April 24, 1928. 1,666,969

H. N. JAMES

CLOTH CUTTER

Filed Oct. 5, 1925 2 Sheets-Sheet 1

Fig. 1.

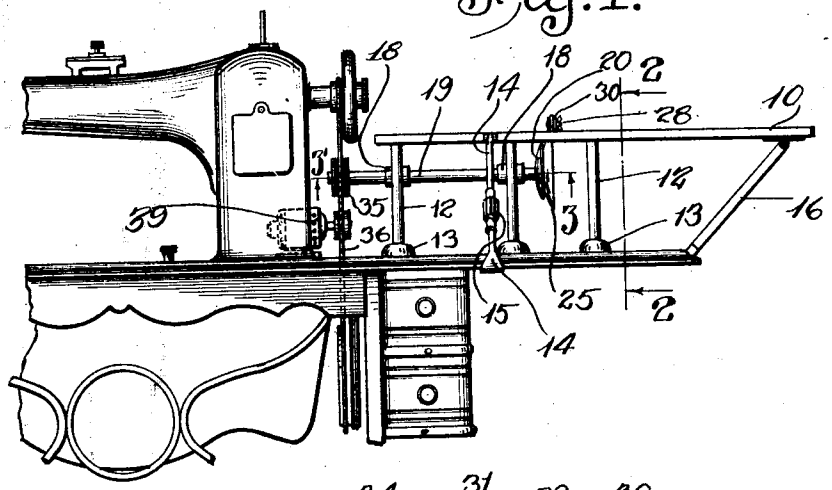


Fig. 2.

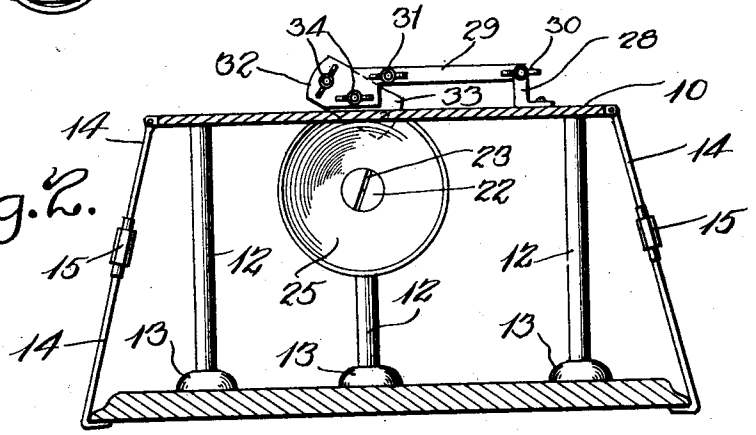


Fig. 3.

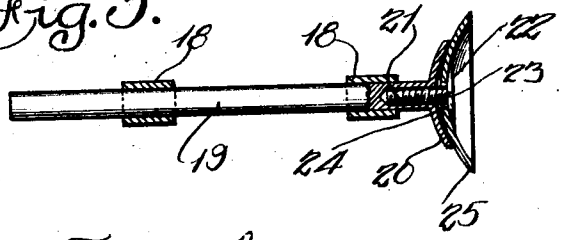


Fig. 5.

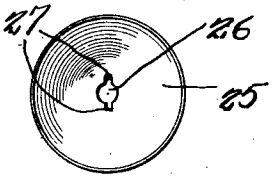
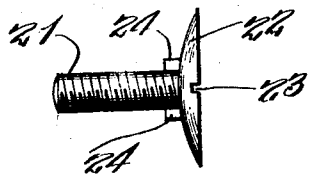


Fig. 4.



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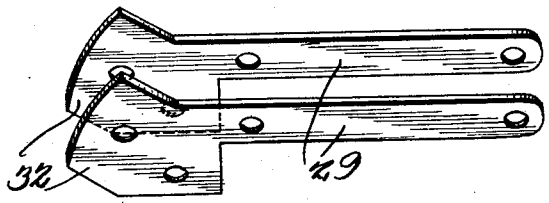
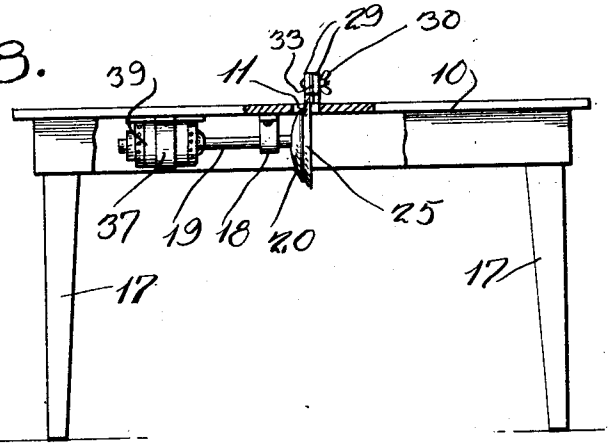


Fig. 6.

Fig. 8.



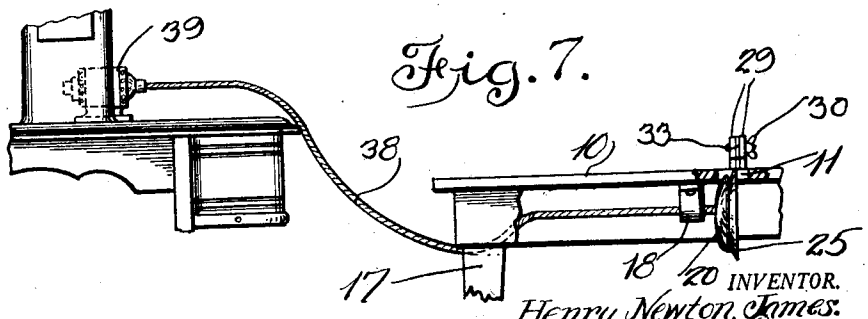


Fig. 7.

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UNITED STATES PATENT OFFICE.

HENRY NEWTON JAMES, OF MIAMI, FLORIDA.

CLOTH CUTTER.

Application filed October 5, 1925. Serial No. 60,588.

This invention relates to cutting implements and has special reference to a cutter peculiarly adapted to clothing fabrics and especially to those of fine nature such as thin silks, linens and the like as well as thin rubber and leather although the invention may be also used for cutting heavier and coarser fabrics and sheets.

Shears and scissors are commonly used for cutting cloth and the like but the use of such implements not only is wasteful of time but is also, in the care of thin fabrics, very inadequate to produce proper results, the edges of the severed parts being left rough.

The present invention contemplates the employment of a swiftly revolving disk cutter co-operating with either a linearly edged or a circularly edged blade thus forming a species of shears. This is the principal object of the present construction.

A second object of this invention is to provide an improved arrangement of disk cutter flexible to properly contact with a co-operating cutter whether the same be of disk or rectilinear form.

A third object of the invention is to provide a device of this class of improved construction whereby it may be used in connection with a sewing machine or run from a sewing machine motor.

With the above and other objects in view as will be hereinafter apparent, the invention consists in general of certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawings and specifically claimed.

In the accompanying drawings like characters of reference indicate like parts in the several views, and:

Figure 1 is a front elevation of a portion of a sewing machine showing the invention applied thereto.

Figure 2 is a section on the line 2—2 of Figure 1.

Figure 3 is an enlarged detail, partly in section showing the mounting of the disk cutter.

Figure 4 is a detail showing the disk cutter holding screw in side elevation.

Figure 5 is a detail view showing the face of the disk cutter.

Figure 6 is a perspective showing the screws for holding the fixed blade.

Figure 7 is a side elevation showing how the device can be mounted on a table independent of the sewing machine while being driven from the motor of such machine.

Figure 8 is a side elevation, partly in section, showing the device mounted independently of a sewing machine.

In the preferred embodiment of the invention as shown in the accompanying drawings there is provided a table having a top 10 provided with a slot 11. This table top 10 may either be mounted on short legs 12 provided with foot pads 13 as shown in 1, 2 and 7, in which case it is held in position by straps 14 provided with tightening turn buckles 15 and with struts 16, or it may be mounted independently on legs 17.

Beneath this table top is mounted one or more bearings 18 wherein is held a shaft 19 carrying at one end a cup 20. The end of the shaft carrying this cup 20 is provided with a screw threaded socket wherein engages the stem 21 of a screw having a segments-spheroidal head 22 provided with a screw driver bit receiving slot 23 and with lugs 24 on the spherical side. The disk cutter 25 is also of segments-spherical shape, being hollow like the head but having a normal radius of curvature somewhat greater than the radius of curvature of the hollow head. This disk cutter is formed of thin resilient material, preferably steel and has its edge ground to form part of the surface of a frusto-cone. This grinding of the edge is so nearly flat as to be hardly perceptible, being just sufficient as to keep the cutting edge from being held out of contact with the co-operating blade by that part of the disk edge positioned inside of the circle formed by the cutting edge. This disk cutter is provided with a centrally disposed opening 26 having recesses 27, the screw shank 21 passing through the opening and the lugs or keys 24 engaging in the recesses.

On top of the table is a post 28 to which swinging arms 29 are secured by a clamp screw 30 so that the arms can be adjusted in position. These arms are clamped together at their forward ends by a clamp screw 31 and have enlarged heads 32 between which is held a razor blade 33 in the forms shown in all but Figure 7, clamp screws 34 being employed to hold these blades.

With this construction it may be seen that adjustment of the cutter 25 may be made toward and from the co-operating cutter by tightening the screw 21 which will spring

the edge slightly toward the co-operating cutter or loosening said screw when the reverse takes place. Of course this adjustment is not great but it is sufficient to ensure proper contact between the two cutters.

In any case it is preferred to have the cutter 25 motor driven and as one example of such drive the shaft 19 is shown in Figure 1 as provided with a pulley 35 which is engaged by the machine belt 36. In Figure 8 there is shown an independent motor 37 supported beneath the table top 10 and in Figure 7 the cutter is shown as driven by a flexible shaft 38 from the machine motor 39.

There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

It is obvious that minor changes may be made in the form and construction of the invention without departing from the material spirit thereof. It is not, therefore, desired to confine the invention to the exact form herein shown and described, but it is desired to include all such as properly come within the scope claimed.

Having thus described the invention, what is claimed as new, is:

In a device of the kind described, a table having a slot therein, a rotating cutter journaled beneath said table and having a portion of its periphery projecting slantably above said table through said slot, a post extending upward from the table in parallel alignment with said slot, a clamp screw extending through the upper end of said post, a pair of arms each having one end pivoted to the clamp screw and the remaining end positioned adjacent said slot, and a cutter blade supported beneath the free ends of said arms and cooperating with the rotatable cutter.

In testimony whereof I affix my signature.

HENRY NEWTON JAMES.