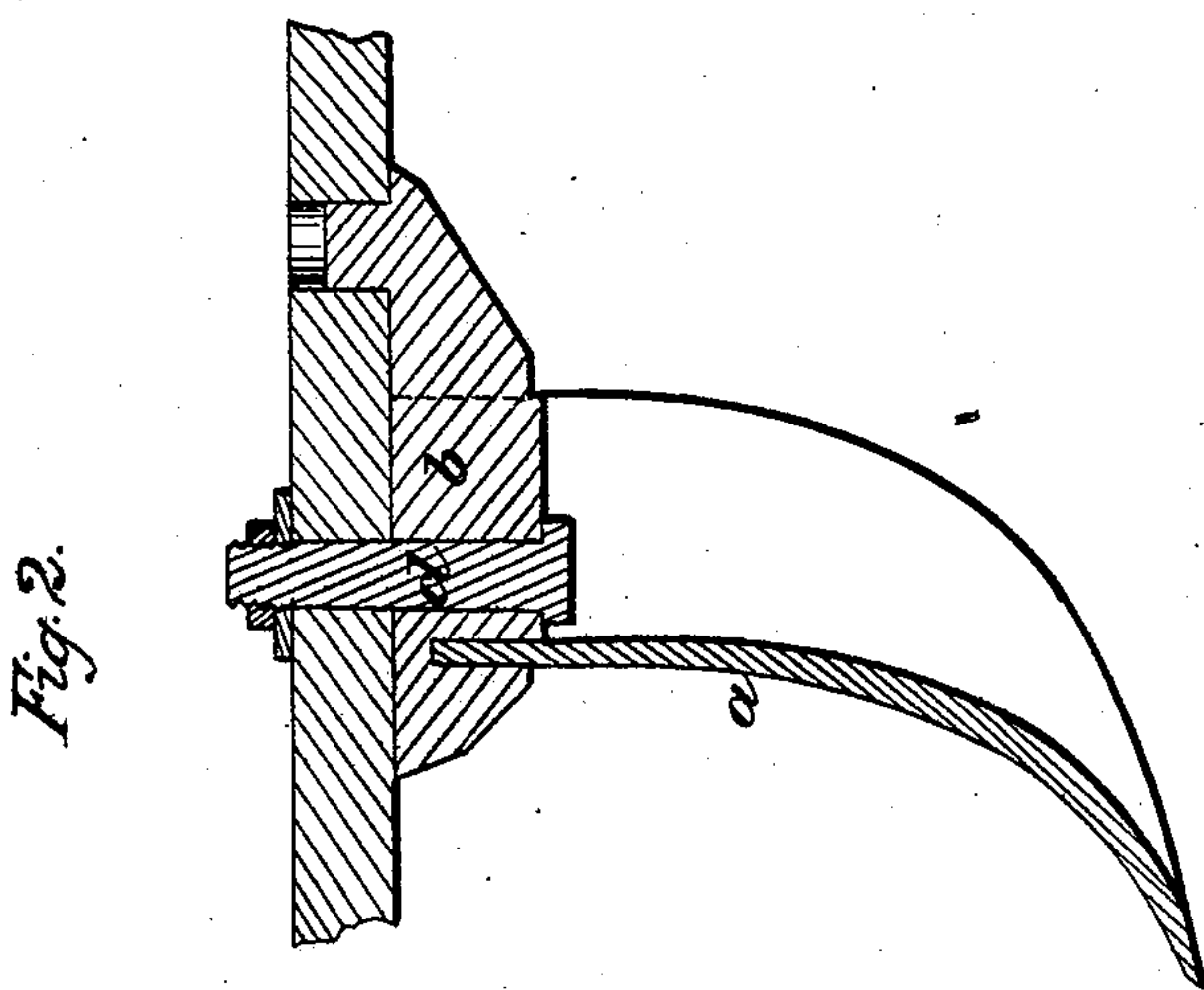
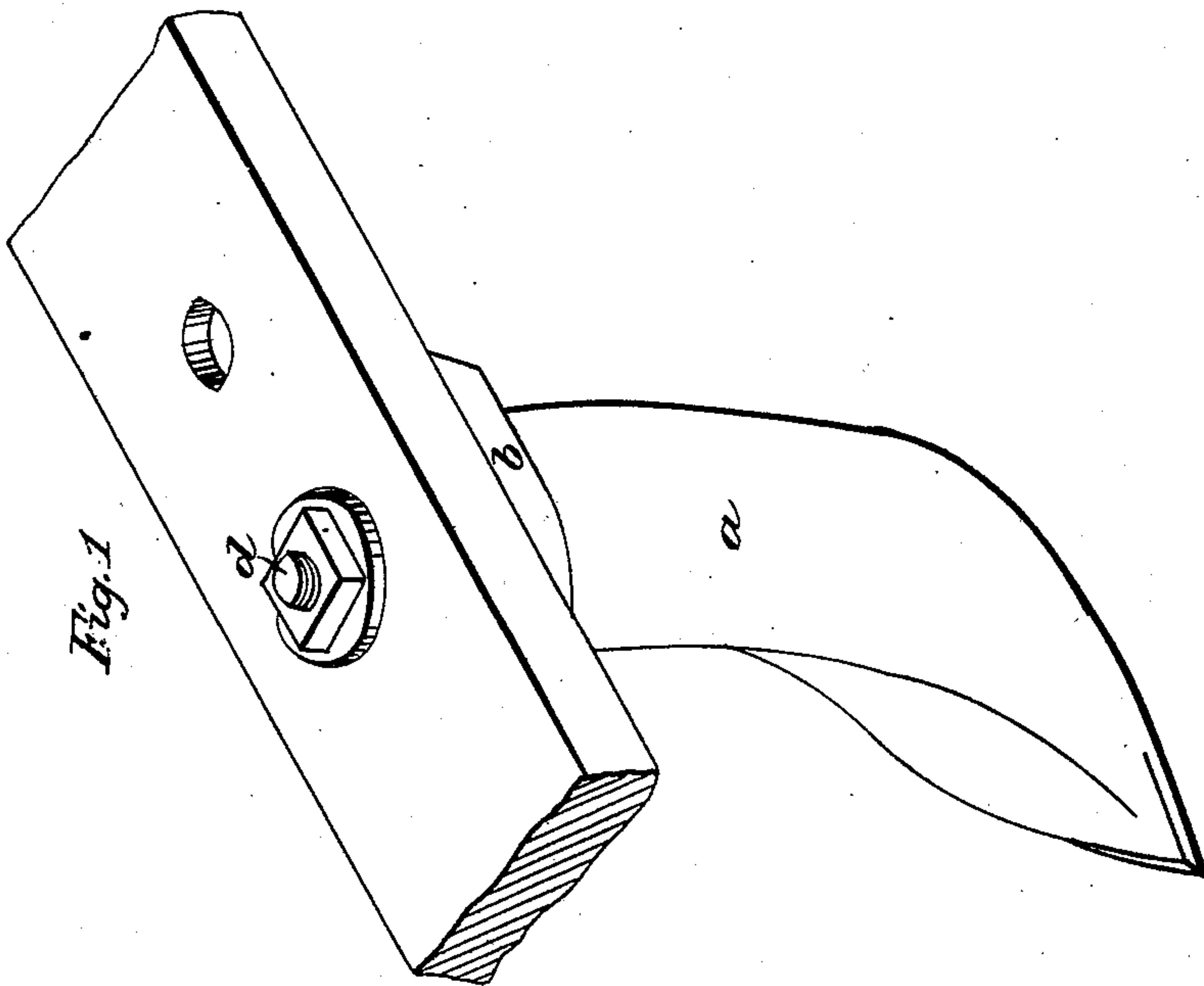


F. R. FORSYTHE.

Cultivator-Teeth.

No. 17,925.

Patented Aug. 4, 1857.



UNITED STATES PATENT OFFICE.

F. R. FORSYTHE, OF CAPE VINCENT, NEW YORK.

IMPROVEMENT IN CULTIVATOR-TEETH.

Specification forming part of Letters Patent No. 17,925, dated August 4, 1857.

To all whom it may concern:

Be it known that I, F. R. FORSYTHE, of Cape Vincent, Jefferson county, and State of New York, have invented a new and useful Improvement in Cultivator-Teeth, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of a cultivator-tooth made on my improved plan, and Fig. 2 a longitudinal vertical section thereof.

The same letters indicate like parts in both the figures.

The cultivator-tooth has heretofore been made either all cast or of forged metal; but when forged, which experience has established to be the best, the portion exposed to wear should be made of steel for greater durability, and the better to preserve a cutting-edge to cut roots in passing through the ground. When thus made it is very expensive, mainly on account of its peculiar form. It must be thin, on account of the weight, and to admit of sharpening as it wears, and the upper part of the shank should be an enlarged boss, to present a broad surface to the beam, to which it is secured by a bolt, for if the shank be made in the form of a stem to pass through the beam it soon becomes loose and must be renewed.

To obviate all these difficulties my invention consists of a new manufacture of cultivator-tooth, made of sheet-steel of the required thickness bent to the required form, with a boss cast on the upper end, presenting a large surface to fit against the under surface of the beam, and with a hole for a securing-bolt to pass through.

In the accompanying drawings, *a* represents the cultivator-tooth, made of sheet-steel of the required and uniform thickness throughout, which, when heated, is simply bent to the re-

quired form on a mold or swage. The upper end is then sheared off to present fresh-cut steel. The tooth thus formed is secured in a mold of the form required for the boss *b* at the upper end, the upper end or shank of the tooth being placed so as to extend about three-quarters of an inch within the mold, and the cast-iron run into the mold around the shank; and as the upper end of the steel is fresh cut and clean, and being of steel, it is brought to such a high degree of heat by the molten cast-iron as to form a perfect union therewith, while that part of the cast-iron boss outside and inside of the boss in cooling contracts and grips the steel shank, so as to hold it with great firmness. The hole for the screw-bolt *d*, by which the whole is secured to the beam, can be either drilled through the boss afterward or formed in the process of casting by a core in the usual way. In this way I produce a new manufacture of cultivator-teeth which presents a thin steel blade of equal thickness throughout to admit of ready sharpening, of great strength and lightness on account of the double-arched form, and with a broad and strong boss firmly united to it, by means of which and a simple bolt the whole can be connected with the beam in a firm and substantial manner, while at the same time it can be produced at much less cost than any wrought-metal tooth heretofore made.

What I claim as my invention, and desire to secure by Letters Patent, is—

The new manufacture of cultivator-tooth, consisting of a sheet-steel blade bent to the required form, with a cast-iron boss cast thereon, substantially as specified.

F. R. FORSYTHE.

Witnesses:

JAMES FORSYTHE,
S. S. BURKE.