A. HAMMER AND F. EGERSDÖRFER.

MACHINE FOR MARKING LINEN AND THE LIKE.

APPLICATION FILED JAN. 22, 1915.

1,337,650.

Patented Apr. 20, 1920.

2 SHEETS—SHEET 1.

Fig. 5.

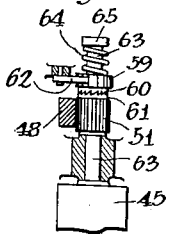


Fig. 6.

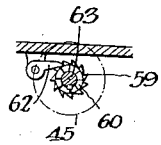
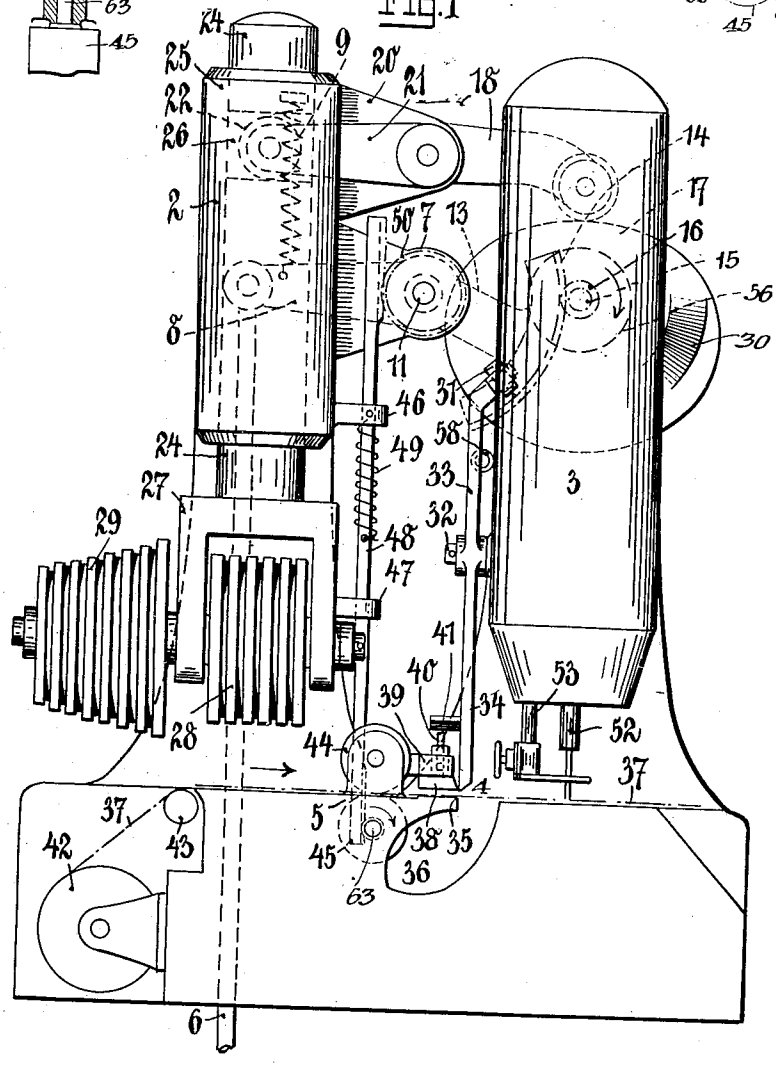


Fig. 1



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2 SHEETS—SHEET 2.

Fig. 2

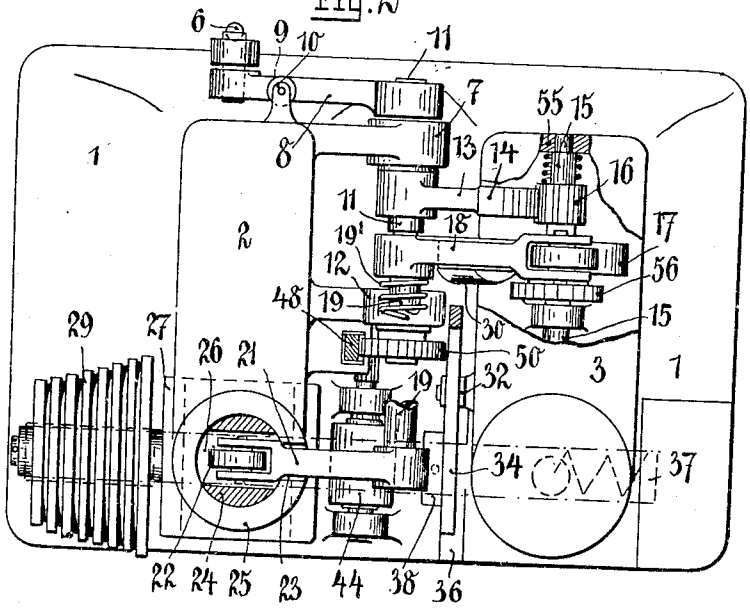


Fig. 3

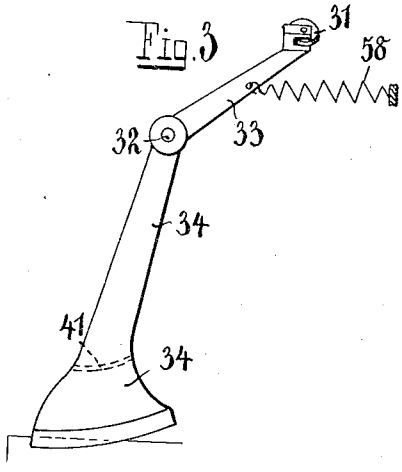
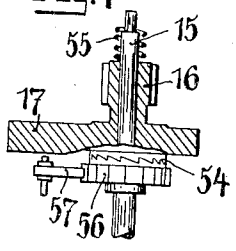


Fig. 4



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MACHINE FOR MARKING LINEN AND THE LIKE.

1,337,650. Specification of Letters Patent. Patented Apr. 20, 1920.

Application filed January 22, 1915. Serial No. 3,676.

To all whom it may concern:

Be it known that we, ARTHUR HAMMER, a subject of the Emperor of Germany, and residing at Berlin, Germany, and FRITZ EGERSDÖRFER, a subject of the Emperor of Germany, and residing at Berlin-Charlottenburg, Germany, have invented certain new and useful Improvements in Machines for Marking Linen and the like, of which the following is a specification.

Our invention relates to a device particularly intended for laundries and has for its object, a machine for mechanically marking and attaching, in a simple and rapid manner the appendages or tags which consist usually of a piece of tape, bearing suitable identification characters, for the purpose of identifying the articles to be washed.

According to our invention the marking, cutting off and stitching on of the tags serving for identification of the articles is carried out in one operation by a simple actuating of a pedal or the like, so that an operator is able to provide several thousand articles with tags in an hour without difficulty.

The new machine consists substantially in the combination of a stamping device, a cutting off device and a sewing machine, which, with the help of a feeding device for the tape, coact in such a manner, that at each operation of the driving mechanism, a part of the tape is stamped, another part is cut off and stitched on, whereupon the feeding forward of the tape is effected by the feeding device which is also controlled by the driving mechanism.

In the drawing our invention is shown by way of example in one form of construction as follows:—

Figure 1 shows the new machine at rest in front elevation,

Fig. 2 shows it in plan at the end of the stroke of the operating lever, while

Figs. 3 to 6 inclusive illustrate details.

The device consists substantially of the stamping device 2, the sewing device 3, the cutting off device 4 and the feeding device 5 which are arranged on a common base-plate 1 to be fixed to a table or the like.

The driving of the various organs is effected by means of a pedal, not shown in the drawings, which is connected by means of a rod 6 with a lever 8 mounted at 7 at the rear part of the frame of the stamping device. The lever 8 is drawn upwardly by a coil spring 9, the upper end of which is attached to a lug 10 of the frame of the stamping device 2. The oscillating shaft 11, on the back end of which the lever 8 is mounted, rests at its forward end in a bearing 12 corresponding to the bearing 7, and which, like the latter, is provided on the frame of the stamping device. Between the two bearings, the oscillating shaft 11 carries a second lever 13, the free end of which is provided with a toothed segment 14 which meshes with a pinion 16 which is rigidly connected to cam 17 which is mounted loosely on the shaft 15 of the sewing machine 3 and which serves for driving the stamping device as well as the cutting off device.

The drive for the stamping device is transmitted by means of a lever 18, which is mounted on an oscillating shaft 19, which rests in bearings provided on the frame of the stamping device 2, of which only the front bearing 20 is shown in Fig. 1, while in Fig. 2 both bearings as well as a portion of the shaft 19 are omitted, in order to show better the parts of the machine lying below same. On the shaft 19 there is mounted a coil spring 19′ which acts on the said shaft 19 in such a manner that the lever 18 has its sliding roller pressed against the circumferential surface of the cam 17. On the front end of the shaft 19 there is mounted a lever 21, the free end of which, provided with an antifriction roller 22, extends through a slot 23 into the casing 25 which carries the plunger 24 of the stamping device, and engages in an aperture 26 of the stamping plunger. The lower end of the plunger 24 is provided with a fork-shaped head-piece 27 between the prongs of which the actual stamp 28 is supported. The stamp consists of a series of type-disks, which are connected with corresponding disks 29 situated on the exterior of the fork head 27 in such a manner that by turning the disks 29, the type-disks can be adjusted as desired from the outside.

The cam 17 is provided on the front with a protuberance 30, with which the sliding roller 31 of a double-armed lever 33 mounted at 32 on the frame of the sewing device 3 coacts, the other end of said double-armed

lever 33 forming the knife 34 of the cutting off device 4. The cutting edge of the knife coacts with a cutting edge 35 of the base-plate 1, which is formed by an opening 36 in the base-plate 1. To the right of this opening is situated the point at which the piece of tape 37 cut off by the cutting device is stitched to the article to be washed, while to the left of the edge 35, the tape to be cut is clamped securely by a clamping device 38. The clamping device is guided in a lug 39 of the frame of the stamping device and is provided with a resilient pin 40, which lies within the range of action of a curved member 41 which is arranged laterally on the knife 34, in such a manner that when the knife 34 carries out its cutting action in the manner described below, the member 41 presses on the pin 40 and thus forces the shoe 38 resiliently against the tape lying on the base-plate, in order to facilitate the cutting operation.

The conveying of the tape 37, which is wound off a supply drum 42 and which passes over a guiding roller 43 arranged on the left-hand side of the table, is effected by means of two feeding rollers 44 and 45 arranged vertically one above the other.

On the shaft 63 of the lower roller 45 a toothed pinion 51 is loosely mounted, which engages with a rack 48 guided in two lugs 46 and 47 of the frame of the stamping device and drawn upward by a coil spring 49 which is fixed to the lug 46, the upper end of said rack engaging with a spur-wheel 50 mounted on the oscillating shaft 11. The toothed pinion 51 has coupling teeth 61 projecting from its rear end face and engaging with opposing coupling teeth 60 of a locking-wheel 59 shiftably connected to the shaft 63 and pressed against the pinion 51 by means of a spring 64 coiled around the shaft 63 and bearing against a collar 65. A pawl 62 mounted on the machine frame engages the locking-wheel. From the drawing there may be easily seen that in a downward movement of the rod 6, which causes also a downward movement of the rack 48 by the intermediary of shaft 11 and spur-wheel 50, the pinion 51 will be rotated in the direction inverse to the arrow. But it will turn freely on the shaft 63 and its coupling teeth slide over the coupling teeth of the locking-wheel 59 which is prevented from rotating by the pawl 62, but will reciprocate lengthwise under the combined influence of the coupling teeth and spring 64. When however the rod 6 moves upward and therefore the pinion 51 is rotated in the direction of the arrow, the locking-wheel 59 will be carried along by means of the coupling teeth 61, 60 and will rotate the shaft 63, so that the rollers 45, 44 receive their feeding movement.

The sewing device 3 is a so-called zig-zag stitching machine which makes zig-zag stitches in known manner as shown in Fig. 2 in dotted lines. The zig-zag stitching machine stitches the piece of tape which has been marked by the stamping device and cut off by the cutting device on to the article to be washed with a few wide stitches. The sewing machine is operated at intervals only. For this purpose its driving gear is made dependent on the pedal rod 6 through the intermediary of lever 8, toothed segment 14 and pinion 16. The latter is, as already mentioned, mounted loosely on the shaft 15, which carries at its forward end the gear (not shown in the drawing) for driving the needle-rod 52 and the presser-foot 53. The cam 17, which is integral with the pinion 15, is fitted with coupling teeth 54 on its front face which teeth correspond to coupling teeth on the rear face of a locking-wheel 56 fixed on the shaft 15 and coacting with a pawl 57. The pinion 16 is influenced by a coil spring 55 arranged on the shaft 15. When the rod 6 moves downwardly, the pinion 16, which is rotated in the direction of the arrow, shown in Fig. 1, carries with it the shaft 15 by the intermediary of the coupling teeth 54, while when movement is made in the opposite direction, the coupling teeth 54 of the cam 17 slide over the corresponding coupling teeth of a locking-wheel 56 without rotating this locking wheel and the shaft 15 along with them which is obtained by the cam 17 being axially movable against the action of the spring 55 and the locking-wheel 56 being engaged by the pawl 57.

The gear ratio between the toothed segment 14 and the pinion 16 is so chosen, that the stitching machine effects only a few stitches at each operation of the actuating pedal, which suffice for attaching the piece of tape to the article to be washed.

The mode of action of the machine is as follows:—

The article which is to be marked, is placed with its part on which the distinguishing appendage is to be attached on the table of the sewing device 3, beneath the stamped end of the tape 37 fed upon said table in the preceding operation of the machine. If the pedal is actuated, the shaft 11 describes a corresponding oscillation which, by means of the toothed segment 14, the cam 17 and the levers 18 and 21 causes a sinking of the stamp 28, whereby the particular number required is printed on the tape portion lying beneath the stamp 28. At the same time the stitching machine, the shaft of which makes a few revolutions by means of the toothed segment 14, the pinion 16 and the coupling 54 sews the cut off end of the tape which is lying on the article to be washed, on the said article. Simultaneously the rack 48, moved downward by

means of the pinion 50, rotates the pinion 51 freely on the shaft 63 as above described, so that the rollers 45, 44 remain at rest. Toward the end of the stamping and sewing operation the knife 34 is moved in a backward direction by means of the projecting piece 30 situated on the cam 17 and the lever 33 which is subjected to the action of the spring 58 (Fig. 3), whereby the member 41 presses the clamp 38 on to the tape which is cut off by the knife. On releasing the pedal, the whole of the elements return to their original position under the influence of the spring 9 acting on the lever 8, with the exception of the locking-wheel 56 which is mounted rigidly on the shaft 15 of the sewing machine, said locking-wheel remaining in its position and being rotated further at the next operation. Simultaneously the pinion 51 carries along with it the shaft 63 and roller 45 in the direction of the arrow, so that the free end of the tape is fed forward upon the table of the sewing device, past the cutting edge 35 and the rising knife 34, for being attached to an article during the following operation of the machine.

The invention is not restricted to the particular kinds of individual devices as described. For example, the zig-zag stitching machine could be replaced by an ordinary sewing machine.

Having now described our invention what we claim as new and desire to secure by Letters Patent is:—

1. A machine for marking articles to be laundried, comprising a device for stamping designs on a tape, a sewing device for attaching the end of said tape to the article, a device for cutting off the attached end, and means for feeding the tape to said devices, and a common reciprocating actuating means and means to actuate the sewing device during the movement of said actuating means in one direction only.

2. A machine for marking articles to be laundried, comprising a device for stamping designs on a tape, a sewing device for attaching the end of said tape to the article, a device for cutting off the attached end, and means for feeding the tape to said devices, a common reciprocating actuating means, and means to actuate the sewing device during the forward movement only of said actuating means.

3. A machine for marking articles to be laundried, comprising a device for stamping designs on a tape, a sewing device for attaching the end of said tape to the article, a device for cutting off the attached end, and means for feeding the tape to said devices, a common reciprocating actuating means, and means to actuate said feeding device during said return movement only of said actuating means.

4. A machine for marking articles to be laundried by stamped tape pieces, comprising a reciprocating stamping device, a sewing machine for attaching the end of said tape to the article, a reciprocating device for cutting off the attached end, rollers for feeding the tape to said devices, a common actuating lever, and means to actuate the feeding rollers on the one hand and the sewing machine on the other hand during the movement of said actuating lever in different directions.

5. A machine for marking articles to be laundried by stamped tape pieces, comprising a reciprocating stamping device, a sewing machine for attaching the end of said tape to the article, a reciprocating device for cutting off the attached end, rollers for feeding the tape to said devices, a common actuating lever, and ratchet gears interposed between said actuating lever and each said sewing machine and feed device.

6. A machine for marking articles to be laundried, comprising a combination stamp for stamping designs on a tape, means for quickly setting the types of said stamp for a given figure, a sewing device for attaching the end of said tape to the article, a device for cutting off the attached end, and means for feeding the tape to the said devices.

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

ARTHUR HAMMER.
FRITZ EGERSDÖRFER.

Witnesses:
HENRY HASPER,
WOLDEMAR HAUPT.