PATENT SPECIFICATION

Application Date: Sept. 17, 1935. No. 25737/35. **458,945**

Complete Specification Left: July 1, 1936.

Complete Specification Accepted: Dec. 30, 1936.

PROVISIONAL SPECIFICATION

Improvements in or relating to Scissors, Shears and the like

I, ABRAHAM ALEXANDER CROMPTON, a British Subject, of Denstone College, near Uttoxeter, Staffordshire, do hereby declare the nature of this invention to be as follows:—

This invention relates to scissors, shears and like shearing instruments, of the type comprising a pair of hinged blade members crossing one another at the hinge, and provided with bows to embrace respectively the thumb and a finger or fingers of the hand, and has for its main object the provision of an improved construction to facilitate the use of such an instrument by the right or left hand at will.

When the normal instrument of this type, intended for use by the right hand, is held with the pivot horizontal and the points away from the observer the lower blade which is attached to the upper bow is on the left and the upper blade which is attached to the lower bow is on the right, so that the left blade and upper bow are operated by the right thumb and the right blade and lower bow are operated by the right finger or fingers. The bows are frequently shaped to fit comfortably the thumb and fingers of the right hand, for which purpose tunnels through the bows are inclined to the blade members, that through the upper bow extending forwardly and to the left from the rear right side. Alternatively, in some cases the bows have been shaped to fit the thumb and finger of the left hand instruments with the lower blade and upper bow on the right for use in the left hand.

It is, in general, rather awkward to operate with the left hand an instrument designed for use with the right hand, because the natural squeezing action of the fingers and thumb in this case tends to cause the blades to separate, instead of urging them together as when operating the instrument with the hand for which it is designed.

According to the present invention one blade is provided with a bow shaped to fit the thumb, the other blade with one, two or more bows or gripping surfaces adapted to receive the fingers, of one hand, and the two blades are so pivoted together that the bows or gripping surfaces fit the thumb and fingers of the hand corresponding to the side of the instrument on which the lower or thumb operated blade is situated.

The gripping surfaces, which may be on the bows or shanks or on both, may be provided by suitably disposed grooves, ribs or chequers, or by webs, flanges or the like which may also be grooved, ribbed or chequered.

Thus when the instrument is held with the pivot horizontal and the points away from the observer the lower blade may be on the left of the upper one and may carry a bow shaped to fit the left thumb, the upper blade having bows or gripping surfaces to fit the index and second fingers of the left hand.

Preferably the finger bows are separated by a web of substantial width but small thickness at its middle.

The inner wall of the thumb bow is preferably of substantial width to receive the ball of the thumb corresponding to its side, and the outer wall may also have a wide surface extending obliquely to the length of the blade to bear comfortably against the knuckle of the thumb. Thus the end joint of this thumb may comfortably be flexed to pull the bow towards the palm of the hand.

Likewise the finger bows, of the upper blade, preferably have extended bearing surfaces for the balls of the fingers and also for the knuckles of the same hand, so that a pushing action may easily be applied by these fingers to urge their bows away from the palm of the hand. In some cases a thimble-like web may replace one of the finger bows.

The action of the thumb in drawing its bow towards the palm and of the fingers in pushing their bows from the palm tends to close the blade edges towards one another and to prevent them from separating in use. Nevertheless operation of the instrument by the other hand is not adversely affected since, even though the bows may not fit the fingers of that other hand so well, the action is more natural and is not impeded.

Preferably the web between the finger bows is given a wide surface to receive the

sides of the index and second fingers. Furthermore a lug or projection may extend downwardly and outwardly from the endmost finger bow to receive the end of the third finger.

In all cases shaped bows for the thumb and for the fingers may be provided with grooves, ribs or chequers to engage the skin which will thus be prevented from slipping.

Dated this 16th day of September, 1935.

ARTHUR H. GREENWOOD,
Chartered Patent Agent,
39, Bank Street, Sheffield 1.

COMPLETE SPECIFICATION

Improvements in or relating to Scissors, Shears and the like

I, ABRAHAM ALEXANDER CROMPTON, a British Subject, of Denstone College, near Uttoxeter, Staffordshire, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to scissors, shears and like shearing instruments, of the type comprising a pair of hinged blade members crossing one another at the hinge, and provided with shanks cranked or thickened to be in substantially the same plane and having bows to embrace respectively the thumb and a finger or fingers of the hand, the main object of the invention being the provision of an improved construction to facilitate the use of such an instrument by the right or left hand at will.

When the normal instrument of this type, intended for use by the righthand, is held with the pivot horizontal and the points away from the observer, the lower blade which is attached to the upper bow is on the left and the upper blade which is attached to the lower bow is on the right, so that the left blade and upper bow are operated by the right thumb and the right blade and lower bow are operated by the right finger or fingers. The bows are frequently shaped to fit comfortably the thumb and fingers of the right hand, for which purpose the interior surfaces of the bows are inclined to the blade members, those of the upper bow extending forwardly and to the left from the rear right side. Alternatively, in some cases the bows have been shaped to fit the thumb and finger of the left hand in instruments with the lower blade and upper bow on the right for use in the left hand.

It is, in general, rather awkward to operate with the left hand an instrument pivoted and designed for use with the right hand, because the natural squeezing action of the fingers and thumb in this case tends to cause the blades to separate, instead of urging them together as when operating the instrument with the hand for which it is pivoted.

It has been proposed to provide reversible scissors with two double-edged blades providing two sets of cutting edges and with two pairs of bows, one pair of which is positioned to receive the thumb and fore-finger of the right hand when one set of cutting edges is in use, the other pair being positioned to receive the thumb and fore-finger of the left hand when the other set of cutting edges is in use.

According to the present invention the two blades of scissors, shears or like shearing instruments of the type referred to (which are not reversible) are pivoted together in the manner usual for operation by one hand, for example the right hand, one blade is provided with a bow shaped to fit the thumb of the other hand, for example the left hand, and the other blade with one, two or more bows or gripping surfaces adapted to receive the finger or fingers of that other hand. The gripping surfaces may be provided with grooves, ribs or checquers.

If desired a gripping surface may be provided on the shank between a bow and the pivot for engagement by a finger of the user. Further, a gripping surface may be provided by a web, flange, boss or the like and two of the finger bows may be separated by such a web of substantial width adjacent to the shank.

When the scissors are provided with a plurality of finger bows, one of them may be closed by a hollow boss or framework providing a socket of which the bow forms the rim, so that the end of a finger inserted through this bow may obtain a bearing inside the socket or on the framework which may thus be utilized to assist a pushing action tending to urge the bow away from the palm of the hand and to press its blade into contact with the other blade.

In the accompanying drawings:—

Figure 1 is an elevation of a pair of scissors according to the present invention.

Figures 2, 3, 4, 5 and 6 are sectional views drawn to an enlarged scale and respectively taken on the line 2—2, 3—3, 4—4, 5—5, and 6—6 of Figure 1 and

looking in the direction of the arrows indicated.

Figure 7 is an elevation of a modification.

Figures 8, 9, 10, 11 and 12 are sectional views drawn to an enlarged scale and respectively taken on the lines 8—8, 9—9, 10—10, 11—11 and 12—12 of Figure 7 and looking in the direction of the arrows indicated.

Figure 13 is an elevation of another modification.

Figures 14, 15, 16, 17 and 18 are sectional views drawn to an enlarged scale and respectively taken on the line 14—14, 15—15, 16—16, 17—17 and 18—18 of Figure 13 and looking in the direction of the arrows indicated.

Like reference numerals indicate like parts throughout the drawings.

With reference first to Figures 1 to 6 inclusive, the two blades 20 and 21 of the scissors shown in Figure 1 are pivoted together in the manner usual for operation by the right hand, i.e. when the instrument is held with the pivot 22 horizontal and the points away from the observer (and throughout the following description it is assumed that the instrument is held in this position), the lower blade 20, which is attached by the shank 23 to the upper bow 24, is on the left and the upper blade 21, which is attached by the shank 25 to the lower bow 26, is on the right so that the left blade 20 and upper bow 24 are operated by the thumb and the right blade 21 and lower bow 26 are operated by a finger or fingers. The shanks 23 and 25 are cranked or thicker than the blades in the usual manner to bring the bows 24 and 26 into substantially the same plane.

The upper bow 24 is shaped to fit the left thumb and the lower bow 26 is shaped to fit a finger of the left hand. Preferably, as shown, the lower shank 25 is provided with a second bow 27 which is also shaped to fit a finger of the left hand.

In general this shaping of the bows 24, 26 and 27 is such that the openings on the left into which the left thumb and fingers are inserted are of greater extent than the openings on the right through which the left thumb and fingers project.

In particular the interior surfaces 28 of the thumb bow 24 are of substantial width and are shaped to receive the ball of the left thumb on the inner or shank side of the bow and to bear comfortably on the opposite or outer side against that part of the thumb which is in the neighbourhood of its knuckle. Thus the end joint of the thumb may comfortably be flexed to pull the bow 24 towards the palm of the hand.

The interior surfaces of the finger bows 26 and 27 are likewise shaped on the inner or shank sides as indicated at 29 and 30 respectively in Figures 6 and 5 to provide bearing and gripping surfaces for the balls or sides of the second and index fingers of the left hand. These two bows 26 and 27 are also shaped as indicated at 31 and 32 respectively to fit the knuckles, or parts of the fingers adjacent thereto, of the left hand. Thus, a pushing action may easily be applied by the first two fingers of the left hand to urge the bows 26 and 27 away from the palm of the hand and, by this pushing action in conjunction with the action of the thumb in pulling the bow 24 towards the palm of the hand, the two blades 20 and 21 may be pressed and held in contact with one another during the whole operation of closing the scissors.

A web 33 of substantial width adjacent to the shank 25 is provided between the bows 26 and 27 and the surface of this web, which is visible in Figure 1, provides a gripping surface for the ball of the index finger when the scissors are used in the right hand. Similarly the surface of the web 33 on the opposite side to that shown in Figure 1 provides a gripping surface for the ball of the index finger of the left hand.

In the modification illustrated in Figures 7 to 12 inclusive the thumb bow 24 is provided with interior surfaces 34 which are of substantial width and are designed to fit the left thumb in a similar manner to that previously described with reference to the surface 28 shown in Figures 1, 2 and 3. The end of the bow remote from the points is, however, also shaped as shown at 35 in Figure 9 to fit the right thumb.

The finger bow 26 shown in Figures 7, 10 and 12 is shaped to fit the second finger of the left hand, being provided with interior surfaces 29 and 31 to bear comfortably on the ball or side and on the parts of that finger adjacent to its knuckle.

Between the bow 26 and pivot 22 a gripping surface 36 is provided on the shank 25, for the ball or side of the index finger of the left hand. This gripping surface 36 is extended as shown at 37 on a boss or protuberance 38 projecting from the shank 25.

A further gripping surface for the ball or side of the index finger of the left hand is provided at 39 on the exterior of the bow 26 and on a boss 40 projecting therefrom.

In the modification illustrated in Figures 13 to 18 inclusive the gripping surface for the thumb of the left hand provided on the inner or shank side of the bow 24 is provided with grooves 41 to enable a better grip to be obtained.

Similarly the gripping surface 29, on the shank side of the bow 26, is provided with grooves or checquers 42 to increase the grip obtained by the second finger of the left hand.

The gripping surface 36 for the side of the index finger of the left hand is formed mainly on the side of the shank 25 but an increased grip may be provided by grooves 43 extending partially around the shank 25.

The gripping surface for the ball or end of the index finger of the left hand on the exterior of the bow 26 is provided with grooves 44 and is continued in a hollowed projection or web 45 at the junction of the bow 26 with the shank 25.

Although the bows and gripping surfaces of the scissors herein described and illustrated are specially designed for manipulation by the left hand, nevertheless operation of the instrument by the right hand is not adversely affected since, even though the bows may not fit the fingers of that hand so well, the action is more natural and is not impeded.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

(1) Scissors or the like of the type referred to in which two blades are pivoted together in the manner usual for operation by one hand (e.g. the right hand), one blade is provided with a bow shaped to fit the thumb of the other hand (e.g. the left hand) and the other blade with one, two or more bows or gripping surfaces adapted to receive the finger or fingers of that other hand.

(2) Scissors or the like as in Claim 1 in which the gripping surfaces are provided with grooves, ribs or checquers.

(3) Scissors or the like as in Claim 1 or Claim 2 in which a gripping surface is provided on the shank between a bow and the pivot.

(4) Scissors or the like as in any of the preceding Claims in which a gripping surface is provided by a web, flange, boss or the like.

(5) Scissors or the like as in Claim 4 in which two fingers bows are separated by a web of substantial width adjacent to the shank.

(6) Scissors or the like according to any of the preceding Claims having a plurality of finger bows of which one is closed by a hollow boss or framework providing a socket of which the bow forms the rim.

(7) The combination and arrangement of parts constituting a pair of scissors substantially as described with reference to Figures 1 to 6 inclusive, to Figures 7 to 12 inclusive, or to Figures 13 to 18 inclusive of the accompanying drawings.

Dated this 30th day of June, 1936.

ARTHUR H. GREENWOOD,
Chartered Patent Agent,
39, Bank Street, Sheffield 1.

Leamington Spa: Printed for His Majesty's Stationery Office, by the Courier Press.—1937.

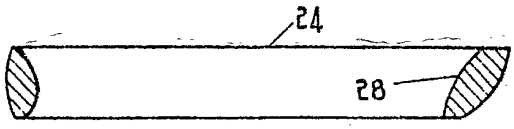

FIG.3.

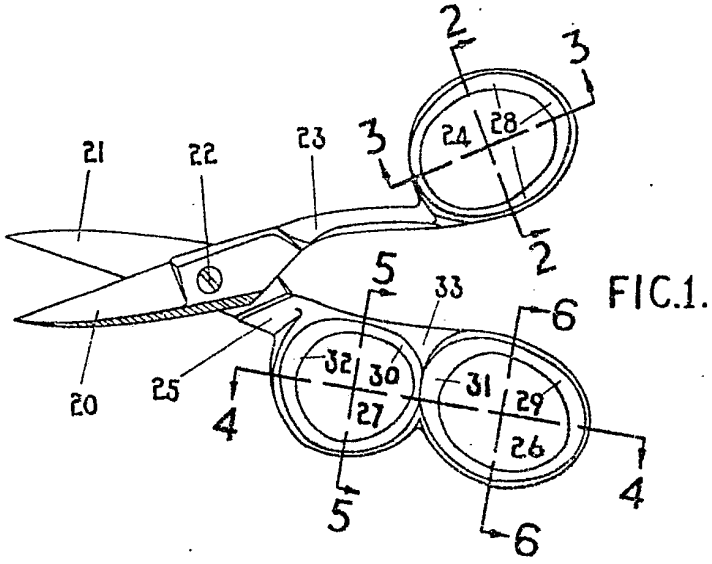

FIG.1.

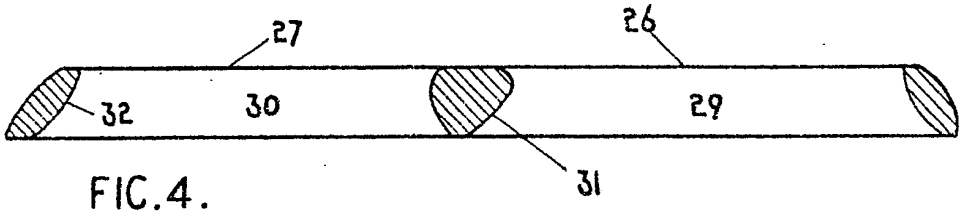

FIG.4.

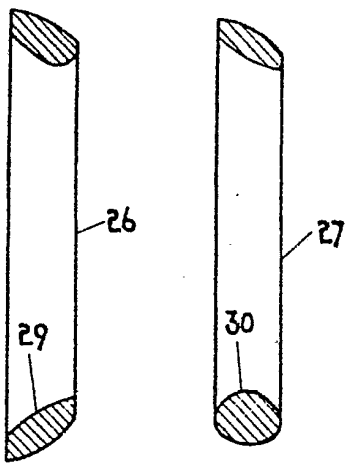

FIG.6.

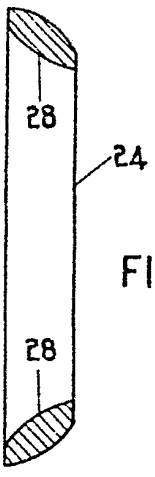

FIG.2.

FIG.5.

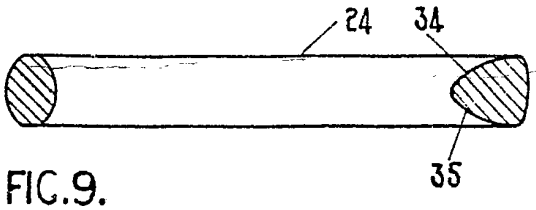

FIG.9.

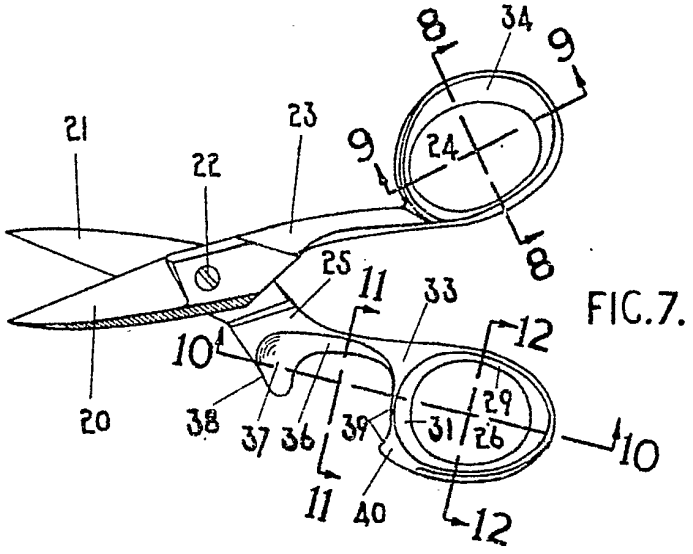

FIG.7.

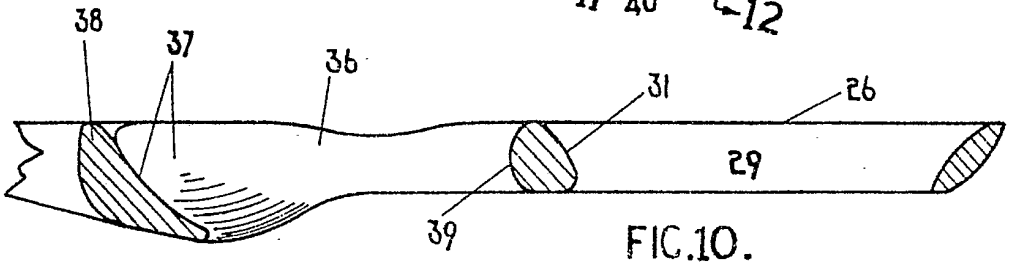

FIG.10.

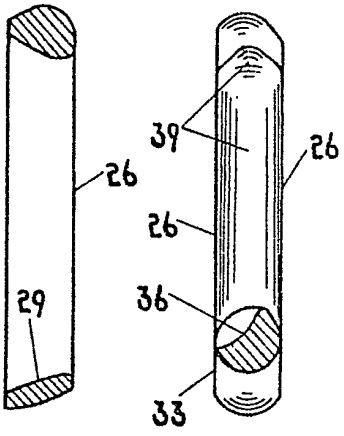

FIG.12.

FIG.11.

FIG.8.

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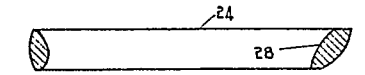

FIG.3.

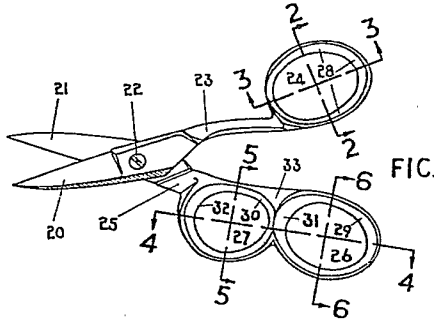

FIG.1.

FIG.4.

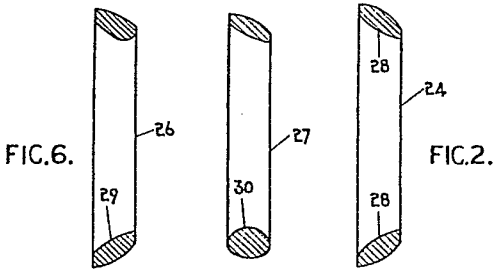

FIG.6. FIG.2.

FIG.5.

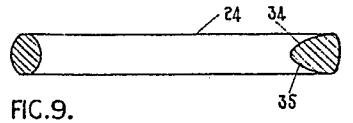

FIG.9.

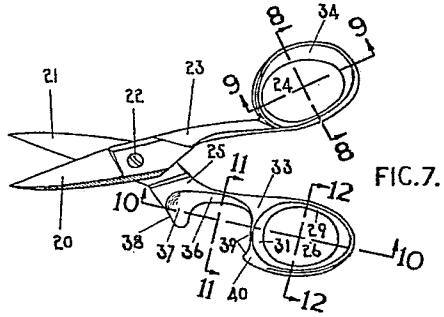

FIG.7.

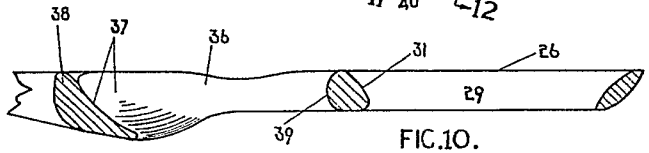

FIG.10.

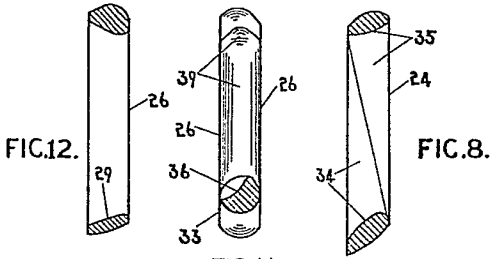

FIG.12. FIG.8.

FIG.11.

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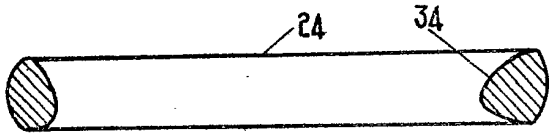

FIG.15.

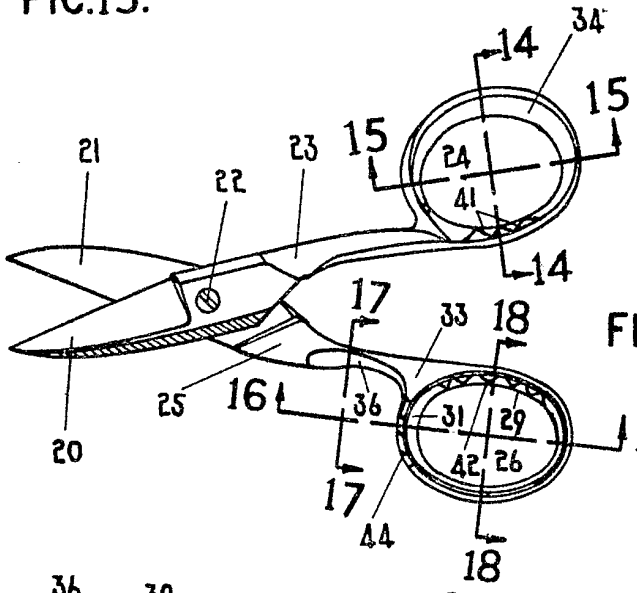

FIG.13.

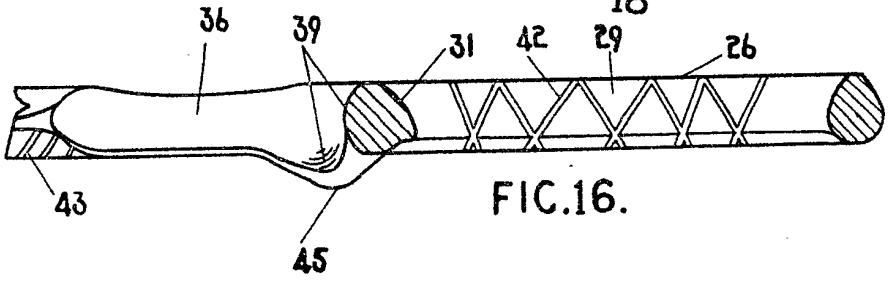

FIG.16.

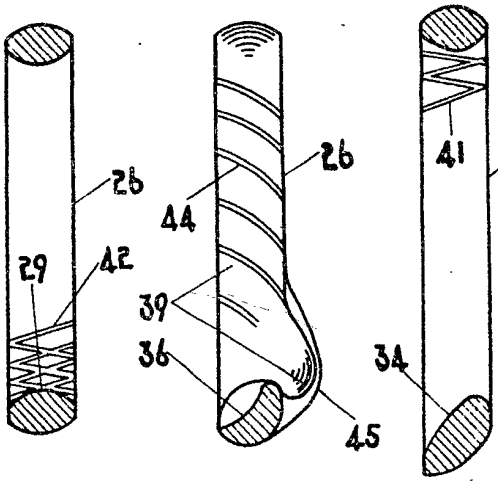

FIG.18.

FIG.14.

FIG.17.

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