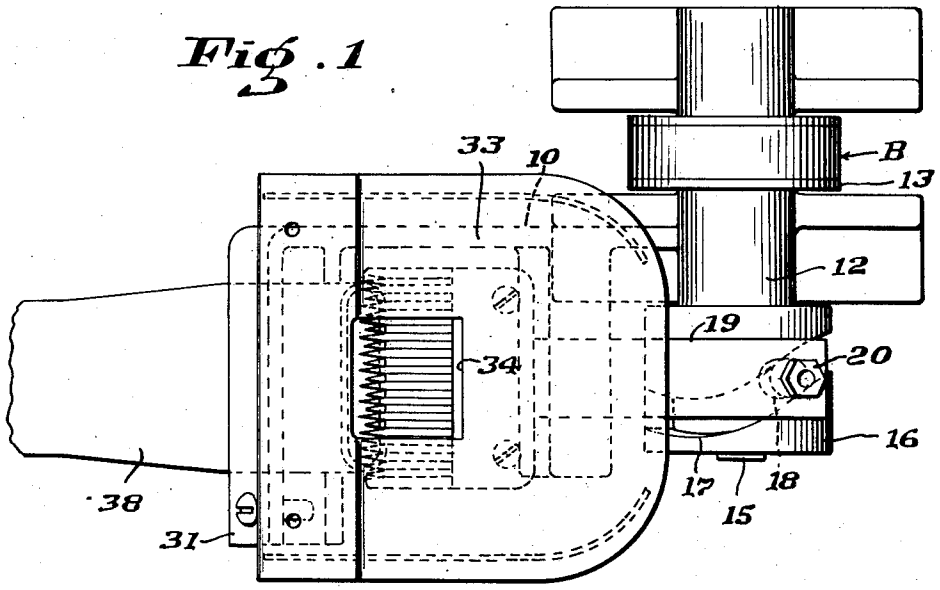
Aug. 22, 1944. V. CAPOLUPO 2,356,378

CUTTING DEVICE

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Fig. 1



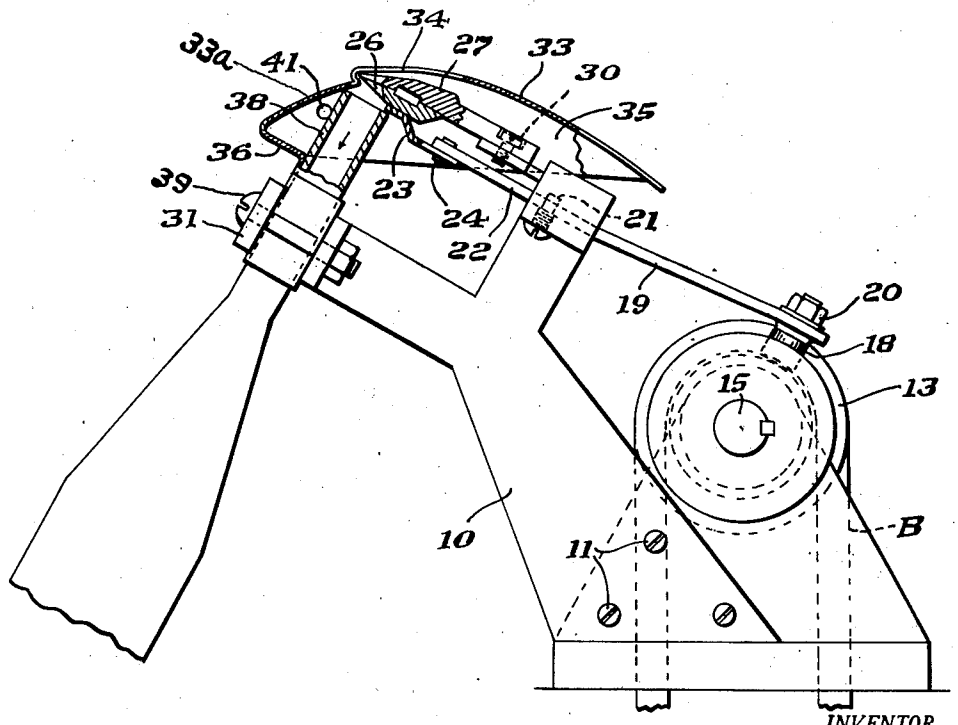


Fig. 2

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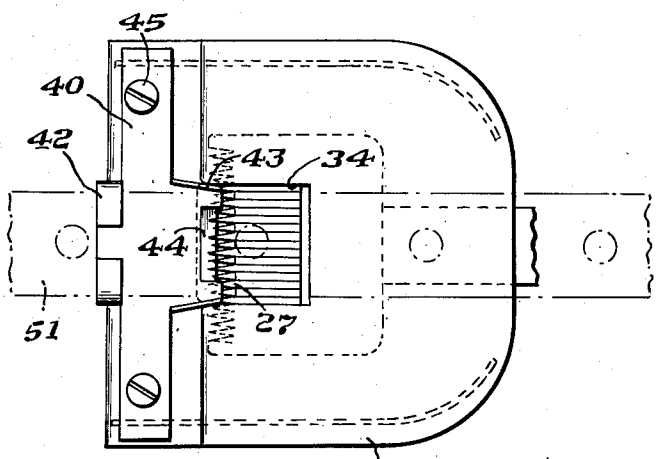


Fig. 3

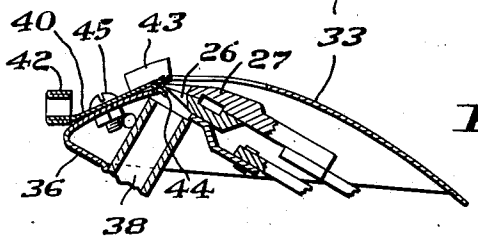
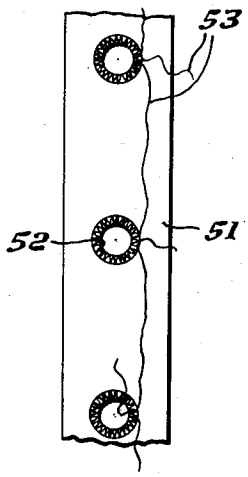


Fig. 4

Fig. 7



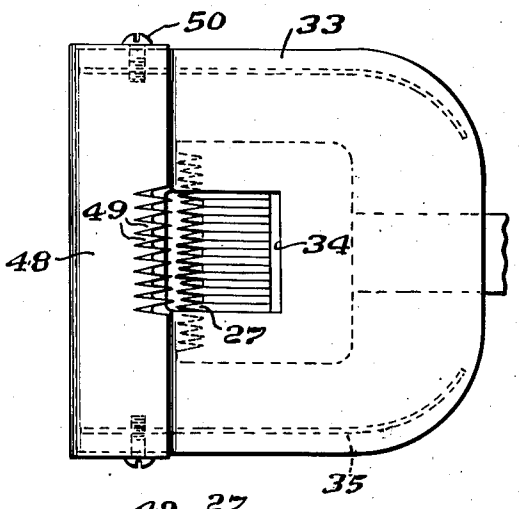


Fig. 5

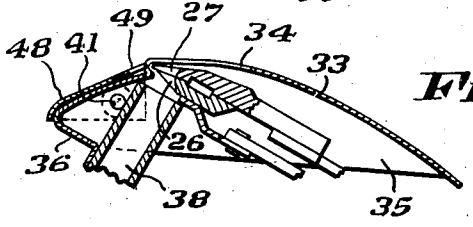


Fig. 6

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Patented Aug. 22, 1944

2,356,378

UNITED STATES PATENT OFFICE

2,356,378

CUTTING DEVICE

Vincent Capolupo, Boston, Mass.

Application July 27, 1943, Serial No. 496,331

9 Claims. (Cl. 26—7)

This invention relates to a device for cutting loose threads or other things from cloth, buttons or the like.

The principal object of my invention is to provide a cutting device over which a strip of cloth or the like, such as a placket border strip, may be protectedly drawn and any loose threads thereon automatically cut off said strip as it moves along.

Another object is to provide protective guides for the cloth or other material from which the threads are to be cut so that the cloth will be automatically positioned correctly.

A further object is to so construct my device that it is economical to manufacture and operate, and its protective guides are readily attached and removed.

I am well aware of such machines as those that draw hair by suction into the path of clipper blades, but they are not at all suitable for this purpose. Furthermore, such machines have to be moved over the head or other object from which the hair is cut, which makes them unadaptable to my purpose.

The foregoing and other objects which will appear as the nature of the invention is better understood, may be accomplished by a construction, combination and arrangement of parts such as is disclosed by the drawings and specification. The nature of the invention is such as to render it susceptible to various changes and modifications, and, therefore, I am not to be limited to said disclosure; but am entitled to all such changes therefrom as fall within the scope of my claims.

Figure 1 is a plan view of my device for cutting loose threads and the like.

Figure 2 is a side elevational view of my device, partly in section.

Figure 3 is a plan view of my device equipped with an auxiliary guide, and Figure 4 is a longitudinal sectional view thereof to show details of the cutting blades and auxiliary guide.

Figure 5 is a plan view of my device equipped with another type of auxiliary guide, and Figure 6 is a longitudinal sectional view thereof to show the cutting blades and this auxiliary guide in detail.

Figure 7 is a plan view of a strip of cloth from which loose threads are to be cut by my device.

As illustrated, my device is supported by means of a supporting frame 10 through which bolts 11 extend to hold a bearing support 12 having a pulley 13 mounted on a shaft 15 which is driven by a belt B. A barrel cam 16 is mounted on and rotates with said shaft 15 and it has a sunken winding path 17 therein in which a roller 18 moves to impart reciprocal movement to a lower blade of the cutting device later described. Attached to said roller 18 by a nut 20 is a motion transmitting rod 19 which is pivotally connected as at 21 to another motion transmitting rod 22, which in turn is connected to a spring arm 23 by a rivet 24 and which is welded or otherwise fixed to a movable cutting blade 26 to which reciprocatory motion is imparted by the rotation of said barrel cam 16 by means of the motion transmitting parts described above.

Above said lower movable cutting blade 26 is a stationary blade 27 which cooperates with said movable blade 26 to provide a clipper action that cuts loose threads and the like from cloth, buttons, etc. A screw 30 attaches said lower stationary blade 27 to said frame 10, holding it in fixed position.

A bracket 31 constitutes a continuation of said frame 10 which supports a conduit 38, later described.

To protect and guide the cloth or work over the cutting blades I provide a main protective guide 33 having an opening therein 34. This protective guide 33 has a front portion 33*a*, sides 35 and a bottom portion 36 which is attached to said conduit 38, the latter being bolted to said frame bracket 31. Said sides 35 have holes 41 to receive screws to hold said guide 33 to said conduit 38.

Said conduit 38 is in communication with a suction creating device, not shown, whereby any loose threads 53 which may extend or hang from buttons or threaded portions 52 on a strip of cloth 51 are drawn by the force of suction into said main guide opening 34 and into the path of said cutter blades 26 and 27 where they are automatically snipped off.

It will be noted that the portion of said main guide 33 adjoining said front portion 33*a* extends abruptly downward so that said front portion 33*a* is on a definitely lower plane than the adjacent portion of said guide surrounding said opening 34. This, in effect, raises the portions of said main guide 33 defining the sides of said opening 34 to help guide the cloth 51.

I provide an auxiliary guide 40 shown in Figures 3 and 4 of the drawings which has an open loop 42 at its front edge and small upright sides 43 at its rear edge which slant slightly towards each other in a direction towards said opening 34. The front edge portion 44 of said guide 40 between said slanting sides 43 extends downwardly

and is adapted to extend into said opening 34 and bear against the front edge portion of said main guide 33 that defines the front line of said opening. This front edge portion 44 is of lesser width than the space between said slanting sides 43. Bolts 45 hold said guide 40 to said main guide 33. Said auxiliary guide 40 serves to more closely guide the cloth or work 51 in a certain path, and the passages provided by said loop 42 and said sides 43 are made narrower than said opening 34.

In Figures 5 and 6 of the drawings I provide another type of guide 48 which is especially suitable where buttons from which loose threads hang are passed over it. This rests directly on said main guide 33 and at its front edge are teeth 49 which are positioned so they will preferably extend slightly into said opening 34. This guide 48 in effect raises the level of said main guide front portion 33a thus keeping the buttons in raised position where they have no tendency to drop so far into said opening 34 that the buttons would be cut from the cloth. Said guide 48 has a screw hole 41 at the side into which a screw 50 extends to hold it to said main guide 33.

It will be noted that the moving cutting blade 26 of my device is at the bottom, and that the cloth or other work on which the cutting operation is formed passes over the stationary cutting blade 27 depending upon the force of the suction to draw the loose threads down into said opening 34 and between said cutting blades.

Said main guide 33 need not necessarily include the rear portion that has the opening 34 in it, although it is preferred for some kinds of work, especially when an auxiliary guide is not used. The front portion 33a of said main guide 33 is sufficient for the purpose when an auxiliary guide 40 is used since the loop 42 and sides 43 of said auxiliary guide 40 provide sufficient guide means for the cloth 51. In this latter event the portion 33a could be an integral part of said auxiliary guide 40.

What I claim is:

1. A device for cutting loose threads or the like from cloth or other articles in combination with a conduit adapted to be connected to suction creating means, said device comprising cutting means adjacent an opening in said conduit, instrumentalities to actuate said cutting means, a guide over which said cloth is adapted to run the front portion of which is at a lower level than the rear portion, said rear portion having an opening therein directly above the cutting edges of said cutting means and terminating where said front portion commences, and means to support said cutting means, instrumentalities and guide.

2. A device for cutting loose threads or the like from cloth or other articles in combination with a conduit adapted to be connected to suction creating means, said device comprising cutting means adjacent an opening in said conduit, instrumentalities to actuate said cutting means, a main guide over which said cloth is adapted to run adjacent said cutting means, an auxiliary guide supported by said main guide having upstanding sides at its front end, and means supporting said cutting means, instrumentalities and guides.

3. A device for cutting loose threads or the like from cloth or other articles in combination with a conduit adapted to be connected to suction creating means, said device comprising cutting means adjacent an opening in said conduit, instrumentalities to actuate said cutting means, a main guide over which said cloth is adapted to run adjacent said cutting means having a front portion that is at lower level than the adjoining portion of said guide, an auxiliary guide on and supported by said main guide front portion having upstanding sides at its front end, said auxiliary guide extending to a point adjacent the cutting edges of said cutting means, and means supporting said cutting means, instrumentalities and guides.

4. A device for cutting loose threads or the like from cloth or other articles in combination with a conduit adapted to be connected to suction creating means, said device comprising cutting means adjacent an opening in said conduit, instrumentalities to actuate said cutting means, a main guide over which said cloth is adapted to run adjacent said cutting means having an opening therein directly above the cutting edges of said cutting means and having a front portion that is at a lower level than the adjoining portion of said guide, an auxiliary guide on and supported by said main guide front portion having upstanding sides at its front end and having a front edge portion between said upstanding sides that extends downwardly into said main guide opening, and means supporting said cutting means, instrumentalities and guides.

5. A device for cutting loose threads or the like from cloth or other articles in combination with a conduit adapted to be connected to suction creating means, said device comprising cutting means adjacent an opening in said conduit, instrumentalities to actuate said cutting means, a main guide over which said cloth is adapted to run adjacent said cutting means, an auxiliary guide supported by said main guide having a looped portion at its front end and having upstanding sides at its rear end adjacent to said cutting means, and means supporting said cutting means, instrumentalities and guides.

6. A device for cutting loose threads or the like from cloth or other articles in combination with a conduit adapted to be connected to suction creating means, said device comprising cutting means adjacent an opening in said conduit, instrumentalities to actuate said cutting means, a main guide over which said cloth is adapted to run adjacent said cutting means, an auxiliary guide supported by said main guide having an open loop at its front end and having upstanding sides at its rear end adjacent to and slanting inwardly towards the cutting edges of said cutting means, and means supporting said cutting means, instrumentalities and guides.

7. A device for cutting loose threads or the like from cloth or other articles in combination with a conduit adapted to be connected to suction creating means, said device comprising cutting means adjacent an opening in said conduit, instrumentalities to actuate said cutting means, a main guide over which said cloth is adapted to run having an opening above the cutting edges of said cutting means, an auxiliary guide supported by said main guide embodying teeth at its front edge which extend to a point adjacent said opening, and means supporting said cutting means, instrumentalities and guides.

8. A device for cutting loose threads or the like from cloth or other articles in combination with a conduit adapted to be connected to suction creating means, said device comprising cutting means adjacent an opening in said conduit, instrumentalities to actuate said cutting means,

guide means over which said cloth is adapted to run adjacent said cutting means having upstanding sides at its front end and having a front edge portion between said upstanding sides that extends downwardly and means supporting said cutting means, instrumentalities and guide means.

9. A device for cutting loose threads or the like from cloth or other articles in combination with a conduit adapted to be connected to suction creating means, said device comprising cutting means adjacent an opening in said conduit, instrumentalities to actuate said cutting means, a main guide over which said cloth is adapted to run having an opening above the cutting edges of said cutting means, and having a front portion that is at a lower level than the adjoining portion of said guide, an auxiliary guide supported by said main guide embodying teeth at its front edge which extend to said opening, and means supporting said cutting means, instrumentalities and guides.

VINCENT CAPOLUPO.