G. F. HULLINGS.

TAG FORMING AND AFFIXING MACHINE.

APPLICATION FILED NOV. 13, 1908.

1,127,006.

Patented Feb. 2, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

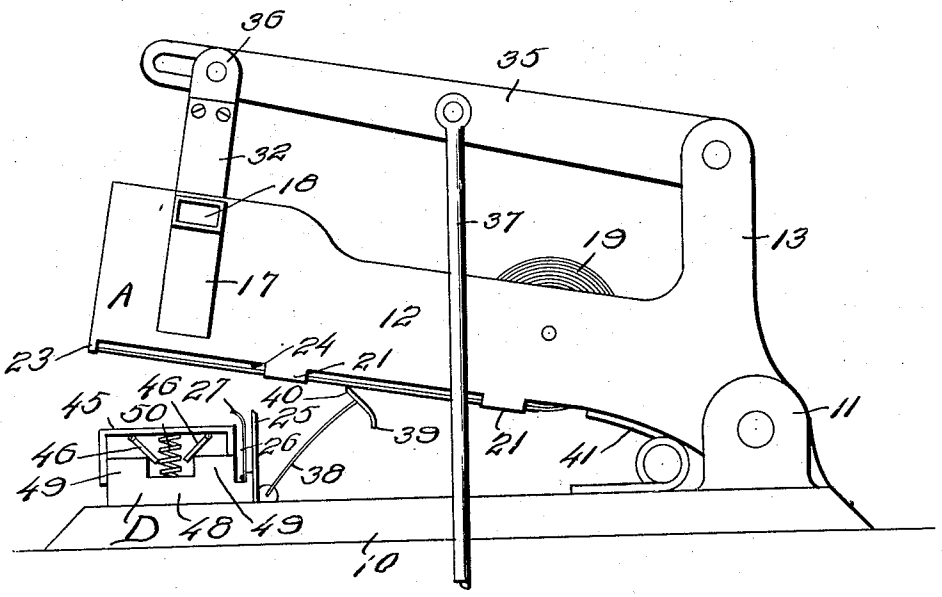
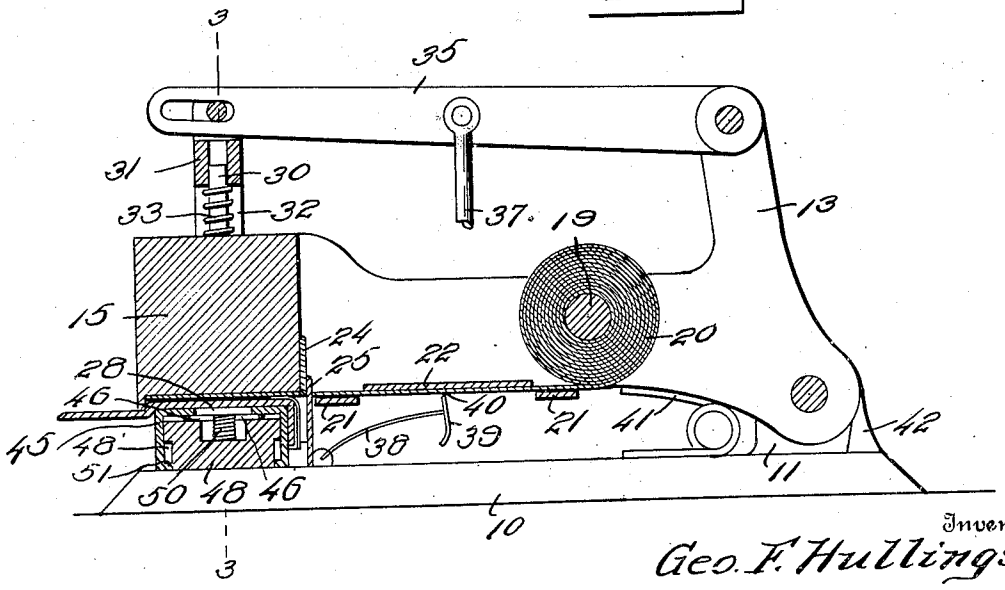


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

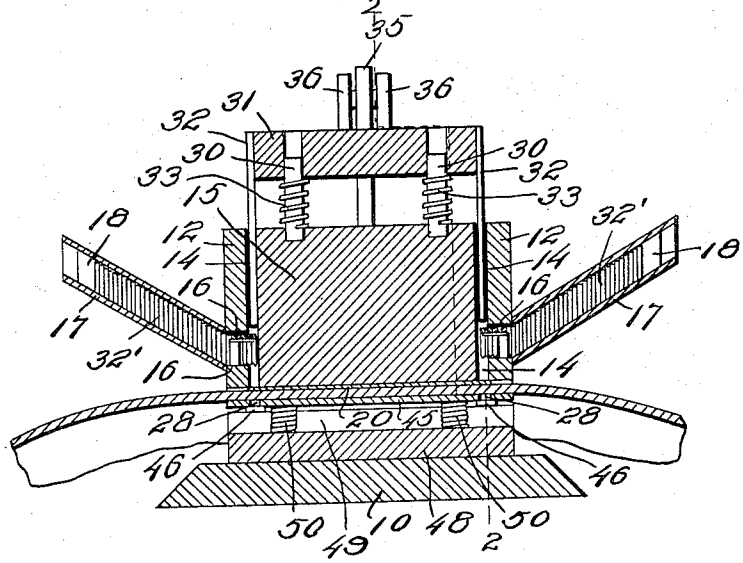
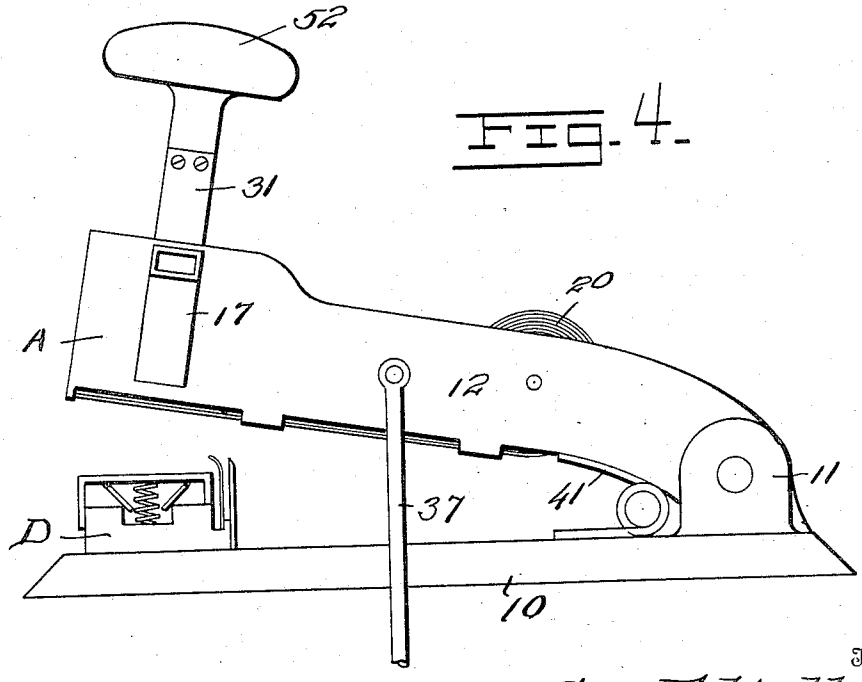


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE F. HULLINGS, OF WASHINGTON, DISTRICT OF COLUMBIA.

TAG FORMING AND AFFIXING MACHINE.

1,127,006. Specification of Letters Patent. Patented Feb. 2, 1915.

Application filed November 13. 1908. Serial No. 462,517.

To all whom it may concern:

Be it known that I, GEORGE F. HULLINGS, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Tag Forming and Affixing Machines, of which the following is a specification.

This invention relates to laundry apparatus, and more particularly to a machine for affixing tags to garments preparatory to marking indentifying characters on the tags.

A particular object of the device is to provide an anvil for the engagement of staples in a peculiar manner to facilitate their clenching.

Another object is to proivde a movable guide portion adapted to be spaced from the anvil at times, and movable into position against the anvil to feed staples thereto.

Another object is to provide a novel form of stapling hammer, engaged in the guide member, the operation of which serves to move the guide members into position.

Another object is to provide a novel form of feed mechanism for supplying staples beneath the stapling hammer of the device.

Another object is to provide a novel garment guide for the anvil.

Other objects and advantages will be apparent from the following description, and it will be understood that changes in the specific structure shown and described may be made within the scope of the claims, and that any suitable materials may be used without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a side view of the device, Fig. 2 is a vertical longitudinal sectional view along the line 2—2 of Fig. 3. Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 2, Fig. 4 is a side view of a modified form of the device.

Referring to the drawings, there is shown a machine comprising a base portion 10 carrying spaced uprights 11 at its rear end, and an anvil member D at the forward end, over which there is disposed a movable member A, carrying a tape feeding and a stapling mechanism, the member A being pivotally supported between the uprights 11 as shown. The stapling member comprises spaced arms 12 secured pivotally to the uprights 11, and having upwardly extending portions 13 adjacent their pivotal point. The outer ends of the members 12 are connected by means of a block 15, and formed between the members 12 and the adjacent respective ends of the block 15, there are vertically extending guide slots 14.

The members 12 have rectangular openings 16 formed therethrough and communicating with the guide slots 14, and secured outwardly thereof, there are staple guides 17, extending divergently upward, and adapted to feed staples through the openings 16 into the slots 14, as shown; a follow block 18 is disposed in the guides 17 to press the staples toward the slots 14. Carried revolubly in a suitable manner between the arms 12 adjacent their pivotal points, there is a spool 19 carrying a suitable form of tape 20, extending forwardly beneath the block 15, as shown. Suitable support portions 21 are carried between the arms to retain the tape against falling therebelow, and a supplementary guide plate 22 is disposed above the tape between the arms, and intermediately of the portions 21, for a purpose to be subsequently indicated. The block 15 is provided with a pendant flange 23, at its forward edge adapted to engage outwardly of the anvil D, which checks the forward movement of the tape 20, as will be subsequently shown. A knife 24 is secured to the rear face of the block 15, and is adapted to coöperate with a knife 25 secured to the rear face of the anvil D to shear the tape over the anvil in proper lengths for stapling upon a garment. The anvil D is provided with a recess 26 at its rear side adjacent to the knife 25, and a resilient spring plate 27 is disposed rearwardly of the anvil and curved forwardly thereover to guide the edge of a garment into the recess 26, so that the tag may be secured upon the garment inwardly of its edge. The spring 27 is adapted to be depressed beneath the stapling member A during the stapling operation, without interfering with such action. The anvil D includes a movable upper portion 45 provided with spaced slots 28 disposed in registry with the guides 14, and carries pivoted transverse plates 46 below the slots and at their ends.

The plates hang pendant, and normally tend to lie at the lower limit of their movement. Carried by the base 10 beneath the

movable portion 46, there is a fixed member 48 having spaced upwardly extending arms 49 disposed slidably against the outer faces of the plates, and adapted to force them into clenching position against the inner face of the movable portion 45.

Centrally of the anvil there are springs 50 under tension between the two sections of the anvil to hold them yieldably in spaced relation.

The member 48 is provided with recesses 48′ and in its front and rear faces receiving inwardly directed tongues 51 carried by the portions 45 to restrict upward movement of the movable portion. It will thus be seen that after a staple is forced downwardly within these slots, the end portions will be pressed laterally inward and forced upwardly into clenching engagement with the tape and garment. This construction allows bending of the staple arms after complete perforating action, and tearing of the goods is thus avoided by lateral movement of the arms during insertion.

Carried by the block 15, there are spaced guide posts 30, upon which there is slidably engaged a block 31 having spaced passages engaged slidably over the posts, and having secured to its opposite ends stapling hammers 32 disposed slidably in the guides 14. Engaged around the post 30 under tension between the block 15 and the bar 31, there are helical springs 33, to hold the bar yieldably at the outer limit of its movement. Secured to the upward extensions 13 of the arms 12 is a lever 35 engaged pivotally at its forward end to lugs 36 carried by the block 31. Secured to the lever 35 there are downwardly extending connections 37 adapted for engagement with a suitable operating means which may comprise a pedal or hand operated lever or other suitable construction, and which it is not deemed necessary to illustrate in the present drawings, as this does not form a part of the invention.

Secured to the base 10, there are rearwardly extending diagonal springs 38 carrying at their upper ends a tape engaging member 39, comprising a series of prongs or points 40 directed upwardly and extending approximately at right angles with the spring 38, though it will be understood that the member may be set at any desirable angle. The member 39 extends rearwardly, and is curved downwardly, as shown.

Engaged beneath the members 12, there is a spring 41 bearing against the base 10 and upwardly against the members 12 to hold the stapling mechanism normally at the upper limit of its movement. Their upward movement is limited either by the operating means, or by a single lug such as is shown at 42 on the arms 12, and adapted to engage the base 10 to block their pivotal movement.

In Fig. 4 there is shown a modification of the apparatus, in which the operating means 37 is connected directly to the arms 12, the portions 13 and 35 of the first described form being thus eliminated. The block 31 in this form carries a hand engaging knob 52, and the device is otherwise the same as described above. In the operation of this device, the operating means 37 is designed to be operated by a foot pedal and after engagement of the anvil member against the goods, the knob 52 is struck by the hand of the operator to complete the stapling operation.

It will be understood that if desired the form of anvil herein shown may be dispensed with, as the device would be completely operative with a plain block anvil having suitable staple engaging recesses customary in such constructions.

Referring to the first described form of the device, it will be seen that a garment may be presented over the anvil D, and when the pedal or other operating mechanism actuated, the stapling member A is moved pivotally against the resistance of the spring 41 bringing the block 15 against the anvil B, the knives 24 and 25 engaging the tape 20 therebetween, with shearing action; continued movement of the operating means depressing the bar 31 bringing the hammers 32 into engagement with the staples 32′ which is forced downwardly through the severed portion of the tape 20 and clenched upon the anvil D as will be apparent.

What is claimed is:—

1. A machine of the class described comprising a base portion, an anvil carried thereby, said anvil carrying a knife at its inner edge, a stapling member pivoted upon the base, and having staple guides disposed vertically above the anvil and adapted for presentation thereagainst at times, resilient means engaged with said stapling member to hold it at the upper limit of its movement, tape carrying means, means for feeding the tape over said anvil, a knife carried by the stapling member adapted to coöperate with said first named knife in shearing action upon the tape, staple carrying means adapted to feed staples into said guides, hammers movable in said guides, adapted to engage staples to clench them in a fabric, resilient means engaged with said hammers to hold them normally at the upper limit of their movement, and operative means engaged with said hammers adapted to force them into engagement with the anvil, said stapling member being adapted to be pressed into engagement with the anvil upon action of the hammer operating means, for shearing action upon the tape, said tape feeding means being adapted to operate by the retractive movement of the stapling member.

2. In combination, an anvil member, a pivoted stapling member vertically movable thereover, resilient means engaged with the stapling member to hold it normally in spaced relation with the anvil, tape-carrying means upon the stapling member, staple-feeding means carried by the stapling member, spring supported hammers carried by the stapling member and means for actuating the hammers and tape-shearing means, the strength of the resilient supporting means for the stapling member and for the hammers being proportioned for movement of the stapling member into engagement with the anvil upon operation of the hammer-actuating means before operation of the hammers.

3. In a device of the class described, the combination with a stationary base and anvil, of a stapling and tape-carrying member vertically reciprocable thereover, a tape-receiving passage being formed in the stapling member and provided with an opening on one side, and a spring pressed member secured at one end to the base member and extending diagonally upward with respect to the tape passage, and having tape-engaging portions projecting into the passage, said engaging portions being adapted to be reciprocated upon vertical movement of the stapling member for feeding engagement with the tape.

4. In a device of the class described, an anvil member, a resilient guide member spaced from one side of the anvil and projecting inwardly thereover for engagement with a portion of fabric presented over the anvil, to guide the edge portion of the fabric downwardly over the edge of the anvil, a knife member spaced immediately adjacent the guide member, a vertically reciprocable stapling member engageable with the anvil, tape-carrying means carried thereby and a knife member carried thereby and adapted to coöperate with the first named knife member in shearing engagement with the tape upon operation of the stapling member.

5. A stapling-machine including in combination, a base, an anvil upstanding therefrom, a stapling-device movably connected with the base and having an inactive position above the anvil and adapted to be actuated into an operative position in close proximity to said anvil, to operate upon a plurality of staples simultaneously; a plurality of staple supporting members adapted to feed a plurality of staples simultaneously above said anvil; a fabric-support movably sustained over the anvil, means for actuating said support, and means for clenching a plurality of staples simultaneously in the fabric.

6. In a tag forming and affixing machine, the combination with a base, of a casing mounted thereon and capable of movements toward and away from the base, an anvil, coacting means carried by the casing and base for feeding a length of tape, said means being operated by the movement of the casing in one direction, means for severing said length of tape, means for stapling said cut tape, and mechanically operated means for controlling the stapling means, both the severing means and the stapling means being operated simultaneously, the severing means and stapling means being operated to sever and staple when the casing is moved toward the anvil and both returned to inoperative position when the casing is moved away from the anvil.

7. A tag-forming and affixing-machine including in combination, a base, an anvil carried thereby, a casing movably mounted on the base and capable of movements toward and away from the anvil, means for feeding tape over the anvil and deriving actuation by the movement of the casing in one direction, means for cutting the tape into a predetermined length, mechanism for clenching a plurality of staples simultaneously in the cut tape, mechanically-operated means for controlling the stapling-mechanism; the severing-means and the stapling-mechanism being operated in a predetermined relation, and the severing-means and the stapling-mechanism being also operated in a predetermined relation to the operation of the stapling-mechanism.

8. A device of the class described, including in combination, a stationary base, an anvil carried thereby, a stapling and tape-carrying instrumentality also carried by the base, means for changing the relation between the anvil and said instrumentality, cutting-means adapted to act when the relation between said instrumentality and anvil is changed, means for feeding tape over said anvil, and means for feeding a plurality of staples simultaneously to said stapling instrumentality.

9. A tag forming and affixing machine comprising the following components: an anvil component carried by the base; staple magazines disposed on an element forming another component, also carried by the base; means for changing the relation between said components; tape carrying means on one component; tape feeding means disposed on the other component, and actuated upon movement of the components away from each other; means for cutting the tape into strips to be secured to a fabric; and means for simultaneously clenching a plurality of staples in said tag and fabric.

10. A tag forming and affixing device comprising in combination a base; an anvil, as one component, carried by the base; a casing, as another component, also carried by the base; means for changing the relation

of the components; staple magazines adapted to feed a plurality of staples simultaneously above said anvil, carried by one of said components; tape carrying means disposed on one of said components; tape feeding means also carried by one of said components, and being operable as the relation of the components is changed in one direction; and means for cutting the tape into tags, said means being operable when the relation of the components is changed in the opposite direction.

11. A tag forming and affixing machine including in combination a base; and as one component, an anvil carried by said base; and, as another component, a casing also carried by the base; means for changing the relation between the components; staple magazines adapted to feed a plurality of staples simultaneously above the anvil, carried by one of said components; tape carrying means disposed on one of said components; tape feeding means adapted to operate as the anvil and casing are parted; means for cutting the tape into tags to be affixed to a fabric; and means for simultaneously clenching a plurality of staples from said magazines into said tape and fabric, said clenching and tape cutting means being operable as the anvil and casing are brought together.

12. In a tag forming and affixing machine, the combination with a base, an anvil carried thereby; a casing also carried by the base: stapling mechanism carried by said casing; staple magazines adapted to feed a plurality of staples simultaneously to said stapling mechanism, disposed on said casing; tape carrying instrumentality on said casing; tape feeding mechanism carried by said base; said feeding mechanism being operable when the casing and anvil are parted; and means for cutting the tape into tags and placing it beneath the stapling means, as the anvil and casing are engaged.

13. In a tag forming and affixing machine, the combination with a base, of an anvil carried thereby; a casing also carried by the base; stapling instrumentality carried by said casing; staple magazines adapted to feed a plurality of staples simultaneously to said stapling instrumentality also disposed on said casing; tape carrying means on said casing; tape feeding means disposed on said base, and coacting with said casing to place a predetermined quantity of tape upon a fabric placed on the anvil; means for cutting the tape to form tags; and means for actuating the stapling instrumentality to simultaneously clench a plurality of staples through the tape and fabric between the casing and anvil.

In testimony whereof I affix my signature, in presence of two witnesses.

GEORGE F. HULLINGS.

Witnesses:

CHAS. W. BLACKWOOD,

MAY SINSABAUGH.