E. CRAIG.
LAUNDRY TAG MACHINE.
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Witnesses:  

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LAUNDRY-TAG MACHINE.


To all whom it may concern:

Be it known that I, Edward Craig, a citizen of the United States of America, and resident of St. Joseph, Berrien county, Michigan, have invented a certain new and useful Improvement in Laundry-Tag Machines, of which the following is a specification.

My invention contemplates a machine for applying laundry tags to articles of wearing apparel.

Heretofore, laundry tags have been applied by hand, in various ways. This method of marking the clothing and other articles by hand was slow and not satisfactory. With my invention, however, the tags, of cloth or other suitable material, are applied rapidly and securely, by a machine that cuts each tag from a strip of cloth and then staples the ends thereof to the clothing or other articles. In this way the marking of articles for the laundry is greatly facilitated.

In the accompanying drawings, Figure 1 is a side elevation of a laundry tag machine embodying the principles of my invention. Figure 2 is a front elevation of the upper portion of said machine. Figure 3 is an enlarged horizontal section on line 3—3 in Figure 1. Figure 4 is an enlarged detail sectional view, on line 4—4 in Figure 2, of the stapling and cutting device. Figure 5 is a front elevation of the stapling mechanism shown in Figure 4. Figure 6 is a perspective of the movable element or lever of the cutting mechanism. Figure 7 shows a laundry tag applied to the cloth of the article to be laundered. Figure 8 is a side elevation of the cutting device for the feed mechanism. Figure 9 is a detail section on line 9—9 in Figure 8.

As thus illustrated, my invention comprises an upright standard or body A, provided with a horizontal arm or support a at the upper end thereof. This support has its outer end provided with movable members a’ in the upper end of which are the spring-supported anvils or clench blocks a”. These members a’ have their lower ends provided with rolls a”. A lever a’ is pivoted on the body A and provided with portions which engage the rolls a”. The said lever is provided with a roll a”. A rod B extends vertically in the body A, and is provided with a cam b for engaging the roll a’ and thereby operating the lever a’ to elevate the members a’. This raises the cloth of the garment or other article resting thereon into position to receive the tag C. A foot lever b’, held normally raised by a spring b”, is pivoted at b’ upon the base of the body A, and pivoted at b’ to the lower end of the rod B. The strip of cloth D is fed from roll d’ to the feed rolls a” and a”, and from the latter to the tube d”. This tube is disposed in position to feed the ribbon of cloth D across the tops of the anvils a”, from one anvil to the other. It will be seen that the said anvils are disposed in a row in the direction of feed of the ribbon D.

A stapling mechanism E is arranged over one anvil a”, and a similar mechanism F is arranged over another anvil. These stapling mechanisms are of any suitable character, and are operated by the head G on the upper end of the rod B. The said mechanisms are arranged to drive the staples c crosswise of the tag C. See Figure 7. The anvils a” yield to the pressure of the staple drivers. Between the stapler E and the feed tube d” there is a stationary knife H that extends across the upper surface of the cloth D. A movable knife or lever I is pivoted at I and provided with a bifurcated portion I”. The portion I” supports the cloth D, as the latter travels in the slot between this portion and the upper portion I”. The portion I” may have an edge that acts in conjunction with the knife H to sever the cloth at the proper time. This lever I has its rear end I” pivoted to the lower end of the vertically disposed rod J. This rod is held in a bearing j, and has its upper end provided with a vertical slot j”. The downward motion of the rod J is limited by a lug j’, thereon that engages the bearing j. A lug j” on the head G works up and down in the slot j”, This lug moves downward in the slot j”, without moving the rod J, until the shoulder j” is reached, when the rod moves down to actuate the cutting mechanism. Thus the staples are driven and then the attached portion of the cloth D is cut off by the upward movement of the portion I” of the lever I. The stationary head K of the machine carries a shaft k upon which the feed roll d” is mounted. This shaft has its other end provided with a bevel gear k” meshing with a bevel gear k” on the shaft k”. This shaft k” has a ratchet wheel k” operated by a pawl k” pivoted on the head G.
The feed rolls \( k^a \), for feeding wire \( L \) to the staples, are mounted on this shaft \( k^a \). The rolls \( k^a \) cooperate with said rolls \( k^b \) to feed the wire in the usual and well known manner. Thus one ratchet mechanism is operative to feed the cloth \( D \) and the wires \( L \). It will be seen that the said wires are fed parallel in a direction at right angles to the strip of cloth \( D \). The rolls \( d^a \) and \( d^b \) are geared together by the gears \( k^b \) and \( k^a \).

In operation, the cloth of the clothing or other article is laid on the anvils \( a^c \) and then raised by actuation of the foot lever \( b^t \). This also serves to drive the two staples \( e \), and to cut off the attached length of cloth \( D \). The wires \( L \) are also fed forward by the same downward movement of the cross head \( G \). The wires and strip of cloth are fed at the same time. Then the wires are cut off and bent into staple form and inserted through the tag and the cloth or other material to which it is to be secured. The properly tagged article is then released by releasing the lever \( b^t \). Thus the tags are similarly fastened to the laundry articles by a machine which works fast and accurately.

To prevent the feed mechanism from overfeeding, an arrangement is provided, as shown in Figs. 8 and 9. The cam member \( M \) is hung on the head \( G \) and provided with a cam recess \( f \). The pivoted locking dog \( N \) is adapted to engage the teeth of the ratchet feed wheel \( k^a \), at the time that the feed pawl \( k^b \) reaches the downward limit of its operative stroke. This locking dog \( N \) has a portion \( n \) adapted to engage the teeth of the wheel \( k^a \). A spring \( n^c \) keeps the dog \( N \) pressed normally against the cam member \( M \). When the head \( G \) moves downward, the pawl \( k^b \) actuates the feed mechanism, and at the proper time the cam member \( M \) permits the locking dog \( N \) to swing outward to the position shown in dotted lines in Fig. 8, thereby locking the feed mechanism against further movement. This, as stated, prevents over-feeding.

I do not limit myself to the exact construction shown and described as that is not my intent, and for the reason that it is obvious that the structure shown and described, and the different elements thereof, can be changed or modified more or less without departing from the real scope and spirit of my invention. What I claim as my invention is:

1. In a machine of the class disclosed, a mechanism for feeding a strip of sheet material, means for driving two parallel staples through the opposite ends of a predetermined length of said material, and means for cutting off the double stapled length of material, by making a cut parallel with said staples, close to the last staple, together with means for supporting the article to which the said material is applied, and means for feeding the staple wire transversely of the said strip.

2. A laundry tag machine comprising means for feeding a strip of cloth, means for stapling the same to an article, by the insertion of parallel staples, means for cutting off the stapled portion of said material, thereby leaving the tag fastened to the article by two staples, by making a cut parallel with said staples, close to the last staple, and means for feeding the staple wire transversely of the said strip.

3. A laundry tag machine comprising means for feeding a strip or ribbon of cloth, means for stapling the said strip at a plurality of points therein, by parallel and properly spaced staples, and means for supporting an article in position for receiving the multiple stapled portions of said strip or ribbon of cloth, together with means for raising the article to be tagged into position to receive the tag, said last mentioned means comprising a pair of clench blocks mounted to slide up and down in union, and means for lifting the strip to sever the attached tag.

4. In a machine of the class disclosed, a plurality of staplers arranged in a row, means for feeding sheet material in the direction of said row, and in position to receive the staples from said staples, means for feeding wire to the said staples, the wires extending parallel and at right angles to the direction of feed of the sheet material, whereby the staples are parallel, means for supporting an article in position to receive the staples, and means for cutting off the stapled portion of the said material, close to the last staple, said staples having staple formers disposed in planes extending transversely of the direction of feed of said material.

5. In a machine of the class disclosed, a vertically movable support for the article to be operated upon, adapted to slide up and down on a straight line, a lever for operating said support, said lever and support having a shifting connection; a vertically disposed rod, and a cam on said rod for operating said lever.

6. In a machine of the class disclosed, a mechanism for feeding sheet material, means for feeding wire crosswise of said material, a stapler for receiving said wire, and a single ratchet mechanism for simultaneously operating both of said feed mechanisms, actuated by the downward movement of the stapler, said stapler disposed in position to insert a staple through the said sheet material, and cutting mechanism operated by the stapler to cut off the tag.

7. In a tag attaching machine of the class disclosed, a stapling mechanism for applying the tag, having a reciprocating head, a stationary knife, a pivoted lever, an edge on said lever cooperating with said knife,
means for feeding sheet material across the end of said lever and below said knife, to provide a tag for each operation of the machine, and means including a lost-motion connection depending from said head for rocking said lever to lift the material away from the article to which the tag is attached, and to thereby cause the knife to sever the tag.

8. A laundry tag machine comprising means for feeding a strip of cloth, means for driving a plurality of staples in the said strip, to secure a predetermined length thereof to an article, and means for cutting off the said length close to the last staple, leaving the same secured to said article by a plurality of staples extending crosswise of the tag, with space between said staples for printing or marking, said space being determined by the length of the tag.

9. In a machine of the class described, a feed mechanism comprising a feed wheel, a pivoted pawl for actuating the same, a locking dog for engaging said wheel to prevent over-feeding, a pivoted cam for moving said dog into and out of engagement with said wheel, and means for reciprocating the pawl and cam in unison, upon which the same are independently pivoted.

10. A tag machine having means for feeding the tape, a ratchet wheel for operating said means, a stapler for attaching the tag, a pawl for actuating said wheel, pivoted on the movable head of said stapler, a locking dog for said wheel, to prevent over feeding of the tape, and a cam pivoted on said head, shaped to automatically control said dog, the said pawl and cam depending from said head.

Signed by me at St. Joseph, Michigan, this 13th day of November, 1909.

EDWARD CRAIG.

Witnesses:
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