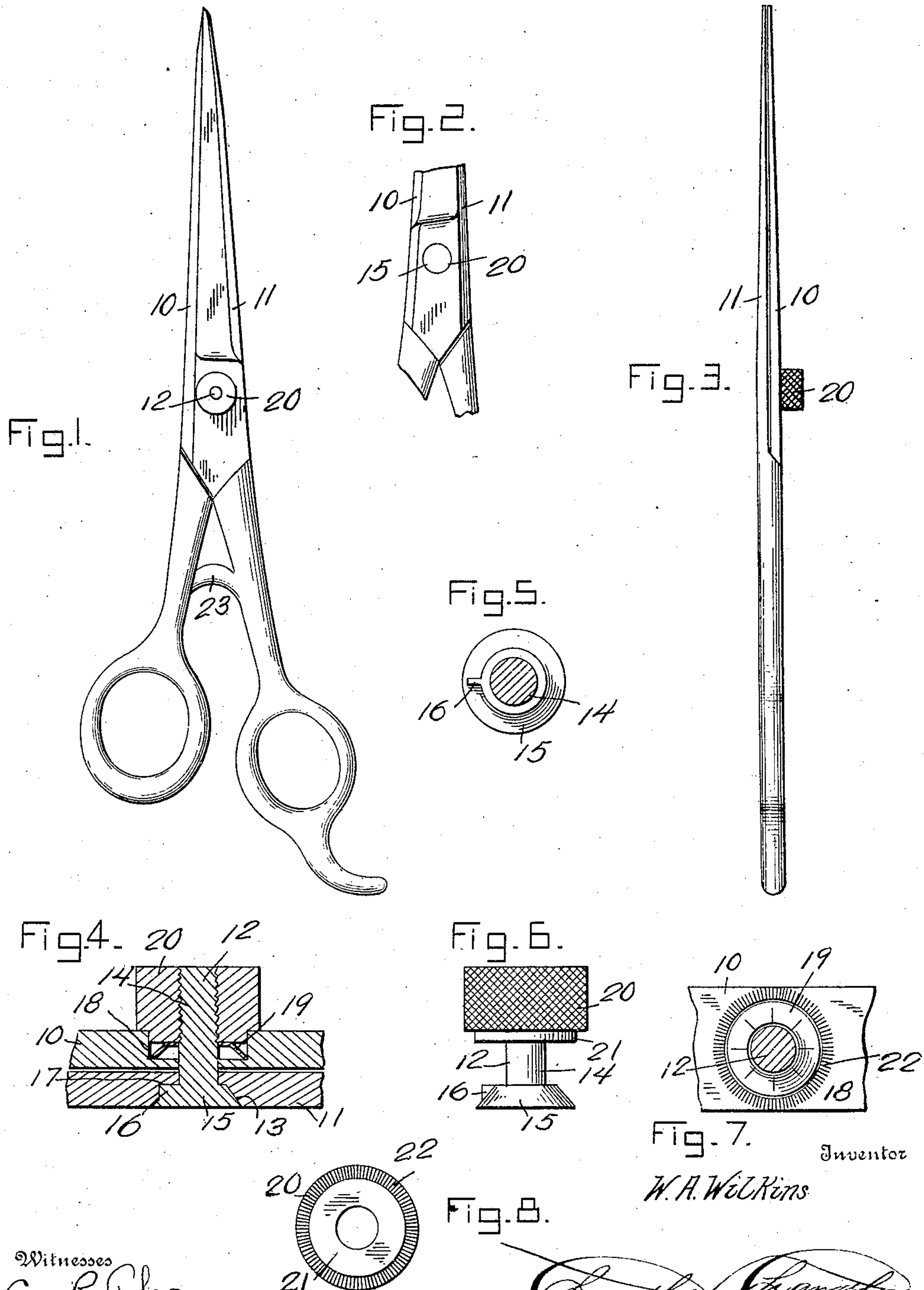


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W. A. WILKINS.
SHEARS AND TENSION SCREW.
APPLICATION FILED SEPT. 13, 1906.



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SHEARS AND TENSION-SCREW.

No. 844,903.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIS A. WILKINS, a citizen of the United States, residing at El Paso, in the county of El Paso, State of Texas, have invented certain new and useful Improvements in Shears and Tension-Screws; 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.

This invention has relation to shears provided with a tension-spring at the pivotal or fulcrum point of the blades for maintaining a constant even lateral pressure on the blades for the purpose of keeping their cutting edges in contact with each other at all times.

It is the purpose of the invention, in addition to what is hereinbefore stated, to prevent the nut on the pivot-bolt, as also the latter, from turning, thereby maintaining an even pressure on the tension-spring and preventing the loss of the nut.

It is also the object of the invention to prevent the eyes or finger-holes of the handle-bars from coming together or in contact with each other, thereby preventing the thumb or fingers from being pinched between the eyes or from interfering with the action of the shears.

The annexed drawings, forming a part of this specification, show means embodying my improvements, in view of which the invention will first be described as to its construction and mode of operation and then be pointed out in the claims.

Of the said drawings, Figure 1 is a side elevation of a pair of shears embodying my improvement. Fig. 2 is a view of the opposite side at the fulcrum or pivotal point. Fig. 3 is an edge elevation. Fig. 4 is a vertical sectional view through the parts of the fulcrum point. Fig. 5 is a sectional view showing the frusto-conical head of the pivot-bolt looking down on its inner side. Fig. 6 is a side view of the pivot-bolt with the spring-adjusting nut turned thereon. Fig. 7 is a plan view at the pivoted point, showing the socket in the blade and the tension-spring in place therein, the pivot-bolt being represented in section. Fig. 8 is a bottom plan view of the thumb-nut.

Similar figures of reference designate similar parts or features, as the case may be, wherever they occur.

In the drawings, 10 designates one blade, 55 and 11 the other blade, of a pair of shears, which blades are fulcrumed or pivoted on a bolt 12, passing through both blades and located, preferably, about one-quarter of an inch or more from the handle end than from 60 the points of the blades in order to increase the leverage of the handles when the shears or scissors are used. The blade 11 is provided with a socket or recess 13, having inwardly-inclined sides around the hole made through 65 said blade for the receipt of the shank 14 of the pivot-bolt 12, said socket being provided for the reception of the frusto-conical head 15 of the bolt, the outer surface of which is flush with the outer side of the shear-blade 11. 70 The frusto-conical head of the bolt, or it may be the shank of the same, is provided with a lug 16, that is made to fit in a recess 17 in the shear-blade to keep the bolt from turning in the hole through the shear-blades 75 when in proper position. The upper or opposite blade 10 is provided with a round socket 18, into which is set a split annular spring 19 with a hole through its center sufficiently large to admit the pivot-bolt 80 through, the outer or upper end of which is screw-threaded to have the nut 20 turned thereon. The outside of the said nut is milled or otherwise constructed to make it a "thumb-nut," so called, in order to obviate 85 the use of a screw-driver in putting the parts together or taking them apart. The lower or inner end of the thumb-nut 20 is reduced in diameter or offset in order that the reduced portion 21 may enter the socket 18 90 and bear upon the spring 19 when the said thumb-nut is turned down on the screw-threaded portion of the pivot-bolt. The annular offset margin on the inner end of the thumb-nut, which is of greater diameter 95 than the socket 18, rests or bears on the outer surface of the blade 10, that extends around the margin of the said socket, and said marginal surface may be roughened, as at 22, as may also the meeting surface of the nut, in 100 order that when the nut is turned home on the pivot-bolt and bears on the shear-blade and spring it will not be loosened or turned off by the action of the spring thereon in the operation of the shear-blades. The construction of the nut and socket in the shear-blade just described are of importance in 105 the invention, as is also the construction

of the frusto-conical head, its lug, and the socket in the side of the shear-blade 11, since these features insure the maintenance of the bolt-spring and nut permanent in position after once having been adjusted.

One of the handle-bars of the blades is provided on its inner side with a spacing-lug 23, the end of which is adapted to come into contact with the opposite handle-bar, and so prevent the finger-eyes 24 of the handles from coming together, and so pinching the thumb or fingers of the operating hand or allowing interference with the operation of the blades.

It is obvious that the improvements with respect to the self-adjusting tension on the blades may readily be applied to the common form of shears or scissors by taking out the old pivot-screw, filing away the threads thereon where it passes through the blades, and making a small inwardly-inclined recess in the shear-blade 11, and providing the head of the bolt with a lug and a recess therefor, and fitting the upper blade 10 with a recess, as described, with a spring therein, and providing a thumb-nut for the outer end of the bolt or screw of the character described, and roughing the offset face of the bolt and the meeting surface of the shear-blade, as explained.

The invention described is at once simple in construction and efficient and ready of operation, obviating the use of a screw-driver to adjust it or put it together or take it apart, maintaining the blades under the same tension at all times until they are practically worn out, and possessing other advantages hereinafter alluded to or made obvious by the described construction and mode of operation.

In roughing the offset surface of the thumb-nut and the opposing surface of the shear-blade it may take the character of radial ribs and grooves of shallow form, so as to hold or lock the nut against the action of the spring. Ordinarily, however, the friction between the surface of the offset part of the nut and the opposing surface of the blade will be sufficient to hold the nut against being loosened by the tension-spring. The nut can be set down tight on the blade without unduly increasing the stress of the tension spring.

The spring around the pivot-bolt might be a helical spring of well-known form or a spring of other form and subserve the purpose of the spring shown and described as well, and so other mechanical changes may be made in the form and arrangement of parts without departing from the general nature or spirit of the invention.

What is claimed as the invention is—

1. The combination with the blades of a pair of shears or scissors, one of which is provided with a socket having inwardly-taper-

ing walls and a small recess, a smooth hole being formed through both blades, an annular socket in the other blade, a spring in said socket a pivot-bolt having a frusto-conical head and lug adapted to fit the socket and recess in the first-mentioned blade, and a smooth shank where extending through the pivot-holes of the blades, but screw-threaded on its end, a thumb-nut adapted to be turned on the screw-threaded part of the bolt, and having its inner end reduced to enter the socket of the other blade and bear upon the said spring the annular offset surface of the nut resting or bearing on the surface of the last-mentioned blade around the margin of the pivot-hole.

2. The combination with the blades of a pair of shears or scissors, one of which is provided with a socket having inwardly-tapering walls and a recess, a smooth hole being formed through both blades, an annular socket in the other blade, a spring in said socket, a pivot-bolt having a frusto-conical head and lug adapted to fit the socket and recess in the first-mentioned blade, and a smooth shank where extending through the pivot-holes of the blades but screw-threaded on its end, a thumb-nut adapted to be turned on the screw-threaded part of the bolt, and having its inner end reduced to enter the socket of the other blade and bear upon the said spring, the annular offset surface of the nut resting or bearing on the surface of the last-mentioned blade around the margin of the pivot-hole, the surface of the offset portion of the nut and the opposing surface of the blade being roughened to lock or hold the nut in place against the action of the spring.

3. The combination, with the shear-blades of the pivot-bolt having its head secured in one blade, and provided with a shank smooth in the part that extends through the blades and screw-threaded on its extended end, a round socket in the outside of the other blade, a spring surrounding the shank of the pivot-bolt in said socket, a thumb-nut turned on said screw-threaded part of the bolt, said thumb-nut being reduced in diameter and having an offset at its inner end, the reduced part being adapted to enter the socket of the blade and bear upon the spring and the offset surface bearing on the outside surface of the blade on the margin of the socket.

4. The combination, with the shear-blades of the pivot-bolt having its head secured in one blade, and provided with a shank smooth in the part that extends through the blades and screw-threaded on its extended end, a round socket in the outside of the other blade, a spring surrounding the shank of the pivot-bolt in said socket, a thumb-nut turned on said screw-threaded part of the bolt, said thumb-nut being reduced in diameter and having an offset at its inner end, the

reduced part being adapted to enter the
socket of the blade and bear upon the spring,
and the offset bearing on the outside surface
of the blade on the margin of the socket, the
5 meeting or opposing surfaces of the thumb-
nut and blade being roughened by shallow
radial ribs and grooves.

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

WILLIS A. WILKINS.

Witnesses:

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CHET. DEAN.