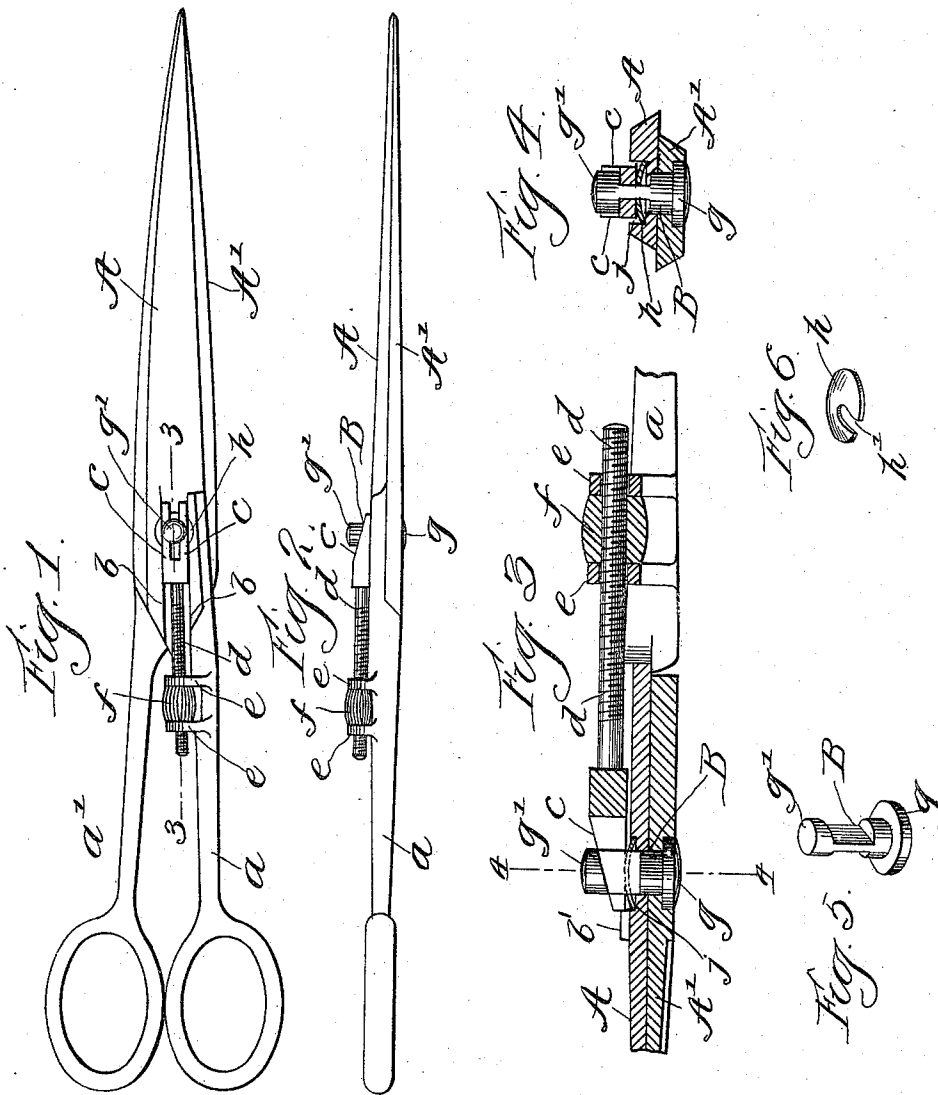


I. DOHNAL.
SHEARS.

Patented Dec. 15, 1896.



Witnesses
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SHEARS.

SPECIFICATION forming part of Letters Patent No. 573,075, dated December 15, 1896.

Application filed August 15, 1895. Serial No. 559,311. (No model.)

To all whom it may concern:

Be it known that I, IGNAZ DOHNAL, a citizen of the United States, residing in the city of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Shears, of which the following is a specification.

My invention relates to an improvement in shears; and the objects of my invention are, first, to provide means whereby the blades of a pair of shears or scissors may be adjusted with relation to each other without the use of the screw-driver or other tool disconnected from the shears, and, second, to provide means whereby the blades of the shears may be separated from each other for grinding or other purposes without the use of such screw-driver or other disconnected tool. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a view of one side of the shears standing on one edge, showing the forked wedge and adjusting screw and nut. Fig. 2 is a view of the shears, looking at them edgewise. Fig. 3 is a sectional view of the shears, looking at them edgewise, taken on the line 3 3, Fig. 1, the position of the shears being reversed. Fig. 4 is a sectional view of the pivot, forked wedge, and spring-washer, taken on the line 4 4, Fig. 3. Fig. 5 is a view of the pivot-pin, showing a portion thereof flattened; and Fig. 6 is a view of the slotted spring-washer.

Similar letters refer to similar parts throughout the several views.

A and A' represent the two blades of a pair of shears or scissors, with handles *a* and *a'*, made in the usual manner. On the outside of the blade A of the shears is a longitudinal groove *b*, which is of proper size to receive the forked wedge *c c*. It is obvious that the wedge *c c* will be held by the ribs *b'* on either side of the groove *b* from lateral movement at all times, while free to move longitudinally. This construction relieves the actuating-screw (which I shall now describe in detail) from all lateral strain and serves to keep the said screw and wedge in proper alignment with the shear-blade whether the wedge is in engagement with the pivot-pin or not. To this forked wedge *c c* is attached a small screw-shaft *d*, which extends longi-

tudinally of the blade through two eye-lugs *ee* on the handle *a* of the blade A in such manner that the screw-shaft will slip through the eyes in said lugs. Between these lugs *ee*, upon the screw-shaft *d*, is a threaded thumb-nut *f*, which actuates the screw-shaft *d*. A pivot-pin B, having a projecting head *g* on one end, extends through the two blades of the shears through a perforation made for said purpose. Said large head *g* fits into a countersink in the blade A'. The pivot-pin B is partially cut away, so as to leave two flat sides and a head *g'*, which is beveled, so as to engage with the wedge *c c*. The diameter of the head *g'*, however, being slightly less than the diameter of the perforation in the shears, can be readily slipped through said perforation. The space between the two forks of the wedge *c c* is such that the forks will closely embrace the flat sides of the pivot B.

A spring-washer *h*, having therein a slot *h'* on one side thereof, is placed in a recess *j* in the blade A, said slot loosely embracing the flattened sides of the pivot-pin B. Said spring-washer, when placed in said recess, will bear against the under side of the forked wedge *c* when said forked wedge engages with the beveled head *g'*.

In operation, the pivot-pin B being slipped through the perforations in the blades of the shears, the large head *g* engages with the shoulders of the countersink in the blade A', the forked wedge is forced by the threaded thumb-nut *f*, engaging with the screw-shaft *d*, so that the forked wedge embraces the flattened part of the pivot B and engages with the beveled head *g'*, and the under part of the forked wedge bears upon the top of the spring-washer *h*, which has been placed in the recess *j* in the blade A. It is obvious that the farther the forked wedge is thrust beneath the beveled edges of the head *g'* the closer the blades of the shears will be pressed together, the spring-washer *h*, however, giving this pressure something of the character of a spring-pressure. On the other hand, the pressure may be lessened by slightly withdrawing the wedges in relation to the beveled head *g'*.

If it is desired to take the shears apart for sharpening or any other purpose, the forked wedge is, by means of the screw and thumb-

nut, entirely withdrawn from under the beveled head *g'*. The spring-washer *h* is also withdrawn, and the pivot-pin B will then slip through the perforations in the blades, thus enabling the operator to separate the blades from each other.

It is obvious that various modifications may be made of my device without departing from my invention; as, for instance, instead of the pivot-pin being flattened an aperture may be cut in the pivot-pin, and the wedge may be made in a single piece and passed within said aperture beneath the head of the pivot-pin.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a pair of shear-blades, of a pivot-pin having a beveled head, a wedge carried by one of said blades acting on the beveled head of said pivot-pin, means for keeping said wedge in alinement with the shear-blade in which it is mounted, and an actuating-screw and thumb-nut to drive said wedge, substantially as described.

2. The combination with a pair of shear-blades one of which is provided with a groove on its exterior face, of a flattened pivot-pin having a beveled head, a forked wedge embracing said pivot-pin and free to move lon-

gitudinally on said grooved shear-blade, and an actuating-screw and thumb-nut to drive said wedge, substantially as described.

3. The combination of the blades of a pair of shears, a pivot-pin passing through said blades, a forked wedge embracing said pivot-pin, said wedge being adapted to pass beneath a head on said pivot-pin, and actuated by a screw and thumb-nut on one of said blades; said actuating-screw being arranged longitudinally of said shear-blade; and a spring-washer placed beneath said forked wedge, all substantially as described.

4. The combination of a pair of shear-blades, a headed pivot-pin passing through said blades, and flattened to receive a forked wedge embracing said pivot-pin, said pivot-pin having a beveled head, to engage with said forked wedge; a forked wedge actuated by a screw and thumb-nut upon one of the blades of said shears, and a slotted spring-washer embracing said pivot-pin, beneath said forked wedge, all substantially as described.

IGNAZ DOHNAL.

Witnesses:

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