Apr. 24, 1923. 1,452,536

F. THOMAS

CREASING MACHINE

Filed April 20, 1922 3 Sheets-Sheet 1

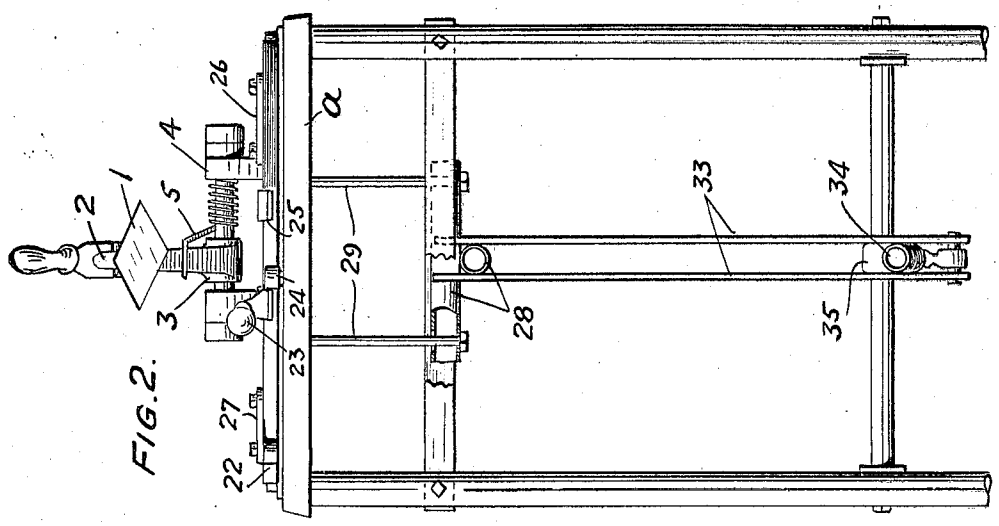


FIG. 2.

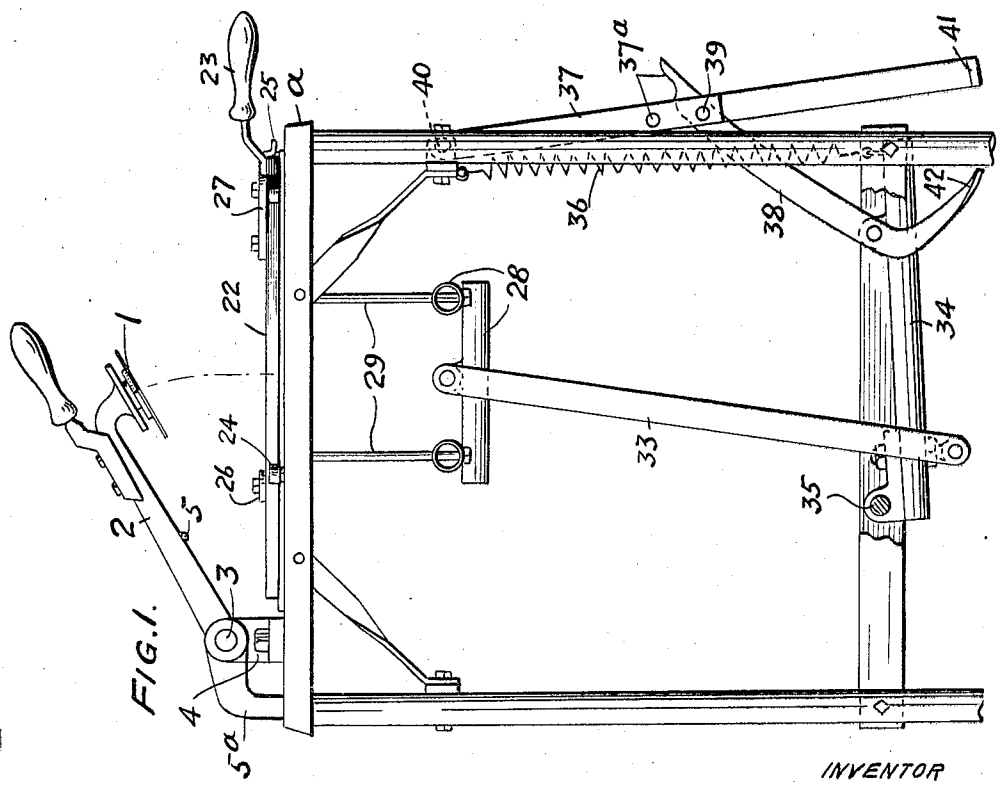


FIG. 1.

WITNESS:

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F. THOMAS

CREASING MACHINE

Filed April 20, 1922 3 Sheets-Sheet 2

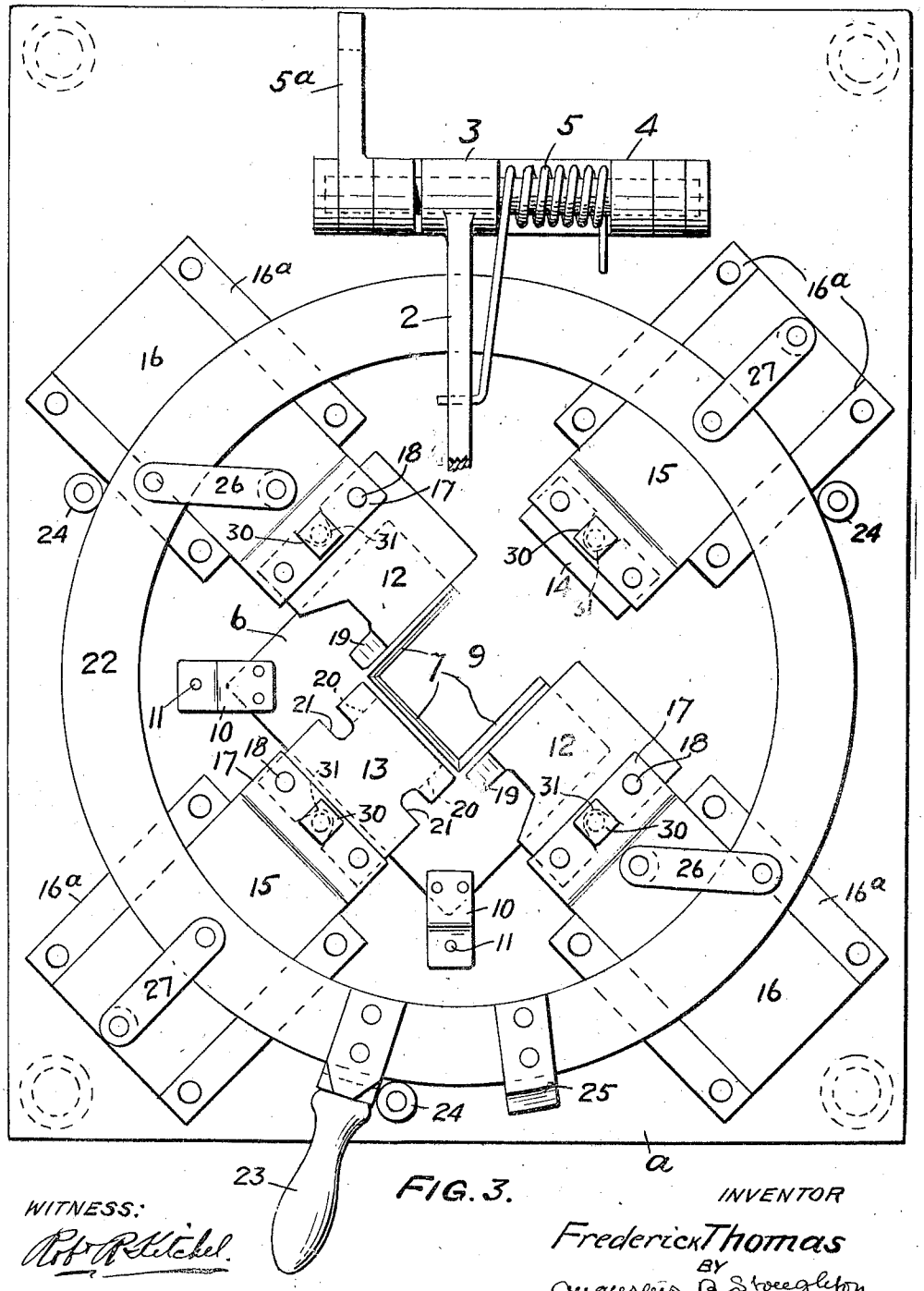


FIG. 3.

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CREASING MACHINE

Filed April 20, 1922 3 Sheets-Sheet 3

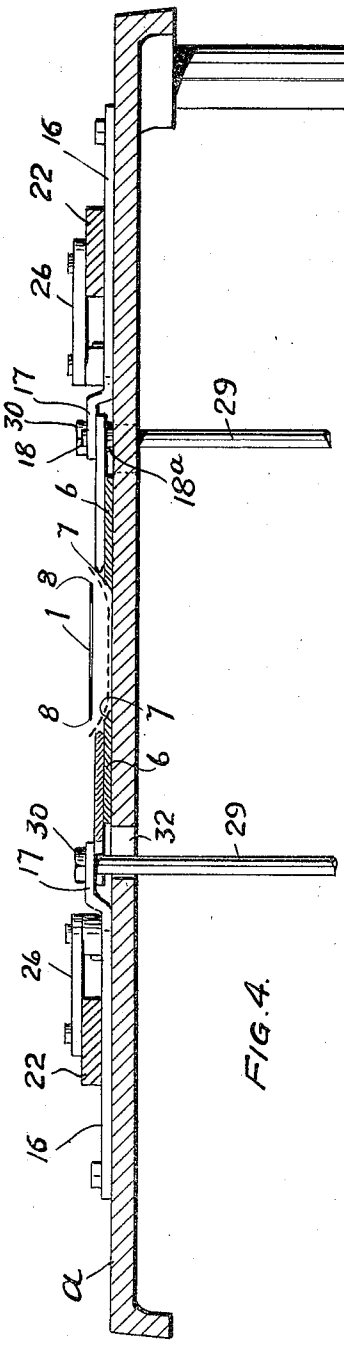


FIG. 4.

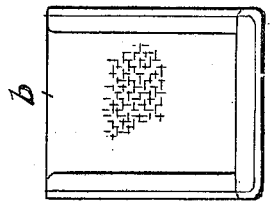


FIG. 7.

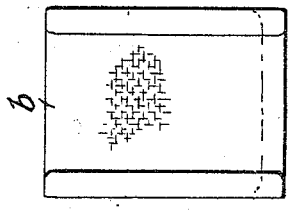


FIG. 6.



FIG. 8.

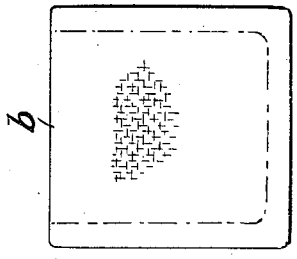


FIG. 5.

WITNESS:

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Patented Apr. 24, 1923. 1,452,536

UNITED STATES PATENT OFFICE.

FREDERICK THOMAS, OF PHILADELPHIA, PENNSYLVANIA.

CREASING MACHINE.

Application filed April 20, 1922. Serial No. 555,673.

To all whom it may concern:

Be it known that I, FREDERICK THOMAS, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Creasing Machines, of which the following is a specification.

The principal object of the present invention is to confine the creasing operation to the edges or margins of the articles, such as knitted patch pockets for sweaters, whereby the other portions of the pockets or other articles are not pressed or otherwise marred. Another object of the invention is to improve the operation of the dies which do the creasing so that the latter is improved, particularly at the corners. Other objects of the invention will appear from the following description at the end of which the invention will be claimed, but the invention will be first described in connection with the embodiment of it chosen from among other embodiments for the sake of illustration in the accompanying drawings forming part hereof and in which—

Figure 1 is a side view of a machine embodying features of the invention.

Fig. 2 is an end view of the same with parts removed.

Fig. 3 is a top or plan view drawn to an enlarged scale with parts removed.

Fig. 4 is a transverse sectional view of the top or table of the machine.

Figs. 5, 6 and 7 are views illustrative of the operation of the machine, or, more accurately, of a creased product, and

Fig. 8 is a sectional view of a creased product.

In the drawings 1 is a holding plate or foot contoured for the outline of the folded article. This foot or plate 1 is shown as carried by a manually operated arm 2 pivoted at 3 to a bracket 4 mounted on the table *a*, and a spring 5 is shown for normally lifting the arm 2. A stop 5^a is also shown. 6 is a frame having a margin 7 contoured for co-operation with the rim of the plate or foot 1 to receive the edge portions of the fabric between the margin 7 and the rim 8 of the foot 1. The frame is provided with central space generally indicated at 9, for the accommodation of the body of the fabric to protect it from being pressed during the operation of creasing its edges. As shown the frame detachably rests upon the top of the table *a* and is held against accidental movement by means of stays 10 having detachable connection with pins 11 projecting upward from the table *a*. The described construction is such that any frame can be readily replaced by another. The margin 7 of the frame is shown as beveled and this facilitates the initial folding or start of the creasing of the fabric when the foot or plate 1 is depressed on top of the fabric. Dies 12 and 13 are employed and the number of dies is not important and may be increased or diminished depending upon the shape of the article to be creased. As shown there are three dies and a die blank is shown at 14. 15 and 16 are travelers slidable in generally radially arranged ways 16^a and provided with lips 17 spaced above the top of the table *a*. The shanks of the dies underlie these lips and are provided with pins which project upwardly as at 18 and detachably engage holes in the lips 17, so that the travelers may be lifted to clear the pins and in that way the dies can be readily changed. These pins project downwardly as at 18^a and slide upon the table *a*. In this description reference will be made to creasing a pocket because the machine shown is arranged for that purpose but of course the invention is not limited to creasing pockets. The dies 12 are provided with wings 19 that work in spaces 20 provided underneath the die 13. The notches 21 are of structural advantage in forming the spaces 20. 22 is a ring turnable by means of the handle 23 and guided by guides 24 of which one co-operates with a stop 25 on the ring and with the handle 23. The ring 22 overlies the traveler 16 and ways 16^a. There are links interposed between the ring 22 and the travelers and some 26 of these links extend toward the center of the ring, and some 27 extend away from the center of the ring to progressively shift the dies toward the center. In the present instance the dies 12 will approach the center in advance of the die 13, and of course of the die blank 14, it being assumed that the ring 22 is turned clockwise. Beneath the table there is a cruciform frame 28 shown as constructed of tubular members, and this frame is provided with rods 29 of which four are shown on the drawings, and the heads 30 of these rods overlie the lips 17 and the shanks of these rods work in notches 31 in the dies so that when the frame is drawn

down, the dies are pressed down and the rods 29 are afforded movement in slots 32 in the table. The frame 28 is connected by links 33 with the lever 34 pivoted at 35 and drawn upward by a spring 36. The toggle levers 37 and 38 are pivoted together at 39 and the lever 37 is pivoted at 40 to the frame and is fitted with a treadle 41. The lever 38 is pivoted to the lever 34. When the treadle 41 is pushed in, that is toward the left in Fig. 1, the toggle levers are straightened and the dies are pressed down onto the frame, the parts 37^a serving as a stop. 42 is a treadle by means of which the toggle levers are thrown out of line and into the position shown in Fig. 1. In creasing an article, for example, a knitted pocket *b* along the dotted lines shown in Fig. 5, the fabric is put onto the frame with its bottom and side edges arranged over the margins 7. The foot or plate 1 is then turned down and its rim holds the fabric to the margins 7 slightly turning up the bottom and side edges of the fabric. The ring 22 is then turned with the result that the dies 12 are pushed inward turning down and over-riding the side edges of the fabric, as shown in Fig. 6. Then the die 13 moving inward, turns down the bottom edge of the fabric as shown in Fig. 7. The pedal 41 is then pushed inward with the result that the dies press down and crease the edges only of the fabric and it is important that the center portion of the fabric occupying the space 9 is not pressed and its finish is not marred or spoiled which is always important but particularly important in connection with thick soft knit goods. The fact that the pressing is confined to the edges is intended to be illustrated in Fig. 8. Heat may be and usually is applied during the creasing operation and upon the completion of the latter the treadle 42 is operated and the ring and arm 2 restored to their original positions.

I claim:

1. In a creasing machine the combination of a holding foot or plate contoured for the outline of the article to be creased, a frame having a margin contoured for cooperation with the rim of the plate or foot to receive the edge portion of the fabric therebetween and having central space for the accommodation of the body of the fabric to protect it from being pressed, dies for creasing the edge portions of the fabric, means for shifting the dies toward the center of the foot or plate and over the top thereof, and devices for pressing the dies toward the plate or foot.

2. In a creasing machine the combination of a holding foot or plate, dies cooperating with said plate to crease the edges of the fabric held by the plate, a turnable ring for radially shifting the dies, and links interposed between the ring and dies and of which some extend outside and some inside of the ring to progressively shift the dies centrally.

FREDERICK THOMAS.