

P. A. PEER.
Harrow-Teeth.

No. 224,722.

Patented Feb. 17, 1880.

Fig. 1.

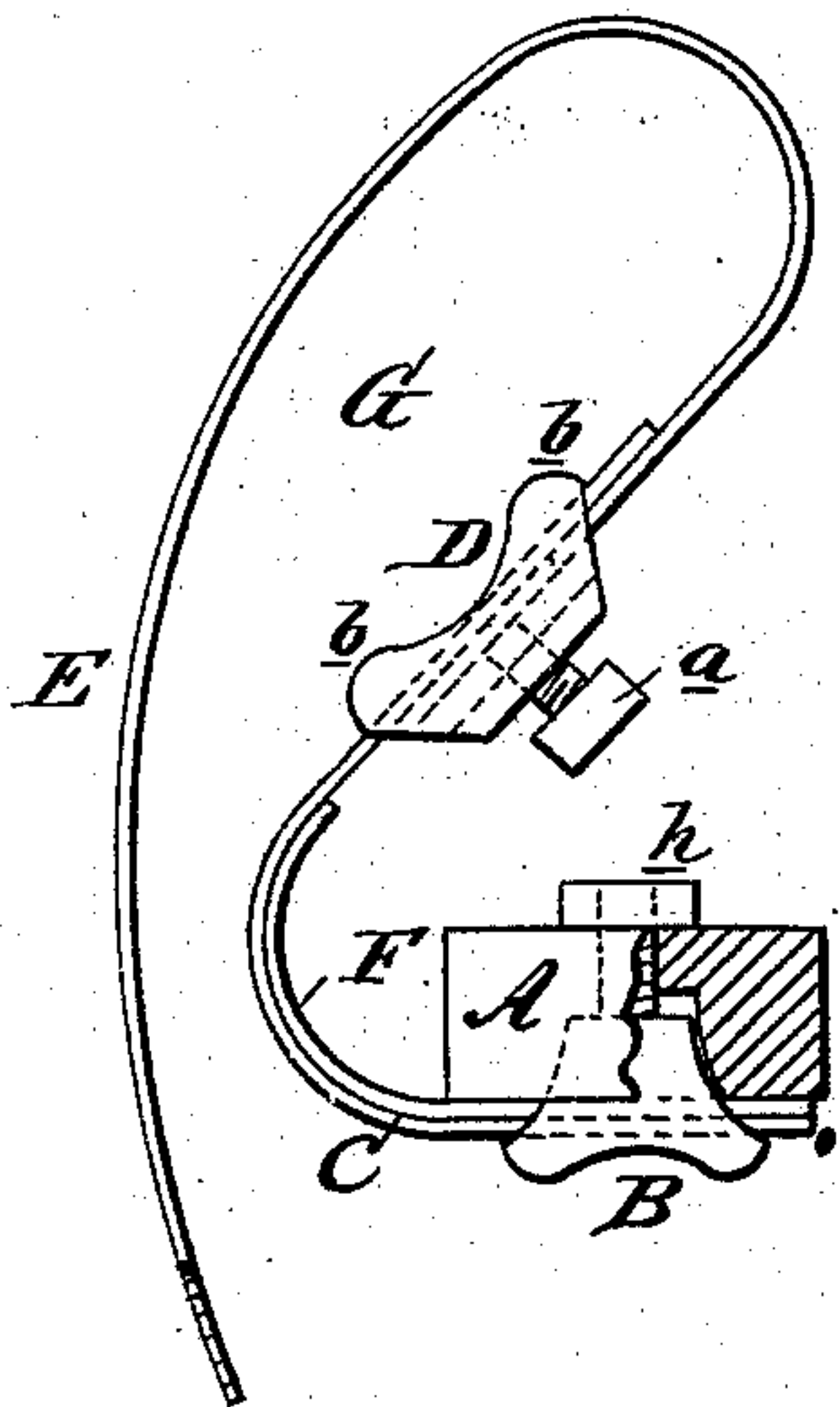


Fig. 2.

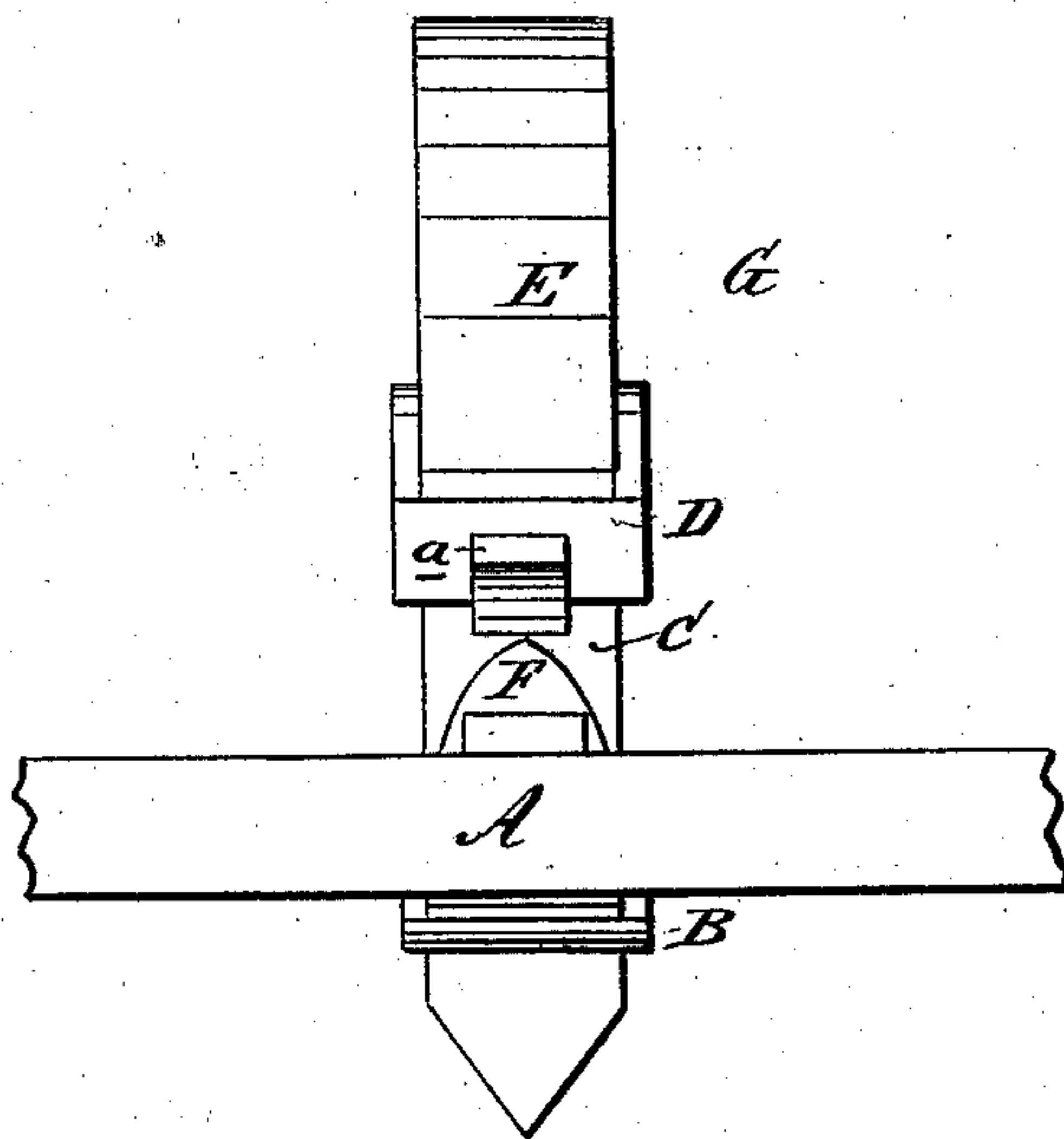


Fig. 3.

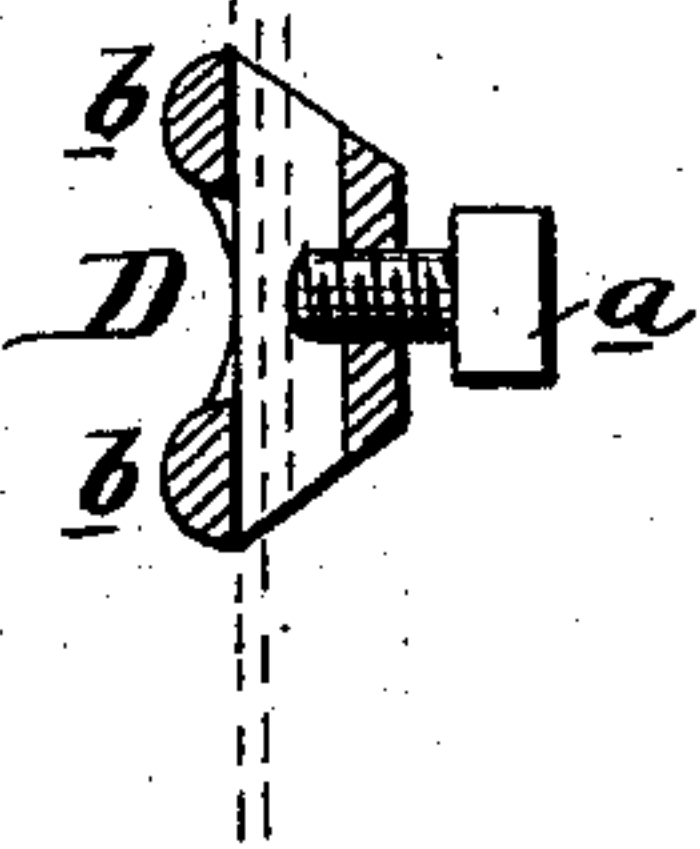


Fig. 4.

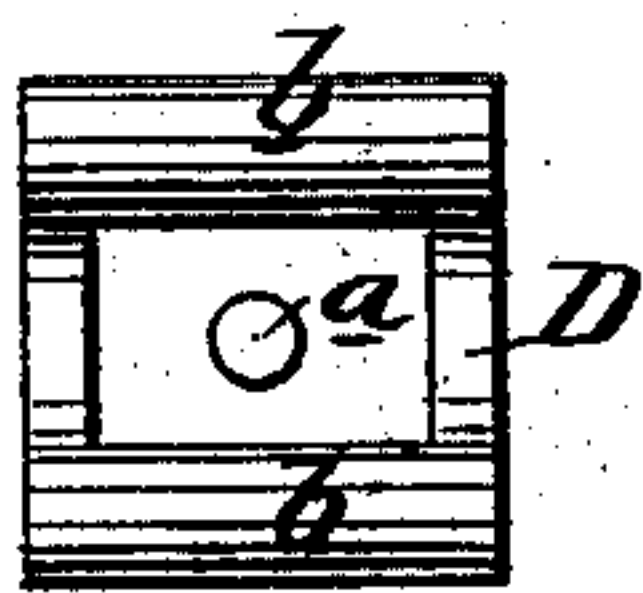


Fig. 5.

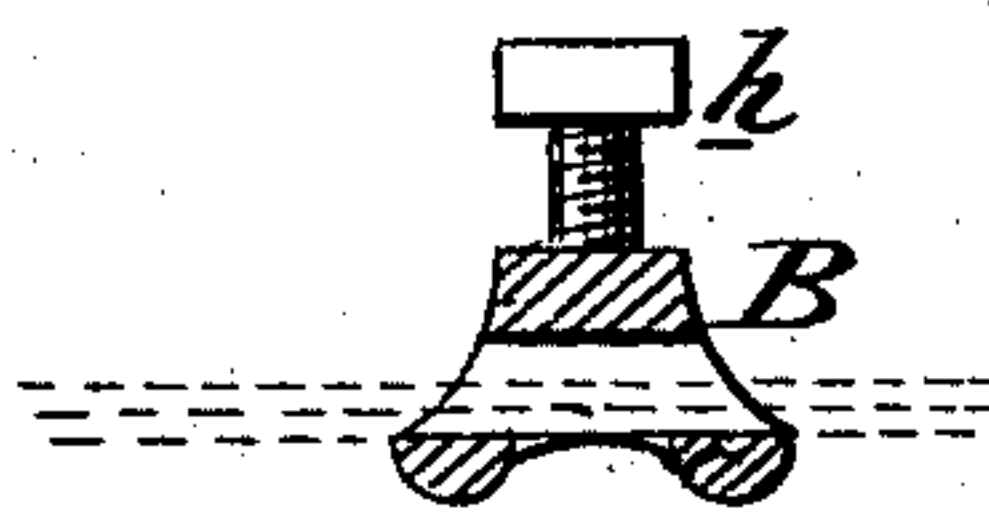
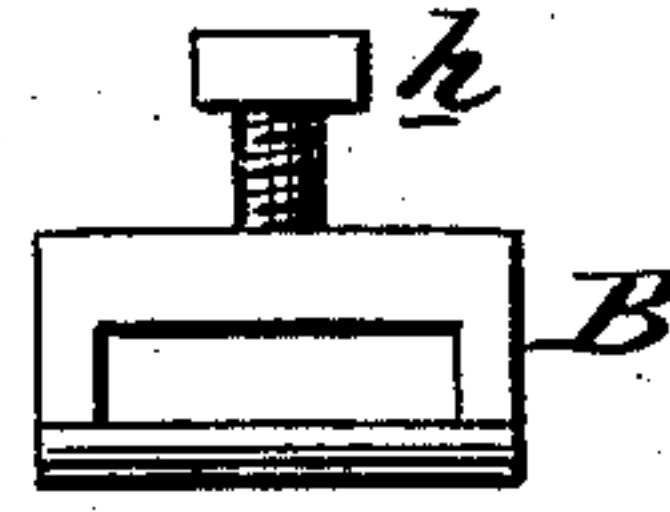


Fig. 6.



WITNESSES:

A. Seehl.
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UNITED STATES PATENT OFFICE.

PERRY A. PEER, OF COMSTOCK, MICHIGAN.

HARROW-TEETH.

SPECIFICATION forming part of Letters Patent No. 224,722, dated February 17, 1880.

Application filed December 27, 1879.

To all whom it may concern:

Be it known that I, PERRY A. PEER, of Comstock, in the county of Kalamazoo and State of Michigan, have invented a new and Improved Harrow-Tooth, of which the following is a specification.

Figure 1 is a side elevation, partly in section, showing the harrow-tooth attached to a harrow-beam. Fig. 2 is a rear elevation of the same. Fig. 3 is a side elevation, partly in section, of the coupling-clip holding the two parts of the tooth together. Fig. 4 is a front elevation of the same. Fig. 5 is a sectional end elevation of the fastening-clip holding the harrow-tooth to the harrow-beam. Fig. 6 is a side elevation of the same.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide a spring harrow-tooth made in two parts, whose point is vertically adjustable in such a manner that it may be raised or lowered without altering its pitch or draft, and the tooth be thereby stiffened or made more flexible for deep or shallow work.

The invention consists of a harrow-tooth whose point and shank are both elliptical or C-shaped, and are adjustably connected with each other by a clamp and set-screw in such a manner that the vertical lowering or raising of the point shall stiffen the tooth or render it more flexible, as the case may be; and it consists, further, of open-barred clamps for holding the parts of the tooth together and for attaching it to the harrow-beam.

In the drawings, A represents a harrow-beam, to the under side of which is held, by the fastening-clip B, one end of the tooth-shank C, that extends rearward and curves upward and forward, as shown, forming an elliptical or C-shaped spring. Overlapping the free and upper end of this shank C, and held to it by the open and barred clamp D, is one end, E, of the harrow-tooth G, which end E inclines upward for a short distance in the same line with the free end of the shank C, and then curves rearward, downward, and inward until its free lower end is at a suitable distance below the harrow-beam, forming also a C-shaped or elliptical spring, which, in combination with the shank of the tooth, forms a

tooth, G, somewhat resembling in shape the letter S.

The sliding clamp D, which holds the parts C and E together, is a very simple and valuable device for the purpose of securing the parts together, and having a set-screw, *a*, tapped into it, it clamps the tooth firmly between set-screw *a* and bars *b b* at any point of its adjustment without making holes, slots, or in any way cutting and weakening the tooth.

I am aware that teeth have been made in two parts and adjusted by means of slots and holes, which, however, impair the strength of the teeth. At the point where the point and shank of this tooth G overlap each other and are held by the clamp D the two parts are parallel with each other, but at angles of about forty-five degrees from the horizontal face of the harrow, so that in raising or lowering the tooth end E the point keeps at the same pitch or draft, and this I consider a great advantage.

Another advantage of the construction of the tooth as herein shown is that the shank or spring of the tooth closes instead of opens when at work, thereby imparting the greatest strength to the tooth at the time when it is most required.

The auxiliary leaf F may be added to stiffen the shank C for work in heavy or clay soil; but this will rarely be necessary, for it will be observed that as the tooth-point is lowered for deep work the lapping parts double the tooth at that point, and thereby stiffen the tooth, and when the tooth-point is raised for shallow work the said lap is drawn out and the tooth thereby made more flexible. It is therefore found that this adjustment of the parts of the tooth is sufficient for all ordinary work without the auxiliary leaf F.

The two parts of this tooth may be made of different thicknesses of metal, and the point may be made proportionately wider or thicker than shown that it may be more easily ground and dressed, because of consequent decreased flexibility.

The looped socketed fastening-clip B, having but one shank or bolt and nut, *h*, shaped as shown, whereby the harrow-tooth is securely clamped to the beam or frame and held securely both vertically and laterally without cutting transverse grooves in beam or frame

or holes in tooth, with the effect of weakening them, possesses advantages over all other methods for fastening harrow-teeth with which I am acquainted.

5 Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. An adjustable spring harrow-tooth made substantially as herein described, of an elliptical or C-shaped shank, C, and an elliptical
10 or C-shaped tooth end, E, held together by the barred sliding clamp D and set-screw a, as set forth.

2. In a harrow-tooth, the auxiliary leaf or

spring F, in combination with the shank C, 15 substantially as herein shown, whereby the tooth may be strengthened for heavy work, as set forth.

3. In a spring harrow-tooth, the barred sliding clamp D, provided with set-screw a, in 20 combination with the shank C and end E of the harrow-tooth, substantially as herein shown, and for the purpose described.

PERRY A. PEER.

Witnesses:

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J. L. DUNBAR.