

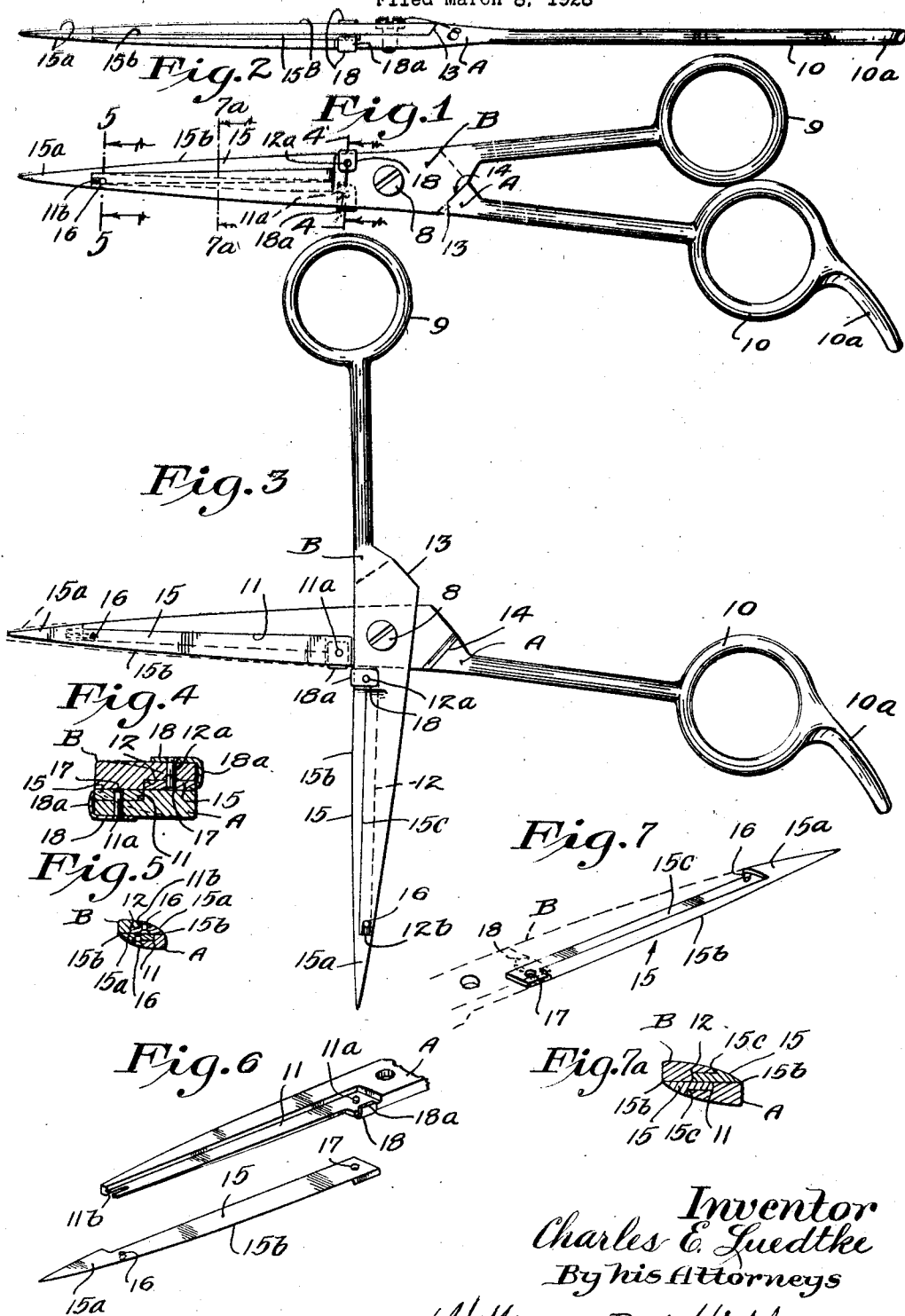
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SHEARS WITH DETACHABLE BLADES

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SHEARS WITH DETACHABLE BLADES

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This invention relates to shears and especially to shears having detachable or replaceable blades and is an improvement on my invention illustrated and described in my Patent Number 1,615,882, issued February 1st, 1927.

Heretofore shears employing detachable blades have been used, but for the most part such devices have been unsuccessful either because they were of cumbersome construction and hard to handle or because they were costly to manufacture.

It is the main object of this invention to provide an extremely simple pair of shears of special utility for barbers, wherein detachable blades are provided, said structure being adapted for manufacture at low cost and being such that the blade portions of the shears including the detachable blades and the mountings therefor are of substantially the same shape and thickness as shears now in common use.

A further object is to provide in shear structure detachable blades interfitting with the hinged mountings of the shears in such a way that they will not require the manipulation of clamping parts.

A further object is to provide in a device of the class described detachable blades having rabbeted portions interfitting with rabbeted portions of their mountings, said portions in both cases being adapted for manufacture at low cost and fixed retaining means in conjunction with said parts, said retaining means being of such nature that they will not obstruct or catch on articles, such as fabric and that when the shears are in normal position or in operation the blades will be securely locked therein.

These and other objects and advantages of the invention will be apparent from the following description made in connection with the accompanying drawings in which like reference characters refer to similar parts throughout the several views and in which:

Fig. 1 is a plan view of an embodiment of the invention, the shears being in closed position;

Fig. 2 is a side elevation of the same;

Fig. 3 is a plan view of the shears with

the pivoted mountings in extreme open position for attachment or removal of the blades;

Fig. 4 is a cross section taken on the line 4—4 of Fig. 1;

Fig. 5 is a cross section taken on the line 5—5 of Fig. 1;

Fig. 6 is a perspective view showing the construction of the rabbeted portion of the mountings and the detachable blades and the manner in which the blades are attached;

Fig. 7 is a perspective view showing the rabbeted portion of a blade, the dotted lines indicating the position of the portion of the mounting to which the blade is attached; and

Fig. 7a is a cross section taken on the line 7a—7a of Fig. 1.

As illustrated in the drawings, my shears comprise a pair of shanks A and B intermediately pivoted by means of a suitable pin or screw 8. The handle portions of the shanks as shown are of circular cross section and terminate in a pair of handles 9 and 10 respectively, handle 9 being adapted for manipulation by the thumb and handle 10 having a projecting finger piece 10a. The opposite arms of shanks A and B constitute the mountings for a pair of detachable blades, and as illustrated comprise substantially flat arms tapering from pivot 8 to their outer extremities. The inward or opposing faces of the blade mounting arms are rabbeted at 11 and 12 respectively, said rabbeted portions extending from points adjacent pivot 8 to the diminished extremities of the mountings and being of substantially half the width of said mountings. The inner ends of rabbets 11 and 12 are covered by the opposing face of the opposite shank when the shears are closed or when they are in operation, but when the shanks A and B are spread apart in the position shown in Fig. 3, the rabbets 11 and 12 will be exposed.

Shanks A and B at the handle side of pivot 8 are provided with shoulders 13 and 14 respectively, which are adapted to abut to limit the closed position of the shanks. At the inward end of each of rabbets 11 and 12 I provide small inwardly projecting pins 11a and 12a respectively, said pins extending

normal to the bottom surface of the rabbets. The ends of the blade mounting portions are blunt to form abutments, as will later be more fully described. At the diminished
 5 extremities of the blade mounting portions slots 11b and 12b are formed having their outer ends open and extending inwardly longitudinally of rabbets 11 and 12.

My detachable blades comprise elongated
 10 members 15 left and right being identical. Blades 15 are provided with unrabbeted tapered tip portions 15a terminating in points. Blades 15 have the sharpened substantially straight longitudinal cutting edges
 15 15b and are longitudinally rabbeted at 15c, said rabbets extending from the tip 15a to the opposite end of the blade and being of substantially equal dimensions with the rabbets 11 and 12 of shanks A and B.

20 A small pin or stud 16 is fixed to each of the blades extending normal to the bottom of rabbet 15c and adjacent tip 15a, said pin being adapted to be positioned within slot 11b or 12b of the mounting arms when the rabbeted portions of the blade and mounting
 25 arm are interfitted. The butt ends of blades 15 are each provided with a small aperture 17 adapted to receive either the pin 11a or the pin 12a according to the particular
 30 mounting arm to which the blade is secured.

To insert the blades 15 it is necessary to first swing shanks A and B to wide open position, as shown in Fig. 3, the inner ends of the rabbets 11 and 12 being exposed in this position.
 35 Fig. 6 illustrates the manner in which the blades are attached. The rabbeted portions are matched and the operator slides the blade longitudinally and inwardly toward pivot 8, causing slot and pin engagement between the pointed end of the blade and the
 40 extremity of the mounting arm. The butt end of the blade is then pressed inwardly against the inner end of the rabbet, apertures 17 accommodating the pin 11a. Assuming both blades attached in the manner described they may be locked against displacement by merely closing the shanks A and B. Unless desired no additional retaining
 45 means need be applied for securing the blades.
 50 blades.

However, as shown, I may provide small clip members 18 which may be fixed to pins 11a and 12a respectively, comprising angle springs having relatively short inturned ends
 55 18a adapted to yieldingly engage the inward extremities of the cutting edges 15b of the blades when the blades are forced inwardly to engage the pins 11a and 12a. In the event that blades 15 are shorter than the
 60 blades illustrated and consequently cannot be held in place by the opposing faces of the opposite shanks my retaining clips 18 would become necessary.

It will be seen that my shears may be manufactured with the cutting portions of the

shanks of similar thickness to shears now in use, since no cumbersome attachments are necessary for securing the blades to the mounting arms. The complementary rabbeting of the blades and mounting arms together with the simple slot and pin locking engagement and pin retaining means afford highly efficient structure which may be made similar in weight and thickness to the ordinary type of shears now used. No difficult
 70 machining of the parts is necessary to produce the interfitting rabbeted portion, dovetail grooves and mortise and tenon blades are dispensed with. My device is, therefore, adapted for manufacture at low cost.

The advantages of the device are probably obvious from the preceding description. New blades may be inexpensively obtained and can be quickly substituted for the old ones. The life of the shears is thus greatly prolonged and sharpened edges are always assured. In grinding shears, the longitudinal edge is worn down causing the tips of the shears to cross and in time to impair the efficiency of the device. By discarding old
 80 blades and substituting new ones in my device, this objection is obviated.

It will, of course, be understood that various changes may be made in the form, details, arrangement and proportions of the parts without departing from the scope of the invention.

What is claimed is:

Shears comprising a pair of intermediately pivoted blade holding members having longitudinally rabbeted portions on their opposing faces, said rabbeted portions extending in length from the outer ends of said members to points adjacent the pivot of said blade holding members, detachable blades having longitudinal rabbeted portions extending from the tips thereof to their opposite ends, the rabbeted portions of said blades interfitting with the rabbeted portions of said blade holding members to substantially equal the thickness of the unrabbeted portions of each, the extremities of said blade holding members abutting and interlocking with the tips of said blades and spring clips affixed to the outer faces of said blade holding members adjacent the pivot and having free turned ends adapted to yieldingly engage the inner extremities of the cutting edges of the blades to retain the blades against lateral displacement.

In testimony whereof I affix my signature.
 CHARLES E. LUEDTKE.