

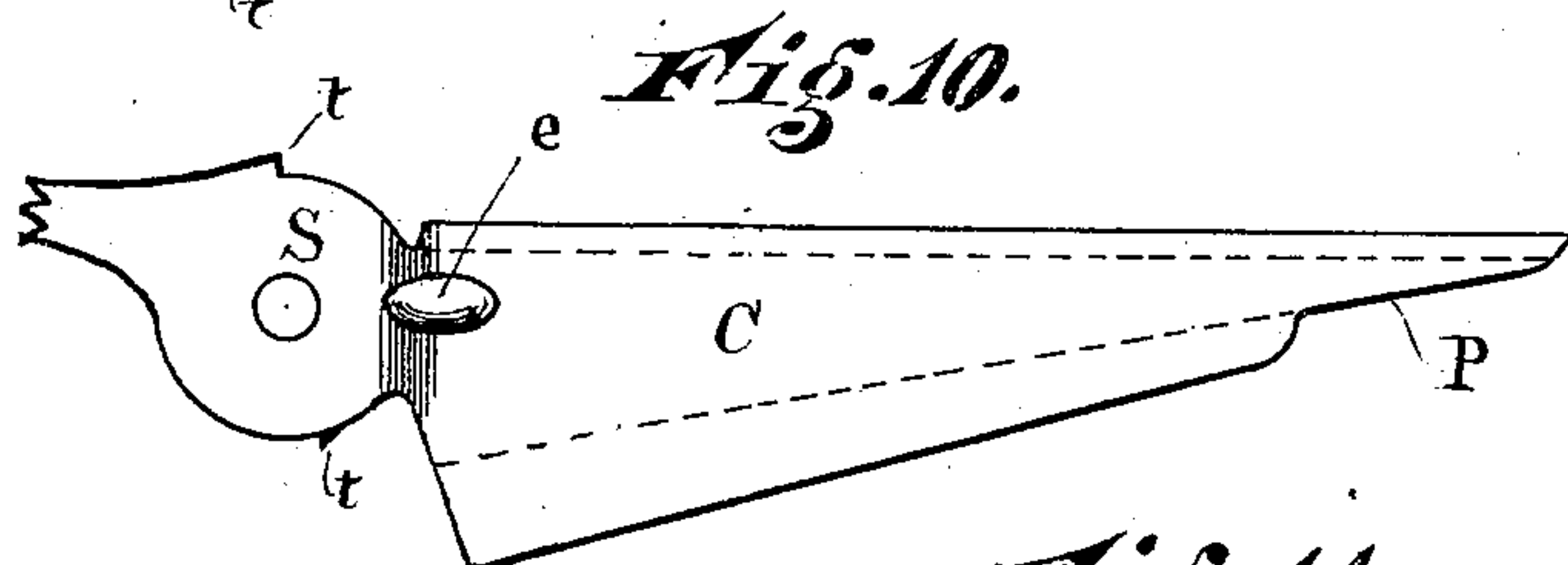
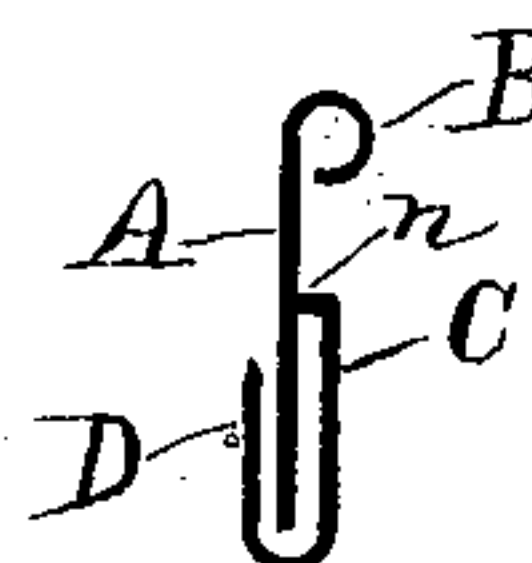
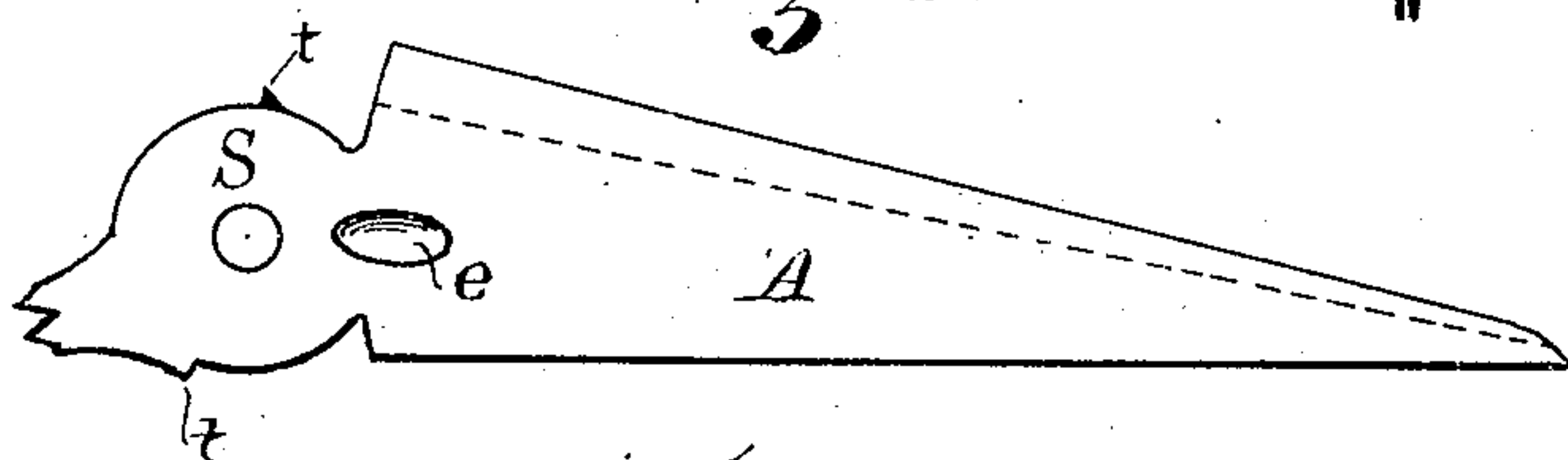
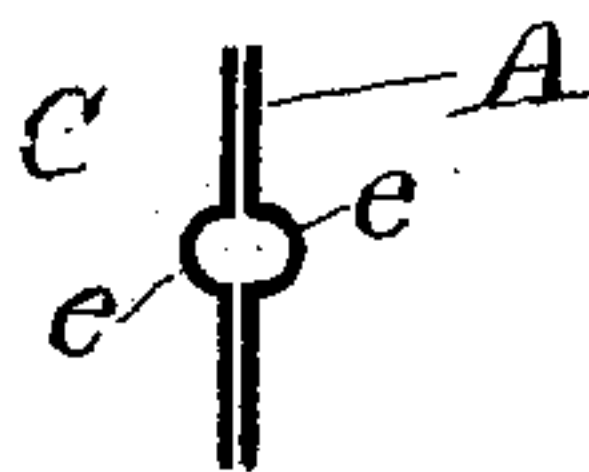
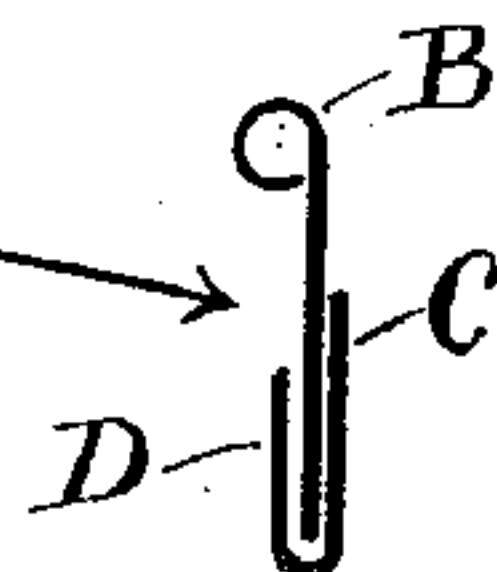
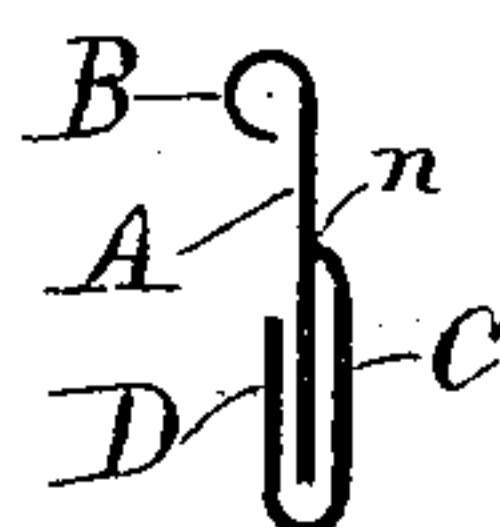
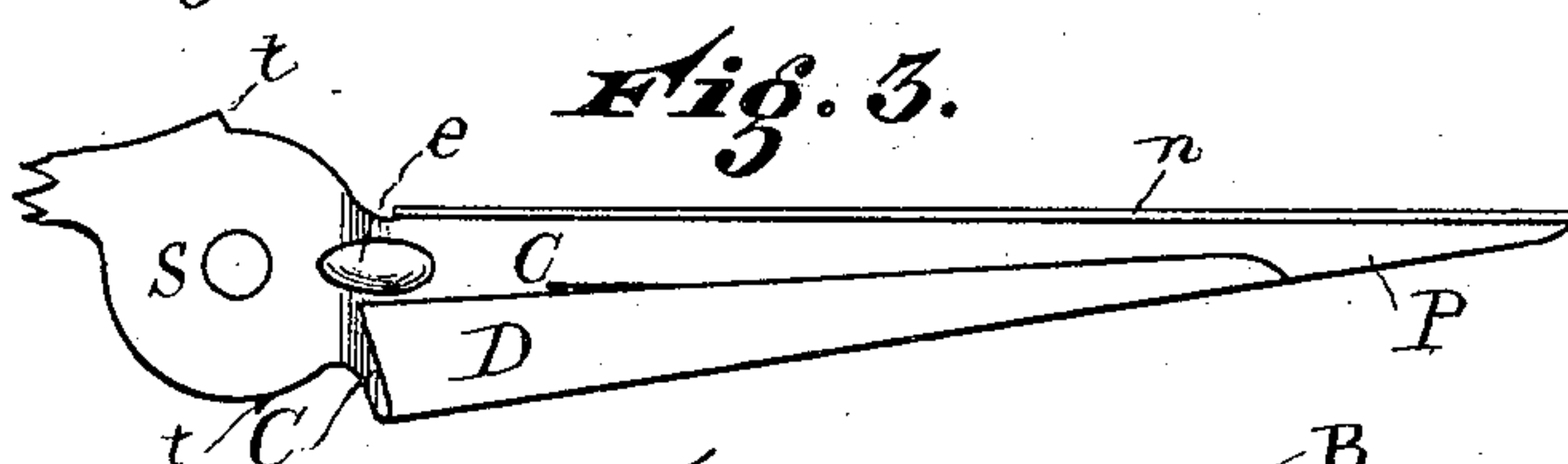
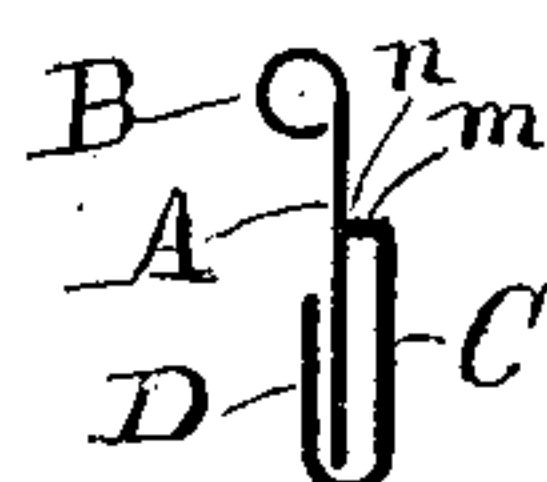
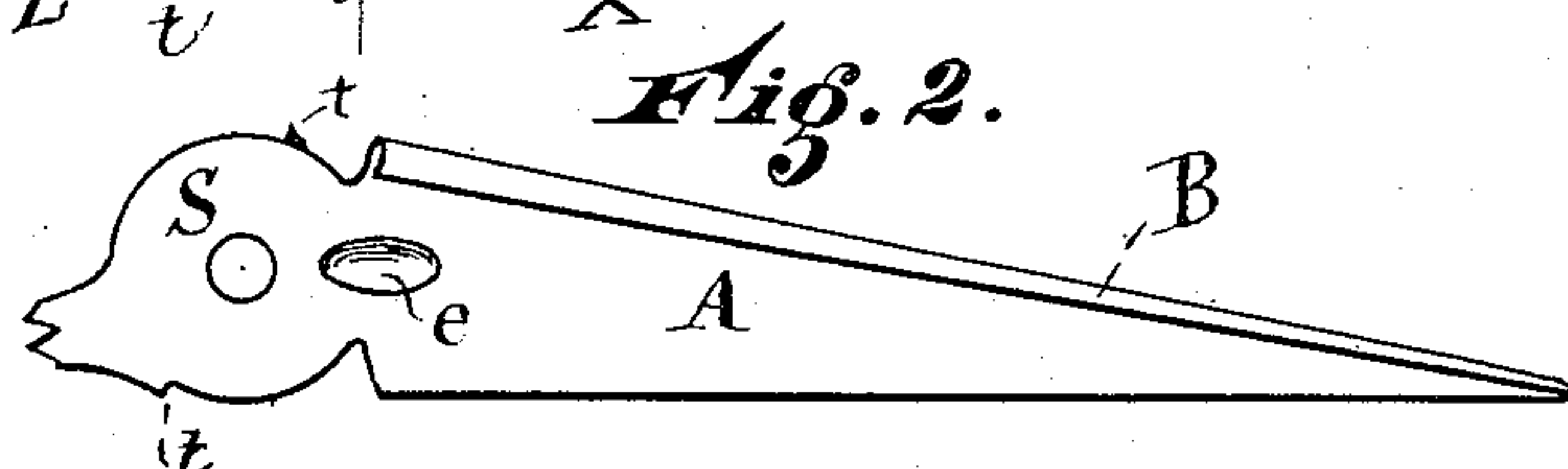
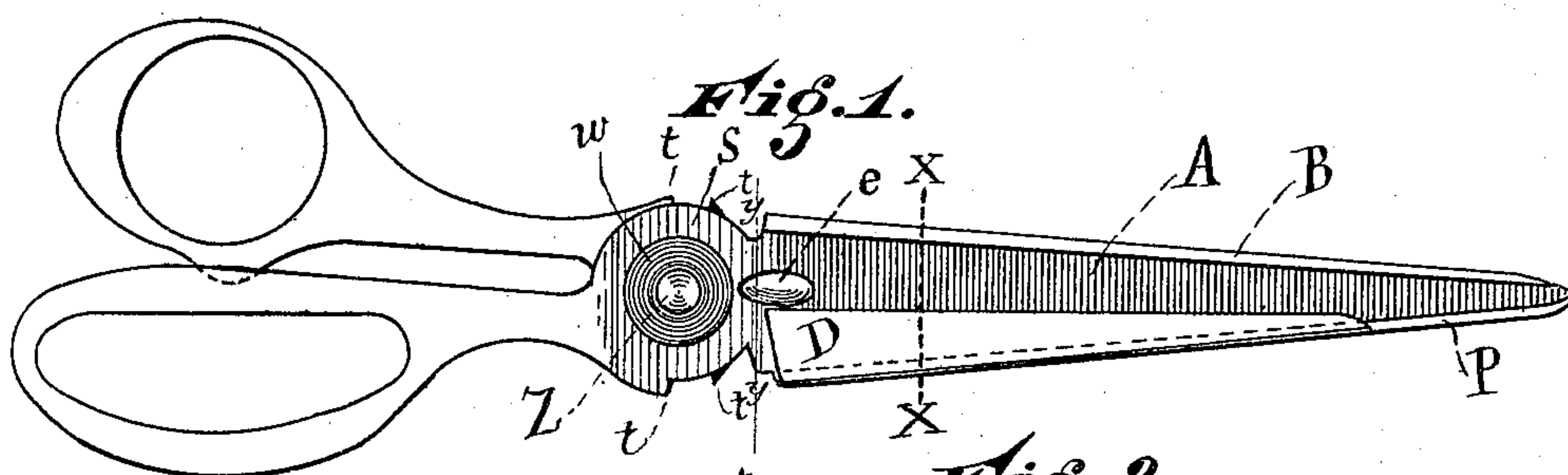
(Model.)

A. J. LYTLE.

SHEARS.

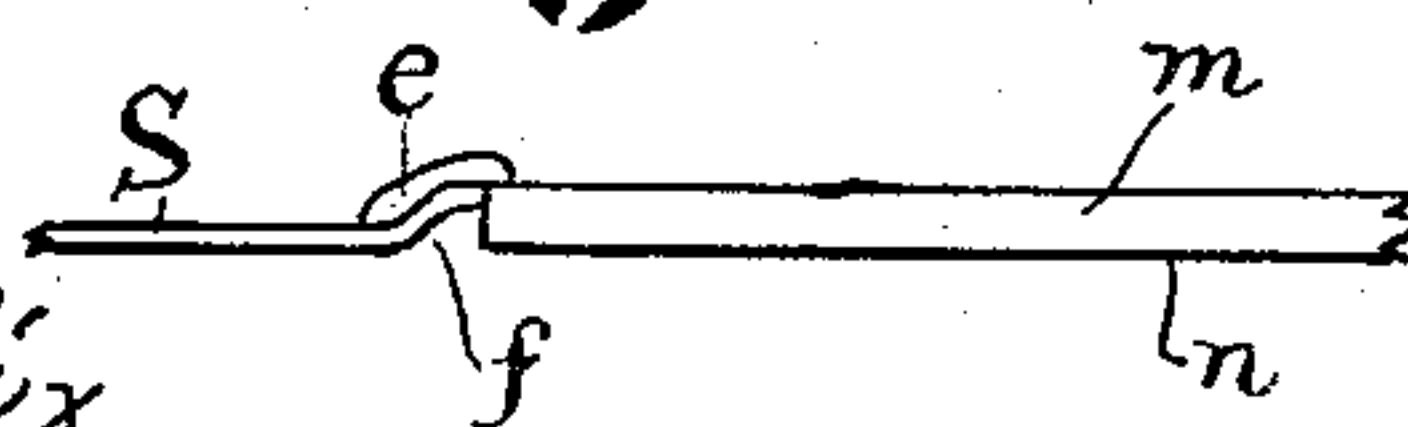
No. 320,940.

Patented June 30, 1885.



Attest

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UNITED STATES PATENT OFFICE.

ANDREW J. LYTLE, OF HILLSBOROUGH, OHIO.

SHEARS.

SPECIFICATION forming part of Letters Patent No. 320,940, dated June 30, 1885.

Application filed January 10, 1885. (Model.)

To all whom it may concern:

Be it known that I, ANDREW JACKSON LYTLE, a resident of the town of Hillsborough, in the county of Highland and State of Ohio, have invented certain new and useful Improvements in Shears, of which the following is a specification.

The several features of my invention and their various advantages arising from their use, conjointly or otherwise, will be fully hereinafter set forth.

In the accompanying drawings, making a part of this specification, Figure 1 is a side elevation of a pair of shears embodying my invention. Fig. 2 is a side elevation of the upper shear, the handle being broken off. Fig. 3 is a side elevation of the lower shear, the handle being broken off. Fig. 4 is a vertical cross-section of said shears, taken at the line *xx* of Fig. 1. Fig. 5 is a similar cross-section, but showing a slight modification in the shape of the blade of the lower shear. Fig. 6 is a similar cross-section showing another modification of the shape of the lower shear. Fig. 7 is a vertical cross-section taken at the line *yy* of Fig. 1, and showing the ribs for strengthening the shears at the portion where the blade joins the hinge part. Fig. 8 is a cross-section similar to that shown in Fig. 4, but showing the back *B* of the upper blade located on that side of the blade opposite to where the back *B* is located on the upper blade shown in the preceding figures 1, 2, 4, 5, and 6. Fig. 9 is a view of a blank out of which the blade and hinge part of the upper shear may be made. Fig. 10 is a view of a blank out of which the blade and hinge part of a lower shear constructed as shown in Fig. 1, may be made, and Fig. 11 is a view of the top edge of a part of the blade and hinge part and rib of the lower shear when the latter is made as shown in Fig. 1, an angulated cutting-edge being present, the rest of the shear being broken away.

The upper blade, *A*, of the shears is made very thin, and has a thick outer edge or back, *B*, consisting of the metal of the shear bent over or rolled over, substantially as shown more particularly in Figs. 1 and 2. The lower blade, *C*, of the shear is also made very thin, and is provided with an accompanying sheath lap or flange, *D*, formed out of the same piece

of metal as is the blade *C*, by bending or rolling over the metal, as shown more particularly in Figs. 1 and 3. The lower blade may be bent longitudinally in right-angle section at its upper edge, forming a flange, *m*. (See Fig. 4.) In such event the upper blade will bear against the outer edge, *n*, of such flange, and said edge will constitute the cutting-edge of said lower blade. The lower blade, *C*, may be curved from top edge downward and outward and then inward, substantially as shown in Fig. 5, and in such event the upper blade will bear against the upper edge or portion only of the lower blade. When preferred, the lower blade may on the inner side be made straight from top edge to bottom, as shown in Fig. 6, in which case the upper blade will impinge against the lower one (as the shears are closed) in the same manner as in the common form of scissors. The lap or sheath flange *D* may extend the entire length of the lower blade, but is preferably omitted near and at the point of the latter, leaving the free end portion, as *P*, of the lower blade without any attending portion of the lap-flange. This latter construction is very advantageous, as it allows the point of the blade *C* and the points of the blades *A* and *C*, when together, to be used in making fine or stiletto holes in the textile or other goods to be operated on, and also enables the point of said blade *C* to be inserted into the goods in preparation for making a cut in the goods without tearing the goods or making a large initial hole therein.

The blades are suitably connected together in any desired manner. Each blade is preferably provided with stops *t*, to prevent the blades from being too widely separated.

The preferred mode of connecting the blades together consists in placing the hinge portions together face to face and applying a washer, *w*, to the outer face of the hinge portion *S* of shear having blade *A*, and a washer, *W*, to the outer face of the hinge portion *S* of the shears having blade *C*, and through the washer, hinge portions *S S*, and washer, passing a pivot, *Z*, and securing together those parts by riveting the pivot, or by a screw or nut. The hinge portion of each shear is secured to a suitable handle, and the handle may be forged to the hinge portion or cast thereon, or struck up therewith. The hinge portion may be made

in one piece with the blade, and in such event the junction portion between the blade and the hinge may be strengthened by the presence of a rib, *e*. The latter may, when desired, be struck up, as shown. The metal forming the back of blade A may curl or be bent in the direction shown in Figs. 1, 2, and 4, or be bent in the opposite direction—viz., as shown in Fig. 8. Each blade is preferably formed out of one piece of thin sheet-steel and out of blanks, an illustrative form of which is shown in Figs. 9 and 10. The blank in Fig. 9 is the one out of which the blade A is formed, and the blank in Fig. 10 is the one out of which the blade shown in Fig. 3 is formed. Each dotted line in Figs. 9 and 10 shows the location on the blank where the fold in the metal is to come. Where the angulated edge, as shown in Figs. 3, 4, 5, 8, and 11 is present in the lower shear, the latter is usually shouldered at *f*, (see Fig. 11,) so that the cutting-edge *n* of the blade C may come into line with the blade A.

The shears are very light of weight, cheap of manufacture, strong and efficient in use. The back B imparts great strength to blade A, and prevents springing or deflecting laterally. The lap, flange, or sheath imparts great strength to blade C, and prevents its springing or deflecting. The lap, sheath, or flange also serves the purpose of keeping the blade A, as it descends, closely against the cutting-edge of blade C.

The construction of the lower blade with an accompanying piece, between which is a slot or groove, into which the upper blade descends, the side piece stopping short of the point of

the blade and leaving a portion, P, is obviously not confined to a blade and sheath or side piece made of one piece; but the side piece may be of any suitable shape and secured to the blade or bed-piece thereof in any suitable manner; and it may here be remarked that while the various features of my invention are preferably employed together, one or more of said features may be employed without the remainder, and in so far as applicable one or more of said features may be employed in connection with shears other than those hereinbefore described.

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

1. In a pair of shears, the lower shear having sheath or lap flange D, made in one piece with blade C, substantially as and for the purposes specified.

2. In a pair of shears, the lower shear having sheath or lap flange D, terminating at a distance from the point of blade C, and leaving the portion P of the blade free of said sheath, substantially as and for the purposes specified.

3. The lower shear having sheath D, angulated cutting-edge *n*, the sheath terminating at a distance from the point of the blade C, substantially as and for the purposes specified.

4. In a pair of shears, the blade C, made of thin metal, cutting-edge *n*, and hinge portion and shoulder *f*, and an opposing blade, substantially as and for the purposes specified.

ANDREW J. LYTLE.

Witnesses:

O. M. HILL,
JNO. W. STREHLI.