May 10, 1927. 1,628,588

S. FRIEDMAN

FUR STRETCHING AND NAILING DEVICE

Filed March 5, 1926 2 Sheets-Sheet 1

Fig. 1.

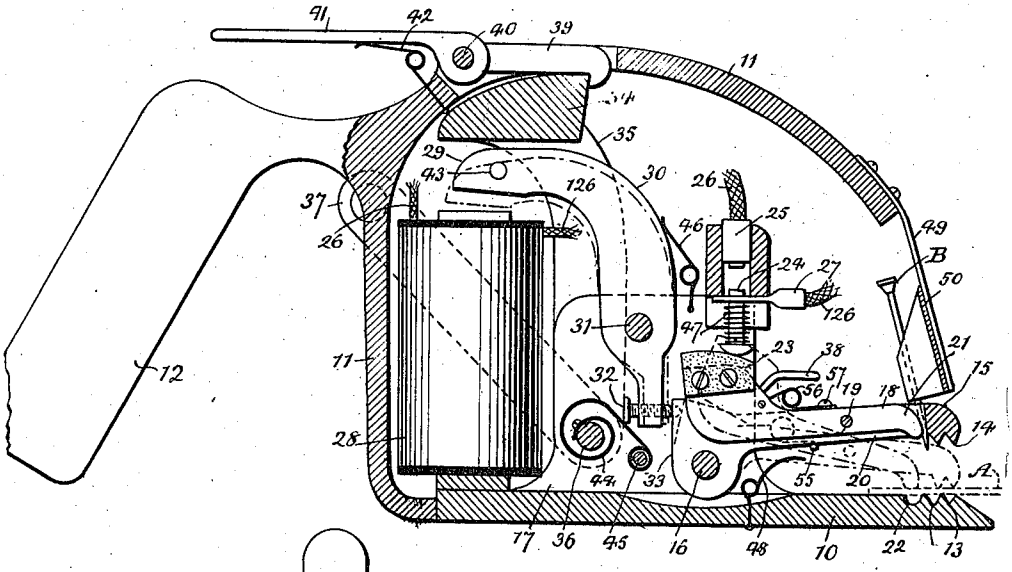


Fig. 2.

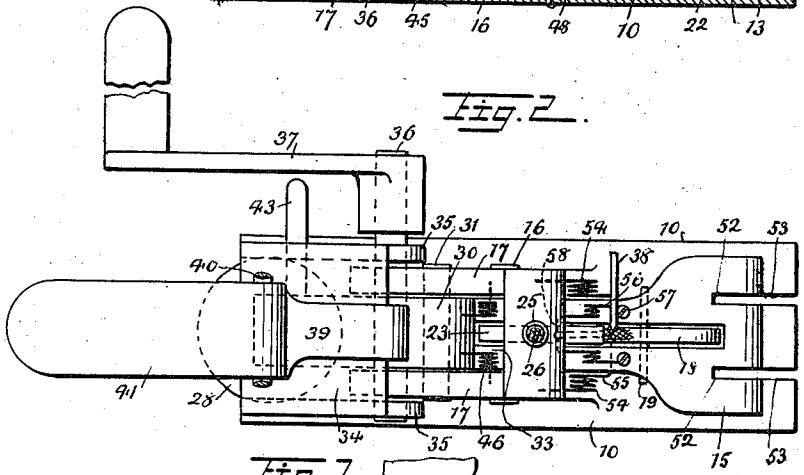


Fig. 5.

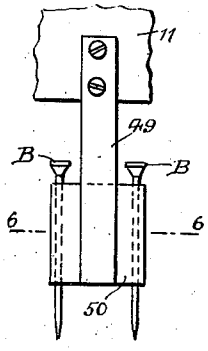


Fig. 6.

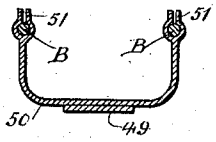


Fig. 7.

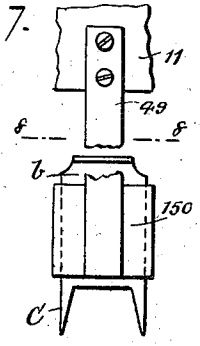
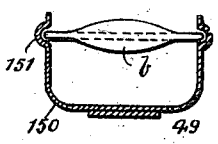


Fig. 4.



WITNESSES

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FUR STRETCHING AND NAILING DEVICE

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Fig. 3.

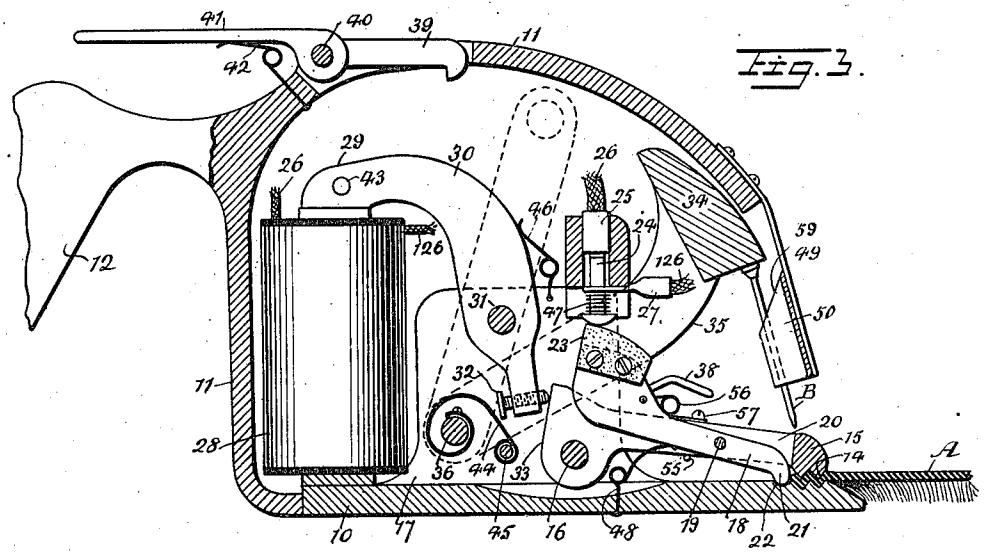
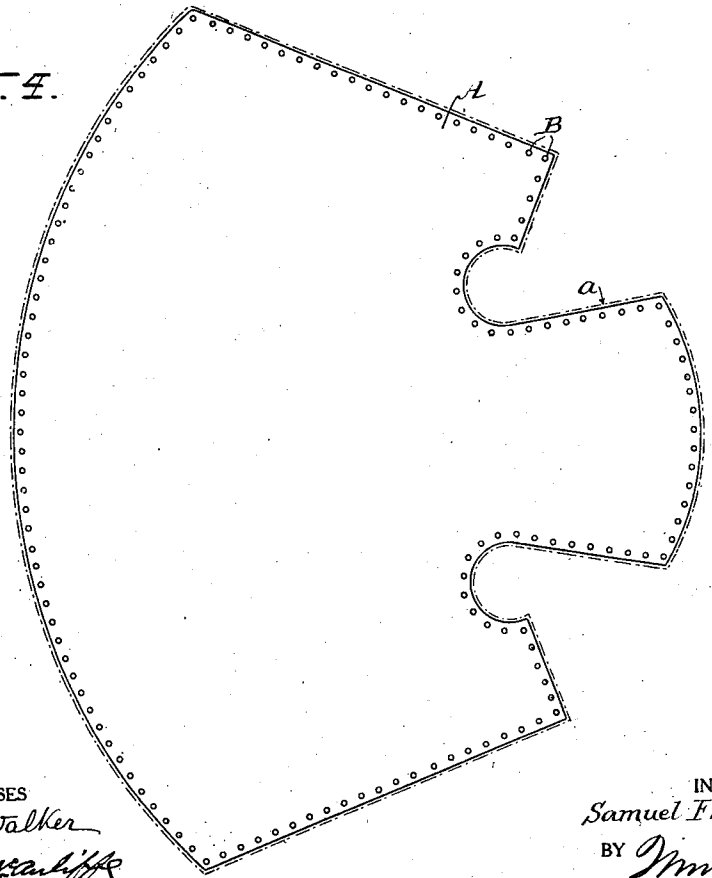


Fig. 4.



WITNESSES

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Patented May 10, 1927. 1,628,588

UNITED STATES PATENT OFFICE.

SAMUEL FRIEDMAN, OF BROOKLYN, NEW YORK.

FUR STRETCHING AND NAILING DEVICE.

Application filed March 5, 1926. Serial No. 92,499.

My invention relates to the stretching and nailing of furs to be used for the making of coats and other pieces of fur. The usual fur or skin is stretched manually after being gripped by a pliers. In practice, an outline of the coat pattern or other garment is usually chalked on a table or board and the fur is stretched to correspond with the coat pattern and then nailed.

The general object of my invention is to provide a novel portable device for effecting the stretching of the fur and effecting the nailing of the same conforming to the outline of the pattern.

A further object of the invention is to provide a device for the indicated purpose which may be embodied in a form to be semi-automatic.

The nature of my invention and its distinguishing features and advantages will clearly appear as the description proceeds.

Reference is to be had to the accompanying drawings forming a part of this specification, it being understood that the drawings are merely illustrative of one example of the invention.

Figure 1 is a vertical section of a fur stretching and nailing device embodying my invention;

Figure 2 is a plan view of my improved device with the handled top or cover removed;

Figure 3 is a view similar to Figure 1 with the parts in the positions to which they move when the fur has been stretched and is ready for nailing;

Figure 4 is a plan view of the stretched fur piece and indicating by dotted lines the outline of a pattern determining the stretched form of the fur;

Figure 5 is a detail in front elevation of the holding element for individual nails to be employed as fasteners;

Figure 6 is an enlarged horizontal section on the line 6—6, Figure 5;

Figure 7 is a view similar to Figure 5 but illustrating a slight modification in the element for holding fur fastening means of a different form;

Figure 8 is a horizontal section on the line 8—8, Figure 7.

In carrying out my invention in accordance with the illustrated example a base 10 is provided mounting the operative mechanism and a cover 11 extending over the mechanism at the top and rear. Said cover has a handle 12 for manipulating the device. In the base are notches 13 to receive teeth 14 on a gripping jaw 15 pivoted as at 16 between standards 17 rigid with the base 10. An auxiliary gripping lever 18 is pivoted as at 19 in an elongated slot 20 in the jaw 15 and has a nose 21 adapted to enter a depression 22 in base 10, said lever 18 functioning to bring about the closing of an electric circuit containing a magnet for completing the fur gripping action as will appear.

On the auxiliary lever 18 at the opposite side from pivot 19 from the nose 21 is a circuit closing head 23 of insulating material adapted to engage the lower end or head of a contact pin 24 adapted to engage a terminal contact 25 from which conductor 26 leads. A second terminal 27 is on a conductor 126 and said terminal 27 is in electrical connection with pin 24. The conductors 26 and 126 are in circuit with an electromagnet 28. An end 29 of a rockable element 30 forms an armature for magnet 28. Said lever is pivoted at 31 between the standards 17 and carries a screw 32 or equivalent device engageable with the rear end 33 of clamp jaw 15.

A hammer head 34 is carried by side arms 35 secured at their lower ends to a transverse shaft 36 having a crank handle 37 or other means to rock said shaft. A circuit breaker is provided, here shown in the form of an arm 38 deflected laterally into the path of movement of one of the arms 35, said arm coacting with said one of the arms 35 of the hammer to constitute the circuit breaker, so that the circuit will be broken automatically as hereinafter explained.

The hammer head 34 is adapted to be engaged by a latch 39 pivoted to cover 11 as at 40 and having a handle 41, the depression of which handle lifts said latch 39, said handle 41 being subject to a lifting spring 42 beneath the same. On the element 30 formed with the armature head 29 is a lateral pin 43 against which the thumb of the operator's hand may be pressed to depress said element 30.

A spring 44 is connected with shaft 36 of the hammer head 34 and the opposite end of said spring is secured to a fixed part

such as a pin 45 rigid with standards 17. The element 30 is pressed against by a spring 46 to limit its movements away from magnet 28. A coil spring 47 is provided on contact pin 24 tending to depress the same to a position with the electric circuit open. A spring 48 is provided beneath that arm of auxiliary lever 18 opposite that arm having the nose 21 for a purpose that will appear from a description of the mode of use and operation of my device as hereinafter given.

A holder for nails B or equivalent fasteners is provided. Said holder includes a spring 49 fastened to cover 11 and carrying a yoke 50 best shown in Figures 5 and 6. The yoke 50 has split resilient ends 51 between each of which split ends a nail B is accommodated so that a pair of nails is held in the yoke.

In Figures 7 and 8 is illustrated a modified yoke 150 the resilient side arms of which have concavities 151 at the interior thereof adapted to receive the ends of a fastener *b* of sheet material formed with a pair of prongs *c* separated to engage and hold the fur A at two points and therefore the equivalent of two nails. The letter *a* indicates in dotted lines the outline of a pattern as is drawn in practice on a table or board to which the fur A is to be secured.

The nails B pass through slots 52 in the gripping jaw part 15 and through registering slots 53 in base 10, so that the stretching and nailing device may be bodily drawn away from the nailing means when the latter has been driven. The nailing device *b* obviously is adapted also to pass through slots 52 and 53 when said device *b* is employed.

The gripping jaw 15 and the circuit controlling lever 18 auxiliary thereto have yieldingness imparted thereto, the means for the purpose being as follows:

Coil springs 54 are fastened at one end of each to the gripping jaw 15 as at 55 and at the opposite end each spring is fastened to a standard 17, the tendency of the springs being to exert a slight downward pressure on the jaw so that it may yield vertically and at the same time be normally held to its proper position. Also, coiled springs 56 are attached at one end as at 57 to the gripping jaw 15 and the opposite end of the springs are continuous with each other and pass across the lever 18 as at 58, thereby serving to normally maintain the lever 18 in the slot 20 and thus in the plane of the jaw 15.

The stretching and nailing device as described is used and manipulated as follows:

The operator disposes the said device with the fur positioned beneath the gripping jaw 15 and lever 18 as indicated by dotted lines at A in Figure 1. The thumb of the operator is then caused to engage the pin 43 of element 30 to partially depress the element 30 so that the armature head 29 is approximately in the dotted line position indicated in Figure 1. The gripping jaw 15 and lever 18 are at this time not completely moved to the gripping position but are respectively above the notches 13 and recess 22. A pull on the handle 12 will cause the device to move relatively to the fur piece A, the jaw 15 and lever 18 sliding over the surface of the fur. Finally, when the nose 21 of lever 18 passes from the edge of the fur A, the spring 48 which previously was stressed by the downward movement of jaw 15 and lever 18 will exert its pressure to rock the lever 18 in a manner to throw the nose 21 downwardly into the recess 22. The final downward movement of the nose 21 will cause the block 23 at the opposite end of lever 18 to so engage the pin 24 as to move said pin into engagement into contact with the terminal 25 thereby closing the circuit through the conductors 26, 126 and energizing the magnet 28. The energizing of the magnet 28 will cause the armature head 29 of element 30 to be attracted and this will rock said element 30 on its pivot 31 in a manner to cause the screw 32 to engage the end 33 of jaw 15 and cause the teeth 14 of said jaw to tightly grip the fur A. With the fur A thus tightly gripped a pull may be exerted on the handle 12, sufficient to stretch the fur A to the outline *a* of the pattern at the gripped portion of the fur.

The fastener nails B or the fastener *b* having been inserted in the yoke 50 (or 150), the hammer 34 is released from the latch 39 by depressing the handle arm 41 on said latch. The spring 44 acting on the hammer arms 35 which previously has been stresed by the rocking of the shafts 36 through the medium of the crank arm 37 will cause the hammer to be swung downwardly under the action of said spring 44 for striking the fasteners B or *b*. As the hammer head 34 moves downwardly it will strike the beveled upper surface 59 of yoke 50 and exert a camming action on said yoke to cause the yoke to move outwardly away from the plane of the nails B which at this time will have passed through the slots 52, 53 and driven through the fur A and partially into the table. With the downward movement of the arms 35 of the hammer, one of said arms will engage the arm 38 of the circuit breaker. This arm 38, it is to be observed, is at the opposite end of fulcrum 19 from the nose 21. Hence, as the hammer drives the fasteners home, the lever 18 will be so rocked as to cause the block 23 to move away from beneath the contact pin 24 and thus the spring 47 will cause said pin 24 to move out of engagement with contact 25, thereby automatically breaking the circuit and de-energizing the magnet 28. As the magnet

is de-energized the jaw 15 will be raised by the spring 48 and thus the element 30 will be rocked and the armature 29 will be raised from the magnet. The hammer is restored to its cocked position by the crank arm 37 and the head 34 of the hammer will be engaged with latch 39 so that the parts will thus be restored to position for another driving operation.

I would state furthermore that while the illustrated example constitutes a practical embodiment of my invention, I do not limit myself strictly to the exact details herein illustrated, since, manifestly, the same can be considerably varied without departure from the spirit of the invention.

Having thus described my invention, I claim:

1. In a device for stretching and nailing furs, fur gripping means, an electromagnetic responsive device, and means to control the circuit of said electromagnetic responsive device through the medium of the fur-gripping means.

2. In a fur-stretching and nailing device, a fur gripping jaw, an electromagnetic responsive device, an element carried by the gripping jaw, means to close through the medium of said element a circuit including said electromagnetic responsive device, and means subject to said electromagnetic responsive device to cause said gripping jaw to exert its gripping action.

3. A fur-stretching and nailing device adapted to receive an edge portion of a piece of fur and portable to be moved relatively to said fur at an edge thereof, a gripping jaw, manually movable means adapted to position said jaw adjacent to the fur, an electromagnetic responsive device which when energized is adapted to influence said manually movable means to cause the jaw to effect a gripping action on the fur for stretching the latter by movement of said device, and means carried by the jaw and adapted to close a circuit with said electromagnetic responsive device when said last-mentioned means moves from the edge of the fur.

4. A device for stretching and nailing furs and portable to be manually moved for stretching the fur, a gripping jaw, a lever carried by said jaw, a circuit controlling device subject to movement of said lever, an electromagnetic responsive device adapted to be energized by the closing of the circuit by said circuit controller, and an element constituting an armature and manually movable to engage said jaw for positioning the same adjacent the gripping position, said lever being movable with the jaw and movable independently of the jaw for controlling the circuit controller and said element being adapted to be subjected to the influence of said electromagnetic responsive device when energized to move the jaw to the gripping position.

5. A device for stretching and nailing furs and portable to be manually moved for stretching the fur, a gripping jaw, a lever carried by said jaw, a circuit controlling device subject to movement of said lever, an electromagnetic responsive device adapted to be energized by the closing of the circuit by said circuit controller, an element constituting an armature, and manually movable to engage said jaw for positioning the same adjacent the gripping position, said lever being movable with the jaw and movable independently of the jaw for controlling the circuit controller, and said element being adapted to be subjected to the influence of said electromagnetic responsive device and when energized to move the jaw to the gripping position, a hammer, and a nail-holding device adapted to receive nails in position to be struck by said hammer.

6. A portable stretching and nailing device, including gripping means for the material to be stretched, an element operable to bring said gripping means close to a gripping position, means to automatically cause said gripping means to exert gripping action, and a handled structure manually movable and carrying said first-mentioned means and said second-mentioned means, as well as said element.

7. A portable stretching and nailing device, including gripping means for the material to be stretched, an element operable to bring said gripping means close to a gripping position, means to automatically cause said gripping means to exert gripping action, a hammer adapted for driving a fastener into the material when stretched, and a handled structure manually movable and carrying said first-mentioned means and second-mentioned means as well as said element and said hammer.

8. A portable stretching and nailing device, including gripping means for the material to be stretched, an element operable to bring said gripping means close to a gripping position, means to automatically cause said gripping means to exert gripping action; together with a hammer adapted for driving a fastener into the material when stretched, and resilient means adapted to hold a fastener for the material and subject to engagement by said hammer for releasing said fastener.

9. In a stretching and nailing device, a base, a gripping jaw having slots through which fur fastening means may be passed, means to hold a fur fastener device, a hammer adapted to drive a fastener held by said holding means, an electromagnetic responsive means adapted to actuate said jaw to a gripping position, and means as-

sociated with said jaw and adapted to bring said electromagnetic responsive means into action.

10. In a device for stretching and nailing furs, a base, a gripping jaw above said base and adapted to coact therewith in gripping fur, a lever carried by said jaw and adapted to be moved with the jaw to a position adjacent the base to be out of gripping relation with the base, a spring beneath said lever and adapted to be stressed by the depression of the jaw, and an electromagnetic responsive device subject to the movements of said lever and adapted to bring the jaw into gripping position.

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