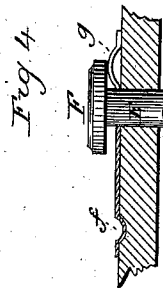
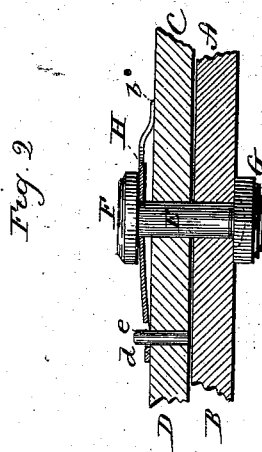
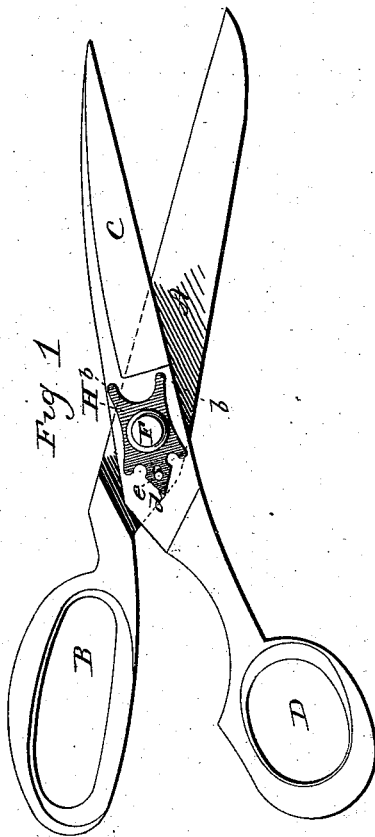


(No Model.)

F. C. ALTMANN.
SPRING FOR SCISSORS, &c.

No. 382,502.

Patented May 8, 1888.



Witnesses:
J. R. Shumway
Fred C. Earle

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UNITED STATES PATENT OFFICE.

FRANK C. ALTMANN, OF NEW HAVEN, CONNECTICUT.

SPRING FOR SCISSORS, &c.

SPECIFICATION forming part of Letters Patent No. 382,502, dated May 8, 1888.

Application filed July 5, 1887. Serial No. 243,361. (No model.)

To all whom it may concern:

Be it known that I, FRANK C. ALTMANN, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Shears; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view of a pair of shears, showing the spring applied thereto; Fig. 2, a longitudinal section through the pivot portion of the shears, enlarged; Fig. 3, a side view of the spring detached, enlarged; Fig. 4, a modification in the spring.

This invention relates to an improvement in shears, having for its object the application of a spring at the pivot of the shears, the tendency of which is to bear the blades toward each other as they work from heel to points.

Various appliances have been made to shears to cause the edges of the blades to work in close contact throughout the stroke. By my invention I have very greatly simplified and cheapened the application of a spring and applied it in such manner as to act most directly upon the blades, and so that a bearing between the blades is positively secured from heel to points.

A represents one blade of a pair of shears, it being provided with the usual handle, B. C represents the other blade, and D its handle.

The blades and handles may be of any known or desirable shape or construction, according to the purpose for which the shears are intended.

The two blades are bored at the pivot-point in the usual manner, and through the pivot-hole a pivot, E, is introduced. This pivot is constructed with a head, F, at one end and provided with a nut, G, adapted to be screwed onto the other end. On the outside of one blade the spring H is applied. This spring is best made from sheet-steel, as seen in Fig. 3, or other suitable elastic metal. Through it a hole, a, is formed corresponding to the pivot-hole of the shears, and the spring is adapted to lie upon the blade beneath the head or nut, as the case may be, (represented in Fig. 2 as

on the head side of the blades.) The forward or blade end of the spring is made so as to take a broad bearing upon the blade, preferably by two points, b b, this end being turned downward from the plane of the spring, so that the body of the spring back of the points stands away from the blade. The spring is inclined rearward to the other side of the pivot, where it takes a bearing upon the blade at the rear, as at d. The plane of the spring is inclined to the plane of the blade and the under side of the head of the pivot, so that the head bears upon the spring forward of the pivot, as seen in Fig. 2, and so that the pressure of the head under the draft of the nut is brought upon the spring forward of the pivot, and consequently tends to force the spring hard upon the blades forward of the pivot, or with very considerable more force than that which is applied at the rear of the pivot. Consequently the tendency of the spring is strongly to force the blades toward each other. The spring having such a considerable distance between its two bearings readily yields under the action of the blades as they approach each other from heel to points, yet holds the blades in positive cutting-contact throughout the stroke.

The pressure may be adjusted by the nut, if desired; but the spring, made of suitable material, once adjusted, will retain its elasticity indefinitely. The pivot therefore may be riveted down upon the blade upon the reverse side, as indicated in broken lines, Fig. 2.

To prevent the spring rotating upon the surface of the blade its rear end is connected with the blade—say by a stud, e, in the blade—through a slot in the spring, or may be by an indentation in the spring, as seen at f, Fig. 4, the indentation setting into a corresponding cavity in the blade, it only being required that the spring and blade shall turn together upon the pivot.

Instead of making the spring actually inclined upon its surface, the same result will be attained by making the spring parallel with the blade and forming a rise in the spring, as at g, Fig. 4, upon which the pivot-head will rest the same as upon the inclined surface. I wish, therefore, by the term "inclined" to include any construction of spring which will

give the bearing of the head of the pivot upon the blade at a point forward of the body of the pivot.

I have said that the head or nut of the pivot
5 may either bear upon the spring, and such is the fact; but, while I prefer the head to take the bearing, I wish to be understood by the term "head" as used in the claim to include either the head, which is made an integral part of the
10 body of the pivot, or the nut or a collar applied thereto.

I do not wish to be understood as broadly claiming the arrangement of a spring upon one of the blades of a pair of shears, with a head or
15 other device adapted to bear upon the said spring, so as to apply the pressure of the spring upon the said one blade, the tendency of the said spring being to draw the two blades together, as such I am aware is not new; but I
20 am not aware of a spring constructed to take a broad bearing upon the blade forward of the

pivot, whereby the tendency of the blade to rock upon its pivot is avoided.

I claim—

In a pair of scissors or shears substantially 25 such as described, the combination therewith of the spring H, arranged upon one blade between the head of the pivot and the blade, the said spring constructed with bearing-points *b*
30 *b*, distant from each other forward of the pivot, the said bearing-points turned downward from the plane of the spring onto the blade, the body of the spring inclined downward and rearward beneath the head of the pivot, the head of the
35 pivot taking its bearing upon the spring forward of the pivot, and the spring extending to the rear of the pivot and in slotted connection with the blade, substantially as described.

FRANK C. ALTMANN.

Witnesses:

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