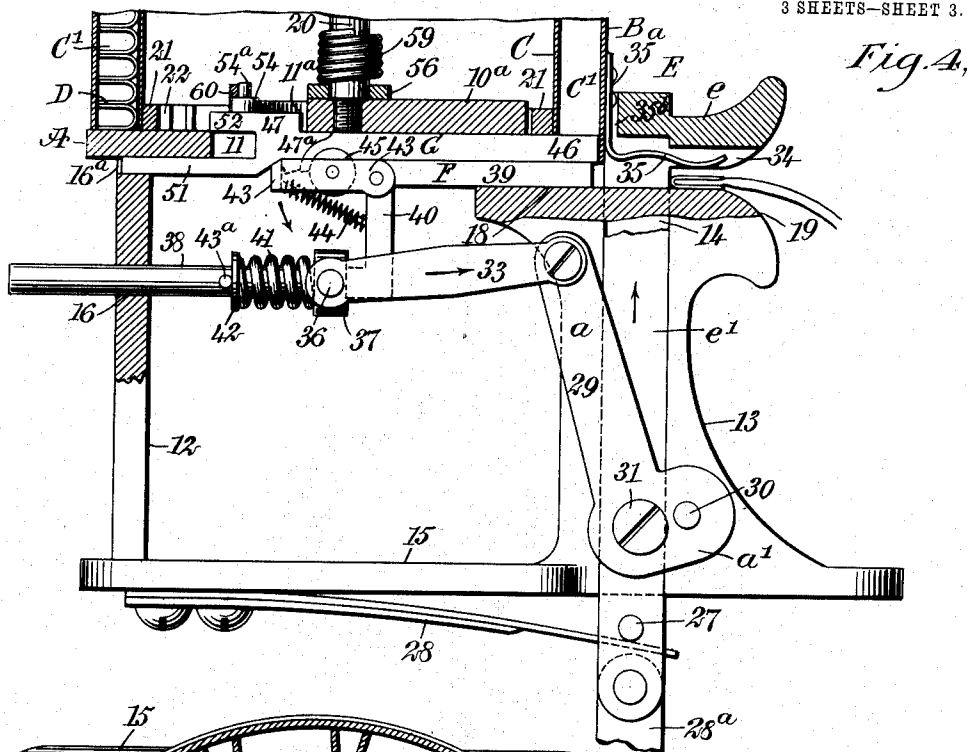
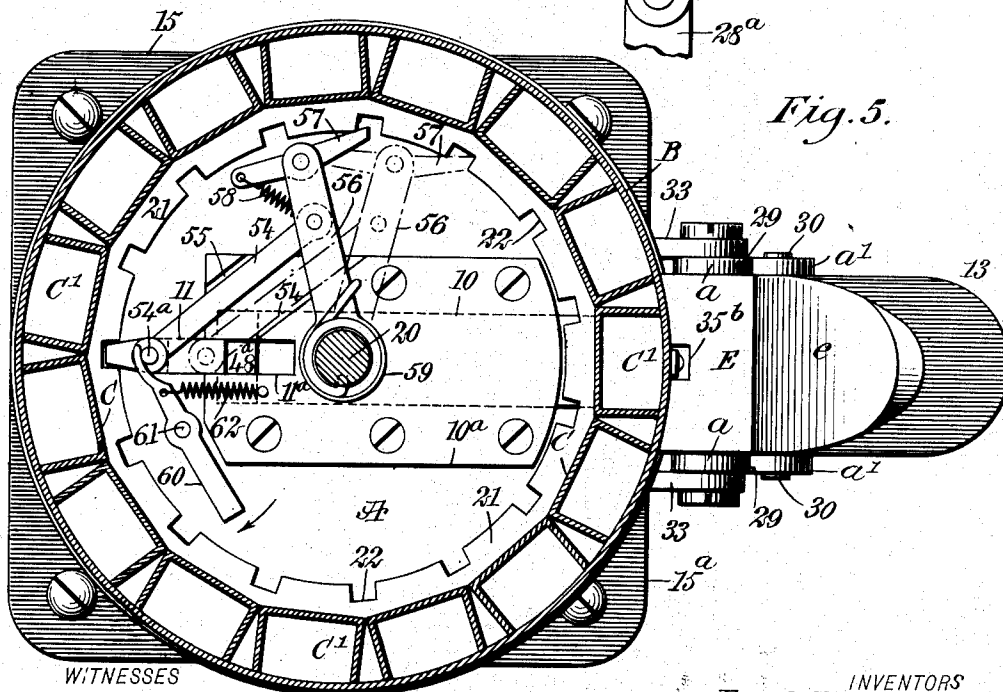
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3 SHEETS—SHEET 3.



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FRANK FREEMAN AKERLY AND WILLIAM BORCHERT, OF RENO, NEVADA.

## MACHINE FOR FEEDING AND AFFIXING LAUNDRY-TAGS.

No. 878,593.

Specification of Letters Patent.

Patented Feb. 11, 1908.

Application filed May 4, 1907. Serial No. 371,771.

*To all whom it may concern:*

Be it known that we, FRANK FREEMAN AKERLY and WILLIAM BORCHERT, citizens of the United States, and residents of Reno, in the county of Washoe and State of Nevada, have invented a new and useful Improvement in Machines for Feeding and Affixing Laundry-Tags, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a very simple and economic machine, especially designed for distributing laundry tags and affixing them to articles to be laundered, the tags being those for which Letters Patent were granted to us November 6, 1906, Serial No. 835,383.

A further purpose of the invention is to so construct the machine that there will be a continuous and automatic feed of tags while any of them are contained in the receiving cylinder of the machine, and to provide a mechanism whereby the machine can be conveniently and rapidly operated by one individual.

The invention consists in the novel construction and combination of the several parts as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the machine; Fig. 2 is a vertical section through the machine illustrating the position of its parts when a tag is in position to receive an article and to be pressed thereon; Fig. 3 is a view similar to that shown in Fig. 2, illustrating the tag as having been pressed upon the material, and the parts of the machine about to return to their normal position; Fig. 4 is a vertical section through a portion of the machine, the parts being in the position assumed when the last tag in the compartment has been forced out therefrom and the receiver is about to be revolved to bring another filled compartment in position for delivery; and Fig. 5 is an enlarged horizontal section taken practically on the line 5-5 of Fig. 2.

The bed A of the machine is preferably circular and is provided with a slot 10 that extends from a point beyond its center out through one of its edges and the said slot 10

at its inner end is provided with an extension 11 of reduced width, as is shown in dotted lines in Fig. 5. A plate 10<sup>a</sup> covers the slot 10, being secured to the upper face of the bed plate A, and this cover plate 10<sup>a</sup> is provided with a slot 11<sup>a</sup> at its inner end registering with the reduced portion 11 of the slot 10 in the bed plate, as is best shown in Fig. 4.

The bed plate A is supported usually by two standards 12 and 13 located opposite each other, the standards being either attached to or integral with a base plate 15, or other support. The standard 13 is of greater thickness than the standard 12 and is provided with a vertical groove 14 in each of its sides, extending from the top to the bottom, as is shown best in Figs. 3 and 4. The said grooves 14 are rectangular in cross section and are for a purpose to be hereinafter described. An opening 16 is provided in the standard 12 at a point between its ends, and a second opening 16<sup>a</sup> is also made in the said standard 12 just below the bed A.

A horizontal table 18 is formed at the upper portion of the standard 13. This table extends inwardly beneath the bed plate A and is removed a predetermined distance from the said bed plate, as is shown best in Figs. 2, 3 and 4. The table has a flat upper face and the outer end portion of the said table is curved downward, as is illustrated at 19 in the drawings, so as to facilitate the introduction of goods to the said table or to any object that may be supported by the table. A shaft 20 is fixed in any approved manner in the plate 10<sup>a</sup>, as is shown in Figs. 2, 3, 4 and 5, the said shaft being centrally located with reference to the bed plate A.

A cylinder B is located at the marginal portion of the bed plate A, the cylinder being removably attached to the said bed plate in any suitable or approved manner. A second and inner cylinder C is also employed of much less diameter than the outer cylinder B, as is best shown in Fig. 5, and the said inner cylinder C is provided with a series of vertical and radially arranged compartments C', which compartments of themselves are open at their outer portions, being closed, however, at said portions by the outer cylinder B when the two cylinders are in position on the bed plate A. The outer cylinder B is stationary, but the inner cylinder

der C is adapted to revolve and is provided at the lower portion of its inner surface with a horizontal flange 21, in which flange a series of notches or recesses 22 is produced, and these notches or recesses 22 are located  
5 opposite the point of junction between the compartments C'. The inner cylinder C is also preferably provided with spiders 23 that are loosely received by the shaft 20.

10 The compartments C' are adapted to contain a series of laundry tags D, which tags are substantially U-shaped, and the tags of each series are connected by a strap of fragile material of any suitable or approved character, and each series of tags, they being  
15 arranged one above the other, is sufficient to fill a compartment C' extending initially from the bottom to the top thereof, as is illustrated in Fig. 2. It may be here remarked that the bottoms of the compartments C' are open as well as the tops, and the tags one on the other are adapted to be fed from the bottom of the compartment out from the machine.

25 A plunger E is provided in connection with the standard 13, comprising a top section *e* and side sections *e'*, which side sections are mounted to slide in the grooves 14 produced in the standard 13. The plunger E is  
30 provided with a pin 27 normally located just below the standard, as is shown in Fig. 2, and a link 28<sup>a</sup> is pivotally connected with the lower ends of the side members of the plunger E, adapted to turn for connection  
35 with a suitable foot pedal of any desired type.

The two cylinders B and C are closed at the top of the machine by a cover 24 having a downwardly extending flange adjacent to its  
40 margin that engages the inner wall of the cylinder C. A stout spring 28 is secured to the under face of the base 15 at one end and the other end of the spring has engagement with the under face of the plunger pin 27,  
45 the spring acting to force the plunger upward so as to normally carry the under face of the head *e* of the plunger upward out of engagement with the table 18 of the standard 13. The upper face of the plunger head  
50 *e* is concaved, and the under face of the table portion of the standard 13 at its outer end is concaved in a reverse direction, the two concavities being adapted for example, to accommodate the thumb and forefinger of the  
55 hand when the plunger E is to be drawn downward toward the table 18.

An angle lever arm 29 is located at each side of the standard 13 and each lever arm 29 consists of a lower substantially horizontal member *a'* and a longer upwardly extending member *a*. The lower or shorter member *a'* of these lever arms 29 is pivoted at 30 to the side faces of the standards 13 adjacent to the outer edges of the grooves 14 therein,  
65 and screws 31 or their equivalents are passed

through suitable slots in the levers 29 at the junction of their members; and into the sliding members *e'* of the plunger E. Thus upon the downward movement of the plunger E the upper and longer members *a* of the lever  
70 arms 29 are directed inward at an inclination, as is shown in Figs. 3 and 4; and when the said plunger E is in its full upper or normal position, the longer members *a* of the lever arms 29 are practically parallel with  
75 the sliding side members *e'* of the plunger E, as is illustrated in Fig. 2.

A transverse recess 34 is produced in the bottom of the head *e* of the plunger E, which recess accommodates the lower horizontal  
80 foot portion 35 of a spring 35<sup>a</sup> that is attached to the outer face of the outer cylinder B, and in the inner face of the said head a vertical groove 35<sup>b</sup> is formed that accommodates the body portion of the spring 35<sup>a</sup>,  
85 or that portion which is attached to the cylinder B. This spring 35<sup>a</sup> is adapted to guide a lowermost tag D of the column to that portion of the table 18 where the tag is to receive a material to be affixed thereto, and the  
90 said tag is held in position by the said spring for clenching action on the part of the head of the plunger E.

Links 33 are pivotally attached to the upper ends of the longer members *a* of the lever  
95 arms 29, and the said links 33 are pivotally connected to off-sets 36 from a collar 37 loose upon the lower horizontal member 38 of an angular push bar F, which member 38 is circular in cross section and extends  
100 through and slides loosely in the aperture 16 in the standard 12, as is shown in Figs. 2, 3 and 4, wherein it will be also seen that the said push bar F also consists of an upper horizontal member 39 and a connecting member  
105 40, the two latter members being rectangular in cross section. The upper horizontal member 39 of the push bar F has sliding movement upon the inner end portion of the table 18 of the standard 13. A spring 41 is  
110 coiled around the member 38 of the push bar F, having bearing against the collar 37, and a washer 42 loose upon said member 38 of the push bar, the washer being limited in its outward movement by a pin 43<sup>a</sup> secured to  
115 the said member. This spring 41 is placed under compression by the inward movement of the links 33 when the plunger E is pressed down to clench a tag.

The function of this push bar F is to force  
120 the lowermost tag D from the column of tags in position for use, over the said table 18 to a position on said table, whereupon on the downward movement of the plunger E the tag may be compressed, as is shown in Fig.  
125 4. To that end it is obvious that the lowermost tag in the column of tags brought in position for use rests upon the table 18, as is shown in Fig. 3, such position of the tags occurring when the push bar is in its inner  
130

position, so that when the push bar is forced outward it will engage the said lowermost tag; but normally, that is, after a tag has been forced out to be clenched, the column of tags is supported by the upper horizontal member of the push bar, as is shown in Fig. 2, since at that time the said upper member 39 of the push bar will be beneath the said column of tags, but as soon as the push bar is forced inward the lowermost tag drops to an engagement with the table 18 which then supports the column. When the plunger E descends to compress the tag D forced out from the column the push bar is drawn inward, as is shown in Fig. 3, being then opposite the lowermost tag in the operative column, which will have dropped onto the table 18. Upon the upward movement of the plunger E the push bar is forced outward by the action of the levers 29 and links 33 forcing the lowermost tag in the operative column outward to the position on the table 18 shown in Fig. 2, and as has been stated, at such time constitutes the support for the remaining tags in the column.

A feed bar G made in two sections 46 and 47 is made to slide in the slot 10 of the plate 10<sup>a</sup> and extension 11, as is shown in Figs. 2, 3 and 4, and the roller 45 of a yoke latch 43, pivoted to the member 40 of the push bar and forced upward by a spring 44, engages with the under face of the section 46, causing the said latch to have a downward and inward inclined position, shown in Fig. 2, when the push bar F is in normal position, as is shown in Fig. 2. The section 46 of the feed bar G is supported by the upper horizontal member of the push bar F, and this section 46 is downwardly and inwardly curved and slotted to produce a forked inner end member 48, and just at the rear of said member a semi-circular recess 49 is produced in the said member 46, of which the forked terminal constitutes one wall, and said recess 49 is adapted to receive the roller 45 of the latch 43 when the push bar F is at its inner position, as is shown in Figs. 3 and 4.

The member 47 of the feed bar G is provided with a body section 47<sup>a</sup>, from the inner end of which a lip 48<sup>a</sup> extends, adapted when the two sections of the feed bar are brought together to enter the division at the forked end 48 of the section 46, and in the further construction of the section 47 of the feed bar G, it consists of a lower guide member 51 that engages with the under face of the bed plate A, and which also passes out through the guide slot 16<sup>a</sup> in the standard 12, and an upper spaced member 52 is also provided that slides upon the upper face of the bed plate, and in one position of the feed bar enters a notch 22 in the flange 21 of the inner cylinder C to prevent the same from turning. The section 47 of the feed bar G is

also provided with a notch 53 in its under edge adjacent to its inner end adapted as a keeper for the latch 43.

The outer end of the section 46 of the feed bar G is always opposite either the lowermost or the next lowermost tag D in a compartment in operation, and engages with one or the other of said tags while tags remain in the compartment, as is shown in Figs. 2 and 3, but when the compartment is empty the feed bar is free to move to the outer cylinder B, as is shown in Fig. 4, to turn the cylinder C by such movement and bring another filled compartment in operative position. It may be here remarked that the plunger E constitutes in its entirety a clenching device.

Supposing the parts to be in the position shown in Fig. 2, a full compartment being in operative relation to the push bar F, the push bar in said Fig. 2 is shown as having carried a tag outward in position to be clenched at its inward stroke, and the sections of the feed bar G are shown connected and the outer end of the section 46 as bearing against the lowermost tag in the compartment C', thus the feed bar G is under such conditions rendered inactive and immovable.

As the plunger or clenching device E is drawn downward to clench the staple between the table 18 and the head of the plunger, the push bar F is carried back or inward and the roller 45 will enter the recess 49 at the forked end of the member 46 of the feed bar G and at such time the spring 44 will throw the latch 43 up into the notch 53 of the feed bar section 47, as is shown in Fig. 3, and at such time the projected tag will have been clenched.

Upon releasing the plunger or clenching device E the spring 28 forces it upward to normal position and the levers 29 and links 33 are drawn outward assisted by the spring 41, and as the push bar moves out toward normal position the roller 45 in passing from the recess 49 will cause the latch 43 to disengage from the section 47 of the feed bar, and the push bar will then proceed on its way to carry the next lower tag in position to be clenched.

When, however, all of the tags have been used up from the compartment C' in action and the push bar F is carried inward, the roller and latch will engage with the feed bar in the manner above described, but on the return of the push bar it will carry the feed bar outward with it, causing it to travel to practically an engagement with the inner wall of the outer cylinder B, as is shown in Fig. 4, and at such time the inner cylinder C is revolved to bring a filled compartment C' in position for the discharge of its tags. While the feed bar G is in its inner or fixed positions, the upper member 52 thereof will enter one of the recesses 22 in the flange of the inner cylinder and thus prevent said cyl-

inder from turning during the operation of distributing and clenching the tags, but as the feed bar G moves outward such locking contact is destroyed.

5 The mechanism for rotating the inner cylinder C' is best shown in Fig. 5, wherein a link 54 is pivotally attached to the upper member 52 of the feed bar G, the pivot pin 54<sup>a</sup> extending above the link, as is shown in  
10 Figs. 2, 3 and 4. This link has movement in a recess 55 produced in the plate 10<sup>a</sup>, and the link 54 is pivotally connected with a feed arm 56 that is mounted to turn around the fixed shaft 20, as is best shown in Fig. 5. The said  
15 feed arm 56 is provided at its outer end with a pivoted finger 57 that serves as a dog, and the said dog is held in position to enter any one of the notches or recesses 22 in the flange 21 of the inner cylinder C by means of a suitable spring 58, as is also shown in Fig. 5. A spring 59 that is coiled around the shaft 20, is connected with the feed arm 56 in such manner that the said feed arm 56 is normally held in such position as to bring the dog 57 in  
20 position to engage with the next recess 22 to that previously engaged by the dog, and on the outward movement of the feed bar G the partial rotation of the inner cylinder C' is accomplished.

30 A pawl 60 is pivoted upon the bed plate A, and one end of this pawl is made to engage with the pin 54<sup>a</sup> on which the link 54 is pivoted, being held in such contact by a spring 62, and as the feed bar G moves outward to  
35 effect the rotation of the inner cylinder C, the spring 62 acts to carry the other end of the pawl in position to engage with one of the notches 22, so as to prevent the inner cylinder from turning more than the distance  
40 of one compartment.

Having thus described our invention, we claim as new and desire to secure by Letters Patent,—

1. In a machine for distributing and clenching tags and the like, a rotatable reservoir  
45 having chambers for the reception of tags, distributing means cooperating with the reservoir, a clenching mechanism, means for rotating the reservoir, and means controlled  
50 by the clenching mechanism for operating the rotating means, and the distributing means.

2. In a machine for distributing and clenching tags and the like, a rotatable reservoir for the tags, a clenching mechanism, a push-  
55 bar operated from said clenching mechanism for carrying one tag after the other in operative relation to said clenching mechanism, devices for rotating the reservoir, and devices for locking the same in discharge position,  
60 and means for operating the rotating and locking devices for the reservoir by the movement of the clenching mechanism.

3. In a machine for distributing and clench-

ing tags and the like, a rotatable reservoir for the tags, devices for rotating and locking the  
65 reservoir, a table, means for clenching the tags when so fed, which means have movement to and from the tags, and timedly operated connections between the clenching  
70 means and the rotating and locking devices, and the means for feeding the tags, whereby all of the said parts operate in harmony controlled by the clenching means.

4. In machines for distributing and clenching laundry tags and the like, a rotatable reservoir provided with compartments for the  
75 reception of tags, distributing means adapted to operate upon the lowermost tag in a given compartment, clenching means for the tag thus fed cooperating with the distributing  
80 means, and means controlled by the distributing and clenching means, for revolving the said reservoir.

5. In a machine for distributing and clenching laundry tags, a base structure including a  
85 base plate and a table, a clenching device operatively mounted in said base structure and having a movement to and from the table, a reservoir mounted to revolve upon a base plate adapted to contain laundry tags,  
90 a push bar operated from the said clenching device for carrying one tag after the other in operative relation to the said clenching device, and means operated by the push bar for revolving the reservoir at stated intervals.  
95

6. In a machine for distributing and clenching laundry tags, the combination with a base structure including a base plate and a bed plate, and standards for the same, one of  
100 the said standards having a table formed at its upper end, and a plunger mounted to slide in the table carrying standard, and provided with a clenching head adapted for movement to and from the said table, of a feed bar adapted for movement upon the bed  
105 plate, a feed mechanism controlled by the movement of the said feed bar for rotating the reservoir at predetermined intervals, a push bar adapted to feed the tags consecutively from a given compartment of the reservoir to a space between the said table and a cooperating portion of the plunger arm, link and lever connections between the plunger arm and the push bar, and a tension-controlled latch operated by the movement of  
115 the push bar and adapted for operative relation to the feed bar.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

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Witnesses:

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