

E. HAIMAN.

CULTIVATOR.

APPLICATION FILED JUNE 15, 1908.

914,568.

Patented Mar. 9, 1909.

Fig. 1

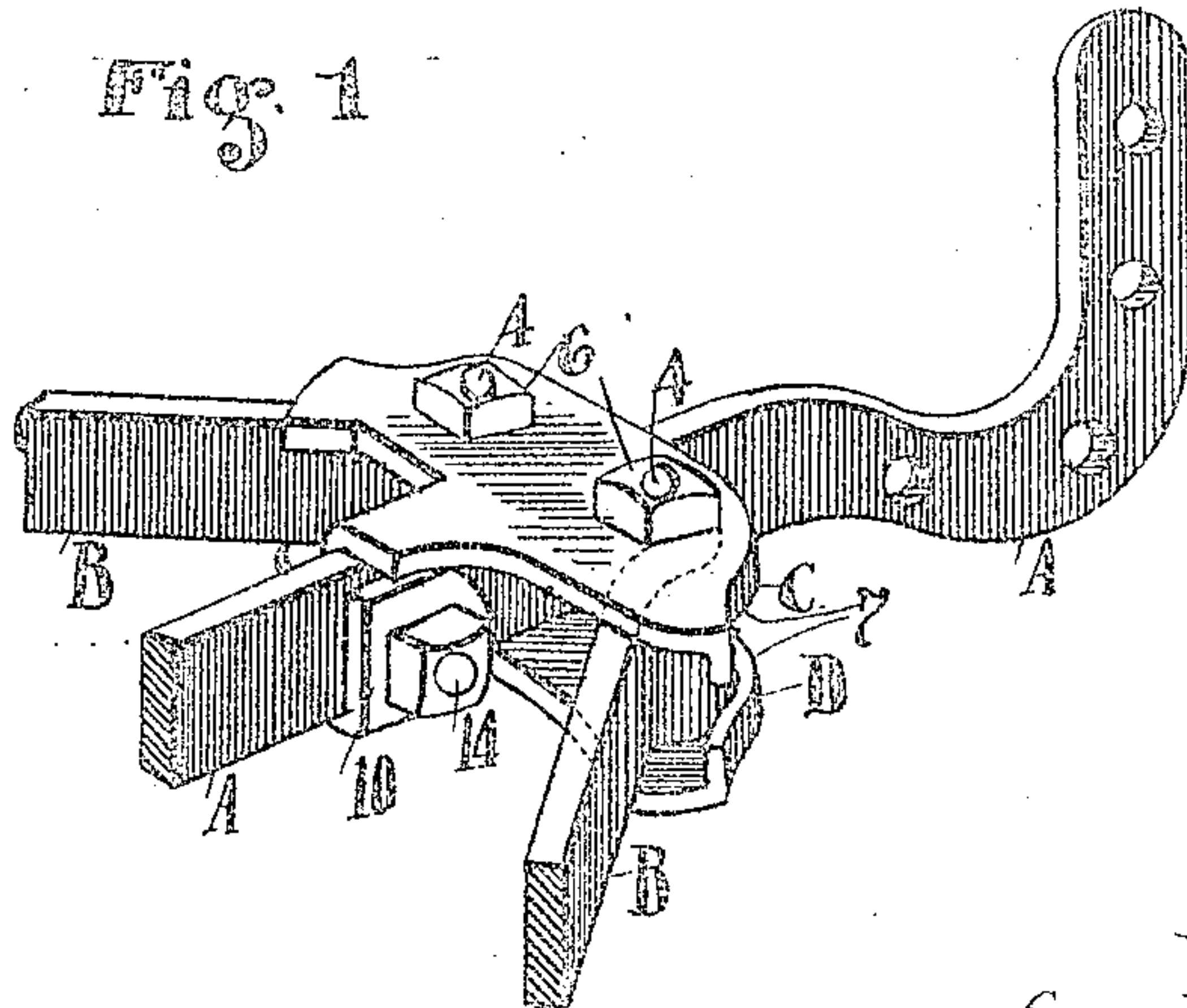


Fig. 2.

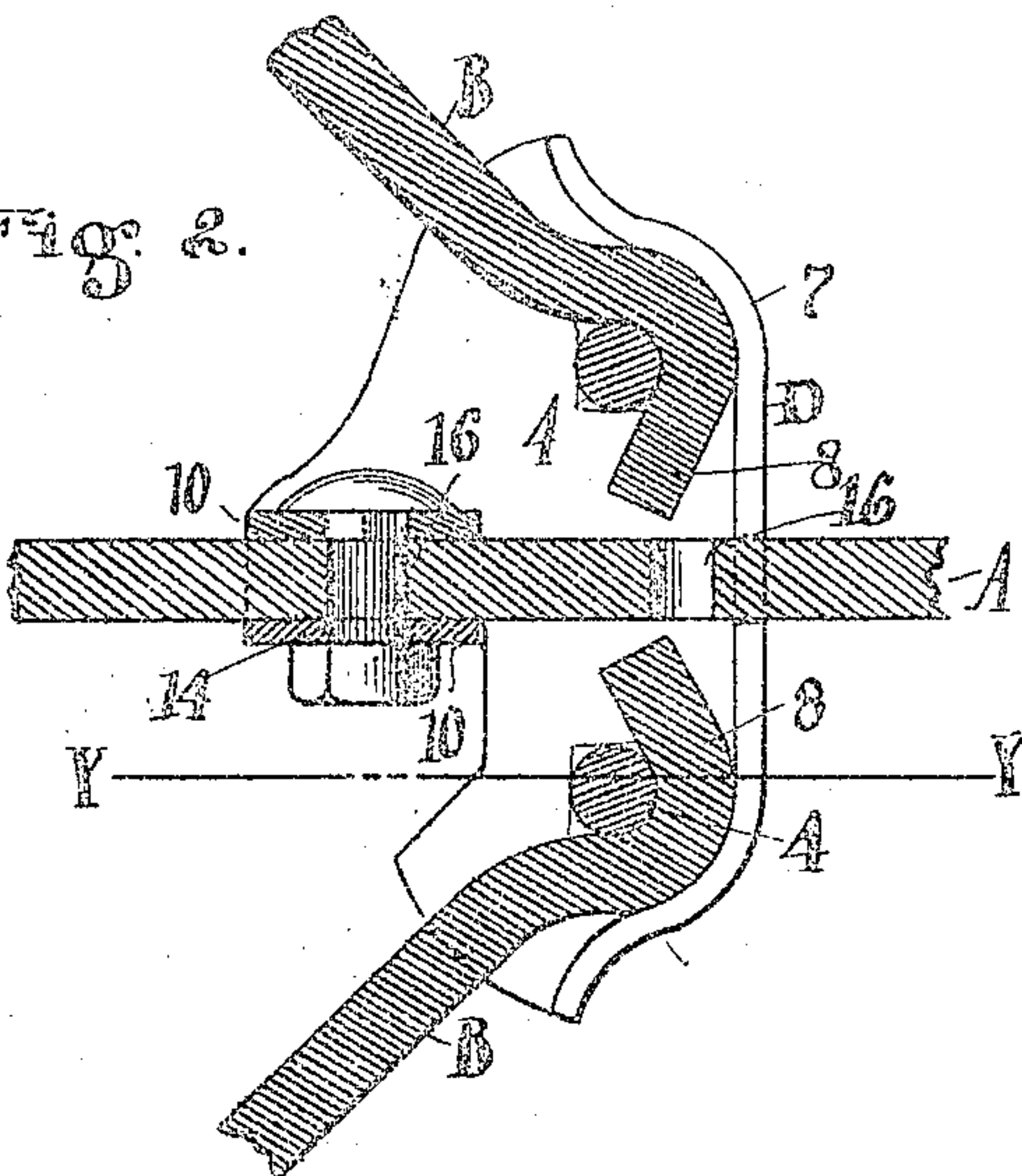


Fig. 3

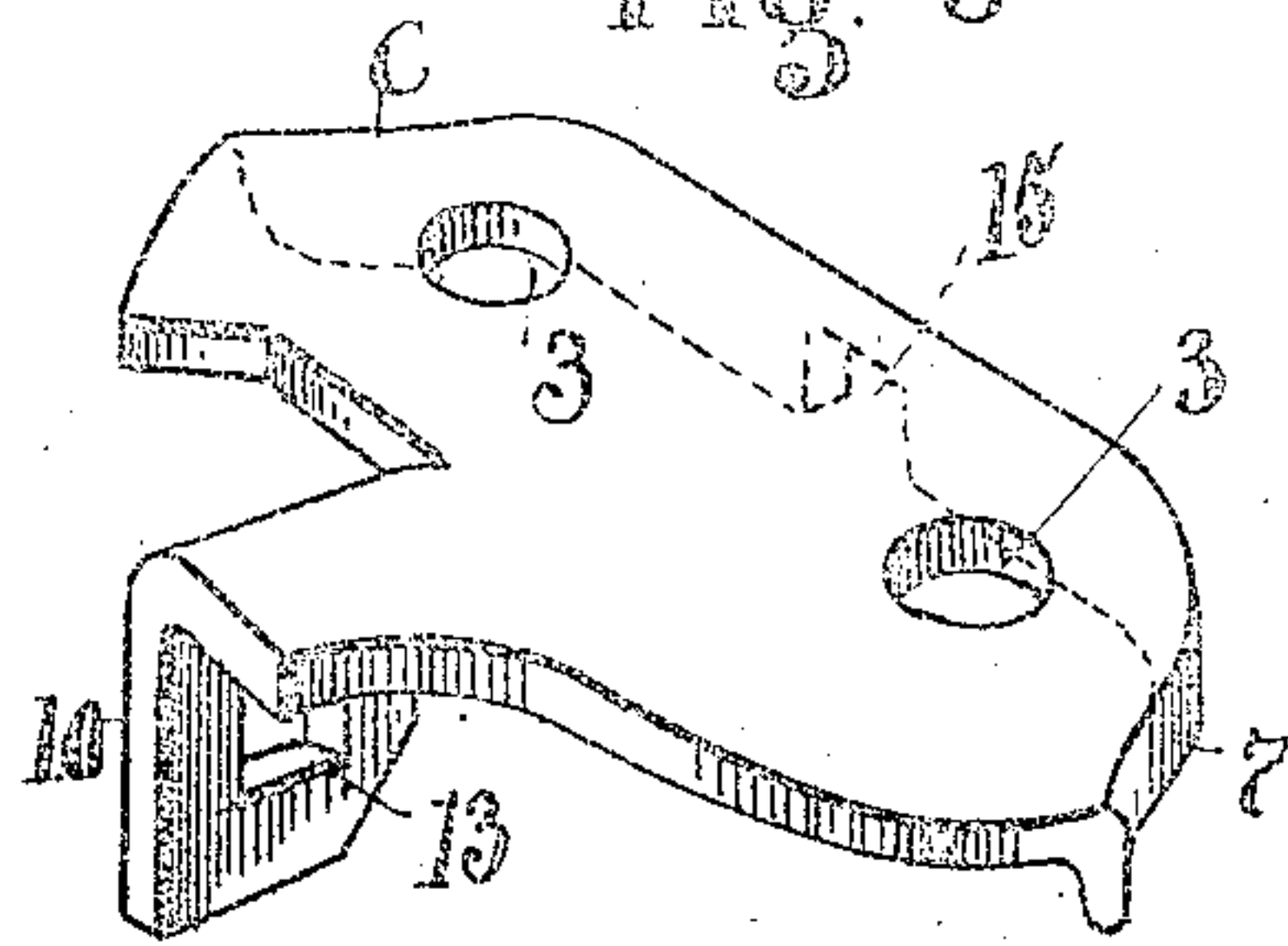


Fig. 4.

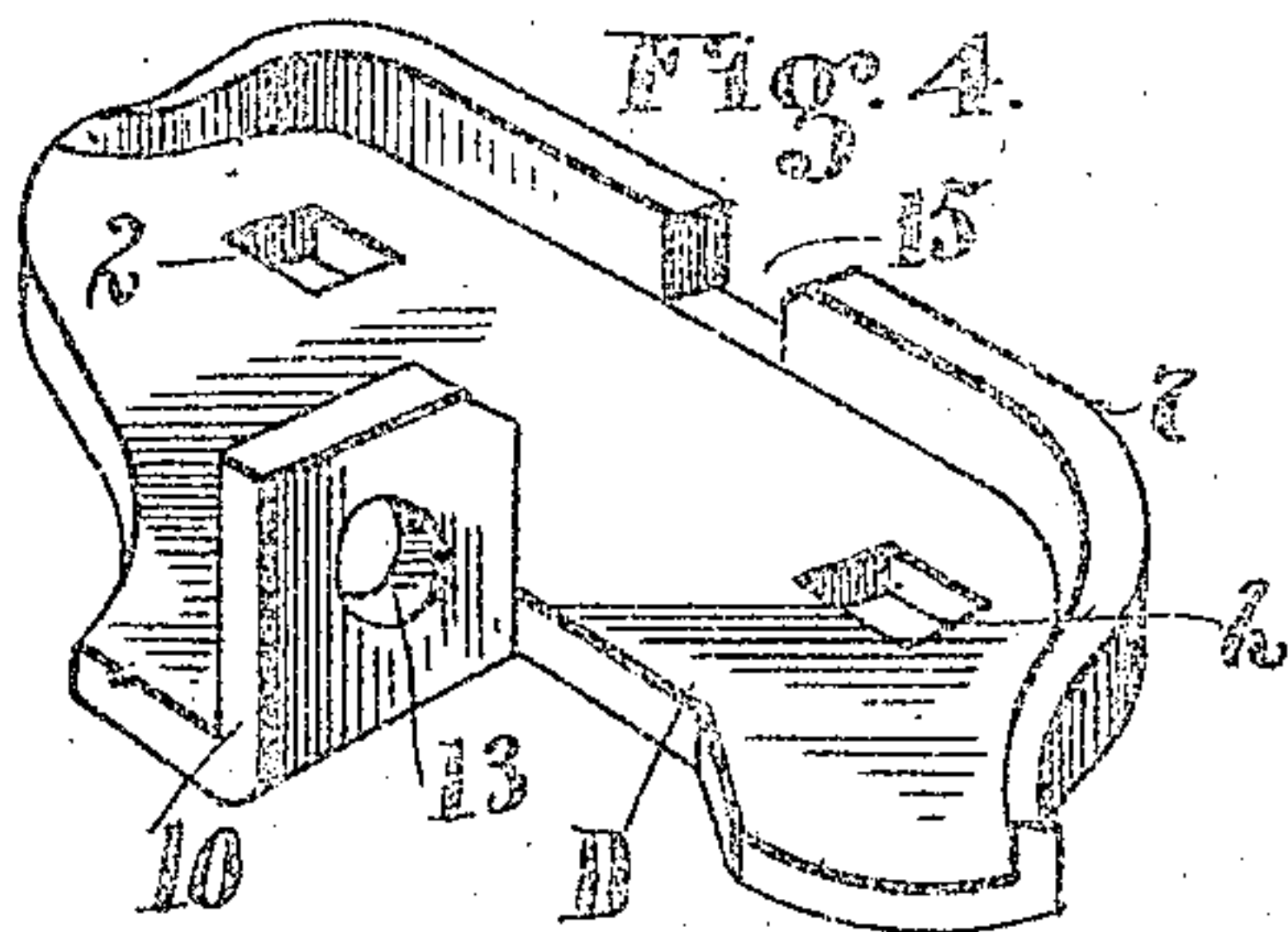


Fig. 5.

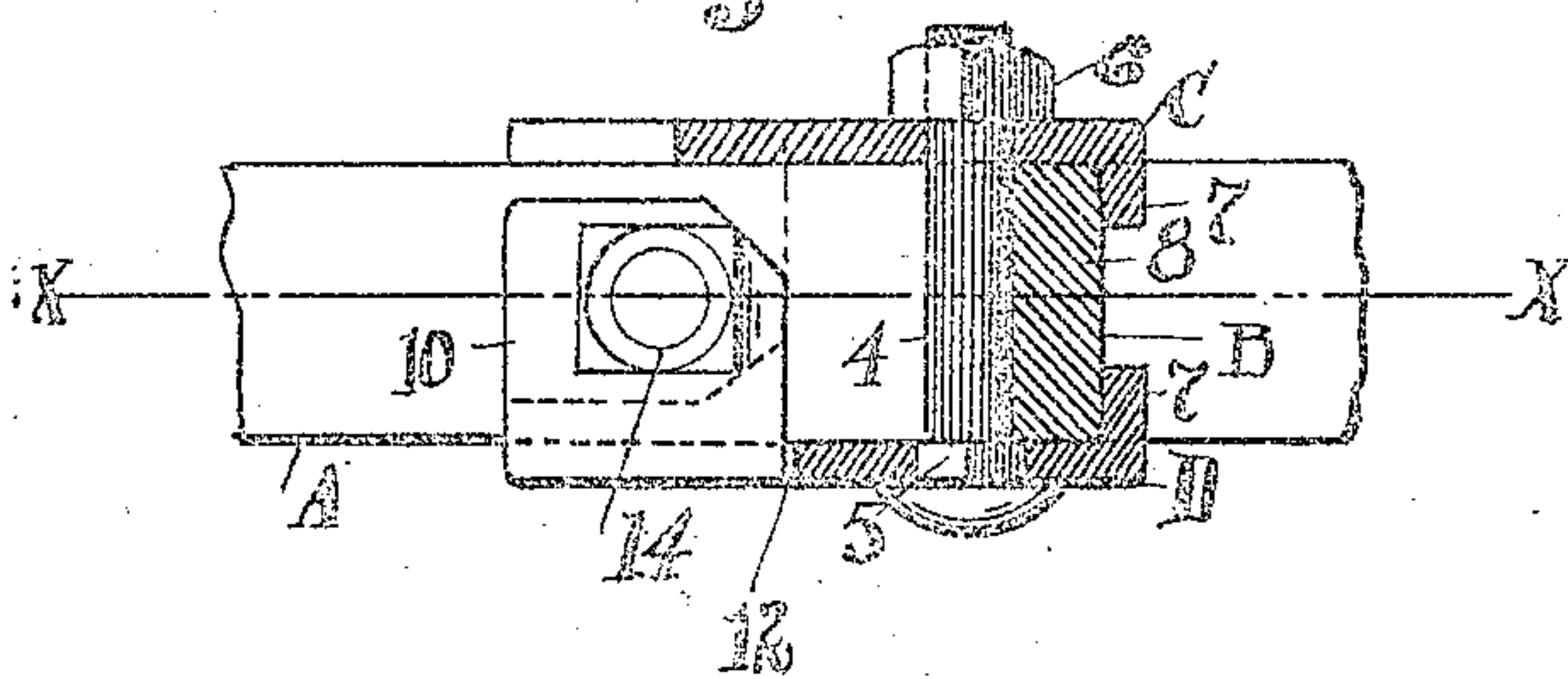
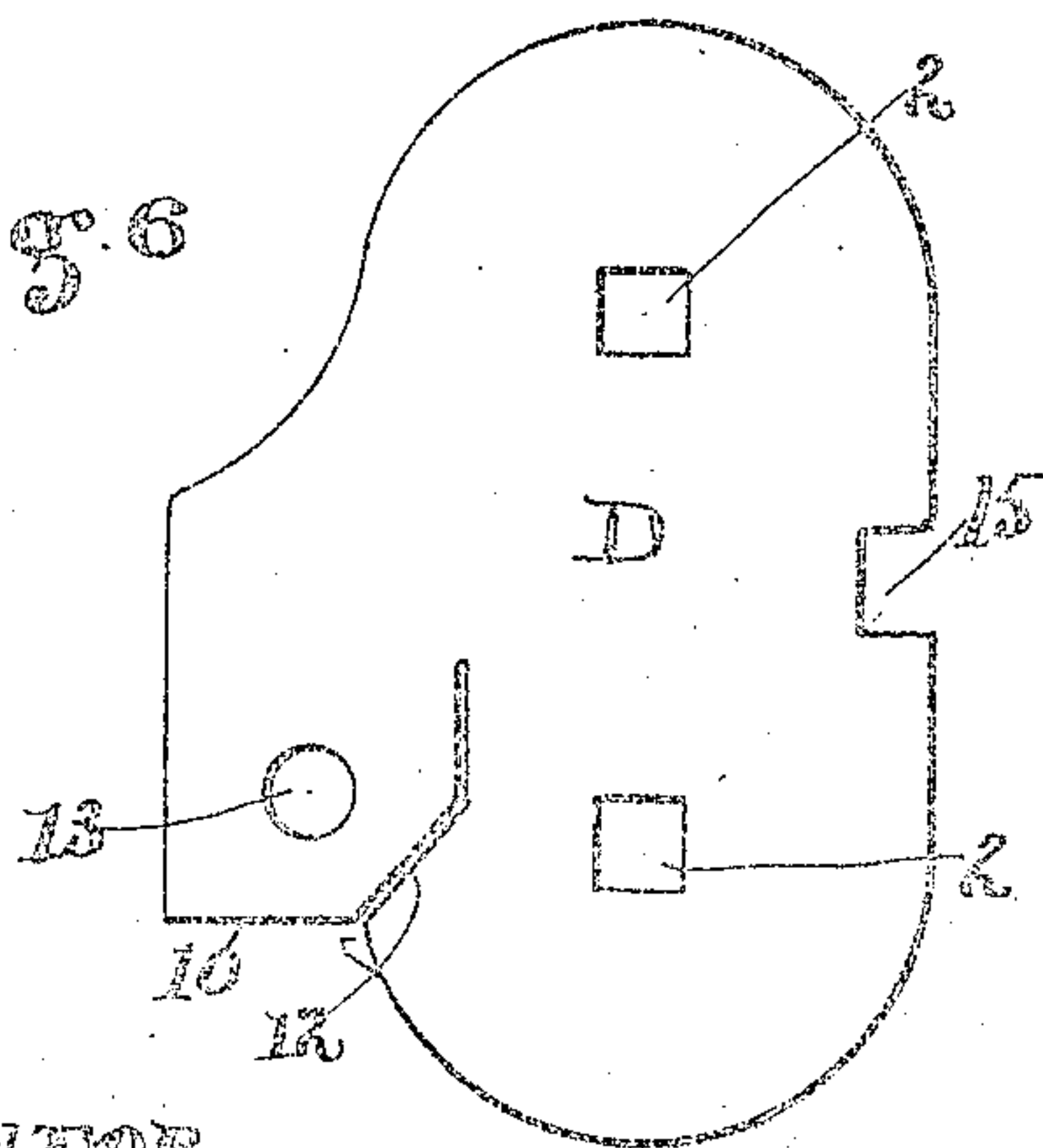


Fig. 6



ATTEST  
E. M. Fisher  
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Elias Haiman.  
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# UNITED STATES PATENT OFFICE.

ELIAS HAIMAN, OF CLEVELAND, OHIO.

CULTIVATOR.

No. 914,568.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed June 15, 1908. Serial No. 433,524.

*To all whom it may concern:*

Be it known that I, ELIAS HAIMAN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Cultivators, and do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in cultivators, and the invention consists in the construction and combination of parts, substantially as shown and described and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of the front end of a cultivator, and Fig. 2 is a sectional plan view thereof on a line corresponding to the middle of the tooth bars longitudinally. Figs. 3 and 4 are perspective views, respectively, of the upper and lower hinge or clamp plates, and Fig. 5 is a cross section on line Y—Y, Fig. 2. Fig. 6 is a plan of a blank from which the respective hinge and clamp plates are formed.

In the drawings thus shown, A represents the central or draft bar of the cultivator, and B the two side bars.

C and D are upper and lower hinge or clamp plates, which are bolted upon and through central bar A and afford the necessary draft engagement and support for the said side bars. The said plates C and D are identical in all essential details except that in this instance one is shown as having square bolt holes 2 and the other coinciding round bolt holes 3, so that the bolts 4 by which they are clamped together upon bar A and which have square shanks 5, will engage in the square holes 4 and prevent turning when the nuts 6 are fastened thereon. Otherwise the said plates might be made identical in these particulars, also and interchangeability of plates has evident advantage. Both plates have flanges 7 along their front edge projecting inward toward each other when the parts are assembled, and coming into such relation with the bolts 4 that when the substantially hook shaped shanks 8 of the side bars B are engaged about or upon said bolts between said plates the said flanges will confine the said bars from without in working position, and they can-

not be disconnected nor removed by accident or otherwise without first releasing the said plates C and D. It will be observed also that the said flanges 7 are curved at a point opposite the bolts 4 and extend far enough around each end of said plates to prevent working out of said side-bars, and the engaging portions of the side bars B are similarly curved and fill the space between the bolts and the said flanges with their curved or hook shaped ends, the inner extremities thereof projecting well inward toward the bar A, thus making a perfect working engagement. Another feature of identity between the said plates C and D is the right angled projection 10, which is cut bodily from the rear portion of the plate by incision 12, Fig. 6, and bent at right angles inward, and has a bolt hole 13 through the same. In both plates the said projection 10 is exactly parallel with one edge of a notch 15 centrally across flange 7, and both said projection and said edge are adapted to bear against the same flat surface of bar A and hence are in alinement. Then as the said plates are placed in position upon the said bar A, one above and the other below the same, the respective projections 10 come directly opposite each other against said bar, one extending upward and the other downward, and with the holes 13 therein registering with transverse hole 16 in the bar and adapted to receive the bolt 14. Said bolt clamps the said projections and bar firmly together and thus fixes the said plates rigidly upon the said bar and prevents possible slipping of the plates thereon as well as affording a firm engagement for bars B. The square edged notches 15 centrally in the flanges 7 fit snugly upon the bar A and contribute to the lateral support of said plates upon the said bar.

The bar A may have one or more holes 16 adapted to be engaged by the transverse bolt 14, so that the side bars may be adjusted back and forth more or less with respect to the said central bar, and two such holes are shown in this instance.

There is material advantage in the foregoing construction both from a manufacturer's point of view and from the point of view on the cultivator. For manufacture, it reduces the invention to all die work as the blank in Fig. 6 shows, and this greatly cheap-



ens and facilitates manufacture, and for the cultivator it affords as rigid and firm an engagement upon the central bar for the side bars as can be conceived. The whole effect  
5 of the oppositely engaged and clamped plates is to strengthen rather than weaken the central bar, and the construction is such as to promote easy and speedy assembling of the parts and all said parts are machine made  
10 ready for use.

What I claim is:--

1. A cultivator having a central bar and side-bars, in combination with hinge plates for the side-bars engaged top and bottom  
15 across the edges of said central bar, said plates having inwardly extending flanges along their front edges to confine the said side bars and inward projections 10 at their rear edges bearing against opposite sides of  
20 said central bar, a bolt engaged through both

said projections 10 and said central bar, and pivots between said plates on which said side-bars are hinged.

2. As a new article of manufacture and sale, a hinge plate for the side bars of culti- 25 vators constructed with a flange 7 about its front edge and a notch 15 across the middle of said flange, and provided with bolt holes behind said flange on opposite sides of its center and an inward projection 10 at right an- 30 gles to its face having a flat side in line with one of the side edges of said notch 15 and a bolt hole through its center.

In testimony whereof I sign this specification in the presence of two witnesses.

ELIAS HAIMAN.

Witnesses:

E. M. FISHER,  
R. B. MOSER.