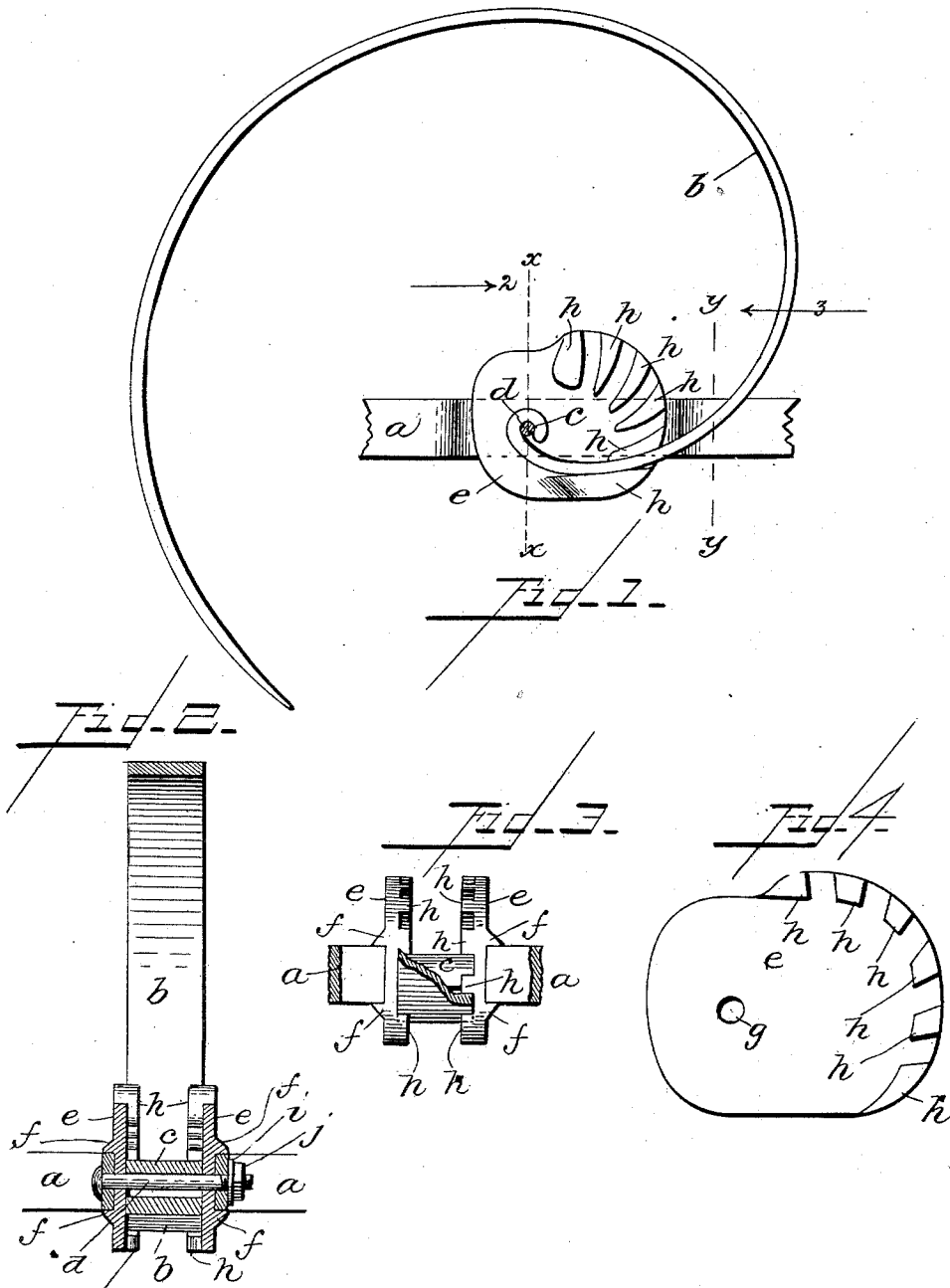


(No Model.)

E. S. BROOKS.
HARROW TOOTH FASTENING.

No. 468,446.

Patented Feb. 9, 1892.



WITNESSES
F. L. Ouraud.
Ed. [Signature]

INVENTOR
Edward S. Brooks
by W. H. Finckel.
Attorney.

UNITED STATES PATENT OFFICE.

EDWARD S. BROOKS, OF YORK, PENNSYLVANIA.

HARROW-TOOTH FASTENING.

SPECIFICATION forming part of Letters Patent No. 468,446, dated February 9, 1892.

Application filed August 17, 1891. Serial No. 402,911. (No model.)

To all whom it may concern:

Be it known that I, EDWARD S. BROOKS, a citizen of the United States, residing at York, in the county of York and State of Pennsylvania, have invented a certain new and useful Improvement in Harrow-Tooth Fastenings, of which the following is a full, clear, and exact description.

The object of this invention is to provide a fastening or holder for the teeth of spring-tooth harrows by which such teeth may be readily adjusted to compensate for wear and for other usual purposes.

In my invention I employ for each tooth a pair of brackets having series of lugs, which engage opposite edges of the tooth to hold it in adjusted position, and these brackets and the tooth are united and secured to the supporting frame-work by a single bolt passed transversely through the frame-work, brackets, and an eye at the end of the tooth, all as I will proceed now more particularly to set forth and finally claim.

In the accompanying drawings, illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is a side elevation with the near bracket removed. Fig. 2 is a section in the plane of line *xx* of Fig. 1 and looking in the direction of the arrow 2. Fig. 3 is a section taken in the plane of line *yy*, Fig. 1, and looking in the direction of the arrow 3; and Fig. 4 is a side elevation of a modified form of bracket.

The bars *a* of the frame-work may be of usual construction. The tooth *b* also may be of usual construction, excepting that I provide it with an eye *c* to receive the bolt *d*, by which the tooth, the frame-work, and the tooth fastening or holder are united.

To receive, hold, and adjust the tooth, I employ a pair of brackets *e*, which are provided on the outside with parallel ribs *ff* to constitute sockets to receive and align the bars *a* and the brackets. A bolt-hole *g* (see especially Fig. 4) is made in each bracket for the passage of the bolt *d*. The brackets are provided at front and on the inside with series of lugs *h*, forming sockets to receive the tooth *b*, and the lugs engage the tooth by its opposite edges and on top and bottom, so as to afford a firm bearing for it capable of resist-

ing upward and downward thrust and strain. In Figs. 1, 2, and 3 these lugs are shown as curved to the curvature of the tooth; but obviously the lugs may be made shorter and with straight edges, as seen in Fig. 4, and accomplish the same purpose. The brackets having the construction described may be produced by casting.

The operation is as follows: The tooth is placed between a pair of brackets and between opposite lugs thereon, the frame-work bars are inserted in the sockets formed by the ribs *f*, and then the bolt *d* is passed through the bars *a*, brackets, and eye *c*, and a washer *i* and nut *j* are applied and turned up tight, thereby drawing the parts together and firmly confining the tooth between the lugs of the brackets against up-and-down movement and confining it by its eye against lengthwise movement or slip. I wish to call special attention to the fact that the lugs, being fixed to the brackets and themselves being immovable, afford a rigid bearing and secure support for the tooth. When it is desired to change the elevation of the tooth, the bolt is loosened sufficiently to permit the separation of the brackets far enough to free the tooth from the lugs, and then the tooth is placed between other lugs to get the necessary adjustment, the brackets moved up into engagement with it, and the bolt again tightened. One bolt only is used to secure the frame-work and brackets together and to hold the tooth in place in the brackets, and thus the manipulation of the device is simplified and its cost of production reduced. Inasmuch as the brackets themselves are the medium for fastening or holding the tooth and also for adjusting it, it is apparent that my device possessing these characteristics may be produced at much less cost than those where the retention of the tooth is provided for by one set of means and its adjustment by another set of devices.

Obviously my holder or fastening is applicable to cultivator-teeth and for the teeth, blades, shares, plows, or other kindred devices of various machines, and, while I have illustrated its application to harrows only, I wish to be understood as including within my claims the use of my holder or fastening in

whatsoever relation and upon whatsoever machines it is applicable.

What I claim is—

1. A tooth fastening or holder composed of
5 a pair of brackets having series of lugs on adjacent faces to receive and hold the tooth by its opposite edges and a bolt for connecting the brackets and tooth, substantially as described.
- 10 2. A tooth fastening or holder composed of a pair of brackets constructed with external ribs to engage the frame-work and also provided with series of internal lugs to engage opposite edges of the tooth, and a bolt passed through the frame-work, brackets, and an eye 15 in the tooth to bind all together, substantially as described.

In testimony whereof I have hereunto set my hand this 14th day of August, A. D. 1891.

EDWARD S. BROOKS.

Witnesses:

WM. F. RAMSAY,
D. E. SMALL, II.