

July 20, 1937

M. J. BORISKI

2,087,728

FABRIC SLITTING MACHINE

Filed June 13, 1935

3 Sheets-Sheet 1

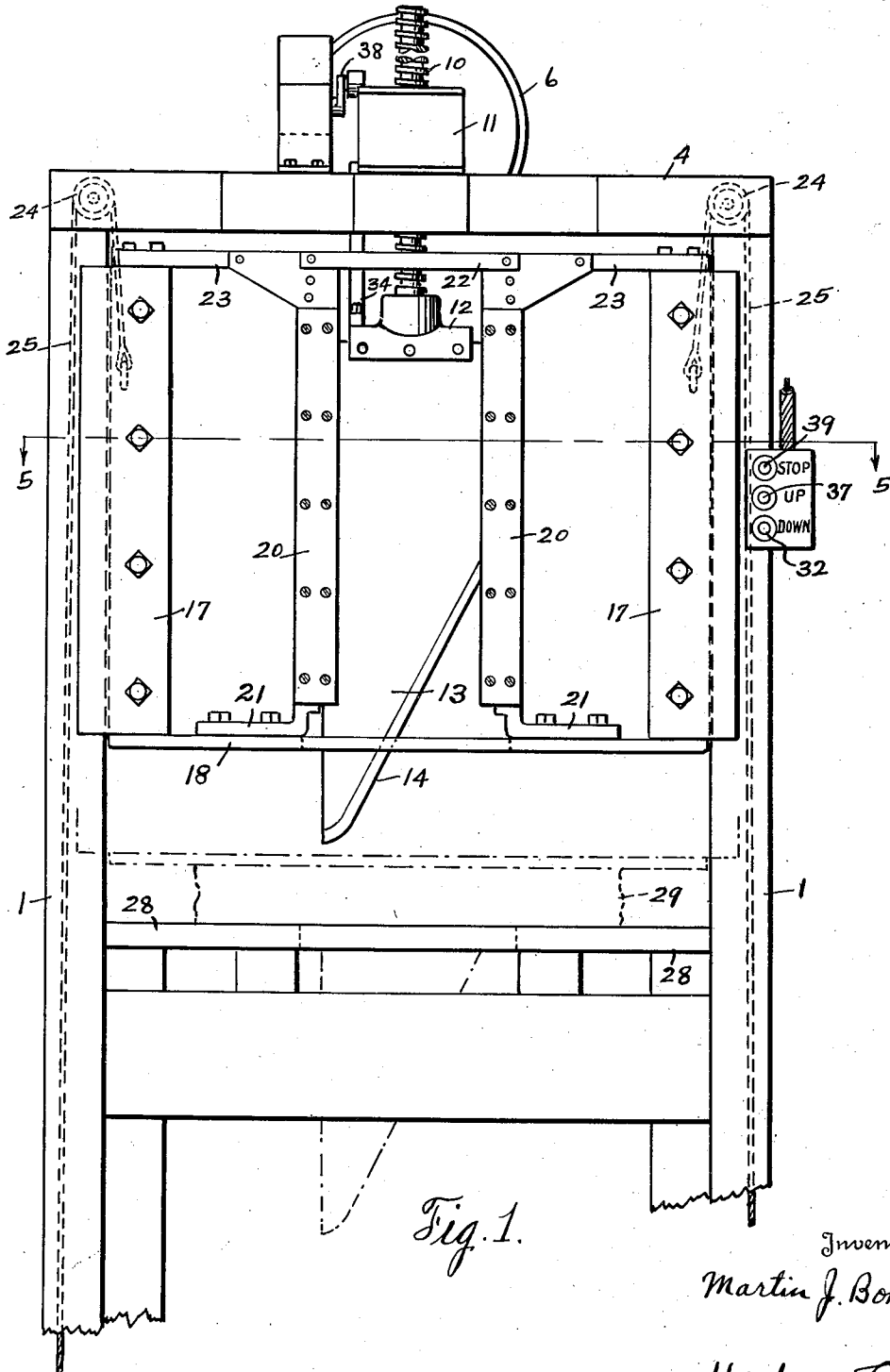


Fig. 1.

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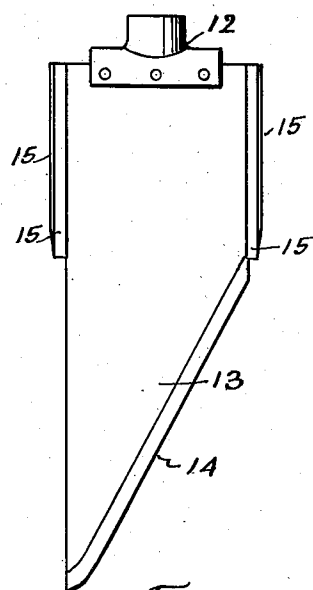
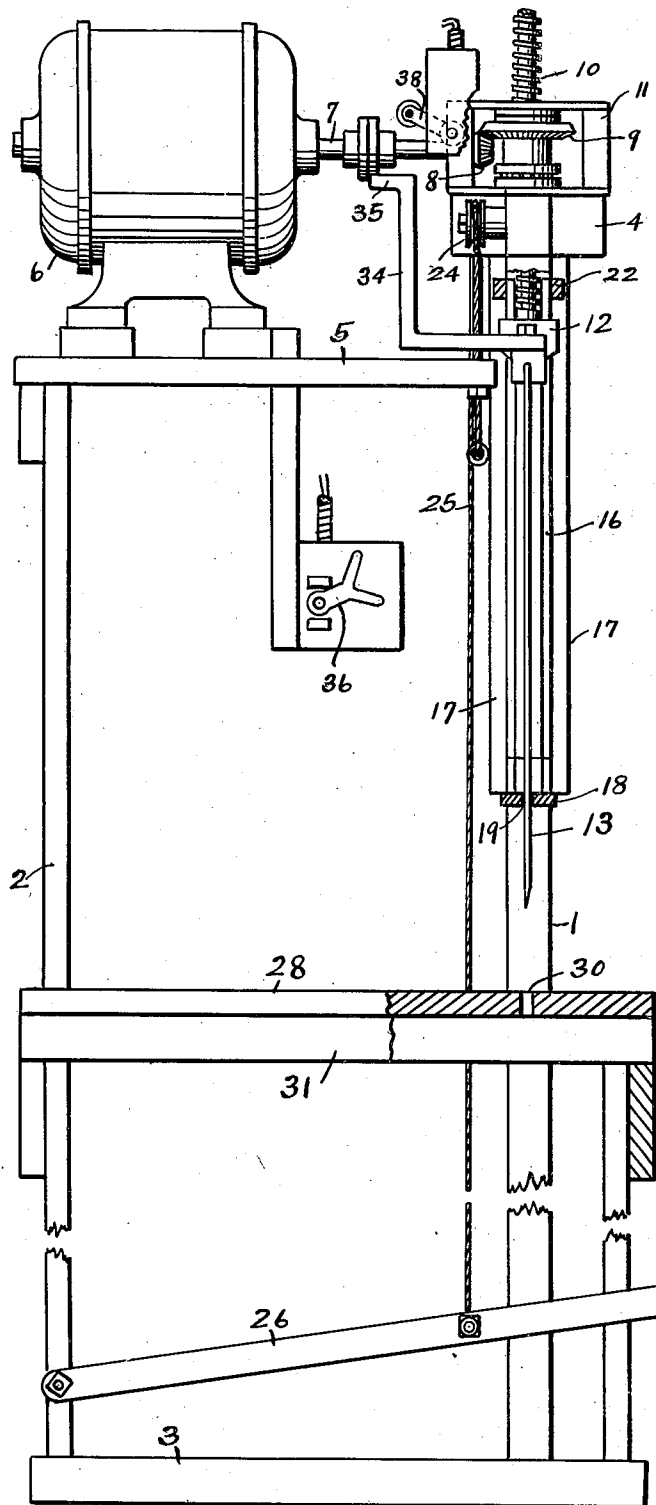


Fig. 3.

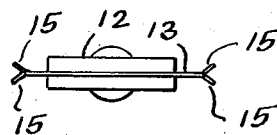


Fig. 4.

Fig. 2.

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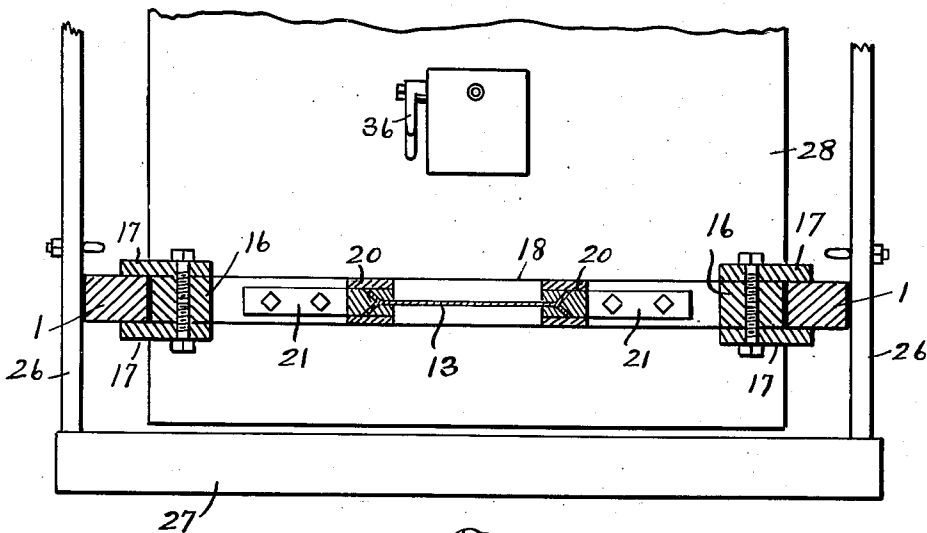


Fig. 5.

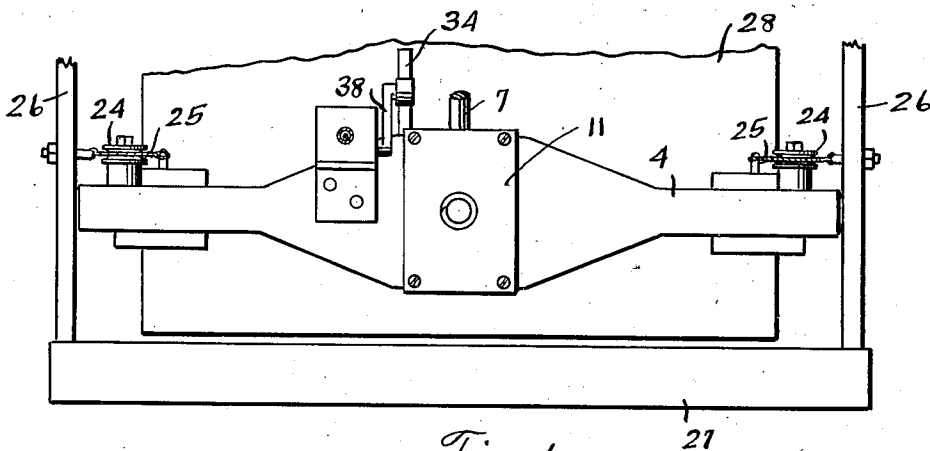


Fig. 6.

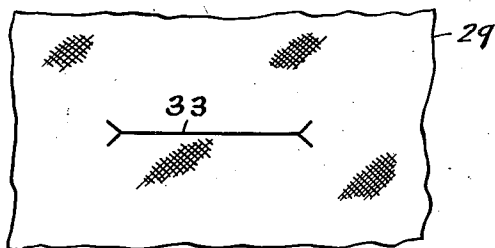


Fig. 7.

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UNITED STATES PATENT OFFICE

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FABRIC SLITTING MACHINE

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Application June 13, 1935, Serial No. 26,526

3 Claims. (Cl. 164—51)

This invention relates to a fabric slitting machine.

An object of the invention is to provide a machine for slitting fabric in the process of garment manufacture, and has particular relation to a machine designed for forming pocket slits in the fabric from which clothing is made.

Another object of the invention is to provide a power operated machine having a vertically movable blade or knife with a support for the fabric having a slot therethrough to receive said blade, with means for holding the fabric in position, and means for actuating the knife through the fabric to form the slits.

Another object of the invention is to provide in a machine of the character described, a novel type of blade or knife.

With the above and other objects in view, the invention has particular relation to certain novel features of construction, operation, and arrangement of parts, an example of which is given in this specification and illustrated in the accompanying drawings wherein:—

Fig. 1 shows a fragmentary front elevation.
Fig. 2 shows a side view, partly in section.
Fig. 3 shows a side view of the knife.
Fig. 4 shows a lower end view thereof.
Fig. 5 shows a fragmentary cross-sectional view taken on the line 5—5 of Fig. 1.

Fig. 6 shows a fragmentary plan view, and
Fig. 7 shows a section of the fabric illustrating the form of slit cut by the knife.

Referring now more particularly to the drawings wherein like numerals of reference designate similar parts in each of the figures, the numerals 1, 1, designate the upstanding front legs of the framework, and the numerals 2 designate the rear legs thereof, said legs being mounted on a suitable base 3 and forming a framework.

At their upper ends the front legs 2 support a cross-beam 4. Supported on the upper ends of the rear legs there is a forwardly extended motor support 5 supporting the electric motor 6. The shaft 7 of this motor is extended forwardly and has the bevel pinion 8 fixed thereon which is in mesh with and drives a corresponding larger pinion 9 which is threaded onto the coarsely threaded vertical shaft 10. The pinion 9 is mounted to rotate in the cage 11 between suitable thrust bearings, said cage 11 being, in turn, mounted on the cross-beam 4.

The lower end of the shaft 10 has a swiveling connection with the cross-head 12 which is fastened to the upper end of the blade 13. This

blade has the diagonal cutting edge 14 and tapers downwardly to a point as shown.

Above the diagonal cutting edge 14, the blade has the diverging marginal cutting edges 15, 15, designed to cut the diverging end slits, as shown in Fig. 7, to form flaps on opposite sides of the main slit that may be folded backwardly in the formation of the finished pocket.

There is a vertically slidable frame having the outer side members 16, 16, provided with the side flanges 17, 17, bolted thereto and embracing the front legs 1, 1, which form tracks on which the frame slides vertically. The side members 16 are connected at their lower ends by the cross-bar 18 which is provided with a slot 19 through which the blade works. The frame is also provided with the inner side members 20, 20, which are spaced inwardly from said outer side members 16, and whose lower ends are secured to the cross-bar 18 by means of suitable brackets 21, 21. These inner side members have vertical grooves to receive the margins of the blade 13, as more accurately illustrated in Fig. 5, in which grooves the blade is vertically movable. At their upper ends the inner side members 20 are connected by a cross-bar 22 and the respective side members 17, 20, of the frame on each side are connected at their upper ends by the brackets 23, 23.

Mounted on each end of the cross-beam 4 and on the rear side thereof are the pulleys 24, 24, and suitable cables 25, 25, are connected at one end to said frame and pass over said pulleys and their other ends are connected to the side arms 26, 26, which are pivoted at their rear ends to the rear legs 2. A foot-piece 27 is secured to the forward ends of the side arms 26, said side arms and foot-piece forming a treadle. Upon depression of the treadle the frame hereinabove described will be elevated and upon release thereof, said frame will descend.

In use a number of similar patterns of the fabric to be slitted are placed in a coinciding position on the platform 28, as indicated in dotted lines by the numeral 29 in Fig. 1. This platform has the slot 30 aligned with the knife 13 and is supported on suitable side members 31, 31, which are secured to the front and rear legs.

While the fabric is being so placed on the supporting platform, the treadle will be depressed so as to hold the frame above in elevated position. When the fabric is properly arranged on the platform in position to be slitted, the treadle is released and the frame descends until the bar 18 rests upon the stack of fabric whereby it will be

held in secure position. The electric button 32 is then pressed so as to complete a circuit through the motor 6 and the bevel gear 9 is correspondingly rotated to force the shaft 10 and blade 13 downwardly, said blade passing through the slots 19, 30, and through the fabric between them, thus forming the desired slits, as 33. The cross-head 12 has a throw-arm 34 attached thereto whose upper end 35 is overturned and just before the blade reaches the limit of its downward movement, said upper end engages and throws the electric switch 36 of the motor circuit and stops the motor. This switch mechanism is suitably suspended from the motor support 5. Thereupon the button 37 may be pressed and the motor reversed to withdraw the blade upwardly, and just before said blade reaches the limit of its upward movement, the overturned upper end 35 will engage and operate the switch lever 38 to again break the motor circuit and automatically stop the motor. The motor may be stopped at any time the operator desires by pressing the switch button 39.

The motor wiring and switches are of conventional construction, and a wiring diagram has not been deemed necessary in that it forms no part of the invention.

Upon elevation of the blade, the treadle may be depressed and the frame elevated and the stack of slitted fabric patterns removed.

The drawings and description disclose what is now considered to be a preferred form of the invention by way of illustration only, while the broad principle of the invention will be defined by the appended claims.

What I claim is:

1. A fabric-slitting machine comprising a platform provided to support superimposed fabric pieces, said support having a slot, a vertically movable frame having a transverse cross bar

to rest on the fabric to hold the same in working position and having a slot arranged to register with the slot in the platform, a track on which the frame is slidably mounted, said frame having facing grooves forming a vertical blade track, a vertically movable blade whose margins run in said grooves, means for driving the blade downwardly to slit the fabric and upwardly clear of the fabric and manually operable means for elevating the frame from the slitted fabric to allow its removal from the support.

2. A fabric slitting machine comprising a framework, a support thereon having a work supporting surface to receive and support superimposed pieces of fabric to be slitted, a frame vertically slidable on the framework above the support, means for elevating the frame, a vertical movable blade above the fabric slidable in the frame, pinion and bevel gears adapted to be turned by suitable motive power and which in turn operate a worm gear connected to and adapted to lower and raise the blade.

3. A fabric slitting machine comprising a platform provided to support superimposed pieces of fabric, said support having a blade passageway, a vertically movable frame having a transverse cross bar to rest on the fabric to hold the same in working position and having a blade passageway arranged to register with the passageway in the platform, a track on which the frame is slidably mounted, a blade vertically movable in said frame, said frame and blade being provided one with grooves and the other with parts shaped to fit into the grooves, means for driving the blade downwardly to slit the fabric and upwardly clear of the fabric and means operable for elevating the frame from the slitted fabric to allow the removal of the fabric from the support.

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