

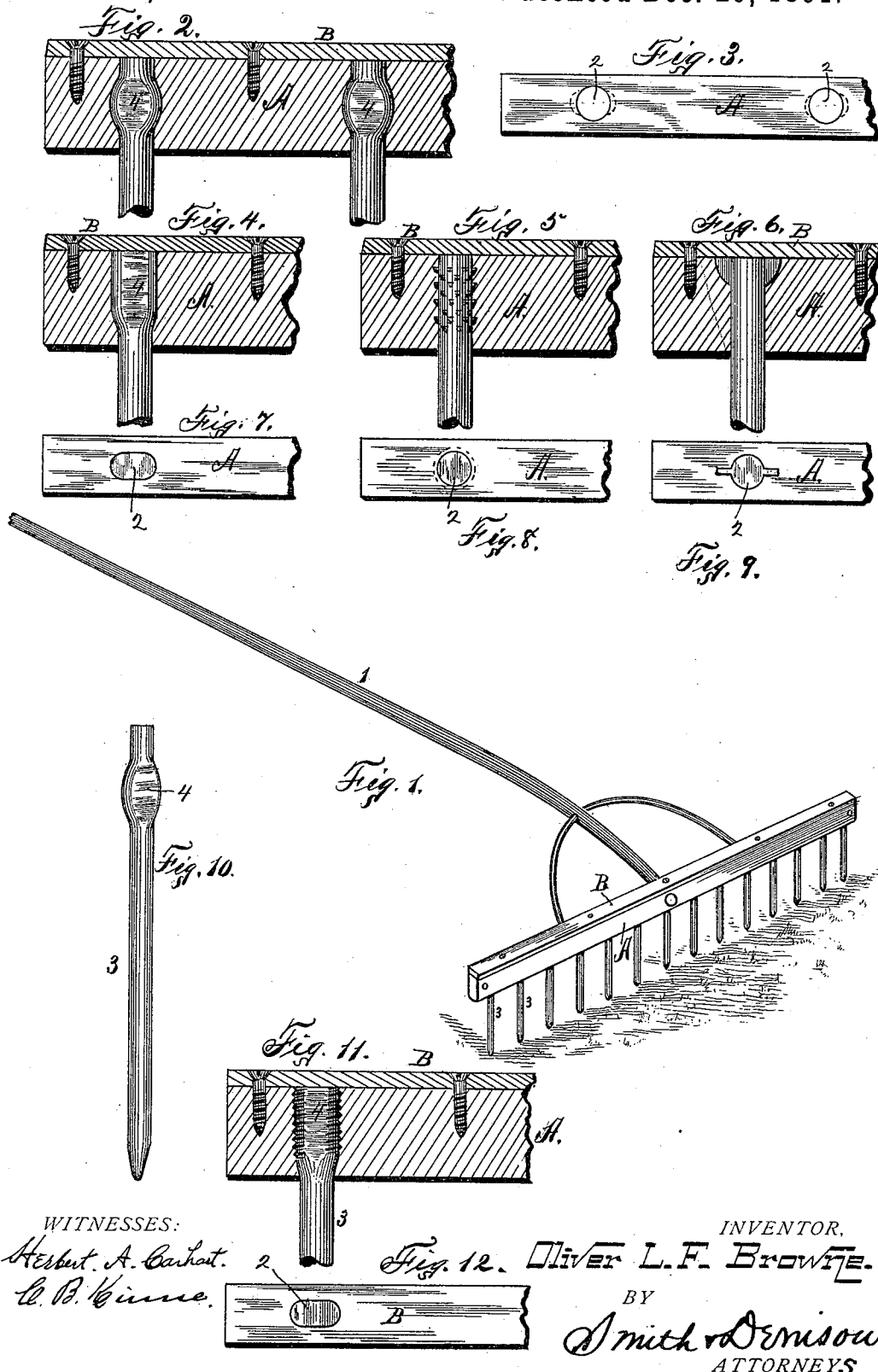
(No Model.)

2 Sheets—Sheet 1.

O. L. F. BROWNE.
RAKE.

No. 465,919.

Patented Dec. 29, 1891.



WITNESSES:
Herbert A. Carhart.
C. B. Ginn.

INVENTOR,
Oliver L. F. Browne.

BY
Smith & Orison
ATTORNEYS

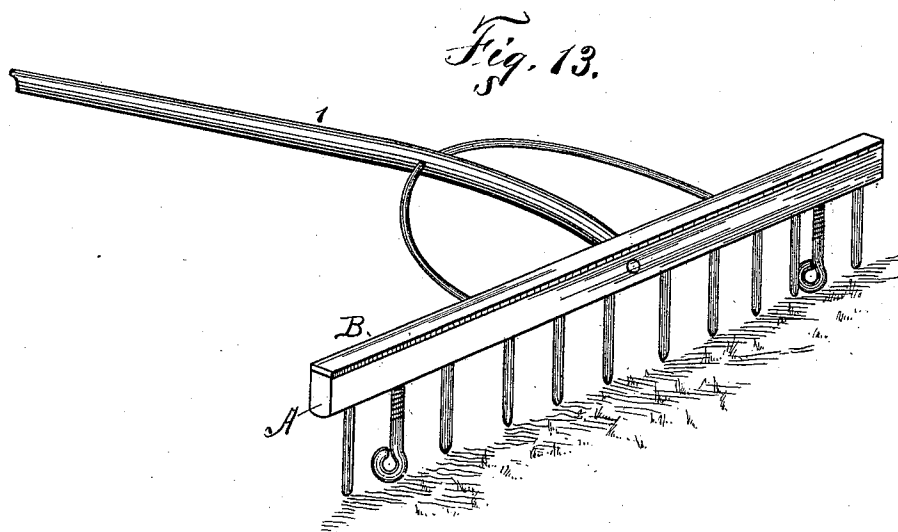
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UNITED STATES PATENT OFFICE.

OLIVER L. F. BROWNE, OF SYRACUSE, NEW YORK.

RAKE.

SPECIFICATION forming part of Letters Patent No. 465,919, dated December 29, 1891.

Application filed September 3, 1891. Serial No. 404,618. (No model.)

To all whom it may concern:

Be it known that I, OLIVER L. F. BROWNE, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Rakes, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates, generally, to rakes, but particularly to the teeth and means for securing them within the rake-head.

My object is to produce a rake provided with wire teeth, which are immovable in use, cheap and durable in construction, and of great utility.

My invention consists, essentially, first, in preparing the tooth at its upper end with a periphery, either reduced or increased in size, or both, upon different sides; second, in creating a socket within the rake-head for its reception and securing it therein, and in the several other novel features of construction hereinafter described, and specifically set forth in the claims hereunto annexed. It is constructed as follows, reference being had to the accompanying drawings, in which—

Figure 1 is an isometrical elevation of a rake. Fig. 2 is a vertical section of a portion of the rake-head, showing two teeth secured therein flattened on two sides and bulging outward. Fig. 3 is a top plan view thereof with the cap removed. Figs. 4, 5, and 6 are vertical sections of the rake-head and cap, showing the upper end of the tooth constructed in different forms. Figs. 7, 8, and 9 respectively are top plan views of Figs. 4, 5, and 6. Fig. 10 is a view of the tooth detached, flattened on two sides, and bulging outward on the other two. Fig. 11 is a vertical section of a part of the rake-head, showing a tooth provided with its upper end corrugated or indented transversely. Fig. 12 is a top plan view thereof. Fig. 13 is an isometrical elevation of the rake, showing teeth having their lower ends turned up or enlarged.

Similar figures and letters of reference indicate corresponding parts.

A is a rake-head provided with an ordinary handle 1 and substantially vertical openings 2 for the reception of the teeth.

3 are the teeth, constructed at their upper end with a periphery different from that of the body of the tooth, having flattened faces

4 and bulging sides between them. I do not limit myself to this precise construction, as it will be evident that the periphery of the upper end of the tooth may be constructed with barbed, corrugated, nicked, indented, or flattened face or faces, by which the surface of the periphery is broadened, raised, or depressed, either vertically, obliquely, or horizontally, to prevent the tooth from turning in its socket or traveling vertically in either direction.

B is a cap secured in any ordinary manner upon the upper face of the rake-head, when desired, after the teeth have been inserted.

In Fig. 4 the tooth is flattened clear up to the top on two sides. In Fig. 5 it is nicked like a rasp. In Fig. 6 the body is cylindrical and the top is provided with fins. In Fig. 11 the tooth is shown as corrugated. It will be seen that in all of these forms the tooth varies in diameter adjacent to the top, so that when inserted the resilience of the wood will grip them strongly and so that they will not slip or twist in their seats. It will also be seen that I can use all of these forms of teeth with heads, provided that they are of varying diameter below the heads. It will also be seen that with some of the teeth no cap is necessary to hold them.

It will be observed that a rider-tooth may be constructed, having a body at or near its upper end with a varying diameter and having its lower end turned up, as shown, or may be materially enlarged for the purpose of preventing the teeth from being forced too far into the soil when in use.

What I claim is—

1. A rake consisting of a head provided with openings therein and adapted to receive and release the ends of the teeth, which vary in diameter at or near their upper ends, and a cap secured over the aforesaid opening, as set forth.

2. A rake consisting of a head provided with openings and teeth 3, having their bodies adjacent to their upper ends flattened for the purpose of preventing torsional movement.

In witness whereof I have hereunto set my hand this 31st day of August, 1891.

OLIVER L. F. BROWNE.

In presence of—

HOWARD P. DENISON,
J. W. SMITH.