(Model.)

R. G. LEWIS & S. E. MOSHER.

SHEARS.

No. 327,092. Patented Sept. 29, 1885.

Fig. 1.

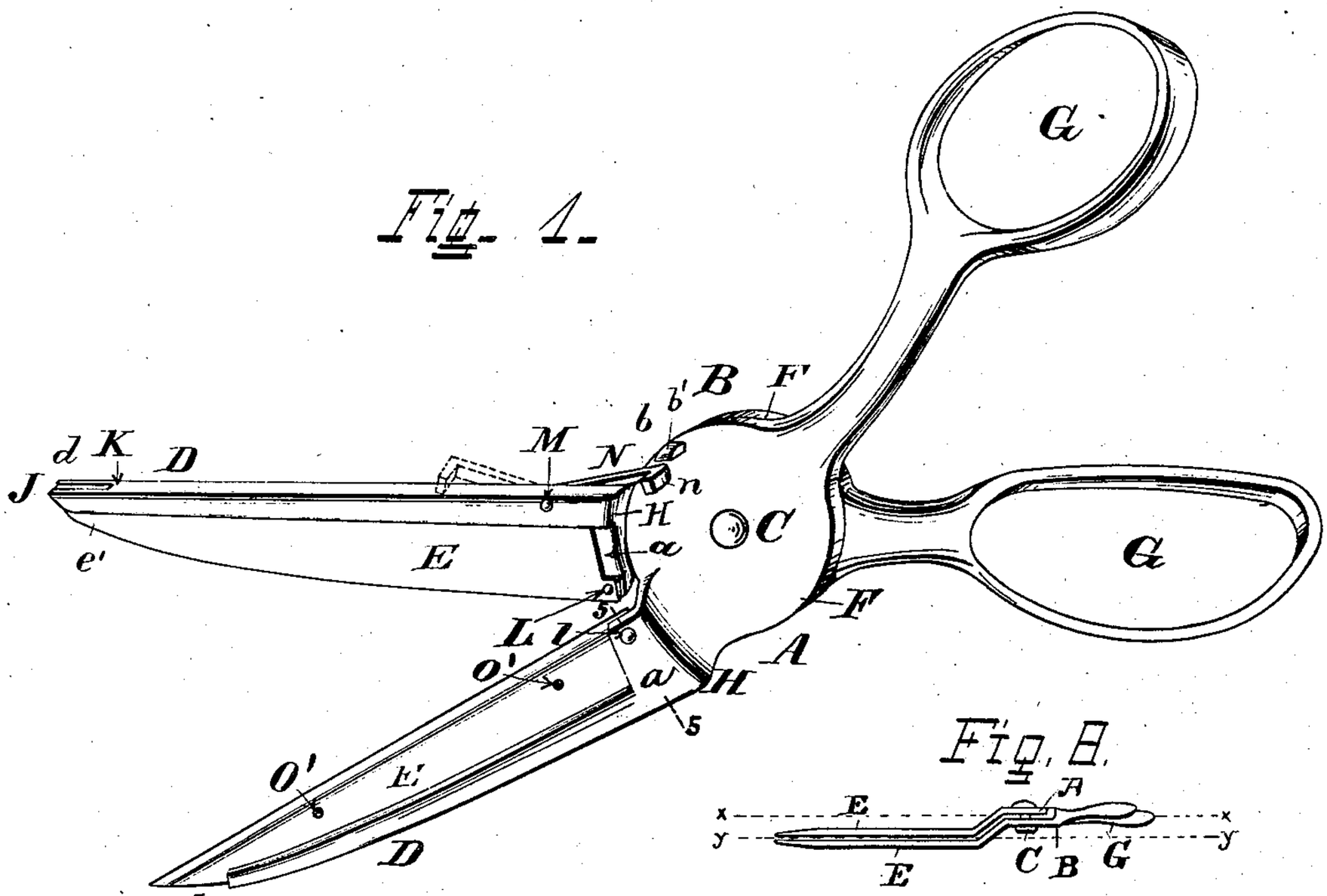


Fig. 8.

Fig. 10.

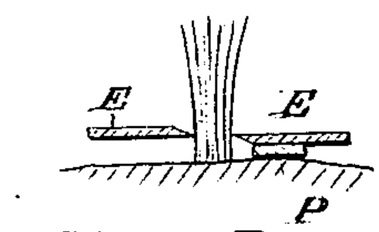


Fig. 2.

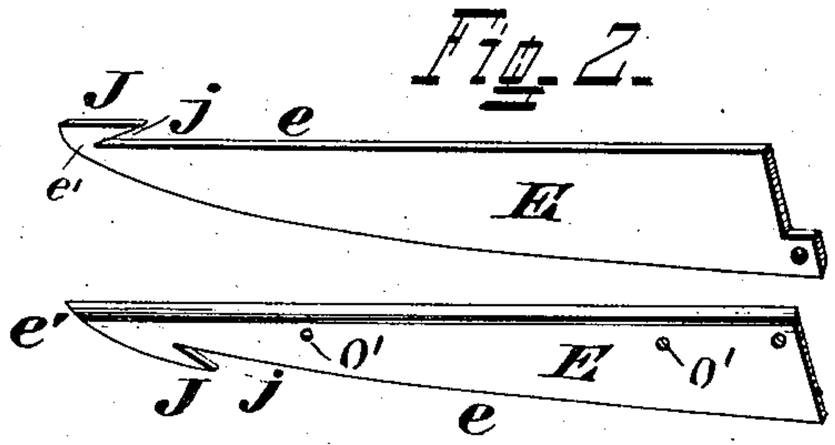


Fig. 3.

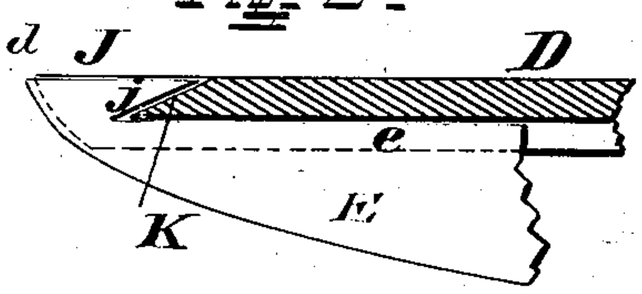


Fig. 4.

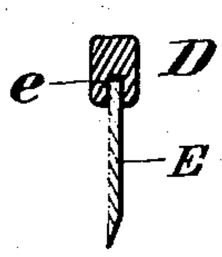


Fig. 6.

Fig. 5.

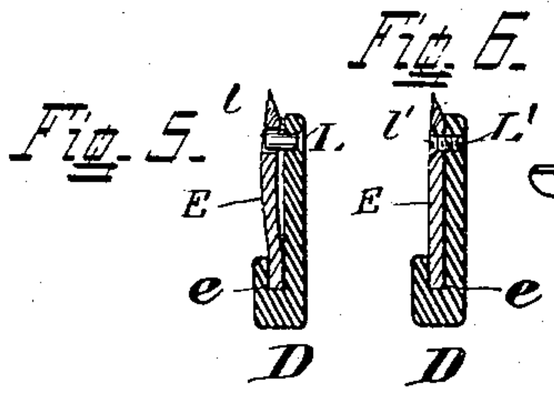
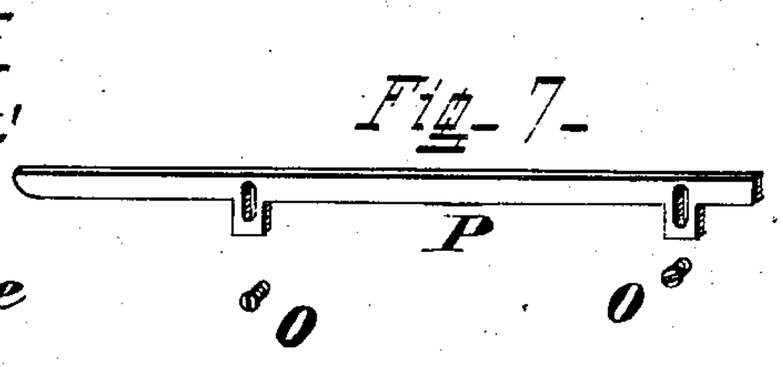


Fig. 7.



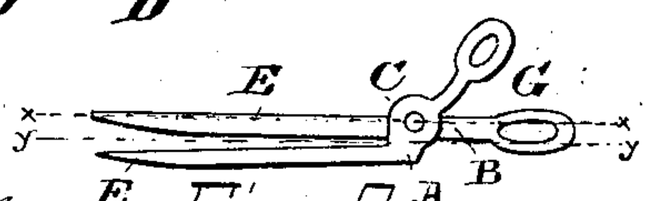


Fig. 9.

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UNITED STATES PATENT OFFICE.

RICHARD G. LEWIS AND SAMUEL E. MOSHER, OF CHILLICOTHE, OHIO; SAID MOSHER ASSIGNOR TO SAID LEWIS.

SHEARS.

SPECIFICATION forming part of Letters Patent No. 327,092, dated September 29, 1885.

Application filed February 21, 1884. (Model.)

To all whom it may concern:

Be it known that we, RICHARD G. LEWIS and SAMUEL E. MOSHER, both of Chillicothe, Ross county, Ohio, have jointly invented Improvements in Shears, of which the following is a specification.

Our invention is directed to a construction of shears or scissors which combines efficiency and ease of operation with economy and cheapness in manufacture, and, although in some of its useful characteristics applicable to shears in general, is more particularly designed for and is here illustrated by a pair of shears having one or more separable or movable blades.

In the accompanying drawings, Figure 1 is a perspective view of a pair of shears embodying our invention. Fig. 2 shows the blades detached. Fig. 3 is a longitudinal section of the outer end of a blade and portion of the jaw or holder. Fig. 4 is a transverse section of the same. Fig. 5 is a section on the line 5 5, Fig. 1. Fig. 6 is a similar section representing a modification. Fig. 7 represents our guard. Fig. 8 is a diagrammatical top view of our shears, to show the lateral non-alignment of the pivotal and cutting planes. Fig. 9 is a diagrammatical side view to show the vertical non-alignment of said planes. Fig. 10 is a diagram to show the office of our guard when the shears are used for clipping purposes.

A and B respectively represent the two jaws, articulated to one another by a pivot, C, and having grooved backs or holders D extending to near the point of the shears, and which receive and firmly grip the rear edges, *e*, of blades or cutters E, which consist of thin plates of steel, whose form and that of the holding-jaws are such as to combine efficiency of action when in use with capacity for ready detachability for sharpening or other purpose. The parts of the jaws about the pivot C are given the form of circular disks F of large diameter, in order to secure absolute rigidity of jaw and accuracy of cut. The portions of the jaws on the sides of the pivot remote from the cutting-blades are formed into convenient handles, G.

Of the two jaws the jaw A is in use customarily the lower one, and its handle consequently the upper one and adapted to receive the user's thumb, while the jaw B is the upper one and its handle the lower one, and adapted for two or more of the user's fingers.

Both handles are curved considerably upward, as represented, in order to be, when in use, well clear of the cutting board.

A lateral offset, H, in the jaws between the pivot C and the blade heels, and preferably immediately in rear of the latter, and such as to place the pivotal plane *x x* laterally out of alignment with and to the right hand of the cutting-plane *y y*, and the articulating-pivot C vertically out of alignment with and above the cutting-edges, enables passage directly backward of the separated goods. Such direct passage is of great importance in the shearing or cutting of very stiff or refractory objects, such as thick cloth, duck, serge, tar-board, tin plate, &c.

The articulating member or pivot C being located considerably out of alignment with and above both cutting edges secures a very shearing or carving action of the two edges upon the goods.

One or both of the points or advancing ends *e'* of the blades extend slightly beyond the backs or holders, in order to facilitate insertion of such point in the goods and to make easy such operations as ripping, pinking, &c.

Each blade has the represented approximately-triangular form, and each is armed on its rear edge, near its point, with a spur, J, whose oblique edge *j* engages behind a pin or keeper, K, in the jaw, and each blade has on that part of its inner face diagonally remote from the spur J a stud, L, that engages within an orifice, *l*, in the supporting-jaw, which, for that purpose and to afford lateral support to the blade's cutting-edge, is widened, as at *a*, in direction of the other jaw, in the manner shown. The sides of the spur J also fitting tightly within the groove or opening *d* of the jaw co-operate with such widened portion *a* in preventing lateral deflection of the blade. This construction makes it possible to secure rigidity of blades without making the jaw-backs so thick as to be clumsy and of inconvenient weight and bulk.

To insure the snapping of the inner corner of the blade firmly against the jaw where its stud L engages in the orifice *l* of the jaw, said blade may be slightly sprung or curved to-

ward the jaw, as shown in Fig. 5; or secure retention of these parts to one another may be obtained by giving such stud the form of a screw, L′, whose head *l′* may occupy a counter-bored orifice in the blade, and whose threaded portion may screw into a correspondingly-threaded orifice in the jaw, as in Fig. 6.

We may associate with the above features, or may use independently, the following devices, to wit:

Secured by pivot M to one of the jaws is a stop, N, which may either take the position of inaction, shown by dotted lines, in which case the jaws are capable of being opened to their full extent, or may be thrown forward so that the head *n* of said stop shall occupy the space *b* between the hinge-shoulders of the two jaws, or between a shoulder on one jaw and a lug, *b′*, on the other jaw, so as to limit their opening capacity when desired.

The construction of the parts is such that when the stop N is thrown back the jaws can be separated sufficiently to enable detaching or changing of one or both blades for insertion of new ones or for sharpening, or for substitution of one or both blades of different forms, such as for button-hole cutting, scalloping, &c.

The blade of one jaw—for example, the lower jaw, A—may have tapped into its outer side two screws, O, in holes O′, to retain in any desired position a slotted guard, P, whose function is to prevent too close cutting to the hide or scalp when used for sheep-shearing or hair-cutting. Such a guard may be applied to one blade, as here shown, or to both blades.

A pair of shear-blades adapted for scalloping is alluded to above, but not specifically described, being reserved for description and claim in an application shortly to be filed.

We have illustrated our invention by a shears adapted for right-hand use; but the invention is manifestly equally applicable to a shears adapted for left-hand use, all the parts being of course then reversed—right for left and left for right, the pivot C being to the left.

We claim as new and of our invention—

1. The combination of a grooved jaw having an opening, *d*, a widened portion, *a*, formed with an orifice, *l*, and a keeper, K, and the blade E, formed with a spur, J, occupying the opening, and a stud, L, occupying the orifice, as set forth.

2. In shears, the pivot C above and to the right of the line of the cutting edges, as and for the purposes set forth.

3. In shears, the combination, with jaws having a lug or stop to limit their opening, of the reversible stop N, pivoted to one of the jaws, and having a head, *n*, to occupy the hinge-opening, as set forth.

4. A shear-blade formed of a thin plate of steel, E, for insertion in a grooved, jaw and formed with a point, *e′*, armed on its rear edge with a spur, J, to receive the end of a jaw, and a stud at its rear end, by which the blade is retained at the inner end of the jaw, as set forth.

In testimony of which invention we hereunto set our hands.

RICHARD G. LEWIS.
SAMUEL E. MOSHER.

Attest:
H. W. WOODROW,
WM. EDGAR EVANS.