

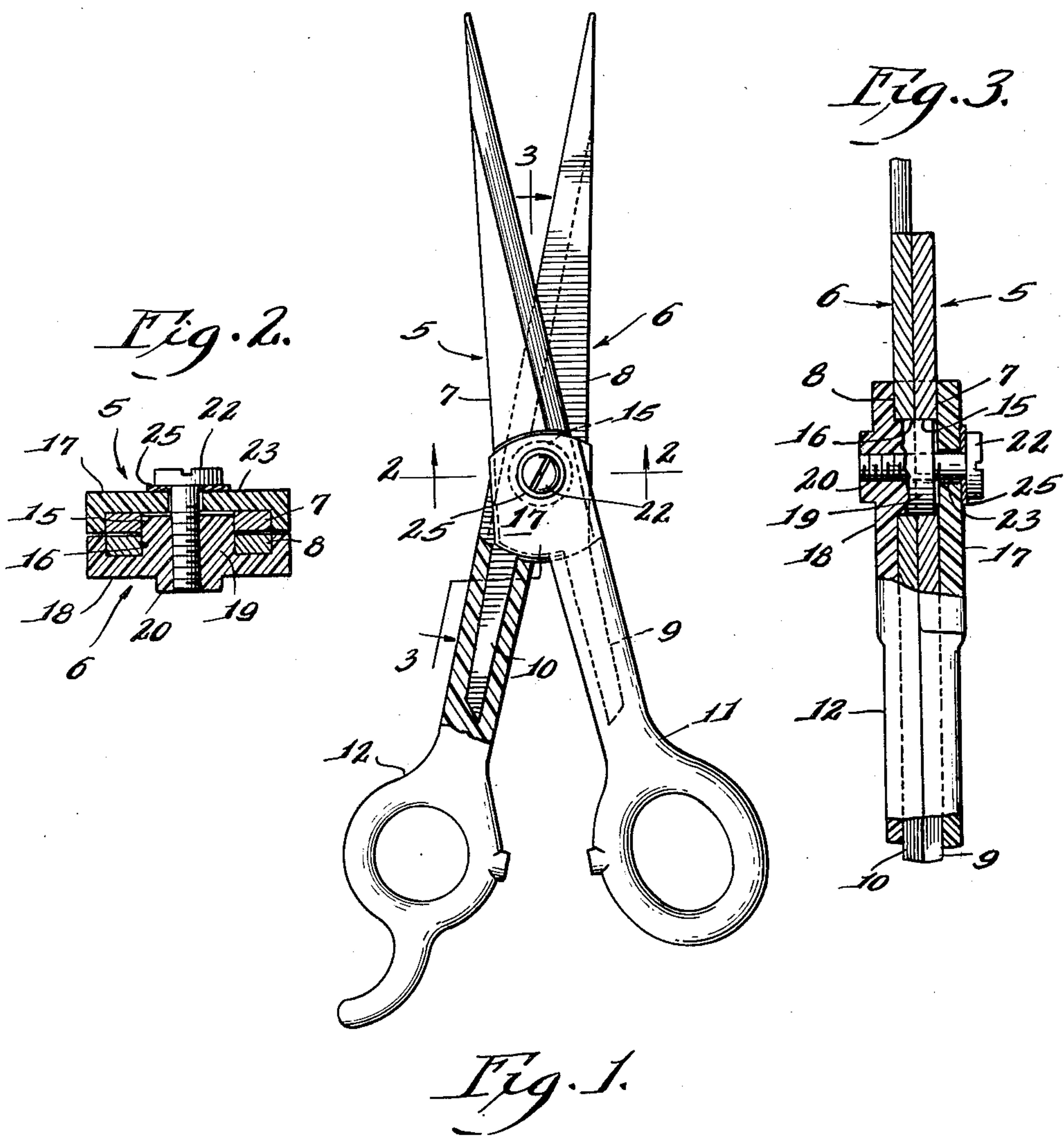
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SCISSORS

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## UNITED STATES PATENT OFFICE

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## SCISSORS

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6 Claims. (Cl. 30—266)

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This invention relates to scissors, and more particularly to scissors made in part of metal and in part of plastic material.

In the case of certain kinds of scissors, such as those used by barbers for cutting hair, it is extremely desirable that the amount of friction between the two pivoted scissor members be subject to delicate, personal adjustment. Also, it is desirable that the delicate adjustment thus permitted be maintained during continued use of the scissors.

As is well known, most scissors have their scissor members held together in a pivotal relationship by means of a rivet loosely passing through openings in the members, the rivet having a head on each end to thus hold the members together in a non-adjustable and non-detachable manner. Efforts to use a screw means loosely passing through an opening in one member and threaded into the other member have been unsatisfactory for the reason that the metal to metal relationship between the screw and the member into which it is threaded fails to maintain the screw in fixed position during use of the scissors. In other words, such a screw tends to work loose, thereby destroying the predetermined, delicate adjustment.

Accordingly, one object of the invention is to provide scissors having scissor members that are joined together by a screw means whereby the amount of friction between the scissor members is capable of delicate adjustment.

Another object is to provide scissors made in part of metal and in part of plastic material. The plastic material is so utilized that it receives the threaded portion of the screw means that is used to hold the scissor members together. It has been found that the metal to plastic relationship between the screw means and the plastic material is such that the screw means is maintained in predetermined, adjusted position during extended use of the scissors.

Another object is to provide scissors wherein a metal to plastic bearing relationship exists at the pivotal connection between the two scissor members.

Another object is to provide scissors having handle portions made of molded plastic material.

Another object is to provide scissors wherein the two scissor members may be separated, if desired, for cleaning and/or sharpening purposes.

Other objects and advantages of the invention will become apparent as the description proceeds, reference being had to the accompanying

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drawing wherein one form of the invention is shown. It is to be understood that the description and drawing are illustrative only, and are not to be taken as limiting the invention except insofar as it is limited by the claims.

In the drawing:

Fig. 1 is a plan view, partly in section, showing the scissors of my invention;

Fig. 2 is an enlarged sectional view on line 2—2 of Fig. 1; and

Fig. 3 is an enlarged view on line 3—3 of Fig. 1, partly in section and partly broken away.

This is a continuation-in-part of my copending application, Serial Number 10,530, filed February 24, 1948, now abandoned.

Referring now to the drawing, the here illustrated form of my improved scissors comprises a pair of scissor members generally indicated by 5 and 6. Scissor members 5 and 6 have metallic cutting blades 7 and 8, and opposite, reduced end portions 9 and 10, respectively.

Reduced end portions 9 and 10 of the scissor members 5 and 6 are respectively provided with handles 11 and 12. The handles are preferably made of plastic material molded to any desired shape. The plastic material used may be of any suitable type. As an example, I have found that poly chlorostyrene is particularly satisfactory. Also, any phenol formaldehyde condensation product is likewise suitable.

Referring to Figs. 2 and 3, cutting blades 7 and 8, or portions of the scissor members hereinafter sometimes referred to as blade carrying portions, are provided with circular openings 15 and 16, respectively. These circular openings are of substantial diameter, and they may conveniently be of the same diameter.

The plastic material of handles 11 and 12 extends beyond reduced end portions 9 and 10 so as to cover the outer side of each cutting blade on the portions thereof containing circular openings 15 and 16. This additional plastic material is shown at 17 and 18. In other words, the blade carrying portion of each scissor member is made at least in part of plastic material which is non-shiftable with respect to the remainder of the scissor member.

Plastic material 17 of scissor member 5 preferably does not extend into circular opening 15, but rather it is substantially flush with the outside surface of cutting blade 7 as shown in the drawing. Plastic material 18 of scissor member 6, on the contrary, is provided with a boss 19 that extends through circular opening 16 and continues therebeyond for a distance slightly less than the thickness of cutting blade 7 at circular



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opening 15, or slightly less than the depth of circular opening 15 of scissor member 5. A boss 20 in substantial alignment with boss 19 may be provided on the opposite side of plastic material 18, as shown.

Scissor members 5 and 6 are shown in assembled relationship in Figs. 2 and 3 wherein boss 19 of scissor member 6 telescopes circular opening 15 of scissor member 5. It will be noted that boss 19 terminates slightly short of plastic material 17 of scissor member 5 in order to permit desired adjustment. This clearance, as well as other clearances shown, has been somewhat exaggerated in the drawing for clarity.

A screw means 22 is used to hold the two scissor members in assembled relationship, as well as to provide for adjustment. Plastic material 17 of scissor member 5 has a circular opening 23 in alignment with the circular opening 15 of cutting blade 7. Opening 23 has a slightly greater diameter than the diameter of the threaded portion of screw means 22 so plastic material 17 may rotate freely about the screw means.

Plastic material 18 of scissor member 6, including the two bosses 19 and 20, has a cylindrical opening in alignment with circular opening 16 of cutting blade 8. The cylindrical opening in plastic material 18 may be threaded to receive the threaded portion of screw means 22, or, if desired, the screw means 22 may be of the self-tapping type, in which case screw means 22 cooperates to impress threads in plastic material 18. A washer 25 may be inserted between the head of screw means 22 and plastic material 17, if desired.

It will be noted that plastic material 18, by reason of either or both of the bosses 19 and 20, provides a structure of substantial length into which screw means 22 is threaded. As indicated in the drawing, the length of the screw receiving portion of the plastic material 18—19—20 is more than twice the screw diameter. This substantial length, in addition to the characteristics of the metal to plastic relationship thus provided, effects the result of maintaining screw means 22 in any desired position within plastic material 18. In other words, screw means 22 may be adjusted to provide any predetermined frictional relationship between scissor members 5 and 6, and this frictional relationship will not be lost through extended use of the scissors. Also, screw means 22 may be withdrawn and the scissor members separated for cleaning and/or sharpening, if desired.

An annular bearing surface on which the scissor members pivot exists between the periphery of boss 19 and the wall of circular opening 15 in blade 7. This metal to plastic bearing relationship is exceedingly durable and substantially friction-free.

If as a result of prolonged use, the bearing characteristics of the relatively movable parts of the scissors vary slightly and thus alter the desired frictional relationship, the variation may readily be compensated for by slight adjustment of screw means 22. Thus the scissors may at all times be made to operate with the optimum amount of friction between the two scissor members. The desirability and value of this scissors construction will be readily appreciated, particularly in the case of barbers' scissors that are used by one individual for prolonged periods of time.

From the above description it is thought that the construction and advantages of my invention will be readily apparent to those skilled in the art. Various changes and modifications may

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be made without departing from the spirit or losing the advantages of the invention.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent is:

1. Scissors comprising a pair of scissor members each having a cutting blade, an opposite reduced end portion and a plastic handle molded on said reduced end portion, each cutting blade having a circular opening therein, and plastic material covering the outer side of each of the blade portions containing said opening, the plastic material of one blade having a boss extending through its blade opening and therebeyond for a distance slightly less than the thickness of the other blade at its opening and entering said last opening to provide a plastic to metal bearing relationship, and a headed screw means holding said scissor members together in an adjustable and detachable manner, said screw means extending loosely through the plastic material of said other blade and into threaded engagement with the bossed plastic material of said one blade.

2. Scissors comprising a pair of scissor members each having a cutting blade and a handle, each cutting blade having a circular opening therein, and plastic material covering the outer side of each of the blade portions containing said opening, the plastic material of one blade having a boss extending through its blade opening and therebeyond for a distance slightly less than the thickness of the other blade at its opening and entering said last opening to provide a plastic to metal bearing relationship, and a headed screw means holding said scissor members together, said screw means extending loosely through the plastic material of said other blade into threaded engagement with the bossed plastic material of said one blade.

3. Scissors comprising a pair of scissor members each having a cutting blade and a handle, each cutting blade having a circular opening therein, and plastic material covering the outer side of each of the blade portions containing said opening, the plastic material of one blade having a boss extending through its blade opening and therebeyond for a distance slightly less than the depth of the opening in the other blade and entering said last opening to provide a plastic to metal bearing relationship, and a headed screw means holding said scissors members together, said screw means extending loosely through the plastic material of said other blade into threaded engagement with the bossed plastic material of said one blade.

4. Scissors comprising first and second scissor members each having a blade carrying portion and a handle, plastic material at least at the outer face of said blade carrying portions in non-shiftable relation with the remainder of said scissor members, the blade carrying portion of said first scissor member having a circular opening therein, a plastic boss integral with the plastic material of the blade carrying portion of said second scissor member and telescoping said circular opening, the length of said boss from the inner face of its blade carrying portion being slightly less than the depth of said opening, and a headed screw means holding said scissor members together, said screw means extending loosely through the blade carrying portion plastic material of said first scissor member into securing threaded engagement with substantially the entire length of said plastic boss.

5. Scissors comprising first and second scissor



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members each having a blade carrying portion and a handle, plastic material at least at the outer face of said blade carrying portions in non-shiftable relation with the remainder of said scissor members, the blade carrying portion of said first scissor member having a circular opening therein, a plastic boss integral with the blade carrying portion of said second scissor member and telescoping said circular opening, the length of said boss from the inner face of its blade carrying portion being slightly less than the depth of said opening, and a headed screw means holding said scissor members together, said screw means extending loosely through the blade carrying portion plastic material of said first scissor member into securing threaded engagement with said plastic boss.

6. Scissors comprising first and second scissor members each having a blade carrying portion and a handle, plastic material at least at the outer face of said blade carrying portions in non-shiftable relation with the remainder of said scissor members, the blade carrying portion of said first scissor member having a circular opening therein, a plastic boss carried by the blade carrying portion of said second scissor member and telescoping said circular opening, the length of said boss from the inner face of its blade carrying portion being slightly less than the depth of said opening, and a headed screw means holding

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said scissor members together, said screw means extending loosely through the blade carrying portion plastic material of said first scissor member into securing threaded engagement with the plastic boss.

LEO J. WAHL.

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