No. 708,683. Patented Sept. 9, 1902.

A. E. WALES.

SHEARS.

(Application filed July 16, 1902.)

(No Model.)

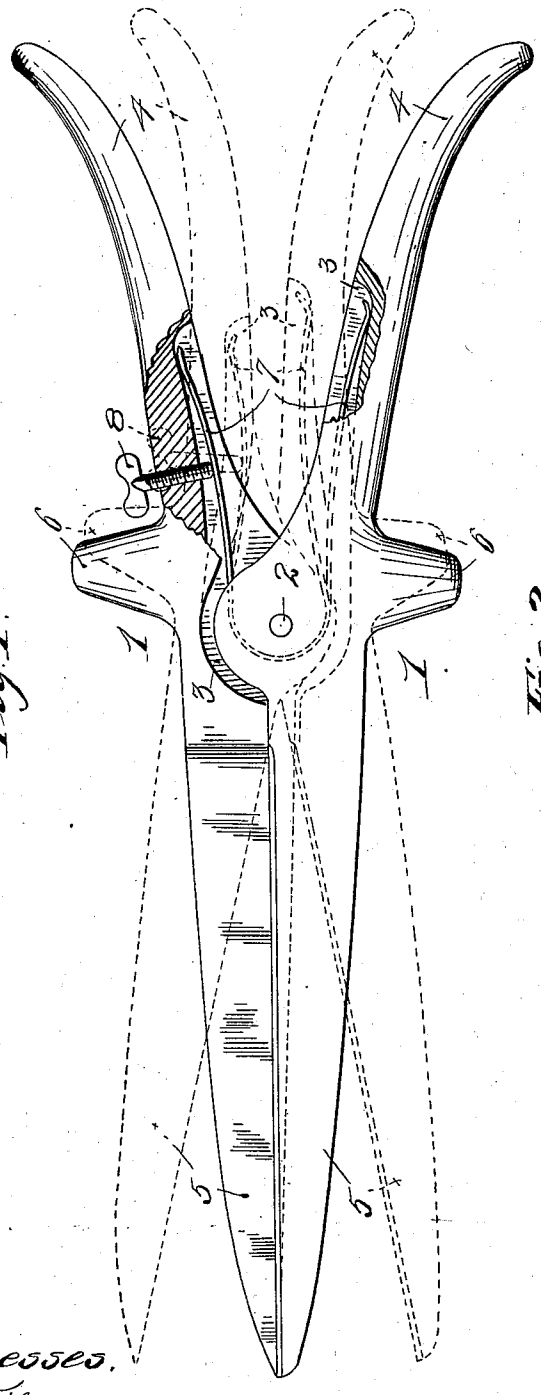


Fig. 1.

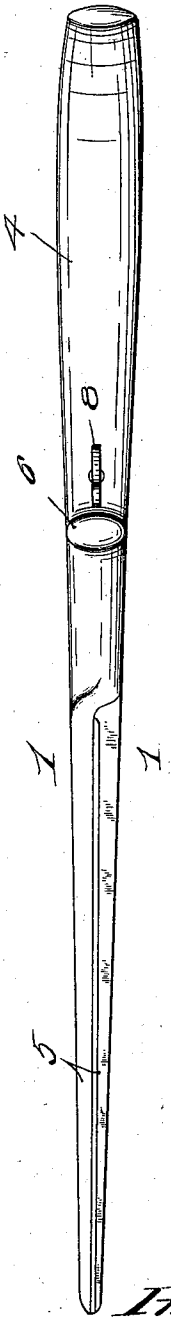


Fig. 2.

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UNITED STATES PATENT OFFICE.

ANNA E. WALES, OF MINNEAPOLIS, MINNESOTA.

SHEARS.

SPECIFICATION forming part of Letters Patent No. 708,683, dated September 9, 1902.

Application filed July 16, 1902. Serial No. 115,799. (No model.)

To all whom it may concern:

Be it known that I, ANNA E. WALES, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Shears; and I do hereby 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.

My invention has for its object to provide an improvement in scissors and shears; and to these ends it consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

My invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a view in side elevation, showing a pair of shears constructed in accordance with my invention, some parts of the same being broken away and the open position thereof being indicated by dotted lines; and Fig. 2 is a plan view of the said shears shown in Fig. 1.

In an ordinary pair of scissors or shears the pivotally-connected members are crossed, so that the closing movement of the hand on the handles closes or brings together the blades or cutting edges. The opening of the blades is effected by opening the hand and forcing the handpieces apart. The continued use of scissors or shears thus constructed, particularly where the work is heavy and the shears of large size, greatly tires the hand of the operator and the opening movement frequently blisters the fingers and thumb.

In accordance with my invention I pivotally connect the members of the scissors or shears without crossing them and provide a spring the tension of which closes the shear-blades and causes them to cut, while the opening movement of the said blades is effected by pinching or pressing together the shear-handles.

In the accompanying drawings the numeral 1 indicates as an entirety the members of the shears, which members are pivotally connected at 2 and are recessed, as indicated at 3, surrounding the said pivot 2 and extending for some distance into the handles or handpieces 4 of the said shear members 1. The cutting or blade portions of the shear members are indicated by the numeral 5, and in the construction illustrated the said members 1 are provided with guard projections 6, which prevent the hand from slipping.

The numeral 7 indicates a U-shaped leaf-spring which works within the seats 3 and embraces the pivot 2. This spring 7 tends to throw apart the handpieces 4 and to move together the cutting-blades 5. The tension of the said spring may be varied by a thumb-screw 8, which, as shown, works through one of the handpieces 4 and engages one prong of the said spring 7. It is of course obvious that various other forms of springs may be used in lieu of the spring 7 and that the tension may be varied by various other means than by the said screw 8.

The operation of the scissors above described is obvious. The shear-blades are opened, as indicated by the dotted lines in Fig. 1, by closing the hand upon the handpieces 4. To produce the cut, the pressure on the handpieces 4 is released, and the spring 7 then becomes operative to force together the cutting-blades 5. By adjusting the tension of the spring 7 it may be properly set to cut various materials or thicknesses of materials requiring different force.

With the shears constructed as above described the only power and movement imparted to the shears by the hand is produced by closing the hand or gripping the handpieces 4. The hand can of course do very much more work with a given effort in the closing action than with an opening movement, and hence a pair of shears or scissors constructed in accordance with my invention may be very easily operated and will cause very little fatigue even by long and continued use.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. A pair of scissors or shears, involving pivotally-connected members, a spring applied to said members for automatically clos-

ing the blade portions thereof, and means for varying the tension of said spring, substantially as described.

2. The combination with the members 1 pivoted at 2 and recessed at 3, of the springs 7 applied to the said members 1, for automatically closing the blade portions 5 thereof, and the adjusting-screw 8 for varying the tension of said spring, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ANNA E. WALES.

Witnesses:
ELIZABETH KELIHER,
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