O. VON DEN STEINEN.

SHEARS.

APPLICATION FILED AUG. 10, 1910.

1,048,753. Patented Dec. 31, 1912.

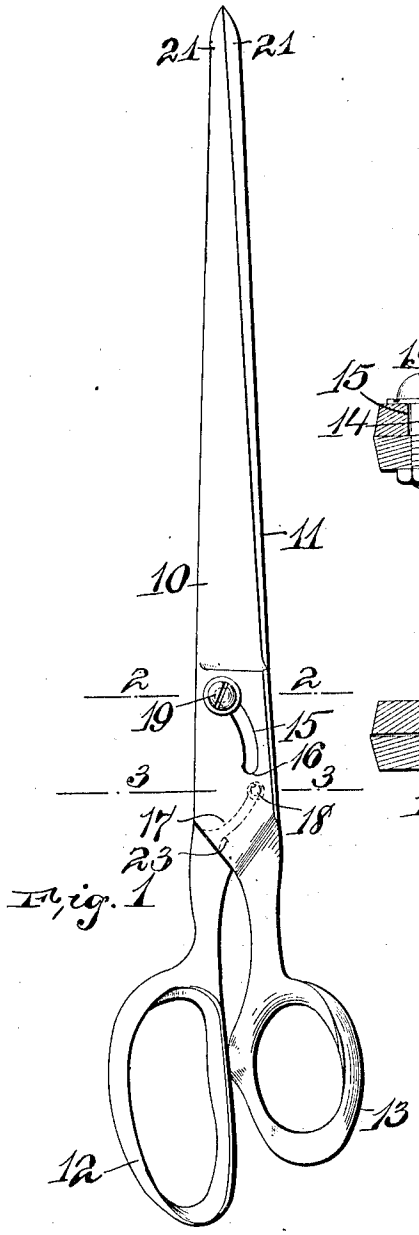

Fig. 1.

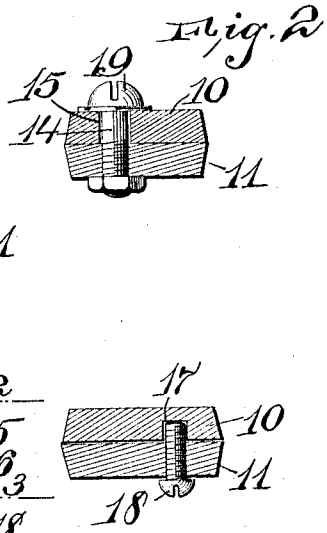

Fig. 2.

Fig. 3.

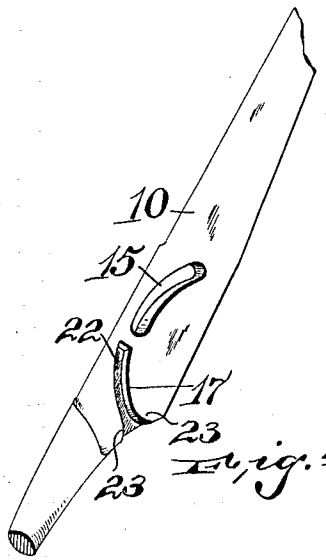

Fig. 4.

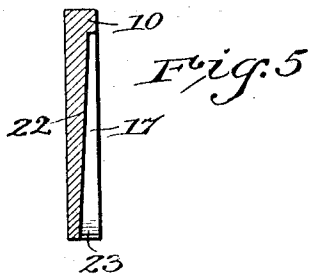

Fig. 5.

WITNESSES:
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SHEARS.

1,048,753. Specification of Letters Patent. Patented Dec. 31, 1912.

Application filed August 19, 1910. Serial No. 578,028.

To all whom it may concern:

Be it known that I, OTTO VON DEN STEINEN, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, 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, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

This invention relates to shears or scissors which are constructed to have the blades and the handles of the usual type, but so connected that when the scissors or shears are opened or closed, the blades, in addition to having a pivotal or swinging relation to each other, also have a longitudinal movement so that a draw cut or a better shearing action is the result.

The invention further provides shears of this kind in which the pressure on the point, that is, on the end of the blades, can be adjusted so as to insure contact of the blades at their points without making an excess space or distance between the blades intermediate of their ends.

The invention is further designed to provide a pivotal connection between the blades in which the outward limit or movement, that is, the movement when the blades are being separated, is not governed by the pivotal connection, in other words, that the blades can be swung as far apart as necessary so that the action of the blades, as to the extent of their swing, is no different from any ordinary shears.

The invention is illustrated in the accompanying drawing, in which—

Figure 1 is an elevation of my improved shears. Fig. 2 is an enlarged section through line 2, 2, in Fig. 1. Fig. 3 is an enlarged section through line 3, 3, in Fig. 1, and Fig. 4 is a perspective view of one of the blades showing a groove and slot for causing the movement of the blades when they are operated. Fig. 5 is an enlarged section taken longitudinally through the slot 17 in Fig. 4.

The blades 10 and 11 are made as usual, having the respective handles 12 and 13. The blade 11 has a bolt 14 passing through it, said bolt also passing through the slot 15 in the blade 10. The slot 15 is curved and is disposed so that the end 16, which is engaged by the bolt 14 when the blades are in the open positions, is tangential to the longitudinal axis, that is, the cutting edge of the blade. To insure the longitudinal movements of the blades on each other, the blade 10 is provided with a curved groove 17 which is concentric with the slot 15 and receives a screw 18 which is secured in the blade 11. The screw 18 is adjustable in the blade 11, and the pressure on the blade 10 can be regulated by the screw so that with the head 19 of the bolt 14 acting as a fulcrum, the ends 21 of the blades can be brought together to insure cutting for the entire length of the blades. The groove 17 is made deeper at its open end and shallower at its inner end 22 as shown in Fig. 5 of the drawing so that the pressure on the blades increases when the shears are nearly shut. The groove 17 is preferably made with a flaring end 23 to receive and guide the screw 18 when the blades are being brought together after they are forced far enough apart to permit the screw to leave the groove. The inner end of the groove 17 coöperates with the screw 18 to limit the closing movement of the blades. The curved slot and curved groove arranged concentrically, that is, with the same center, give a rotary or circular swinging motion to the blades resulting in a good cutting motion when the blades are operated.

I have illustrated the groove and the slot in one blade, and the bolt and screw secured in the other blade, but it will be understood that this disposition of these elements can be changed without departing from the scope of my invention.

Having thus described my invention, what I claim is:—

1. An improved shears comprising a pair of blades having suitable handles thereon, a bolt secured to one of the blades and on which the second blade is adapted to swing, the second blade having a curved groove extending inward from one edge, and a screw in the first-mentioned blade, said screw having its end projecting into the groove to exert a variable pressure thereon and also acting to guide the grooved blade, said screw passing from the groove when the blades are swung wide apart.

2. An improved shears comprising a pair of blades having suitable handles thereon, a

bolt secured to one blade and on which the second blade is adapted to swing, the second blade having a curved slot and arranged to swing on the bolt, the second blade having a curved groove extending inward from one edge and having its open end flared, said groove decreasing in depth toward its inner end, and a screw in the first-mentioned blade arranged to enter the groove to guide the grooved blade and also being adjustable to exert various pressures on the bottom of the groove, the open-ended groove permitting the passing of the screw from the groove when the blades are swung wide apart, the slot and the groove being substantially concentric.

In testimony, that I claim the foregoing, I have hereunto set my hand this 13th day of August 1910.

OTTO VON DEN STEINEN.

Witnesses:
EDWARD F. BYRNE,
WM. H. CAMFIELD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."