

Aug. 19, 1952

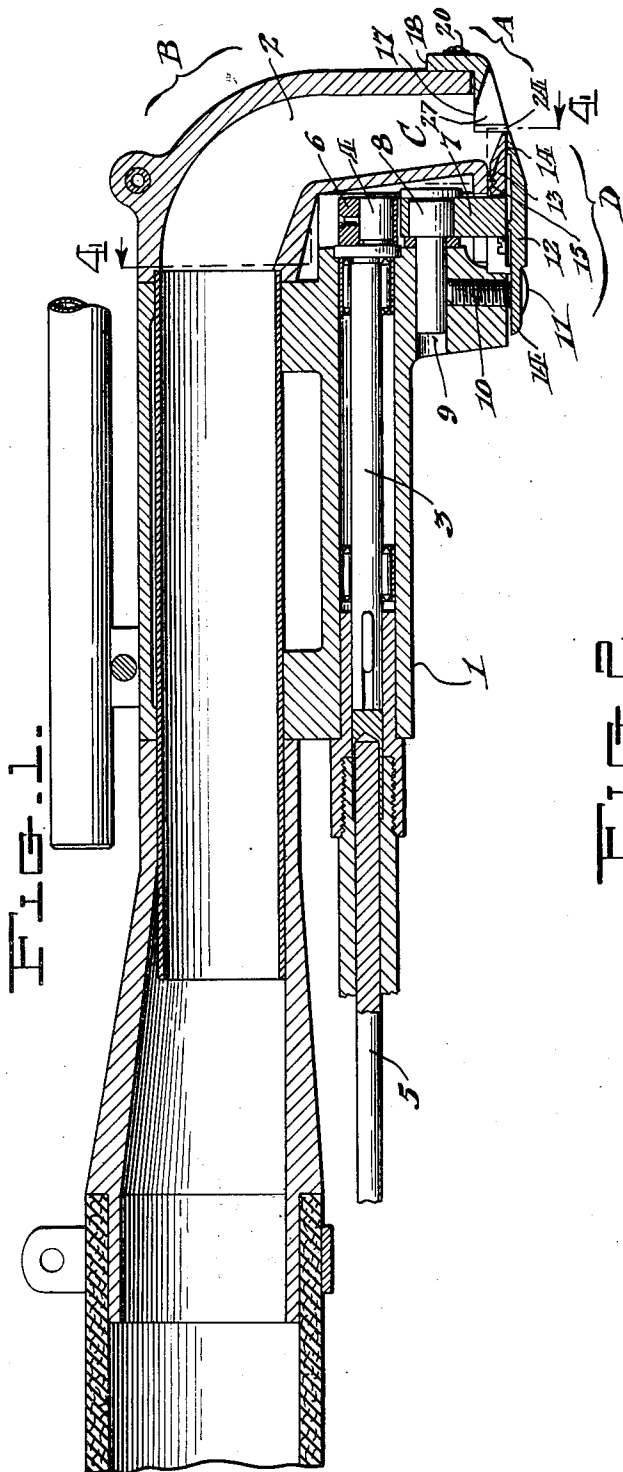
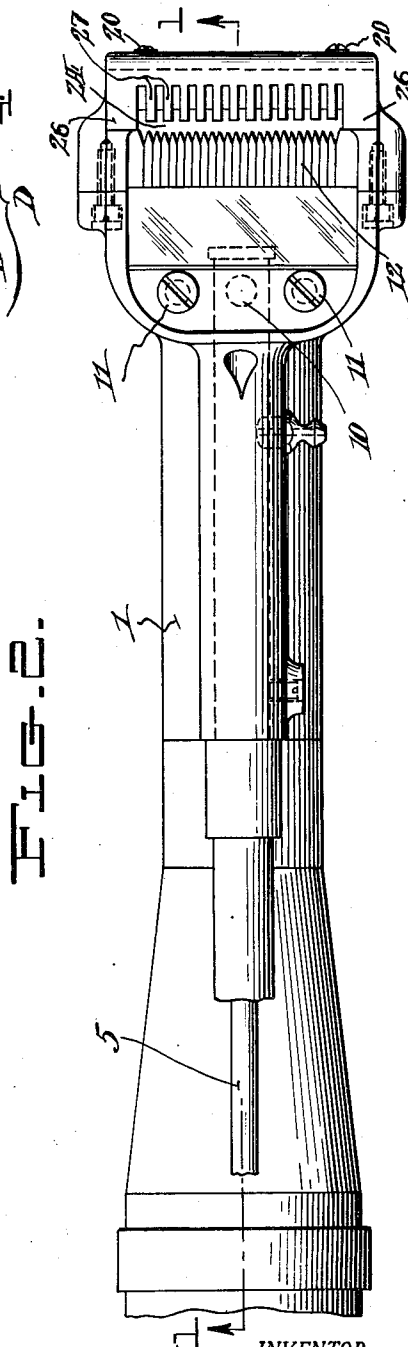
H. E. STOUT

2,607,101

TRIMMING OF TEXTILE ARTICLES

Filed April 28, 1950

4 Sheets-Sheet 1



INVENTOR:
Harold E. Stout,
BY
Frederic E. Schlinger
ATTORNEY.

Aug. 19, 1952

H. E. STOUT

2,607,101

TRIMMING OF TEXTILE ARTICLES

Filed April 28, 1950

4 Sheets-Sheet 2

FIG. 3.

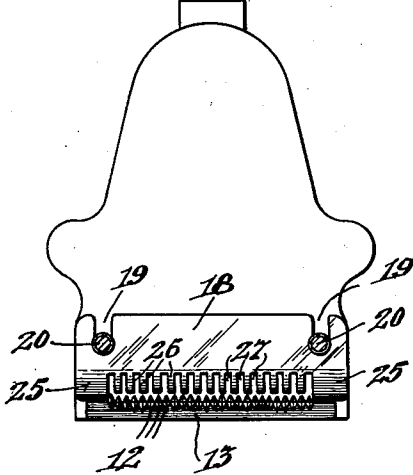


FIG. 4.

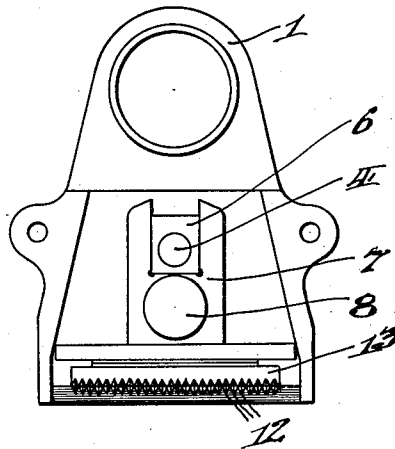


FIG. 5.

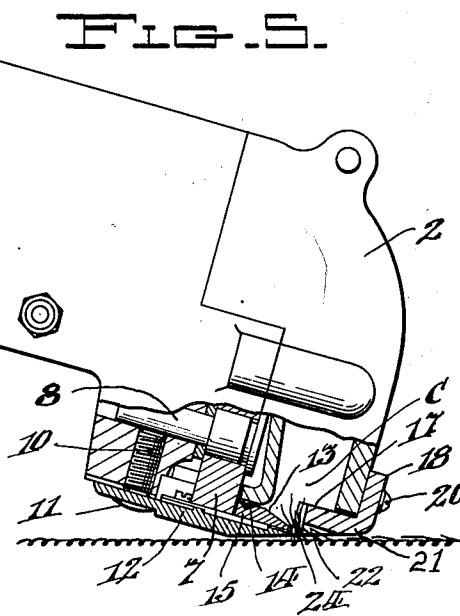


FIG. 6.

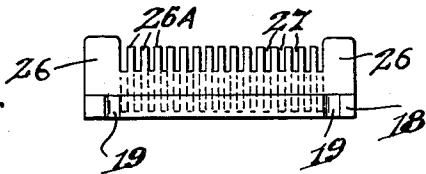


FIG. 7.

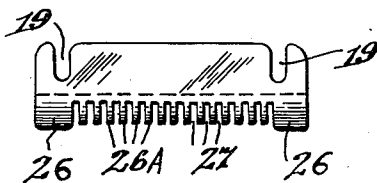
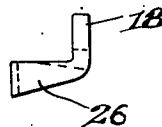


FIG. 8.



INVENTOR:
Harold E. Stout,
BY
Shad E. Ingler,
ATTORNEY.

Aug. 19, 1952

H. E. STOUT

2,607,101

TRIMMING OF TEXTILE ARTICLES

Filed April 28, 1950

4 Sheets-Sheet 3

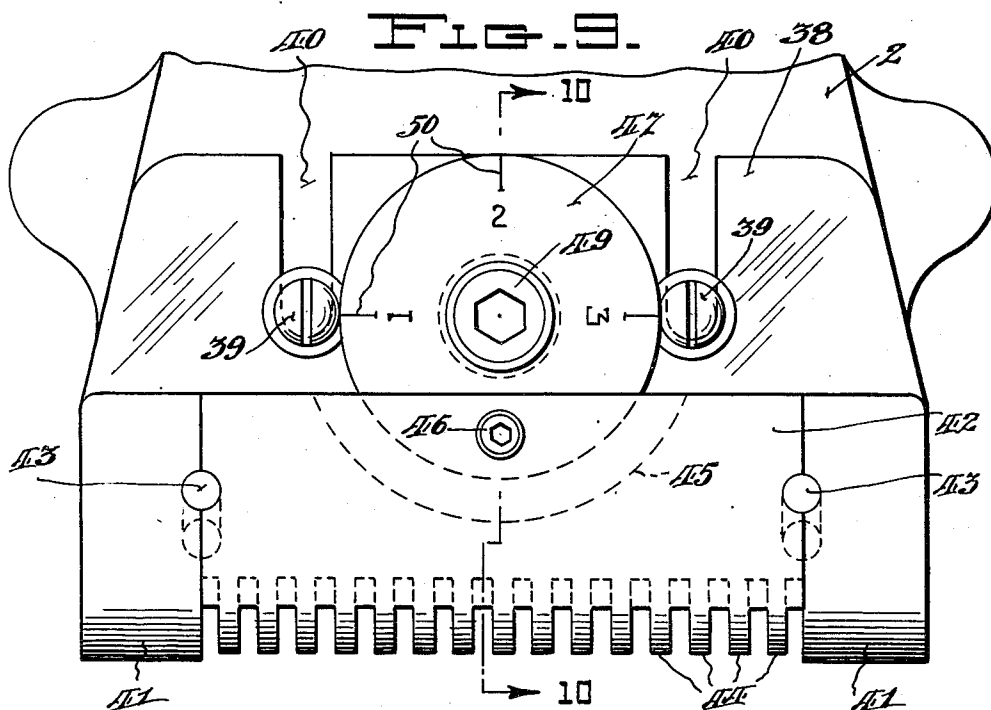
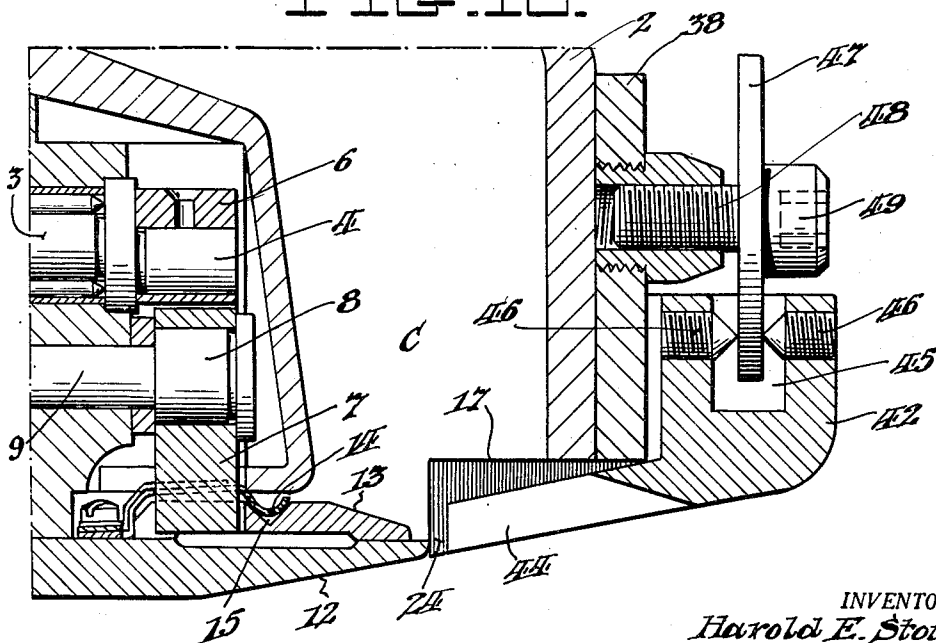


FIG. 10.



INVENTOR:
Harold E. Stout,
BY
Fred E. Islinger,
ATTORNEY.

UNITED STATES PATENT OFFICE

2,607,101

TRIMMING OF TEXTILE ARTICLES

Harold Edgar Stout, West Leesport, Pa., assignor
to Textile Trimming & Boarding Machine
Company, Reading, Pa., a corporation of Penn-
sylvania

Application April 28, 1950, Serial No. 158,745

22 Claims. (Cl. 26—11)

1

My invention relates to textile clipping machines and more particularly to novel thread directing, arranging, collecting and positioning means which serve to increase the efficiency of the clipping machine for trimming the loose ends of the threads found on finished or partly finished textile products such as hosiery, coats, trousers, dresses, etc., and make the clipping machine perform the trimming operation without damage to the textile material proper, and at the same time provide for the efficient removal of the cut off ends of the threads during the trimming operation.

One object of the present invention is to provide novel thread directing, arranging, collecting and positioning means of the type indicated.

A further object is to provide such means having certain structural and functional features of advantage over the similar prior art devices.

Another object of this invention is to provide a textile trimming device with means operative in unison with suction means to effect determined actuation of the loose ends of threads on textile material prior to their being severed by the cutting means.

Another object is to provide novel means adapted to be positioned in advance of and relative to the trimming means thereby to effect a thread directing, arranging, collecting and positioning function for efficient operation of the trimming means.

Another object of the invention is to provide a novel device which is adapted to fit the front end of the clipping machine to perform the arranging, collecting and positioning function and may be cast of metal or made up of fibre, plastic or other suitable material for efficient cooperation therewith.

Another object of this invention is to provide such a device for clipping machines with novel mechanical means which in cooperation with suitable suction means will raise the loose ends of any threads projecting from or embedded in the textile material as the clipping machine is moved thereover and arrange, collect and position these loose ends so as to have them enter between the cutting teeth of the clipping machine in a substantially vertical or erect position.

Another object of this invention is to provide such a device for a trimming machine which will

2

automatically position the loose ends of threads protruding from a textile product to permit suitable suction means to quickly and efficiently remove these ends from the textile material after being severed therefrom.

Another object is to provide such a device which performs its intended function when manually moved into cooperation with the work, or when the device is held stationary and the work is cooperatively moved relative thereto.

A further object of this invention is to provide a novel nose piece for thread clipping machines which will prevent the textile material from being drawn between the cutting edges of the cutting blades during the trimming operation.

Another object of this invention is to provide a novel nose piece structure which permits a plurality of nose pieces to be interchangeably used on the clipping machine in order to have each nose piece especially adapted to function for the particular type or weight of textile material on which the clipping operation is to be performed.

Another object of this invention is to provide an adjustable nose piece for clipping machines of the type indicated with which the loose ends of threads on textile products may be trimmed short or long.

With these and other objects in view which will become more apparent from the following detailed description of practical and illustrative embodiments of my improvements shown in the accompanying drawings, my invention comprises a novel device, elements, features of construction and arrangement of parts in cooperative relationship, as more particularly defined and indicated by the hereto appended claims.

In the accompanying drawings:

Figure 1 is a longitudinal sectional view of a cutting and trimming machine equipped with my novel thread directing, arranging, collecting and positioning means, the section being taken substantially as indicated by the arrows I—I in Figure 2.

Figure 2 is a bottom plan view of the trimming machine with the thread directing, arranging, collecting and positioning means attached thereto.

Figure 3 is a front elevation of the trimming machine in the position illustrated in Figure 1.

Figure 4 is an end view of the device with the

nose section 2 removed and as seen by looking in the direction of the arrows 4—4 on Fig. 1.

Figure 5 is a side elevation of the head of the trimming machine equipped with the nose piece illustrated in detail in Figures 18 and 19 and held in its angularly operative position relative to the textile material, a portion of the head with its nose piece being broken away and shown in section to illustrate its function in directing, arranging, collecting and positioning the loose ends of threads on textile material.

Figure 6 is a detail top plan view of the form of interchangeable nose piece used in conjunction with the trimming machine illustrated in Figures 1 to 4.

Figure 7 is a detail front view of this form of nose piece.

Figure 8 is a detail side elevation of this form of nose piece.

Figure 9 is an enlarged front elevation of a portion of a textile trimming machine head equipped with a modified and adjustable form of nose piece for directing, arranging, collecting and positioning the loose ends of threads on textile material.

Figure 10 is a sectional view of the portion of the trimming machine head illustrated in Figure 9, the section being taken substantially as indicated by the arrows 10—10 in Figure 9.

Figure 11 is a top plan view of the front portion of the trimming machine head equipped with the modified and adjustable nose piece illustrated in Figures 9 and 10.

Figure 12 is a detail top plan view of another modified form of interchangeable and adjustable nose piece adapted for use with a textile trimming machine.

Figure 13 is a rear elevation of the modified form of nose piece illustrated in Figure 12.

Figure 14 is an enlarged vertical sectional view of the modified form of nose piece illustrated in Figures 12 and 13, the section being taken substantially as indicated by the arrows 14—14 in Figure 13.

Figure 15 is a front elevation of the modified form of nose piece illustrated in Figures 12, 13 and 14.

Figure 16 is a front elevation of an interchangeable nose piece made for use in trimming the loose ends of threads from heavy or stiff textile material.

Figure 17 is a vertical sectional view of the nose piece illustrated in Figure 16, the section being taken substantially as indicated by the arrows 17—17 in Figure 16.

Figure 18 is a front elevation of an interchangeable nose piece made for use in trimming the loose ends of threads from light and very flexible textile material.

Figure 19 is a sectional view of the nose piece illustrated in Figure 18, the section being taken substantially as indicated by the arrows 19—19 in Figure 18.

It will be helpful to the proper understanding of my invention to first consider some of the more important aspects and features thereof, so that these may be kept in mind during the subsequent reading of the detailed description of the practical and illustrative embodiments of my improvements as shown in the accompanying drawings. Accordingly it is pointed out that the novel means or nose piece is an extremely vital part of a trimming machine without which the clipping mechanism cannot efficiently perform its trimming operation. In the drawings and description, only

those parts of a standard or conventional clipper mechanism necessary to a complete understanding of the invention have been set forth; further information, as to the construction and operation of elements and details of a clipping machine not herein specified, but which are usual and well-known, may be had from F. Y. Kitzmiller Patent No. 2,113,112, issued April 5, 1938, and the disclosure of the "Thread Clipping Machine" illustrated and described therein.

The thread directing, arranging, collecting and positioning means and the nose piece which embodies such means in the various forms illustrated provides for the raising of the loose ends of any threads resting on or embedded in the textile material over which the clipping machine is moved. It does this by directing and arranging the loose ends of threads in line with the movement of the trimming machine and at the same time gradually raising these loose ends of the threads from the textile material. By the time the loose ends of the threads thus reach the clipping mechanism, they enter between the cutting elements or teeth in a substantially vertical or erect position and project above the cutting edges thereof to be squarely cut off thereby.

While the above takes place, the textile material over which the clipping machine is moved, is held down flat so that the textile material proper will not be raised by the suction created ahead of the clipping mechanism and for this reason cannot be drawn between the cutting teeth and damaged thereby. Furthermore, by causing the loose ends of the threads to be gradually raised to a substantially vertical position ahead of the cutting elements, the threads are cut off squarely by the cutting teeth as soon as they enter therebetween. The cut off ends are thus left in a position where they can be freely drawn away from the cutting teeth by the suction created ahead and above the cutting elements. This insures a quick and easy removal of the loose ends of the threads and prevents any clogging of the clipping mechanism by the cut off ends of the threads.

In the forms illustrated in the various figures of the drawings, my invention generally comprises an interchangeable device or nose piece A which performs the directing, arranging, collecting and positioning function of my invention. This nose piece is secured to the suction nozzle B at the inlet C thereof, while the cutting mechanism D in the form illustrated is located on the nozzle adjacent the inlet opposite to the nose piece. In this way the ends of threads projecting from or embedded in the textile material, over which the nozzle is moved, are directed, arranged, collected and positioned by the nose piece and properly fed to the cutting mechanism, cut off thereby and removed by the air current produced by the suction in the nozzle as will hereinafter be apparent from the detailed description of the invention.

The suction nozzle B is made up of the housing 1 which has suitably attached thereto the curved nose 2. The latter has an inlet C at the bottom thereof. In the housing 1, behind the nose 2, is journaled the crank shaft 3 which carries at its forward end the crank pin 4. The rear end of the crank shaft 3 is operatively connected to the flexible shaft 5 with which the crank shaft 3 is rotated by a suitable electric motor (not shown).

The crank pin 4 engages into the eccentric block 6 which is mounted to slide in a suitable groove provided for this purpose in the toggle 7. The latter is mounted to oscillate on the toggle

5

pin 8, which is anchored in the housing at 9 by means of the setscrew 10.

Fastened to the bottom of the housing B by means of the anchoring screws 11—11 is the cutting mechanism D which comprises a clipper blade assembly made up of a fixed blade 12 and a movable blade 13. The movable blade 13 is held for reciprocating movement on the stationary blade by means of the guide member 14 which yieldingly engages into the guide groove 15 and guides the movable blade in a straight line reciprocating movement over the fixed blade 12 parallel thereto.

The movable blade 13 is operatively engaged by the lower free end of the toggle 7. In this way the oscillating motion of this toggle, given to it by the crank pin 4, is transmitted to the movable blade 13 and translated into a reciprocating movement of this blade over the stationary blade 12. Both the stationary and the movable blade are provided with suitable cutting teeth which permit the loose ends of the threads to enter therebetween to be cut off by the cutting edges thereof.

As illustrated in Figures 1 and 10, the front portion of each of the cutting blades 12 and 13 project with their cutting teeth over the inlet C at the bottom and rear of the nose 2 to allow the air current created by the suction induced in the nozzle B to partially pass through between the teeth and carry the loose ends of the threads into position for severance by their cutting edges.

The nose piece A, which cooperates with the cutting mechanism, is anchored to the front of the nose 2 of the nozzle B which for this purpose is cut away at the bottom to form a seat 17 for the nose piece to be adjustably seated therein. The form of nose piece illustrated in Figures 1 to 4 and 6 to 8 is provided with the anchoring flange 18 which is slotted at 19—19 to have the anchoring screws 20 pass therethrough for threaded engagement into the wall of the nose 2. In this way the nose piece A may be firmly clamped to the bottom of the nose 2 and held in a vertically adjustable position thereon so as to control the action of the air currents induced by the vacuum in the nozzle.

As above pointed out the function of the nose piece is to direct, arrange and collect the loose ends of threads projecting from and embedded in the fabric material over which the suction nozzle is moved and then to position these loose ends of the threads relative to the cutting mechanism so that the cutting teeth will efficiently cut off these ends and have them carried off by the air current induced by the suction created in the nozzle. In order to do this efficiently the nose piece must be adapted or adjusted to the particular kind of textile material on which the apparatus is to be used. Furthermore to prevent any damage to the textile material by the cutting mechanism during the clipping operation, the nose piece construction must be adapted to the different weights and the stiffness of the textile material on which the clipping or cutting operation takes place in order to keep the textile material from being raised and drawn with the loose ends of threads between the cutting teeth of the cutting blades.

For example, in trimming the loose ends of threads from very light weight textile material it is desirable to use the nose piece illustrated in Figures 5, 18 and 19 in which the supporting flange 21 at the bottom of the nose piece is provided with a shallow slightly angular recess

6

22 which terminates in the vertical groove 23 at the inner free end of the flange. The groove 23 thus provides a collecting and positioning space which forms a gap 24 between the flange and the tips of the cutting teeth such as is illustrated in Figures 1, 2, 5 and 10 into which the loose ends of threads are drawn by the suction of the nozzle and prepositioned for their entry between the cutting teeth. The action of the clipping machine with the nose piece attached to the suction nozzle for cooperation with the cutting blades is therefore as follows:

The clipping machine is held in the position illustrated in Figure 5 in which the angular bottom portion of the stationary cutting blade 12 and the bottom 21 of the nose piece rest on the surface of the textile material over which the clipping machine is to be moved or across which the material is contactingly manipulated. With the machine in this position the suction created within the nozzle operates to act on any loose ends of threads on the textile material that come within the area covered by the recess 22 in the flange of the nose piece. In its action on the threads the suction gradually directs and raises the loose ends thereof so that by the time the outer free end of a thread has reached the vertical groove 23 which provides the positioning space or gap 24 the thread is drawn upwardly thereinto and raised into a substantially vertical or erect position therein before it enters between the cutting teeth. Movement of the clipping machine over the textile material in the position illustrated in Figure 5 thus directs and gradually raises the loose portions of threads projecting from or embedded in the textile material as these threads enter the recess 22 in the bottom of the nose piece. Further movement of the clipping machine then causes the free ends of the threads to be turned up into the positioning gap 24 by the action of the suction in the nozzle, and continued movement of the clipping machine brings the upturned portions of the threads between the teeth of the cutting blades which cut them off to permit the suction in the nozzle to withdraw the cut off ends and pass them on into a suitable collector (not shown). The recess 22 is made shallow and the vertical groove 23 is reduced to such size that light weight textile material cannot be raised by the suction but will be held substantially flat by the bottom of the nose piece while the loose ends of threads are being raised into the gap 24 provided by the vertical groove 23, as above pointed out.

For trimming heavy weight or stiff textile material, the construction of the nose piece is modified by having the bottom of the nose piece made up of a pair of supporting members 25—25 which project rearwardly from the anchoring flange 18^A, one on each side of the nose piece as illustrated in Figures 16 and 17. The space between these supporting members is covered by the flange 25^A, with a vertical groove 25^B, at the rear of this flange as shown in the nose piece illustrated in Figures 16 and 17. In Figures 1, 2, 3, 6 and 7 the space between the supporting members 26—26 is divided by parallel guide members 26^A—26^A. These guide members are laterally spaced to provide a series of guide grooves 27 in the front portion of the bottom of the nose piece between the supporting members 26. The guide members are shorter than the supporting members in order to provide the positioning space or gap 24 between the ends of the partitioning members and the tips of the teeth

of the cutting blades the same as with the nose piece illustrated in Figures 16, 17, 18 and 19. As illustrated in Figures 1, 6 and 8, the guide grooves provided by the guide members 25^a incline from under the anchoring flange to a point where they merge into the vertical guide slots 27 at the rear of the nose piece.

The width of the guide grooves provided in a nose piece depends on the weight and stiffness of the textile material on which the nose piece is to be used. Thus on light weight and flexible material the nose piece used should have narrow guide grooves and a corresponding greater number of guide members in order to keep such material from being raised by the suction of the nozzle while the loose ends of the threads carried thereby are drawn into the guide grooves and between the teeth of the cutting blades. For heavier textile material the nose piece used can have wider guide grooves and for very heavy and stiff material the nose piece is used which has but one large groove as illustrated in Figures 16 and 17.

The form of nose piece illustrated in Figures 16 and 17 is also used when it is desired to trim the loose threads to a predetermined length on the textile material. In performing this function the loose threads enter the space between the supporting members 25—25 and are held raised therein in advance of their entrance between the cutting teeth. A positioning gap 24 may or may not be necessary in such case.

To avoid the necessity of using different nose pieces for different types and weight of textile material, a nose piece constructed as illustrated in Figures 12, 13, 14 and 15 may be used. In this form of nose piece the guide members and guide grooves are eliminated and the members 29 thereof support between them a screen 30 made of perforated sheet material or suitable screen forming material. This screen has its sides mounted in suitable guide channels 31 provided on the inside of the supporting members 29 near the bottom thereof, so as to span the open space between the supporting members.

The forward edge of the screen 30 has attached thereto a member 32 which has threaded engagement with the lead screw 33. The latter is mounted to rotate in a space between the face plate 34 and the anchoring flange 18 of the nose piece so that rotation thereof by means of the head 35 in one or the other directions will cause the member 32, and with it the screen 30, to either move forward or back in the space between the supporting members. In this way the rear edge of the screen may be moved to increase or decrease the positioning gap between screen and the tips of the teeth of the cutting blades. This is necessary in order to adjust the nose piece for use on the type and weight of thread to be trimmed by the trimming machine as will hereinafter be pointed out.

The anchoring flange 18^c of the nose piece illustrated in Figures 12 to 15 is slotted at 19^c—19^c for attachment to the nose 2 by means of the anchoring screws 20.

In the use of the screen equipped nose piece the loose ends of threads are picked up and separated from the textile material just as soon as such threads reach the under side of the screen on the movement of the trimming machine over the textile material. The suction within the nozzle operates through the holes in the screen to draw away and thus keep separating the loose ends of threads from the textile material. When

the free ends of the threads reach the end of the screen, the suction in the nozzle, acting through the positioning space or gap 24, operates to turn the raised ends of any loose threads around the edge of the screen into the positioning space or gap 24 and draws such ends into a substantially vertical or erect position ahead of the teeth of the cutting blades. Further movement of the clipping machine then causes the properly positioned threads to enter between the teeth of the cutting blades to be cut off by the cutting edges thereof. With the ends of the threads in a substantially vertical position, that is at right angles to the cutting edges of the teeth, the cut off ends of the threads are readily drawn away from the cutting blades by the suction in the nozzle so as to prevent the cutting mechanism from clogging up therewith.

To accommodate different thicknesses of threads for efficient operation of the cutting mechanism, the positioning space or gap 24 may be increased or decreased by the movement of the screen 30. This is done by turning the head 35 of the lead screw in the front of the nose piece in a clockwise or counterclockwise direction. One end of the slot in the lead screw is marked and in this way the lead screw may be made to point to any one of the five indicating lines 36 in the face plate 34 which according to their number indicate a predetermined spacing of the edge of the screen from the tips of the cutting teeth. This determines the width of the position space or gap 24 for the entry of either a heavy or light thread. The lead screw is preferably provided with a thread that will cause the screen to be moved .020" for each movement of the slot in the lead screw from one indicating line in the face plate to the other. A complete revolution of the screw will thus cause a movement of the free edge of the screen of .100".

In Figures 9, 10 and 11, I have illustrated a modified form of nose piece which provides for the adjustment of the positioning space or gap 24 for the various types and weights of threads in a modified manner. In the construction of this form of nose piece its anchoring flange 38 is clamped to the front of the nose 2 by means of the clamping bolts 39—39. Slots 40—40 in the anchoring flange through which the bolts 39 pass, permit the vertical adjustment of the anchoring flange on the nose. Projecting forwardly and rearwardly of the anchoring flange are the supporting members 41—41 and a slide 42 is mounted on the guide pins 43—43, between these supporting members. The slide 42 is provided at the bottom and rear portion thereof with the guide members 44 which provide the guide grooves for the collection of the loose ends of threads and the guiding of them into the positioning gap at the rear thereof as heretofore pointed out.

The portion of the slide 42 which projects forwardly of the anchoring flange 38 is provided at the top with a transversely extending pocket 45 into which project from the front and rear the set screws 46—46. These screws engage the front and rear face of the disc 47 which is carried by an adjusting screw 48 and rotates therewith. The adjusting screw is threaded into a bushing carried by the anchoring plate 38 and when rotated by means of its head 49, moves the disc toward or away from the anchoring flange. This movement of the disc in turn is transmitted through the set screws 46 to the slide 42 so that this slide may be moved endwise between the

supporting members 41-41 to increase or decrease the positioning gap 24 between the ends of the guide members 44 and the outer ends of the cutting teeth of the cutting blade as illustrated in Figure 10. Suitable indicating lines 50 on the disc 47 serve to show the amount the positioning gap has been increased or decreased by the relative location of one of these indicating lines to a fixed point on the nose piece.

When it is desired to trim the loose ends of threads either short or long, the nose piece, in any of its forms illustrated and described, is adjusted vertically on the nose 2 of the trimming machine. As heretofore pointed out, all of the nose pieces are for this purpose provided with a vertical adjustment which permits same to be raised or lowered on the nose.

By lowering the nose piece, the bottom of the supporting flange or supporting members thereof is moved below the bottom of the stationary cutting blade 12 so that the distance of the cutting edges between the cutting blades and the bottom of the supporting flange or supporting members of the nose piece is increased. This increases the distance between the textile material, on which the nose piece will rest, and the cutting edges thus lengthening the portion of any thread which remains on the textile material after it has been trimmed by the cutting edges.

By raising the nose piece the bottom of the supporting flange or supporting members thereof is brought closer to the cutting edges between the cutting blades which of course shortens the distance between the surface of the textile material and the cutting edges and shortens the length of the portion of any thread which remains on the textile material after it has been trimmed by the cutting edges.

Of course, the novel textile trimming device and means operative in unison with suction means to effect determined actuation of the loose ends of threads on textile material prior to their being severed by the cutting means, which has been specifically shown and described, can be changed and modified in various ways without departing from the invention herein disclosed and more particularly defined by the hereto appended claims.

I claim:

1. In a textile trimming device of the character described, the combination of a suction nozzle having an inlet in the end thereof, cutting means operative at the inlet of said nozzle, and a groove in the edge of said nozzle leading into said inlet in front of said cutting means and means supporting said nozzle to effect restriction of the inlet into said nozzle substantially to the passage provided by said groove.

2. In a textile trimming device of the character described, the combination of a suction nozzle having an inlet in the end thereof, cutting means operative within the inlet of said nozzle, and a plurality of guide members forming guide grooves between them in the edge of said nozzle and leading into said inlet in front of said cutting means and means supporting said nozzle to effect restriction of the inlet into said nozzle substantially to said plurality of guide grooves.

3. A textile trimming device of the character described comprising, a suction nozzle having an inlet in the end thereof, cutting blades partially extending over said inlet from the rear of said nozzle, a nose piece at the front of said nozzle adjacent the inlet thereof, and a supporting

flange at the bottom of said nose piece extending rearwardly thereof over the inlet of said nozzle opposite to said cutting blades, said supporting flange having a groove extending inwardly from the rear edge thereof to provide a thread positioning gap in front of said cutting blades and restrict the inlet in the end of said nozzle on the support thereof on said nose piece substantially to said thread positioning gap.

4. In a textile trimming device of the character described, the combination with a suction nozzle having an inlet at the end thereof and cutting blades partially extending over said inlet from the rear thereof; of a nose piece at the front of said nozzle, a supporting flange at the bottom of said nose piece and extending rearwardly thereof so as to partially extend over the inlet from the front of said nozzle, and a guide groove in the bottom of said supporting flange, said supporting flange being partially cut away at the rear thereof to provide a thread positioning gap ahead of said cutting blades and restrict the inlet in the end of said nozzle on the support thereof on said nose piece substantially to said thread positioning gap.

5. A textile trimming device of the character described comprising, a suction nozzle having an inlet in the end thereof, cutting blades partially extending over said inlet from the rear of said nozzle, a nose piece at the front of said nozzle adjacent the inlet thereof, a supporting flange at the bottom of said nose piece extending rearwardly thereof over the inlet of said nozzle to said cutting blades, said supporting flange having an opening extending therethrough from the rear thereof so as to lead into the inlet of said nozzle in front of said cutting blades, a screen mounted in said opening with an edge portion thereof located opposite to said cutting blades; and means for adjusting said screen to move the free edge portion thereof toward and away from said cutting blades to increase or decrease the thread positioning gap between said screen and said cutting blades.

6. In a textile trimming device of the character described the combination with a suction nozzle having an inlet in the end thereof and cutting blades partially extending over said inlet from the rear of the nozzle; of a nose piece at the front of said nozzle adjacent to said inlet, a supporting flange at the bottom of said nose piece partially extending over said inlet to said cutting blades; a plurality of open ended parallel grooves of increasing depth in the bottom of said supporting flange and terminating in slots extending inwardly from the rear of said supporting flange and upwardly of said cutting blades in front thereof and spaced therefrom.

7. A textile trimming device of the character described comprising, a suction nozzle having an inlet in the end thereof, cutting blades partially extending over said inlet from the rear of said nozzle, a nose piece at the front of said nozzle adjacent to the inlet thereof, spacedly arranged supporting members extending rearwardly of said nose piece so as to partially extend over said inlet to said cutting blades and provide open ended parallel passages leading into said inlet of said suction nozzle with the open ends of said passages spacedly opposing said cutting blades so as to restrict the inlet into the end of said nozzle on the support thereof on said nose piece substantially to said open ended parallel passages.

8. A textile trimming device of the character

described comprising, a suction nozzle having an inlet in the end thereof, a nose piece seat at the end of said nozzle, a nose piece adjustably movable in and out of said seat, a supporting flange extending rearwardly of said nose piece so as to partially extend over the inlet in said nose piece, said flange having an opening extending thereinto from the rear thereof to provide a thread positioning gap at the rear of said flange, a groove in the bottom of said supporting flange to provide a passage in the bottom of said nose piece into said thread positioning gap, and cutting blades partially extending over the inlet of said nozzle from the rear thereof and opposite to the thread positioning gap in the end of said supporting flange so as to restrict the inlet into the end of said nozzle on the support thereof on said supporting flange to said passage in the bottom of said nose piece and said thread positioning gap.

9. A textile trimming device of the character described comprising, a suction nozzle having an inlet in the end thereof, a nose piece seat at the end of said nozzle adjacent the inlet thereof, a nose piece mounted in said seat, a pair of rearwardly extending supporting members on said nose piece, a plurality of laterally spaced guide members between said supporting members, and cutting blades partially extending over the inlet of said suction nozzle from the rear thereof and spacedly opposite to the ends of said guide members so as to restrict the inlet into said nozzle on the support thereof on said nose piece to the spaces between said members in front of said cutting blades.

10. A textile trimming device of the character described comprising, a suction nozzle having an inlet and a pair of superimposed cutting blades with cutting edges between the blades partially extending over said inlet from the rear of said nozzle, a nose piece carried by said suction nozzle so as to partially extend over said inlet from the front thereof, and means for adjustably locating the bottom of said nose piece relative to the plane of the cutting edges of said cutting blades.

11. A textile trimming device of the character described comprising, a suction nozzle having an inlet in the end thereof and cutting blades partially extending over said inlet from the rear of said nozzle, a nose piece, a flange at the bottom of said nose piece arranged so as to be movable in and out over the edge of said inlet toward and away from said cutting blades, and adjusting means carried at the front of said nozzle and operatively connected with said flange for movement thereof toward and away from said cutting blades.

12. A textile trimming device of the character described comprising a suction nozzle having an inlet in the end thereof and cutting blades partially extending over said inlet from the rear of said nozzle, a nose piece, a flange at the bottom of said nose piece, guide means for guiding said flange on said nose piece for movement toward and away from said cutting blades, guide means for guiding said nose piece on said suction nozzle at right angles to said cutting blades, and an adjustable locking plate on said nose piece for locking said flange thereagainst.

13. A suction nozzle attachment for a textile trimming device of the character described comprising, a nose piece for the support of a nozzle and adapted to overhang the inlet of the nozzle, anchoring means on said nose piece, a pair of rearwardly extending supporting mem-

bers spacedly arranged at the bottom of said nose piece to provide a thread collecting and positioning space at the bottom and rear of said nose piece and restrict the inlet of the nozzle to said thread collecting and positioning space in said nose piece when the nozzle is supported on said nose piece.

14. A suction nozzle attachment for a textile trimming device of the character described comprising, a nose piece adapted to partially overhang the inlet of the nozzle, an anchoring flange at the front of said nose piece, a pair of rearwardly extending supporting members spacedly arranged at the bottom of said nose piece to provide a thread collecting space at the rear of said nose piece, a screen in said collecting space, and a positioning ledge at the end of said screen between said supporting members.

15. A suction nozzle attachment for a textile trimming device of the character described comprising, a nose piece adapted to partially overhang the inlet of the nozzle, an anchoring flange at the front of said nose piece, a pair of rearwardly extending supporting members spacedly arranged at the bottom of said nose piece so as to provide a collecting space at the rear of the nose piece, a screen adjustably mounted between said supporting members to span and partially cover said collecting space, a positioning ledge at the end of said screen between said supporting members, and means for adjustably moving said screen to increase and decrease the uncovered portion of said collecting space between said supporting members in back of said positioning ledge.

16. A nose piece for attachment to a suction nozzle in such manner as to partially overhang the inlet thereof, an anchoring flange at the front of said nose piece, a supporting flange at the bottom of said nose piece extending rearwardly of said anchoring flange, a vertical groove in the end of said supporting flange and a substantially horizontal groove in the bottom of said supporting flange leading into said vertical groove.

17. A suction nozzle attachment for a textile trimming device having a stationary cutting blade exposed at the bottom of the nozzle comprising, a nose piece adapted to partially overhang the inlet of the nozzle and provide a support for the nozzle ahead of the stationary cutting blade and substantially in line therewith, an anchoring flange on said nose piece, a supporting member extending rearwardly at the bottom of said nose piece having a groove in the end thereof to provide a collecting space at the rear of said nose piece, and a groove in the bottom of said nose piece arranged to lead into said collecting space and restrict the inlet into the nozzle to the passage provided by said groove and said collecting space ahead of the stationary cutting blade of the trimming device when said nozzle is supported on said nose piece.

18. A suction nozzle attachment for a textile trimming device of the character described comprising, a nose piece adapted to partially overhang the inlet of the nozzle, an anchoring flange at the front of said nose piece, a pair of supporting members extending from the bottom of said anchoring flange rearwardly of said nose piece, and a plurality of parallel partitioning members spacedly arranged between said supporting member and parallel thereto to provide a plurality of parallel grooves under said anchoring flange leading into continuing open position-

13

ing spaces between the rear portions of said partitioning members.

19. A suction nozzle attachment for a textile trimming device of the character described comprising, a nose piece adapted to partially overhang the inlet of the nozzle, an anchoring flange at the front of said nose piece, a pair of supporting members extending from the bottom of said anchoring flange rearwardly of said nose piece, and a plurality of parallel partitioning members spacedly arranged between said supporting member and parallel thereto to provide a plurality of parallel grooves under said anchoring flange leading into continuing open positioning spaces between said partitioning members in back of said anchoring flange, said partitioning members being shorter in length than said supporting members on each side thereof to provide an unobstructed collecting space between said supporting members at the rear of said partitioning members.

20. In a textile trimming device of the character described the combination with suction means and cutting means, of thread directing means positionally mounted in relation to the cutting means and movable relative to the fabric so as to effect concentration of substantially all the suction from said suction means in front of said cutting means and to cause substantially right-angular positioning of the loose threads on the fabric in front of said cutting means prior to their severance by the cutting means.

21. A textile trimming device of the character described comprising, suction means, cutting means and thread directing means, said means being combinedly positionable in relation to the fabric so as to effect concentration of substantially all the suction from the suction means in

14

front of said cutting means in such manner as to cause actuation of threads projecting from the fabric to substantially right-angular position in front of said cutting means prior to the severance of the threads by said cutting means.

22. In a textile trimming device of the character described the combination of cutting means, thread directing means, and coacting suction means jointly operative with said cutting and thread directing means in positional relation to the fabric to effect concentration of substantially all the suction in front of said cutting means so as to cause actuation and erection of the threads to substantially right-angular position in close proximity to the cutting means prior to the severance of the threads by the cutting means.

HAROLD EDGAR STOUT.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
929,549	Campanello et al. ---	July 27, 1909
1,506,139	Severson -----	Aug. 26, 1924
2,037,957	Andis -----	Apr. 21, 1936
2,216,797	Andis -----	Oct. 8, 1940
2,249,293	King -----	July 15, 1941
2,356,378	Capolupo -----	Aug. 22, 1944
2,451,831	Horwood -----	Oct. 19, 1948
2,510,612	Wahnish -----	June 6, 1950

FOREIGN PATENTS

Number	Country	Date
577,274	Switzerland -----	June 2, 1924