No. 874,847. PATENTED DEC. 24, 1907.

J. E. HULSE.

AUTOMATICALLY SHARPENING SHEARS.

APPLICATION FILED SEPT. 12, 1907.

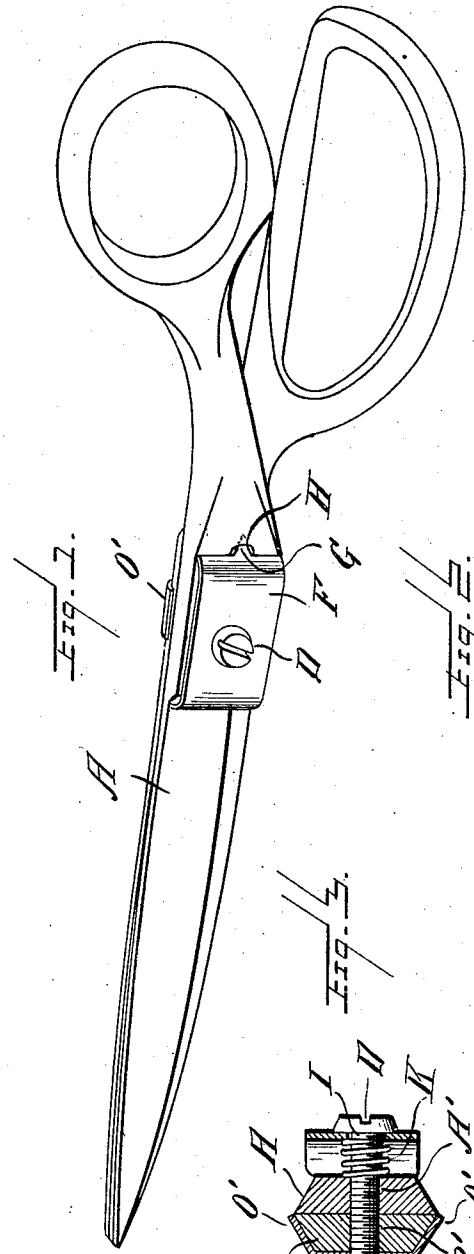


Fig. 1.

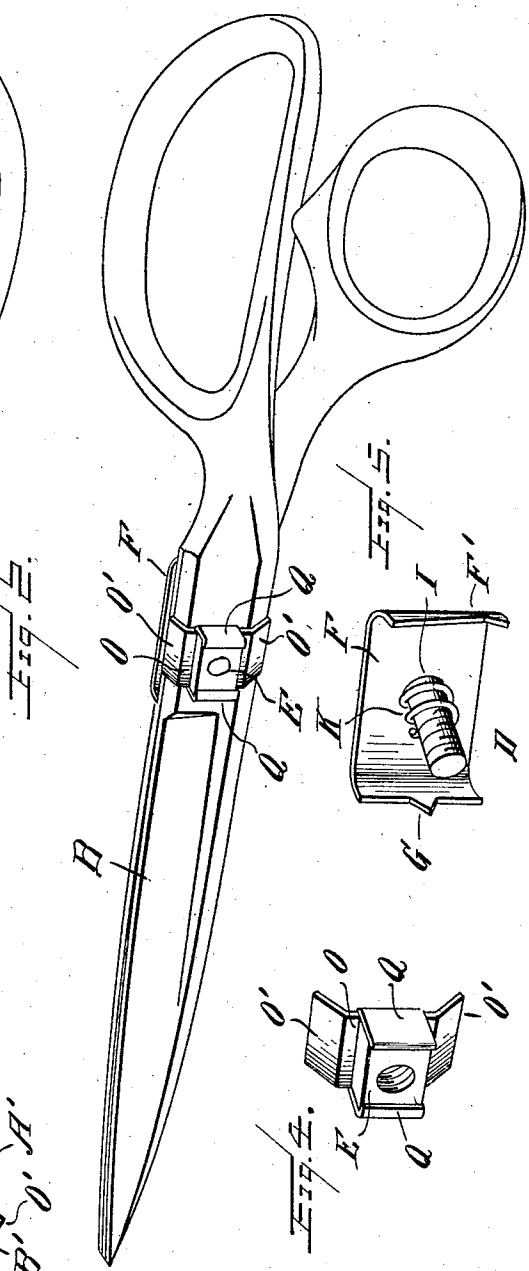


Fig. 2.

Fig. 3.

Fig. 5.

Fig. 4.

WITNESSES:

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AUTOMATICALLY SHARPENING SHEARS.

No. 874,847. Specification of Letters Patent. Patented Dec. 24, 1907.

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To all whom it may concern:

Be it known that I, JEROME E. HULSE, a citizen of the United States, residing at Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Automatically Sharpening 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in shears and the object of the invention is to produce a simple and efficient device comprising means whereby scissors or shears may be automatically sharpened and so arranged that the pressure of the adjacent shearing edges of the blades may be regulated.

The invention comprises various details of construction and combinations and arrangements of parts which will be hereinafter fully described and then specifically defined in the appended claims.

I illustrate my invention in the accompanying drawings, in which:—

Figure 1 is a perspective view of a pair of shears having my invention applied thereto. Fig. 2 is a perspective view of the reverse side of the shears. Fig. 3 is a sectional view through the pivotal portion of the shears. Fig. 4 is a detailed perspective view showing the manner of holding the nut from turning as the screw is tightened or loosened, and Fig. 5 is a detailed view of a leaf spring.

Reference now being had to the details of the drawings by letter, A and B designate two blades of a pair of shears, which blades are of the usual construction. Said blades are provided with apertures A′ and B′ respectively adapted to receive a bolt or screw D, and E designates a nut which is mounted upon the threaded end of said bolt or screw.

F designates a leaf spring, one end of which is cut away as at F′ conforming to the outer surface of the blade A against which it frictionally contacts, the end being angled as shown. The opposite end of the leaf spring is provided with a lug G, which normally engages an indenture or hole H formed in the outer face of the blade A. Said leaf spring is provided with an aperture I for the reception of said bolt or screw, and K designates a coiled spring interposed between the outer face of the plate A and the inner face of said leaf spring and serves to prevent the leaf spring from being compressed at its center while held under compression against the face of the plate A.

O designates a washer having two wings O′ which are adapted to be bent over the edge of one of the blades, and also two oppositely disposed wings Q, which are bent at right angles to the length of the washer and are adapted to engage over the opposite edges of the nut E, which latter has a provided opening to receive the end of the screw. By this means it will be noted that the nut will be held for loosening upon the screw, and will allow the adjustment of the screw as may be desired, to regulate the frictional contact between the adjacent faces of the blades.

By the provision of the apparatus as shown and described, it will be observed that means is afforded whereby the blades of shears may be automatically sharpened by the spring causing the adjacent faces of the blades to contact with each other, thereby keeping the edges sharp at all times. The joint between the blades will be sufficiently flexible whereby the latter may adjust themselves to different thicknesses of cloth.

By the provision of the mechanism shown and described, it will be noted that the cheapest grades of shears may be kept in the best cutting order and automatically sharpened as used.

What I claim to be new is:—

1. In combination with the blades of shears, a screw upon which the blades are pivoted, a nut upon the screw, a leaf spring engaged by said screw and held against the face of one of the blades, a coil spring interposed between the leaf spring and one of the blades, a washer mounted upon the screw adapted to engage the edges of one of the blades, and means for preventing the nut from turning independent of the washer, as set forth.

2. In combination with the blades of shears, a screw upon which the blades are pivoted, a nut upon the screw, a leaf spring engaged by said screw and held against the face of one of the blades, a coil spring interposed between the leaf spring and one of the blades, a washer mounted upon the screw adapted to engage the edges of one of the blades, and wings

upon said washer adapted to engage the opposite edges of said nut, as set forth.

3. In combination with the blades of shears, a screw upon which the blades are pivoted, a nut upon the screw, a leaf spring engaged by said screw and held against the face of one of the blades, a coil spring interposed between the leaf spring and one of the blades, a washer mounted upon the screw adapted to engage the edges of one of the blades, and one end of said leaf spring being angled and adapted to bear against the face of one of the blades, as set forth.

4. In combination with the blades of shears, a screw upon which the blades are pivoted, a nut upon the screw, a leaf spring engaged by said screw and held against the face of one of the blades, a coil spring interposed between the leaf spring and one of the blades, a washer mounted upon the screw adapted to engage the edges of one of the blades, and the opposite end of the leaf spring having a lug adapted to engage an indenture in the face of the blade, as set forth.

5. In combination with the blades of shears, a screw passing through registering apertures therein, a nut upon said screw, means for preventing the nut moving independent of the screw, a leaf spring having an aperture through which said screw passes, one end of the leaf spring having a lug, an indenture in the outer face of one of the blades engaged by said lug, the opposite end of the leaf spring being angled and conforming to the outer surface of the blade against which it contacts, a coiled spring mounted upon the screw and interposed between the leaf spring and the shear blade, as set forth.

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

JEROME E. HULSE.

Witnesses:

W. M. BROWN,

WESLEY R. JOHNSON.