

(No Model.)

W. A. BERNARD.
BELT PLIERS.

No. 488,785.

Patented Dec. 27, 1892.

Fig. 1.

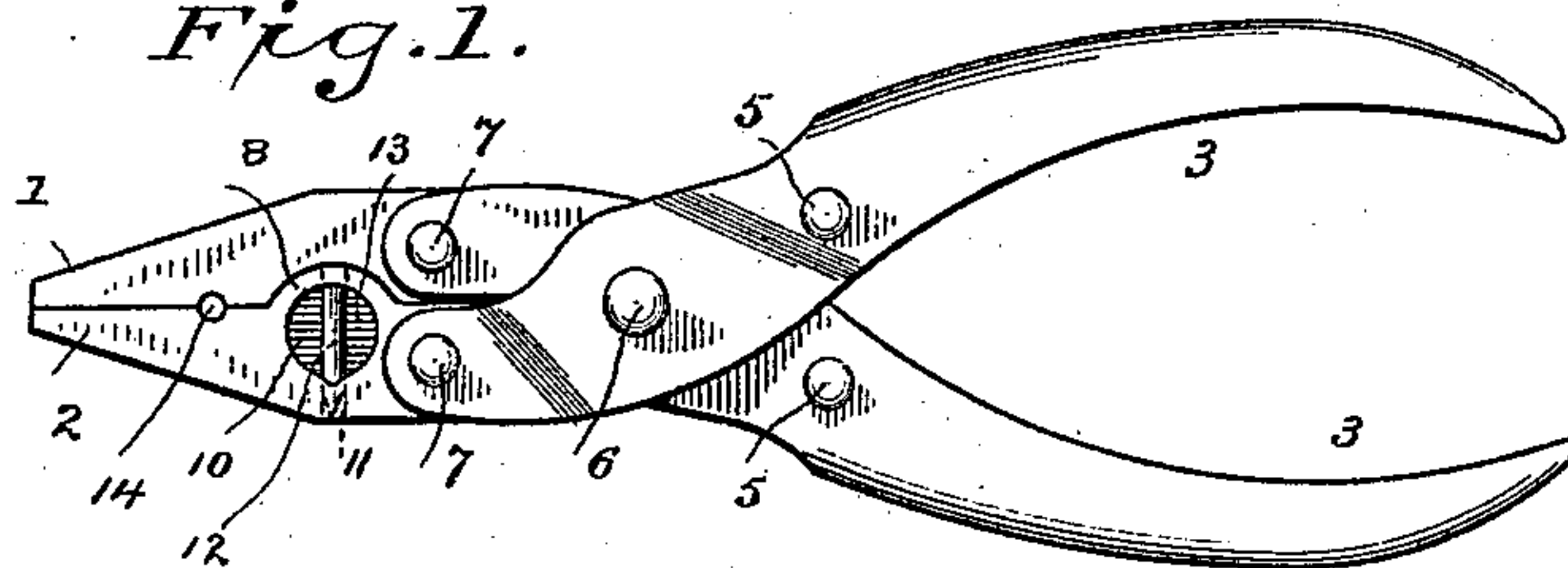


Fig. 2.

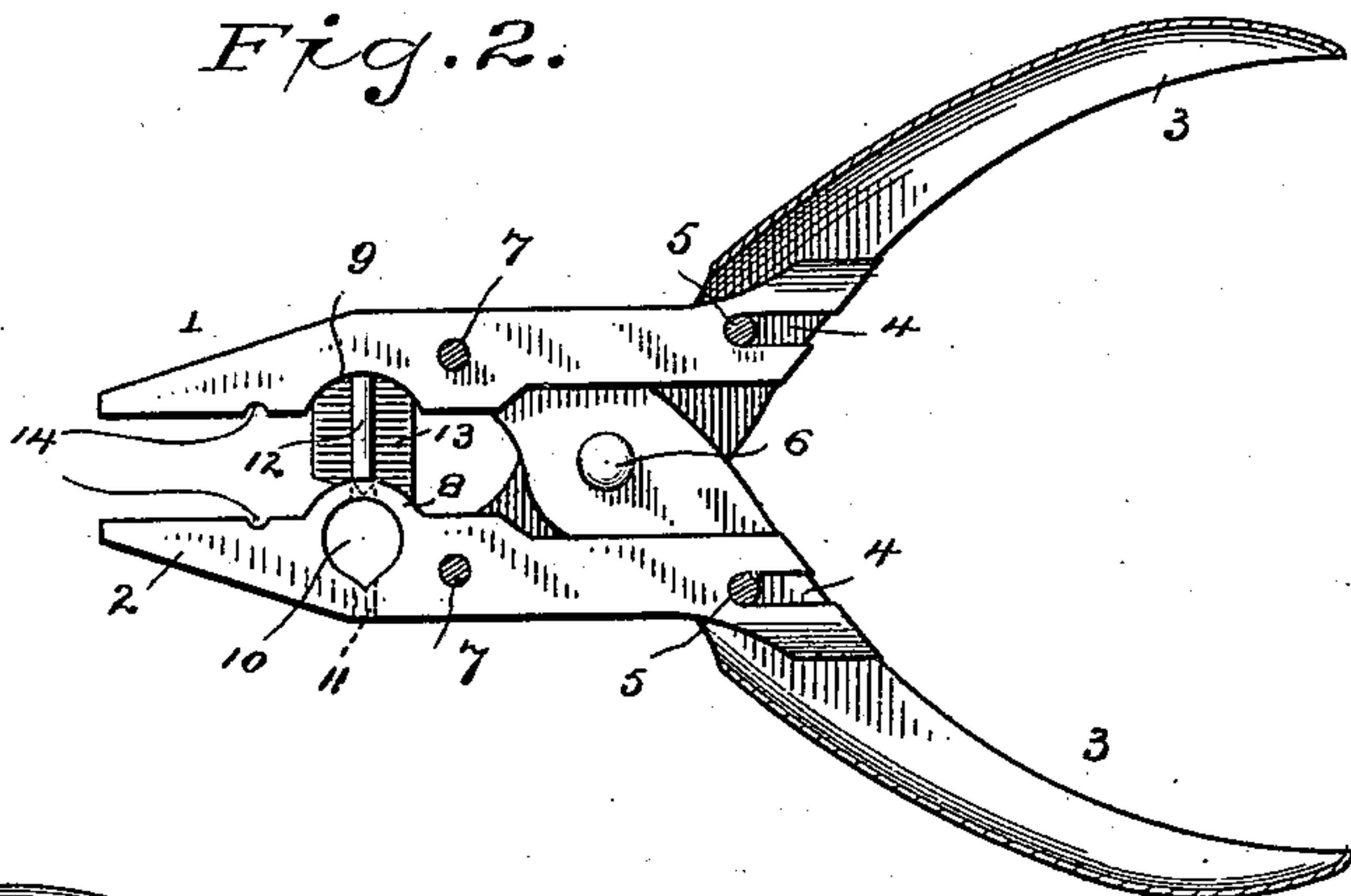


Fig. 3.

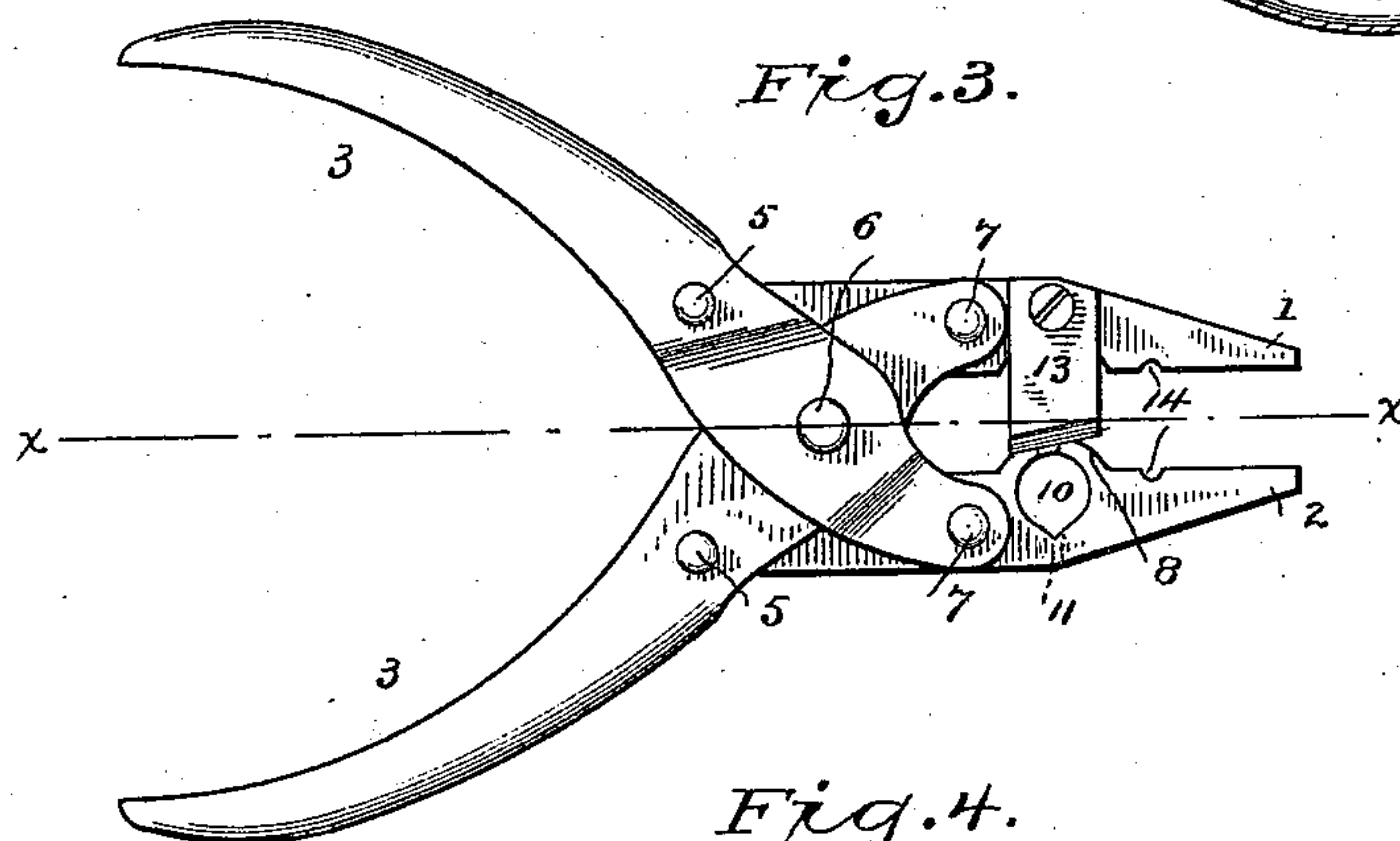
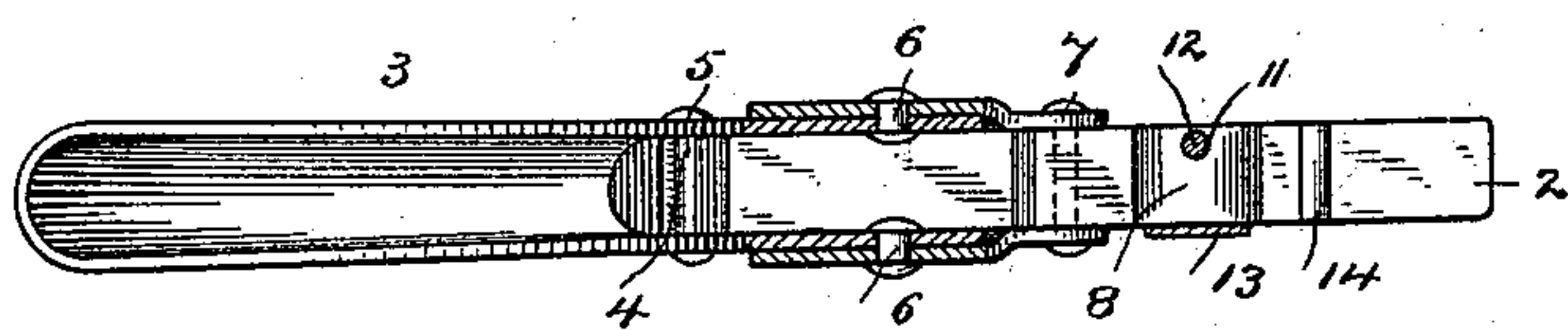


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

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BELT-PLIERS.

SPECIFICATION forming part of Letters Patent No. 488,785, dated December 27, 1892.

Application filed December 9, 1891. Serial No. 414,479. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. BERNARD, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Belt-Pliers; 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.

My invention consists in combining with the open throat and parallel jaw pliers for which Letters Patent were granted to me May 6, 1890, No. 427,220, a belt cutter and punch so constructed that the operations of cutting and punching the belt shall be performed simultaneously, any sized belt shall be accurately centered, none of the material of the belt shall be removed in punching the hole which shall be made in a straight line, the belt shall be stripped from the punch when the jaws are opened, and moreover the efficiency of the tool for use as a plier shall not be impaired in the slightest, the tool as a whole being simple, compact and durable, and neat and attractive in appearance.

With these ends in view I have devised the simple and novel construction of which the following description in connection with the accompanying drawings is a specification numbers being used to designate the several parts.

Figure 1 is a side elevation of my novel tool in the closed position; Fig. 2 a similar view in the open position the handles being in section; Fig. 3 a side elevation in the open position the point of view being opposite to that in Figs. 1 and 2; and Fig. 4 is a section on the line $x x$ in Fig. 3 looking down.

1 and 2 denote the plier jaws and 3 the handles which are constructed substantially as in my said former patent. The rear ends of the jaws are provided with slots 4.

5 denotes pivots which pass through the opposite sides of the handles and through these slots.

6 denotes pivots on the opposite sides of the throat which form the main fulcrums of the tool and 7 denotes pivots which pass through the front ends or operative portions

of the handles and through the jaws. It will be apparent that the object in having two main fulcrums is to leave the throat open as in my said former patent.

So far as the general operativeness of the tool is concerned a single pivot may be used extending through from side to side instead of independent pivots on opposite sides of the throat. One of the jaws, jaw 2 as shown in the drawings, is provided with an enlargement 8 on its inner face and the opposite jaw with a recess 9 to receive it.

10 denotes a transverse opening through jaw 2, said opening being ordinarily made round on its inner side and made V shaped as shown on its outer side, so as to center a belt and hold it firmly in use.

11 denotes an opening through jaw 2 at one side thereof said opening intersecting opening 10 at right angles thereto.

12 denotes a solid punch which is secured at the bottom of recess 9 in jaw 1 in position to pass through opening 11 and through the center of a belt lying in opening 10. The point of this punch is suitably sharpened so as to permit it to force its way through the belt but without removing any of the stock therefrom, leaving the belt nearly as strong at the hole as at any other portion. It will be seen, see Fig. 2, that in the open position the point of the punch lies in the inner wall of opening 9 and is guarded thereby and that in the closed position, see Fig. 1, the point of the punch lies in the outer wall of opening 10 so that the point is perfectly guarded under all circumstances.

13 denotes a cutter secured to jaw 1 on the opposite side from the punch. This cutter is shown as secured on the outer side of the jaw, see Fig. 2, and as passing close to jaw 2 in the operation of cutting, see Fig. 4, so as to cut off that portion of the belt which extends through opening 10. It will be seen that the operations of cutting and punching are performed simultaneously. The shape of opening 10 is such that the belt is necessarily accurately centered and as the jaws approach each other with a horizontal movement the punch must necessarily pass straight through the center of the belt. When the jaws are

opened the punch is withdrawn from the belt the inner wall of recess 10 acting to strip the belt from the punch so that it may be readily removed from opening 10 as soon as the punch
5 is withdrawn therefrom.

The special arrangement of the parts is of course not of the essence of my invention. It is simply necessary that the cutter and punch
10 a solid end of the belt beyond the hole.

14 denotes link recesses in the parallel faces of the jaws the purpose of which will be readily understood.

In use the operator opens the jaws, passes
15 the belt through opening 10 the required distance so that when the belt is cut it will be of the required length, and then closes the jaws together, the cutter acting to remove the surplus length of the belt and at the same time
20 to punch a hole for the link. If the belt is a new one a hole is punched at each end. A suitable link or hook is passed through both holes and the ends thereof pressed down by placing the link in recesses 14 and closing the
25 jaws together.

It will be seen that the usefulness of the tool as a plier is not impaired in the slightest by the combination therewith of a cutter and punch.

30 Having thus described my invention I claim:

1. The combination with the jaws, handles and pivots 5, 6, and 7 of a parallel plier, of an inclosed transverse opening 10 in one of said
35 jaws adapted to receive a belt, an opening 11

at right angles thereto, a punch carried by the opposite jaw which passes through opening 11 and across opening 10, and a cutter secured to said jaw on the opposite side from the punch and in line therewith and adapted
40 to pass closely over the outer side of the other jaw to cut off the end of the belt.

2. The combination with the handles and jaw 2 having an enlargement and an inclosed transverse opening through said enlargement
45 the outer edge of which is made V shape to center a belt, and an opening 11 at right angles to said opening, of jaw 1 having a recess to receive the enlargement and carrying a punch adapted to pass through opening 11
50 and across the transverse opening, and a cutter on the opposite side from the punch in line therewith, and pivots 5, 6 and 7 by which the handles and jaws are connected together substantially as described.
55

3. The combination with a pair of plier jaws one of which is provided with an inclosed transverse opening through it and an opening 11 at right angles thereto, of a punch adapted to pass through opening 11 and across
60 the transverse opening, and a cutter on the outer side of said jaw in line therewith adapted to pass over the face of the transverse opening.

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

WILLIAM A. BERNARD.

Witnesses:

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