

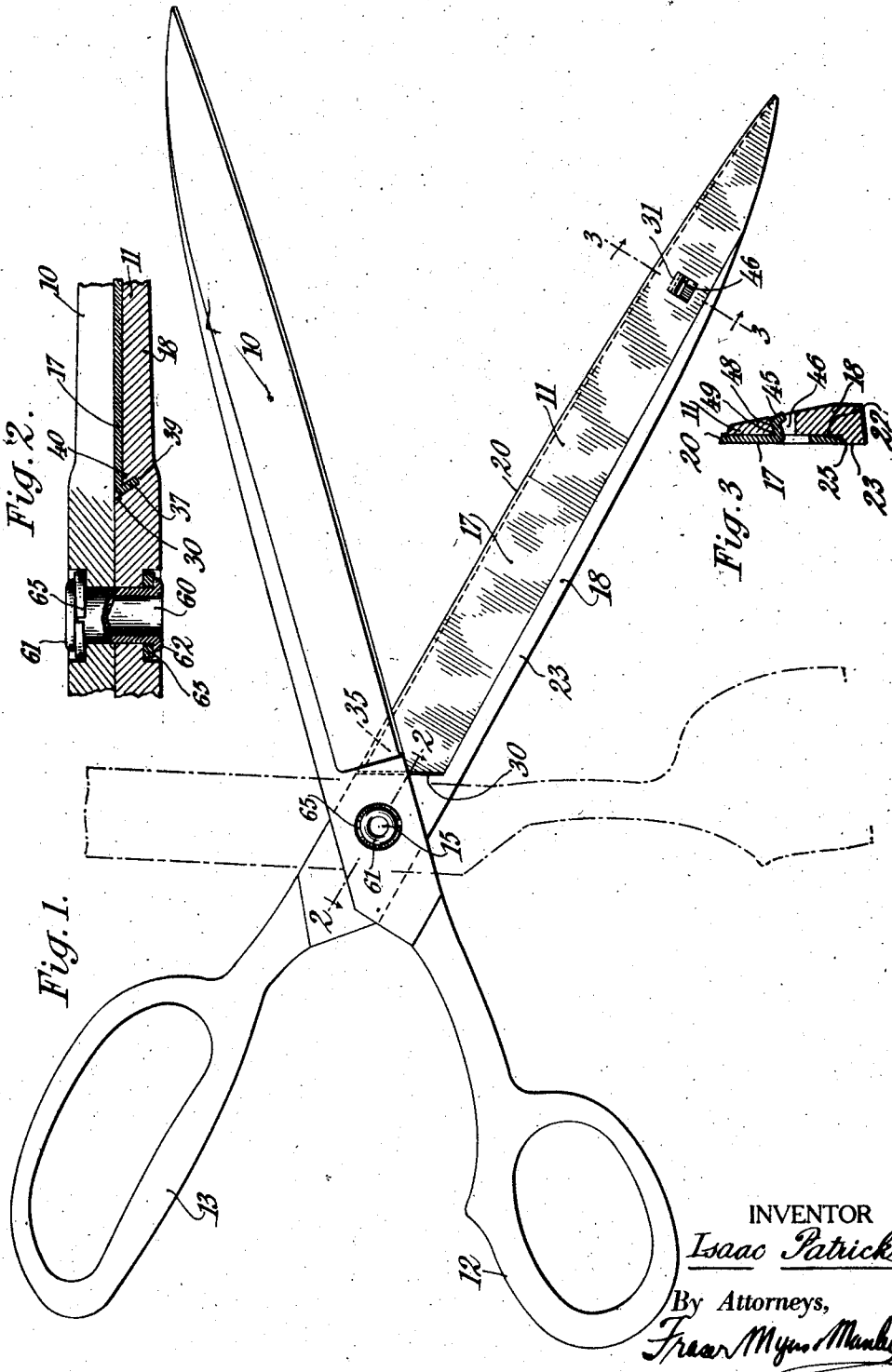
May 3, 1927.

1,627,197

I. PATRICK

SCISSORS OR SHEARS WITH COMPOSITE BLADE

Filed Oct. 10. 1924



INVENTOR :

Isaac Patrick

By Attorneys,

Frederic Myers Munby

UNITED STATES PATENT OFFICE.

ISAAC PATRICK, OF JAMAICA, NEW YORK.

SCISSORS OR SHEARS WITH COMPOSITE BLADE.

Application filed October 10, 1924. Serial No. 742,829.

This invention relates to scissors or shears of the type having composite blades, one part of which has the cutting edge thereon and is replaceable by another when the edge on the first blade or part becomes dull, and aims to provide improvements therein.

The invention provides scissors or shears of the type referred to, of an improved construction whereby a secure, and durable, connection between the parts of the composite blade is obtained. The improved construction is simple and well suited for large scale manufacture.

An embodiment of the invention is illustrated in the accompanying drawings, wherein

Figure 1 is a side view of a scissors or shears;

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

Fig. 3 is a sectional view on the line 3—3, Fig. 1.

Referring to said drawings, the shears comprise a pair of blades 10, 11, having handles 12, 13, the blades in the illustrated embodiment being pivoted as indicated at 15, the blades being opened and closed by the opening and closing of the handles 12, 13 in a manner well understood.

One or both of the blades 10, 11 is a composite blade. The blade 11 is here shown as a composite blade. The composite blade comprises a cutting portion 17 and a supporting portion 18.

The cutting portion 17 is preferably in the form of a thin flat strip of metal having a sharpened edge 20 thereon, constituting the cutting edge. The supporting portion 18 has a shallow recess 22 on the inner face 23 thereof, in which recess the cutting portion 17 is adapted to fit and be fastened, said supporting portion 18 having a shoulder 25 at the lower part of the recess 22 opposite the cutting edge 20 when said cutting portion is in said recess, which shoulder 25 is adapted to firmly support said cutting portion 17 under the pressure exerted on the cutting edge 20 in the act of cutting.

Means are provided for fastening the cutting portion 17 and supporting portion 18 together. These means conveniently comprise tongue and slot connections 30, 31, at or near the two ends of the cutting part 17.

The connection 30 at the inner end of the cutting part is preferably located at a portion 35 of the blades which is not uncov-

ered by the opening of the blades in the normal use of the blades. The blade opposite another blade (as, for example, the blade 10) serves to hold the cutting part 17, and the connection 30 between said cutting part and its supporting part, in place in the recess 22.

The tongue and slot connection 30 conveniently comprises a tongue 37 on said cutting part 17, conveniently formed by striking up or bending over one edge of the strip of metal from which the said cutting part 17 is formed, and a corresponding groove 39 formed in said supporting portion 18. The tongue 37 may also be bent to more or less than a right angle, being shown as bent over more than a right angle, so as to lay over a portion 40 of said supporting part 18 when in position in the slot 39, so as to hold the cutting part 17 against displacement perpendicularly away from the broad face of the recess 22. The tongue 37 and slot 39 are preferably at an incline to the longitudinal axis of the blade, so that the cutting part 17 has a combined longitudinal and lateral movement parallel to the broad face of the recess 22 in moving into and out of position in said recess. The opposite connecting means 31 fastens the blade against longitudinal movement, and the cutting part 17 of the blade being thus fastened against longitudinal movement, prevents movement of the tongue 37 in the slot 39, and thus effectively holds the cutting portion 17 and supporting portion 18 of the blade fixed together at the means 30. The connecting means 31 also holds the cutting part 17 on the shoulder 25. The connection 31 is conveniently formed as an inturned tongue 45, projecting into a slot 46, and bearing at its sides against the side portions of the said slot 46, and at its upper portion against the upper face 48 of said slot 46, the said face 48 being inclined away from the broad face of the recess 22 in such manner that the tongue 45 may bear over a portion 49 of said supporting part 18, and thereby normally hold the blade against displacement from the broad face of the said recess 22. The tongue 45 may be bent against said surface 48 after the cutting part 17 has been placed in the recess 22, but the tongue 45 may be previously bent, and be slightly resilient, so as to allow the said tongue 45 to pass over the portion 49 in putting said cutting portion in place, and the resiliency of said

tongue, after the said cutting portion is in place in the recess 22, will serve to press the lower edge of the said cutting portion 17 against the shoulder 25.

5 In assembling the parts 17 and 18 of the composite blade, with the tongue and slot connection formed as described, the blade 10 is turned to the position shown in dotted lines, Fig. 1, exposing the slot 39, whereupon the cutting portion is slid into place in the recess 22 with a combined inward movement parallel to the broad face of said recess 22 and a longitudinal movement. The tongue 45 is thereupon bent over into the recess 46, or, if the tongue is previously bent, is pressed into the recess in such manner that the tongue engages under the portion 49 of the supporting part 18, thereby holding the outer end of the blade against displacement from the broad face of the recess 22, and also against longitudinal displacement, and holds the lower edge of the cutting part 17 against the shoulder 25.

25 The supporting portion or portions 18 of the blade or blades may be formed of an aluminum alloy possessing a hardness and strength similar to steel, by die shaping or casting. By this method, close uniformity in size and shape of the supporting portions 18 of the blades may be obtained, which would thus render the substitution or renewal of cutting parts 17 being made without difficulty. A uniform fit between the supporting part 18 and cutting parts 17 used to replace other cutting parts, is thus obtained.

40 The pivot 15 may comprise a pintle 60 passing through the two blades, and having shoulders 61, 62 at each end for holding the blades against separation. A spring washer or washers 65 may be interposed between the shoulder 61 or the shoulders 61 and 62 and the corresponding shoulder or shoulders on the blade or blades. The spring washers 65 bearing against the blades and against the shoulders 61, 62 on the pintle 60, press the two blades together, and consequently cause one blade to press the cutting part 17 of the opposite blade against the broad face of the recess 22 in which it is fitted. The pintle 60 is conveniently formed as a short hollow tube or sleeve, the edges of which are turned over to form the shoulders 61, 62.

55 The invention may receive other embodiments than that herein illustrated, and may be applied to other types of scissors or shears than that illustrated.

60 What I claim is:

1. Scissors or shears having a composite blade comprising a cutting part and a supporting part, means for fastening said parts together, said supporting part having a longitudinal recess on its inner face into which said cutting part is adapted to fit, said re-

cess having a shoulder at its lower side for supporting said cutting part opposite its cutting edge, said fastening means comprising a tongue and slot connection between said supporting part and said cutting part of the blade at a part not entirely uncovered by the blades when opened in the act of cutting.

2. Scissors or shears having a composite blade comprising a cutting part and a supporting part, means for fastening said parts together, said supporting part having a longitudinal recess on its inner face into which said cutting part is adapted to fit, said recess having a shoulder at its lower side for supporting said cutting part opposite its cutting edge, said fastening means comprising a tongue and slot connection between said supporting part and said cutting part of the blade at a part not entirely uncovered by the blades when opened in the act of cutting, said tongue and slot being inclined with relation to the longitudinal axis of the blade.

3. Scissors or shears having a composite blade comprising a cutting part and a supporting part, means for fastening said parts together, said supporting part having a longitudinal recess on its inner face into which said cutting part is adapted to fit, said recess having a shoulder at its lower side for supporting said cutting part opposite its cutting edge, said fastening means comprising a tongue and slot connection between said supporting part and said cutting part of the blade at a part not entirely uncovered by the blades when opened in the act of cutting, said tongue and slot being inclined with relation to the longitudinal axis of the blade, said fastening means also comprising means preventing longitudinal movement of said blade, whereby the parts of the inclined tongue and slot connection are held against movement in a direction at right angles to the longitudinal axis of said blade.

4. Scissors or shears having a composite blade comprising a cutting part and a supporting part, means for fastening said parts together, said supporting part having a longitudinal recess on its inner face into which said cutting part is adapted to fit, said recess having a shoulder at its lower side for supporting said cutting part opposite its cutting edge, said fastening means comprising a tongue and slot connection between said supporting part and said cutting part of the blade at a part not entirely uncovered by the blades when opened in the act of cutting, said tongue and slot being inclined with relation to the longitudinal axis of the blade, said fastening means also including a tongue and slot connection between said cutting part and supporting part at the outer end of said blade.

5. Scissors or shears having a composite

blade comprising a cutting part and a supporting part, means for fastening said parts together, said supporting part having a longitudinal recess on its inner face into which
 5 said cutting part is adapted to fit, said recess having a shoulder at its lower side for supporting said cutting part opposite its cutting edge, said fastening means comprising a tongue and slot connection between
 10 said supporting part and said cutting part of the blade at a part not entirely uncovered by the blades when opened in the act of cutting, said tongue and slot being inclined with relation to the longitudinal axis of the
 15 blade, said fastening means also including a tongue and slot connection between said cutting part and supporting part at the outer end of said blade, said latter tongue and slot connection holding said cutting
 20 part against said shoulder on said supporting part.

6. Scissors or shears having a composite blade comprising a cutting part and a supporting part, means for fastening said parts
 25 together, said supporting part having a longitudinal recess on its inner face into which said cutting part is adapted to fit, said recess having a shoulder at its lower side for

supporting said cutting part opposite its cutting edge, said cutting part being relatively thin and flat and having tongues
 30 struck up therefrom at each end adapted to form part of the connection to said supporting part.

7. Scissors or shears having a composite
 35 blade comprising a cutting part and a supporting part, means for fastening said parts together comprising tongue and slot connections, one of said connections being at
 40 a part of the cutting part not entirely uncovered by the blades when opened in the act of cutting, and another of said connections being provided by a resilient tongue struck up from the cutting part and fitted
 45 in a slot in the supporting part, said slot having an undercut face inclined away from the broad or supporting face of the supporting part, and the resilient tongue being adapted to engage behind said under-
 50 cut face and thereby hold the cutting part in engagement with the supporting face of the supporting part.

In witness whereof, I have hereunto signed my name.

ISAAC PATRICK.