No. 677,381. Patented July 2, 1901.

W. H. THORNLEY & W. J. BAER.

SHEARS.

(Application filed Oct. 25, 1900.)

(No Model.)

Fig. 1.

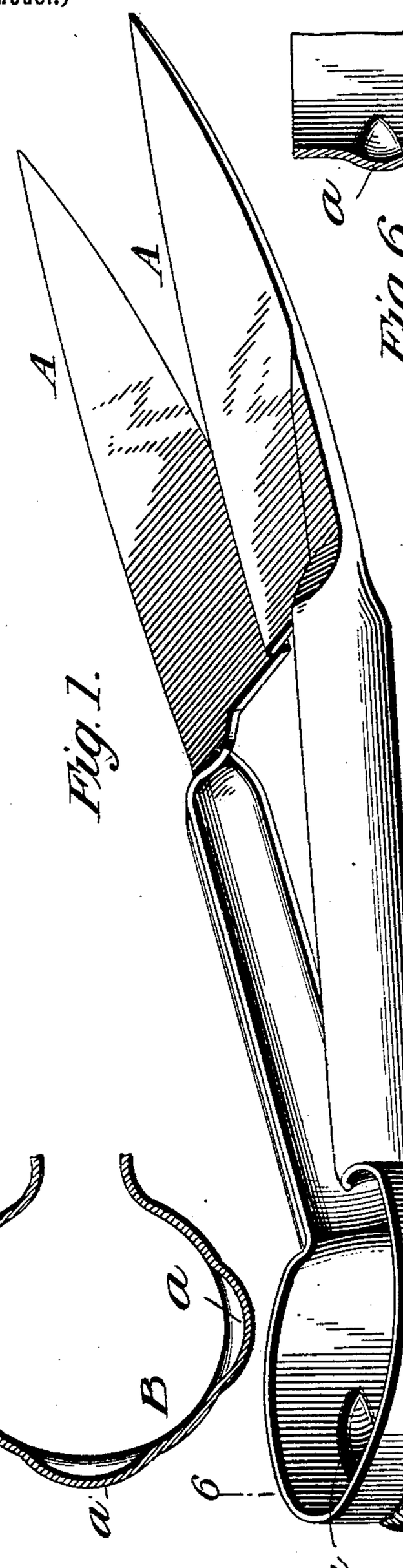


Fig. 2.

Fig. 3.

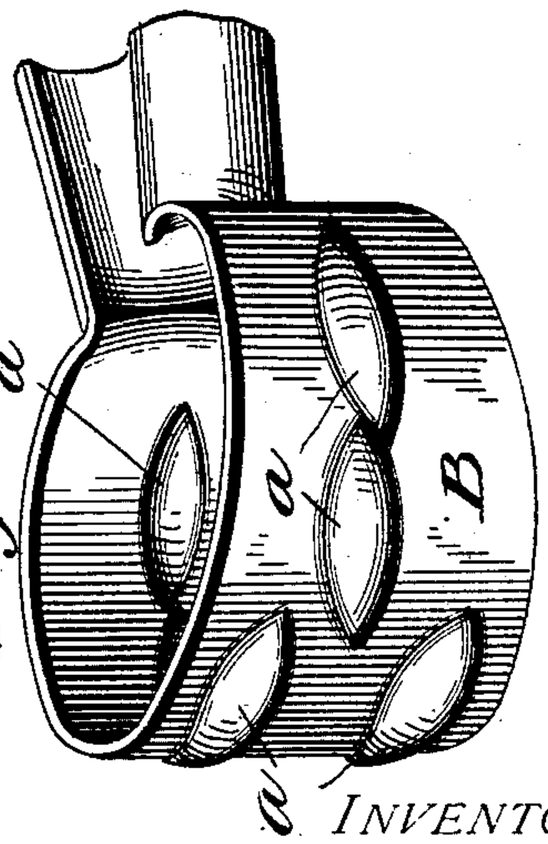


Fig. 4.

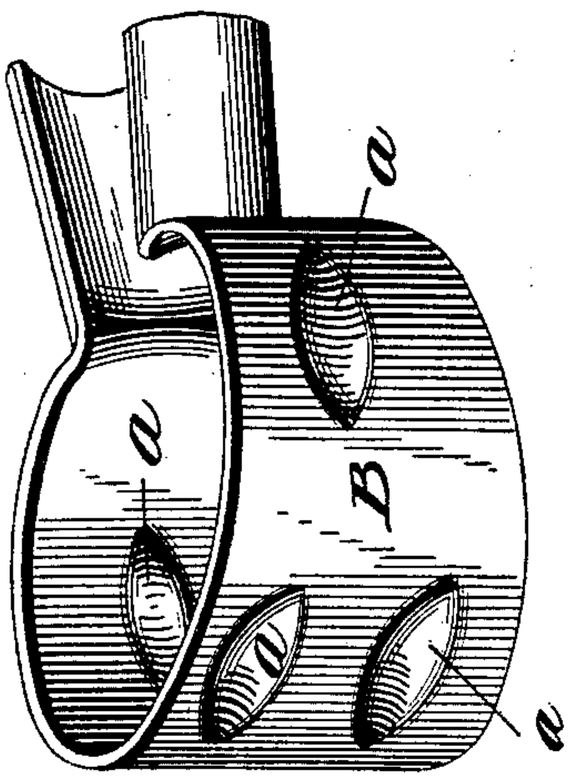
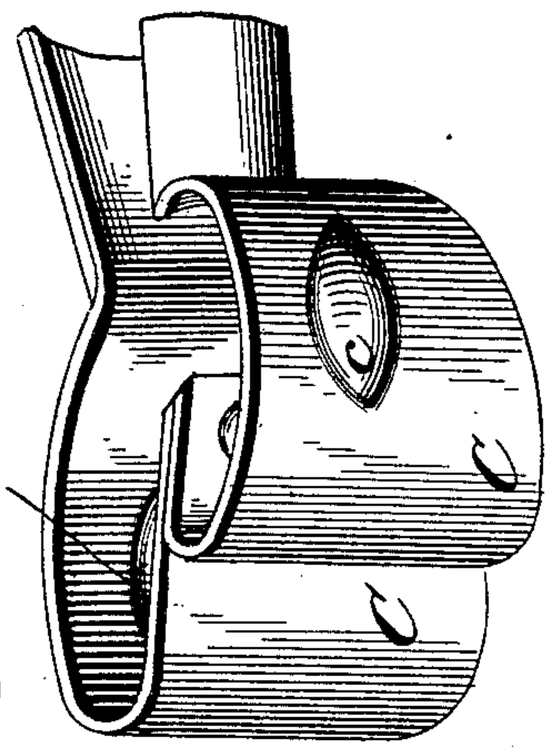


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM H. THORNLEY AND WILLIAM J. BAER, OF READING, PENNSYLVANIA.

SHEARS.

SPECIFICATION forming part of Letters Patent No. 677,381, dated July 2, 1901.

Application filed October 25, 1900. Serial No. 34,255. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM H. THORNLEY and WILLIAM J. BAER, citizens of the United States, residing at Reading, in the county of Berks and State of Pennsylvania, have invented new and useful Improvements in Shears, of which the following is a specification.

This invention relates to certain new and useful improvements in shears of that class comprising a pair of blades and a connecting or joining bow generally formed in one piece; and the present invention has for its object primarily to provide an improved implement of this character in which provision is made for keeping the blades in perfect alinement and giving to them such a tension as to insure a clean cut at all times. By prior constructions in attempting to cut articles in which any great amount of pressure upon the bow is required the blades are thrown out of alinement to such an extent that the article instead of being given a clean cut is doubled and bent over upon or against one of the blades and not cut. The torsional strain on the bow is such as to throw the blades into such position relatively to each other that a clean cut is impossible. It is the object of our invention to overcome this objection. We accomplish this end by providing the bow with bulges, protuberances, ridges, or the like which may be disposed upon either the inside or the outside surface of the bow and which may assume any desired form or shape. Any desired number of such protuberances may be used. They may be swaged or otherwise produced. They may be of any required length, width, and depth. They may be disposed about the bow in any preferred relation to each other. They serve their intended function regardless of their disposition or number. They may be formed on a bow of shears composed of two parts, as well as in that style in which the blades and bow are all formed of a single piece.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view of the improved shears. Fig. 2 is a section through the bow thereof on the line 2 2 of Fig. 1. Fig. 3 is a perspective view of the bow, showing a different disposition of the bulges. Fig. 4 is a perspective view of the bow, showing the bulges extending inwardly instead of outwardly. Fig. 5 is a similar view of a different form of bow. Fig. 6 is a vertical section through the bow shown in Fig. 1, the section being taken on the line 6 6 of said Fig. 1.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates the blades, and B the bow, of a pair of shears. In Figs. 1, 2, 3, 4, and 6 the bow is shown as formed integral with the blades, which is the usual manner of making this style of shears; but in Fig. 5 is shown another form, to which the present invention is fully as applicable. In this view the bow is formed of two like parts, each of which is integral with one of the blades, and the ends of the material brought together and riveted or otherwise secured. The mode of connecting the parts forms no part of the present invention, and this construction of bow is shown merely for the purpose of illustrating the application of the present invention thereto.

The bow is formed or provided with one or more bulges, protuberances, ribs, ridges, or the like *a*, which, as seen in Figs. 1 and 2, are upon the outer surface of the material of the bow, and in this form the bulges or protuberances are disposed one upon each side of the vertical medial line through the bow and two at such medial line. The bulges at the sides are disposed in longitudinal line with the space between the two at the bend; but this disposition is not essential, as the bulges may be disposed as seen in Fig. 3, or they may be upon the inner surface of the bow, as illustrated in Fig. 4. They may be formed by swaging, stamping, or in any other way which may be found most expedient; nor is the application of the invention confined to that style of shears in which the bow is integral with the two blades, for, as seen

in Fig. 5, in which the bow is formed in two parts, as above described, the said bow C is in effect the same as that shown in the other views, and the bulges or protuberances *c* therein perform the same function. By means of these bulges the blades are kept in their true parallelism or alinement and will not be thrown therefrom when cutting articles which require considerable pressure upon the bow in order to effect the cut. They prevent the torsional strain which is present in shears having a bow of thin metal without such protuberances and which forces the blades out of alinement to such an extent that the material is not cut thereby, but simply bent over upon one of the blades.

It will thus be seen that we have produced a form of shears most reliable and efficient in their operation, cheap, not complicated, and as easily operated as the old form; but while the structural embodiment of the invention as herein illustrated is what we at the present time consider the preferable we do not wish to restrict ourselves to the precise disposition of the protuberances, but reserve the right to make such variations and modifications as come properly within the scope of the protection prayed.

What is claimed as new is—

1. A pair of shears the bow of which is provided with means integral therewith for keeping the blades in alinement and preventing torsional strain thereon.

2. Shears the bow of which is provided with a protuberance, as and for the purpose specified.

3. Shears, the bow of which is provided with a plurality of protuberances as and for the purpose specified.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM H. THORNLEY.
WILLIAM J. BAER.

Witnesses:
GEORGE M. BOND,
KARL H. BUTLER.