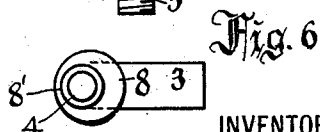
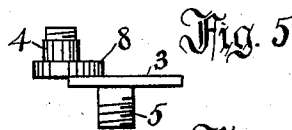
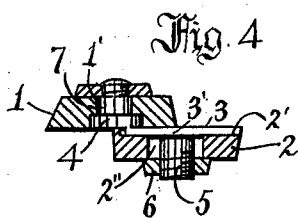
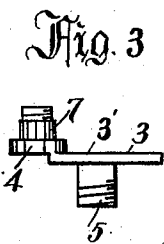
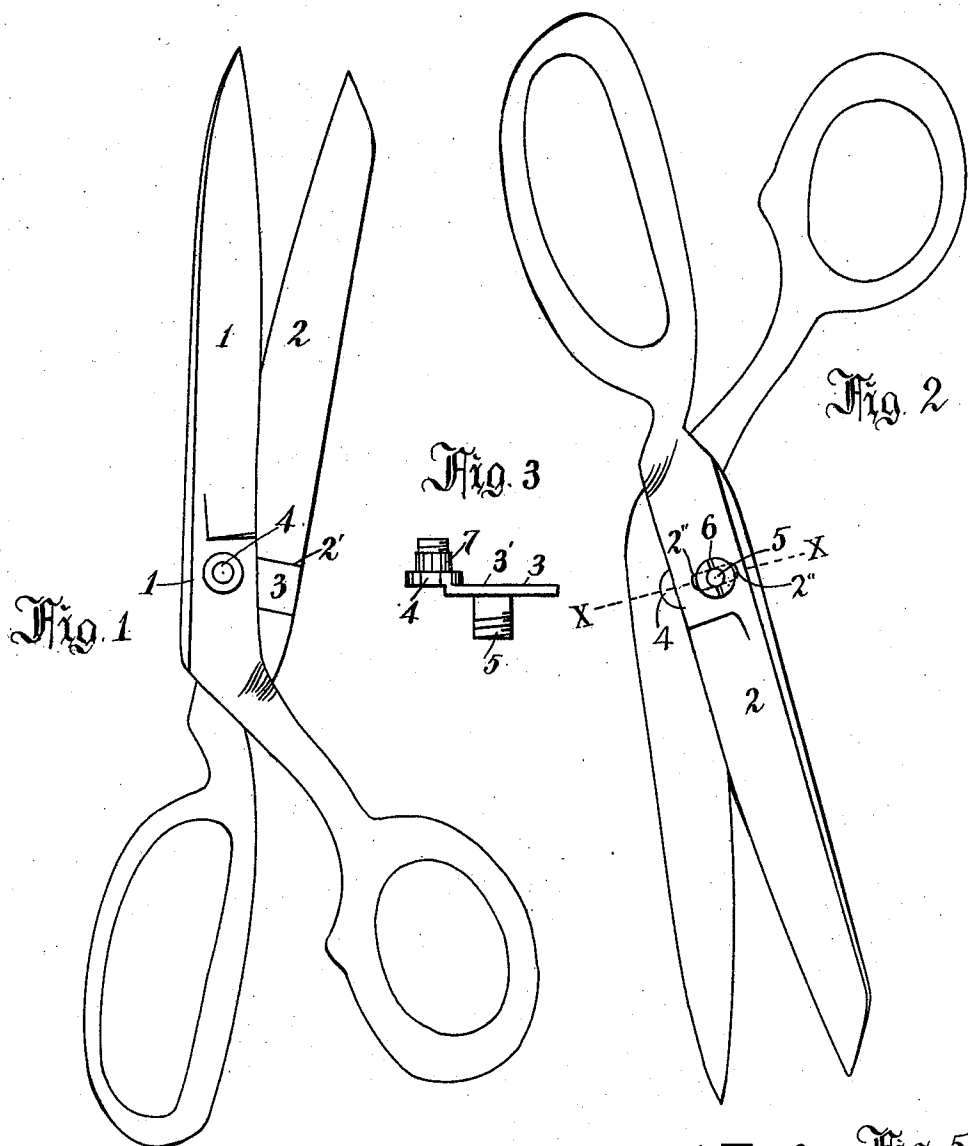


(No Model.)

E. A. SANDERS.
SHEARS.

No. 578,118.

Patented Mar. 2, 1897.



WITNESSES:

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EDWARD A. SANDERS, OF SAGINAW, MICHIGAN.

SHEARS.

SPECIFICATION forming part of Letters Patent No. 578,118, dated March 2, 1897.

Application filed May 25, 1896. Serial No. 592,952. (No model.)

To all whom it may concern:

Be it known that I, EDWARD A. SANDERS, a citizen of the United States, residing at Saginaw, in the county of Saginaw and State of Michigan, have invented certain new and useful Improvements in Shears; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures marked thereon, which form a part of this specification.

My invention relates to shears; and it consists in the means provided for pivoting or fulcruming the shears whereby a greater leverage is secured and the cutting edges of the blades are made to come together at a better cutting angle, whereby they will cut as well at the foot of the blades as at the point.

Figure 1 is a side elevation, and Fig. 2 is an elevation from the opposite side. Fig. 3 is a detail of the blade connection. Fig. 4 is a cross-section through the blade connection on line X X of Fig. 2. Figs. 5 and 6 are modified forms of the blade connection.

1 and 2 are the shear-blades, 1 being what may be termed the "upper" and 2 the "lower" blade.

3 is a link between the blades and connecting them, and it is by the peculiar construction of this link and its arrangement in the blades that I am enabled to accomplish the purpose mentioned. The link is composed of two parts at right angles—viz., 3' and 4. The part 3' is a broad flat piece of metal having depending from the lower side thereof the pin 5, its end being screw-threaded and adapted to receive the nut 6. The other part 4 of the link 3 is round at its base and extends at right angles from the part 3' at near the end thereof.

7 is a pivot formed upon the upper end of the base part 4 and is adapted to pass through the hole 1' and be riveted upon the upper side of the blade 1, or it may be screw-threaded and provided with a nut, as desired. This hole 1' has a recess receiving and holding the base part 4, so that the outer surface thereof will be flush with the inner surface of the blade 1.

2' is a recess in the blade 2 adapted to receive the part 3' within it, so that the outer

surface of the part 3' will be flush with the inner surface of the blade 2. This recess 2' extends nearly across the blade 2 from the rear edge thereof.

2" is an oblong slot passing through the blade 2, and in the middle of the recess, transversely with the blade and through this oblong slot, the pin 5 of the link 3 passes. The pin 5 is smaller than the slot and may be moved along it and clamped in any position by the nut 6. When moved to the end of the slot next the rear edge of the blade, the end of the link 3 will project beyond the rear edge of the blade, but when moved to the opposite end the rear edge of the link 3 will be flush with the back of the blade, as shown in the drawings. This adjustment is for the purpose of taking up any wear on the cutting edges of the blades caused by use and by the grinding and sharpening thereof.

It will be observed that when the link 3 is secured by the nut 6 in the slot 2" it will be held therein rigidly, and that the blade 1 will be pivoted upon the part 4 and will turn thereon, so that the part 4 forms a pivot for the blade 1 and in connection with the blade 1 a fulcrum for blade 2, and that greater leverage is thereby given to the operator than in the ordinary shears.

It is obvious that the link 3 could be made integral with the blade 2. A projection may be formed on the blade 2, with a right-angle lug, as 4, fitting the hole 1', which would accomplish the same purpose, except that the blade 2 would not be adjustable; but in Figs. 5 and 6 I have illustrated means for adjusting the blade, which means may be used in connection with the link 3 or when the link is made integral with the blade, as above suggested.

In Figs. 5 and 6, 8 is a washer having a hole 8' adapted to fit over the part 4 of the link 3, or, as suggested, it (4) may be a lug integral with the blade 2. This hole 8' is cut in the washer 8 eccentric to the center. The socket 1' in the blade 1 should be larger than the pin 4, but smaller than the washer 8, which fits in a recess inside of the blade 1. By turning the washer in the recess the pin will be moved in the socket. A nut upon the upper side of the blade clamps the blade 1 to the blade 2 and holds the washer in position.

For cutting heavy material it may be necessary to provide additional means for binding the shear-blades together. This I claim the right to do.

5 I do not wish to confine myself to the particular form of the link 3, as it is obvious that changes may be made in its construction or other means for connecting it to the blades may be employed without departing from the principle of my invention.

10 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In shears, the combination with the two
15 blades, a rectangular recess in one of the blades extending from the back of the blade to near its inner edge, an oblong slot in the recess both recess and slot transverse of the blade, a circular recess in the other blade, and
20 a circular hole in the middle of the recess, of a link having a rectangular part and a circular part, the circular part secured at one end of the rectangular part on the upper surface of the rectangular part, and therefore not in
25 the same plane, the rectangular part adapted to enter the rectangular recess in one of the blades and provided with a lug passing through the oblong slot but smaller than the slot, thereby affording the rectangular part a
30 limited lateral movement, the circular part fitting the circular recess in the other blade and provided with a circular lug passing through the hole in the center of the recess, and means as specified for holding the lugs,
35 substantially as and for the purpose set forth.

2. In a pair of shears, the combination with the two blades of the shears, a rectangular recess in one of the blades extending from the back thereof to near its front edge and having
40 an oblong slot in the recess through the blade, the other blade having a circular recess and

a hole through the center of the recess, of a link having a rectangular part adapted to fit the rectangular recess in one of the blades, a
lug on the rectangular part passing through 45 the oblong slot in the recess and smaller than the slot, a nut on the end of the lug holding the rectangular part in the recess in any position in which it may be adjusted in the oblong slot, the link having a circular part on
50 the end of the rectangular part and not in the same plane with the rectangular part, the circular part smaller than the hole in the circular recess of the other blade and adapted to pass through it and be secured upon the outside 55 thereof, and a washer fitting the circular recess of the blade and having a hole adapted to receive the circular part of the link, the hole being eccentric to the washer, substantially as and for the purpose set forth. 60

3. In a pair of shears, a link between the shears providing the means for joining them comprising a rectangular part adapted to fit a rectangular recess in one of the blades and having a lug extending therefrom through an
65 oblong slot in the recess, the lug smaller than the slot, whereby the rectangular part can be moved laterally in its recess, the link having a circular part at the inner end of the rectangular part and not in the same plane, the
70 circular part having a lug adapted to pass through a hole in a circular recess in the other blade, whereby the link may be secured between the blades by nuts or otherwise upon the outer ends of the lugs, substantially as
75 and for the purpose set forth.

In witness whereof I hereunto affix my signature in the presence of two witnesses.

EDWARD A. SANDERS.

Witnesses:

A. H. SWARTHOUT,
FANNIE ROBBINS.