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SPRING OPENER FOR SCISSORS

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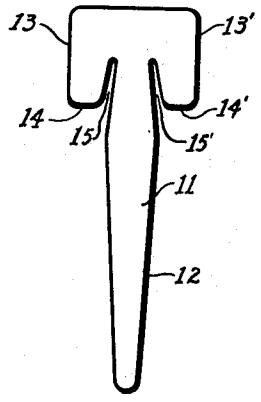


FIG. 1

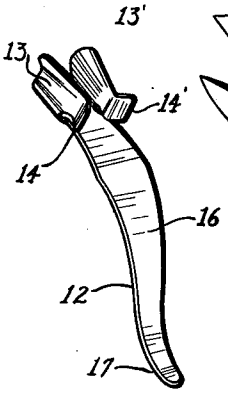


FIG. 2

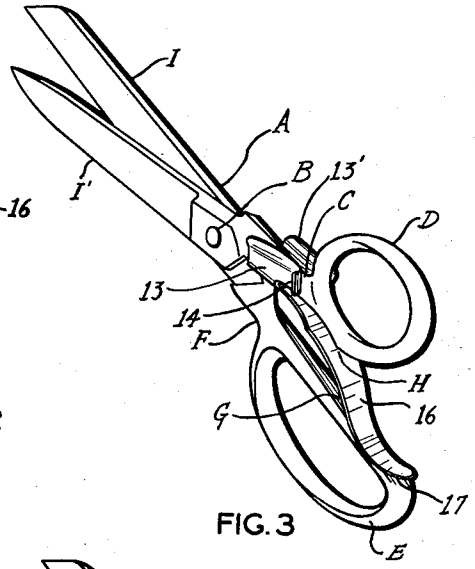


FIG. 3

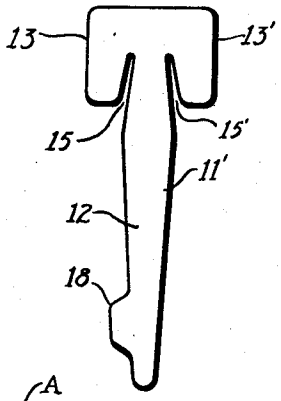


FIG. 5

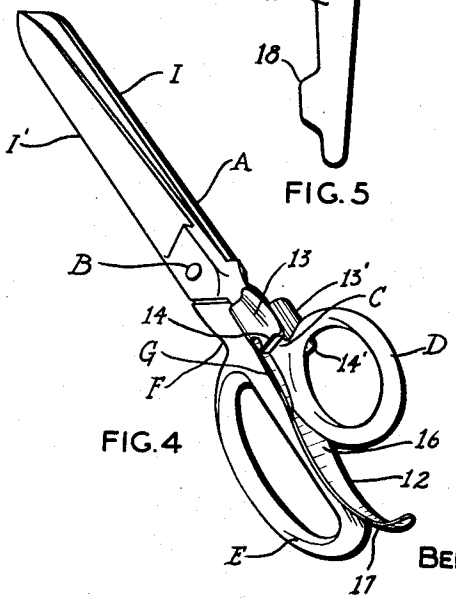


FIG. 4

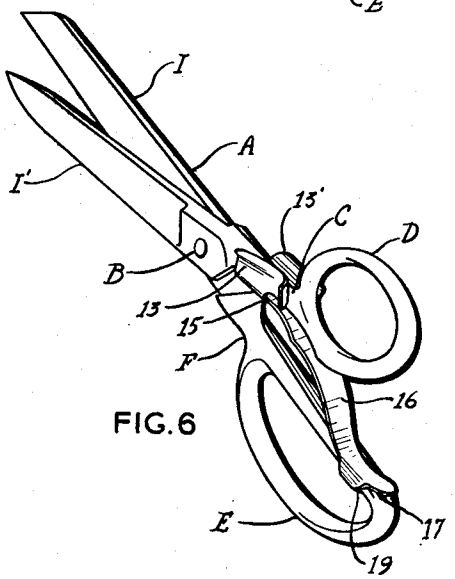


FIG. 6

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SPRING OPENER FOR SCISSORS

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9 Claims. (Cl. 30—261)

1

This invention relates to spring openers for scissors, and in particular to an attachment clip adapted for converting ordinary scissors into thread snippers.

Throughout the needle trade, workers are faced with the problem of snipping thread ends. Customarily, such snipping is accomplished by utilizing an ordinary pair of shears but grasping them by the blades. The blades are manipulated between the fingers of the worker first to open and then to snip a thread with the blade tips. To utilize the scissors in the ordinary fashion, that is, to insert the thumb through the thumb grip and several fingers through the finger grip, and then to open and close the blades, would be too wasteful in time for a single thread-snipping operation. However, some workers are slow to acquire the degree of manual dexterity necessary for manipulating the scissors in the unusual manner described.

The principal object of the present invention is to provide an attachment for a scissors whereby the tip portions will be opened by spring action, so that the scissors may be used as thread snippers by squeezing the blades together and without fumbling to reopen such blades.

A further object is to provide a thread-snipping attachment for scissors which will not interfere with the normal use of the scissors for cutting cloth or other purposes, and will permit the full opening of the scissors and the free use of the major portion of the blades without the interference of any spring tension.

A still further object is to provide a leaf spring for opening scissors, adapted to fit lengthwise between the scissors handles and not to interfere with grasping the handles.

A still further object is to provide a flat sheet metal blank from which a scissors spring clip may be readily formed.

Another object is to provide a scissors spring clip with lobes which permit the easy affixment of such clip to the shank of the scissors adjacent the thumb grip, and further to provide a bearing surface and bearing guide whereby the outer end of such spring clip may bear guidedly against the oblique surface of the finger grip.

With the above and other objects in view, my invention resides in the novel features of form, construction, arrangement, and combination of parts presently described and pointed out in the claims.

In the accompanying drawing (one sheet)—

Figure 1 is a view in flat pattern of a blank adapted for forming a spring clip embodying the present invention;

2

Figure 2 is a perspective view of a spring clip formed from the blank shown in Figure 1;

Figure 3 is a perspective view of a clip corresponding to Figure 2 shown in place on a pair of scissors, in the absence of pressure to close the scissors;

Figure 4 is a view corresponding to Figure 3 showing the shape and position of the clip of Figure 2 on the application of pressure to close such scissors;

Figure 5 is a view in flat pattern of a modified clip blank; and

Figure 6 is a perspective view of a clip formed from the flat pattern shown in Figure 5, shown mounted on a pair of scissors.

Referring to the drawings by reference characters and in greater detail, an embodiment of the present invention is formed from a blank generally designated 11, whose shape is substantially that of a T, having an elongated stem portion 12 and side clip portions 13, 13', on each side thereof at one of its ends, the said clip portions 13, 13', having clip lobes 14, 14', extending in the same general direction as the stem portion 12 and separated therefrom by relief cut-outs 15, 15'. On forming the clip portions 13, 13', upward, as shown in Figure 2, the clip lobes 14, 14', are bent somewhat outward, as are the upper edges of the clip portions 13, 13'.

On completion of the forming operation, the stem portion 12 is formed to a reverse curvature, as shown in Figure 2, with a point of inflection designated 16 approximately midway between the point of clip attachment and the outer end of the stem portion 12, with the said curvature being first away from the direction of flanging of the clip portions 13, 13', and thence, beyond the point of inflection 16, back so that the outer end of the stem portion 12 becomes substantially parallel to the inner end thereof. Such outer end serves, on its surface opposite said clip portions 13, 13', as a bearing face 17, the operation whereof will be more fully described.

Referring now to Figures 3 and 4, the invention is mounted onto a pair of ordinary scissors designated A, aft of its screw or fulcrum B and along the inner side of the longer shank designated C adjacent the thumb grip D. Opposite the thumb grip D is the larger and elongated finger grip E which is separated from the fulcrum B by the shorter shank F. The face of the finger grip E presented toward the finger grip D is normally inclined at an oblique angle, and such inclined face is here designated G. The thumb grip D of such scissors A normally has a contact point H opposite such oblique face

G and adapted to contact same on closure of the scissors A.

When the present invention is so mounted upon the scissors A, in the absence of manual pressure exerted thereon it will hold the tips of the scissors blades I, I', open but the inner portions of said blades will remain closed. Should it be desired to utilize the scissors A in a normal manner for cutting, the operator may slip his thumb and fingers through the grips D and E and fully open the blades I, I', without any spring tension or resistance except when an effort is made to close the scissors beyond the degree indicated in Figure 3. Thus, the scissors may be utilized unimpededly for ordinary cutting operations. The fact that the spring clip operates for only a small portion of the blade movement is important in that excessive manual force is not required at any time.

With the present invention in position shown in Figure 3, the stem portion 12 is curved away from the point H of the thumb grip D, and its bearing face 17 rides against the oblique face G of the finger grip E. When the scissors is closed by the operator, as shown in Figure 4, the curvature of stem portion 12 is somewhat flattened by the exertion of force by the finger grip face G against the said bearing face 17. On such flattening the bearing face 17 slides outwardly while pressing against the face G. The bending moment resulting from the imposition of this bearing force is resisted by tight grasping of the longer shank C by the clip portions 13, 13', and their lobes 14, 14'. When the operator releases his grip on the scissors blades, the opening of the scissors A permits the stem portion 12 to resume its original curvature. If the operator chooses to open the scissors A to a greater degree than shown in Figure 3, the bearing of the bearing face 17 against the oblique face G of the finger grip E will cease and there will be no further spring forces involved.

Bearing against an oblique face, such as the face G, will result in a lateral component of force tending to twist the clip portions 13 on the scissors shank C. To avoid this tendency, we have devised and illustrated a modified form of the invention shown in Figures 5 and 6. In Figure 5 a blank 11' is equipped at the left side of the outer end of its stem portion 12 with a guide lobe 18 adapted to be formed downward, or in a direction opposite the forming of the clip portions 13, 13', in the provision of a guide flange 19, as shown in Figure 6. Said guide flange 19 is adapted to receive the inward-presented edge of the oblique face G of the finger grip E, and to resist by sliding detention along such edge the lateral component of force described. The utilization of such guide flange 19 thus relieves the twisting force on the clip portions 13, 13'. One effect is that these clip portions 13, 13', may be formed with large relief cut-out 15, 15', to render the clip portions 13, 13', more easily sprung apart for insertion on the longer shank C of the scissors A. A further result is that the same device may be utilized with a variety of sizes of scissors and with relatively large variation in width of the longer shank C of such scissors.

Inasmuch as scissors are normally made for use with the right hand, the oblique face G will commonly be shaped so that the edge thereof on which such guide flange 19 is adapted to ride will be on the left side thereof, looking from the handles toward the blades. Accordingly, in the claims which follow, we designate as the "left side" the side which would appear to the left if the scissors A be viewed in the position shown in Figures 3, 4, and 5 with the thumb grip D above and the blades pointed away from the user. Similarly, in claims the term "inward" is used as indicating a point closely adjacent the fulcrum B of the scissors, whereby "outward" is used as indicating the direction which the handles take from such fulcrum B to the outer end of the grips D and E.

It should be understood that changes and modifications in the form, construction, arrangement and combination of the several parts of the spring opener for scissors may be made and substituted for those herein shown and described without departing from the nature and principle of the present invention.

Having fully described our invention, what we claim and desire to secure by Letters Patent is—

1. A spring clip-on accessory for scissors to effect partial opening thereof, comprising a channel spring clip adapted to grasp the shank of one scissors handle adjacent the scissor fulcrum within the channel of the clip and transmit bending moment thereto, and a curved leaf spring formed integrally with the web of the channel of said clip and extending therefrom between the handles of such scissors, said leaf spring having a point of inflection intermediate its ends and a bearing face on the side opposite said clip and outward of said point of inflection, adapted to bear slidingly against the scissors handle opposite such grasped handle.

2. A spring attachment for scissors to effect partial opening thereof, comprising a spring clip adapted to grasp the shank of one scissors handle adjacent the scissor fulcrum and transmit bending moment thereto, a curved leaf spring formed integrally with said clip and extending outward therefrom between the handles of such scissors, said leaf spring having a point of inflection intermediate its ends, a bearing face on the side opposite said clip and outward of said point of inflection, adapted to bear slidingly against the scissors handle opposite such grasped handle, and a guide flange adjacent said bearing face and bent in a direction opposite said grasped handle.

3. A spring attachment for scissors to effect partial opening thereof, comprising a spring clip adapted to grasp the shank of one scissors handle adjacent the scissor fulcrum and transmit bending moment thereto, a curved leaf spring formed integrally with said clip and extending outward therefrom between the handles of such scissors, said leaf spring having a point of inflection intermediate its ends, a bearing face on the side opposite said clip and outward of said point of inflection, adapted to bear slidingly against the scissors handle opposite such grasped handle, and a guide flange adjacent said bearing face and bent in a direction opposite said grasped handle so constructed and arranged as to retain said clip in alignment between said handles during the closure of such scissors.

4. A leaf spring opener for scissors of the type having a thumb grip attached to a shank and a finger grip having a face opposite such thumb grip, the said opener comprising a curved leaf spring adapted for insertion between the handles of such scissors and having a point of inflection intermediate its ends, an integral channel clip formed at the inner end thereof for grasping the shank of such scissors between the thumb grip and the fulcrum thereof having somewhat con-

verging spring flanges spaced from each other approximately the thickness of the shank of such scissors, and a bearing face at the outer end thereof on the side opposite said clip and adapted to bear against the face of the finger grip portion of such scissors.

5. A leaf spring opener for scissors of the type having a thumb grip attached to a shank and a finger grip having an oblique face opposite such thumb grip, the said opener comprising a curved leaf spring adapted for insertion between the handles of such scissors and having a point of inflection intermediate its ends, and integral clip formed at the inner end thereof for grasping the shank of such scissors between the thumb grip and the fulcrum thereof, a bearing face at the outer end thereof on the side opposite said clip and adapted to bear against the oblique face of the finger grip portion of such scissors, and a guide flange formed on one side of said bearing face in a direction opposite to said clip and adapted to ride over the inward-presented edge of said oblique face.

6. A leaf spring opener for scissors of the type having a thumb grip attached to a shank and a finger grip having a face opposite such thumb grip, the said opener comprising a curved leaf spring adapted for insertion between the handles of such scissors and having a point of inflection intermediate its ends, an integral channel clip formed at the inner end thereof having somewhat converging spring flanges spaced from each other approximately the thickness of the shank of such scissors, for grasping the shank of such scissors between the thumb grip and the fulcrum thereof, the curvature of said leaf spring outward of said clip being first away from such thumb grip and thence in a reverse curve to a point outward the ends of the scissors handle, the reversed curve portion having a bearing face on side opposite said clip and adapted to bear against the face of the finger grip portion of such scissors.

7. A leaf spring opener for scissors of the type having a thumb grip attached to a shank and a

finger grip having an oblique face opposite such thumb grip, the said opener comprising a curved leaf spring adapted for insertion between the handles of such scissors and having a point of inflection intermediate its ends, an integral clip formed at the inner end thereof for grasping the shank of such scissors between the thumb grip and the fulcrum thereof, the curvature of said leaf spring outward of said clip being first away from such thumb grip and thence in a reverse curve to a point outward the ends of the scissors handle, the reversed curve portion having a bearing face on the side opposite said clip and adapted to bear against the oblique face of the finger grip portion of such scissors, and a guide flange formed on one side of said bearing face in a direction opposite to said clip and adapted to ride over the inward-presented edge of said oblique face.

8. A blank for a scissors opener spring, comprising a generally T-shaped blank of spring sheet metal having a stem portion whose length and width approximately equal the length and width of the handles of such scissors, the side portions of said blank being adapted for forming a clip for the shank of such scissors, the said stem portion having at one side thereof near its opposite end a laterally extending lobe.

9. A blank for a scissors opener spring, comprising a generally T-shaped blank of elastic sheet material having a stem portion whose length and width approximately equal the length and width of the handles of such scissors, each side portion of said blank having a lobe separated from said stem portion by a relief cut-out, the said stem portion having at one side thereof near its opposite end a laterally extending lobe.

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