S. F. REYNOLDS.

Harrow.

No. 215,975. Patented May 27, 1879.

Fig. 1.

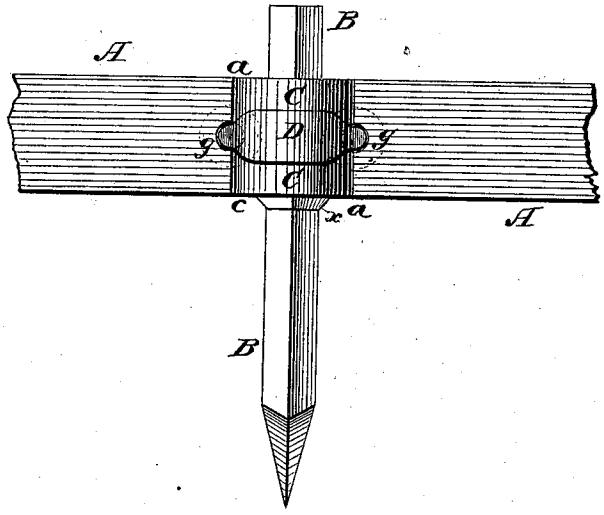


Fig. 2.

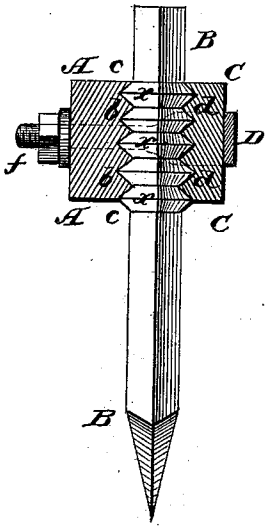


Fig. 3.

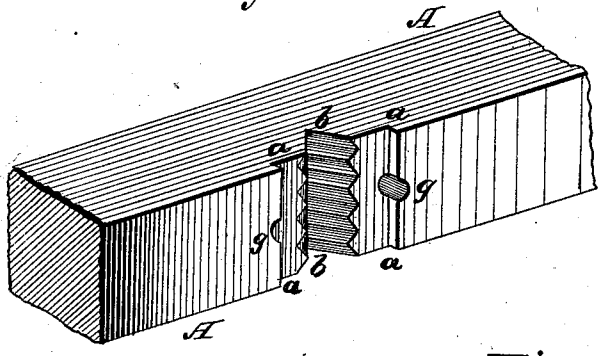


Fig. 4.

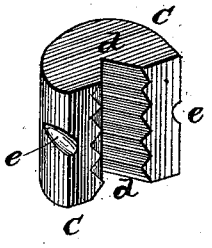
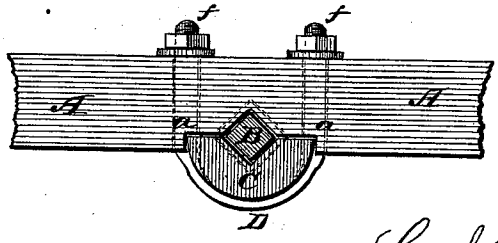


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

SAMUEL F. REYNOLDS, OF AUBURN, NEW YORK.

IMPROVEMENT IN HARROWS.

Specification forming part of Letters Patent No. **215,975**, dated May 27, 1879; application filed March 21, 1879.

To all whom it may concern:

Be it known that I, SAMUEL F. REYNOLDS, of Auburn, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Harrows; and I do hereby 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to harrows; and it consists in the construction and arrangement of a device for holding the teeth in the timbers, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a side elevation of my invention. Fig. 2 is a vertical section of the same. Fig. 3 is a perspective view of the timber. Fig. 4 is a perspective view of the cap or holder, and Fig. 5 is a plan view.

B represents the harrow-tooth, made of a tapering piece of steel, with four sides and square corners, as shown, the lower end of the tooth running down to a point. A portion of the body of the tooth B is formed with raised teeth *x x*, substantially in the manner described in my Letters Patent dated January 1, 1878.

A represents one of the timbers of the harrow, which is prepared in the following manner: After the timber is cut the proper length it is passed under a revolving cutter, which forms the right-angular bed for the tooth, and in this bed are then pressed a number of grooves, *b*, as shown in Fig. 3, for the raised portions *x* of the tooth to fit in. At each side of the bed in the timber is cut a square shoulder, *a*, and through the timber, at or near the center of each shoulder, is bored a hole, *g*, the end of which lies only one half in the timber, the other half being formed in the cap, as hereinafter described.

C represents the cap, which is made in semi-cylindrical form, of such a size as to fit snugly in the shoulders *a a* of the timber. On the inner side of the cap is formed a right-angular seat, corresponding with the seat in the timber, and in such seat are formed grooves *d* for the raised portions *x* of the tooth. This cap may be made of iron or wood. When made of iron, it may either be cast in the form shown, or it may be made under a drop-hammer, or in a press. When made of wood, the grooves are pressed in the same as in the timber.

D represents the yoke for holding the parts together. This yoke is made flat, as shown, to fit around the outside of the cap, and at each end it is formed with a round bolt, *f*. These bolts are passed through the holes *g* in the timber, there being formed in each side of the cap a notch or semicircular groove, *e*, which corresponds with the end of the groove that lies only half in the timber, as above stated.

Nuts *h* are screwed on the ends of the bolts, for fastening the parts firmly and rigidly together.

It will be noticed that the cap C lies in the shoulders *a a* of the timber, and hence cannot by any possibility have any lateral motion to disarrange the tooth; and the bolts *f*, fitting in the notches *e e* in the sides of the cap, prevent any up and down movement. With my device, also, the teeth cannot drop out and come loose.

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

1. In combination with a harrow-tooth, B, the timber A, cut to form the grooved seat *b* and shoulders *a a*, and the cap C, also formed with a grooved seat, and fitting in the shoulders of the timber, the grooves in the two seats fitting over the raised teeth *x* of the tooth, substantially as herein set forth.

2. The combination of the timber A, having grooved seat *b*, shoulders *a a*, and holes *g g*, the tooth B, provided with raised teeth *x x*, the cap C, formed with the grooved seat *d* and notches *e e*, and the yoke D, with bolts *f f* and nuts *h h*, all constructed substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

SAMUEL F. REYNOLDS.

Witnesses:
CHARLES G. CURTIS,
E. H. COBB.