

(No Model.)

A. R. DICKINSON.
RAKE.

No. 519,761.

Patented May 15, 1894.

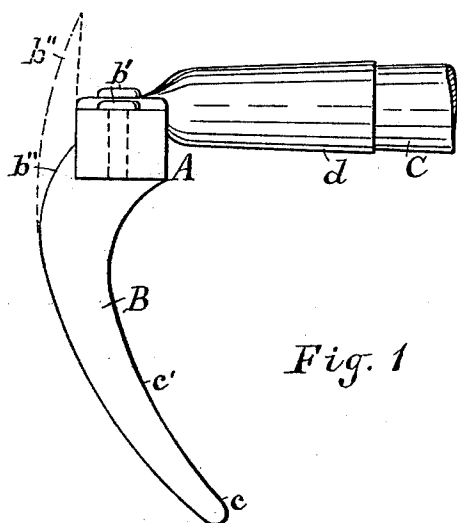


Fig. 1

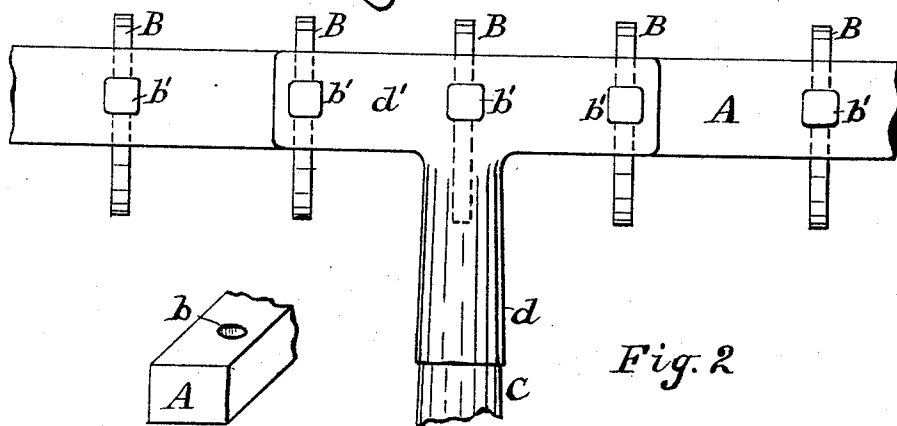


Fig. 2

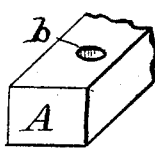


Fig. 3

WITNESSES:

Mark W. Dewey
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INVENTOR:

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UNITED STATES PATENT OFFICE.

AUSTIN R. DICKINSON, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE SYRACUSE SPECIALTY MANUFACTURING COMPANY, OF SAME PLACE.

RAKE.

SPECIFICATION forming part of Letters Patent No. 519,761, dated May 15, 1894.

Application filed June 10, 1893. Serial No. 477,211. (No model.)

To all whom it may concern:

Be it known that I, AUSTIN R. DICKINSON, 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 to hand rakes in which the rake head and teeth are made of iron, steel or other suitable metal; and consists in the improved construction and combination of parts which is hereinafter fully described and specifically set forth in the claims.

The object of my invention is to produce a garden rake which combines strength and durability with simplicity and cheapness of construction.

In the drawings forming a part of this specification, Figure 1 is an end view of a rake-head provided with teeth embodying my invention. Fig. 2 is a top plan view of a portion of the same, and Fig. 3 is a perspective view of one of the teeth embodying my invention.

Referring specifically to the drawings, A, represents the rake-head which may be square or rectangular in cross-section. The teeth, B, are made of sheet or plate metal of any suitable thickness. A row of vertical slots or apertures, *b*, in the rake-head and parallel with its edges permit pins, *b'*, projecting from the upper ends of the rake-teeth, B, to be inserted and clinched on the top. Each tooth has a projection *b''*, on its upper end extending upward parallel to the pin, *b'*, and bearing upon the back side of the rake-head. This projection, *b''*, may be extended, if desired, above the upper side of the rake-head as shown in dotted lines in Fig. 1, so that the rake may be turned over and the short teeth formed by the projections used for breaking up or leveling ground that is lumpy or uneven. The teeth, B, are made of sheet metal and secured to the head so that their sides or flat surfaces are opposite and parallel with each other. The teeth are stamped out of sheet metal with the pins and projections integral therewith. In practice I leave the pins flat or square as stamped out, thereby

lessening the cost of manufacture, as I have found that by means of the projection upon the teeth bearing upon the back side of the rake-head, and by my method of attachment of the various parts, the teeth are held firmly in place. Each tooth is preferably tapered toward its free end, *c*, by having its edges approach each other, and is curved in the direction of its length on its edges so that its inner concavely formed edge, *c'*, is in front or turned toward the handle, C, but extends rearward of the front side of the rake-head A. In some cases the teeth may be substantially straight or tapered toward their free ends with both of their edges slightly concavely curved. The upper end of the tooth may be formed to correspond to the shape of the surface of the rake-head if it is not exactly square.

The handle, C, may be secured to the rake-head, A, in any suitable manner, but I prefer to attach it as it is shown held in a socket, *d*, integral with a plate, *d'*, the width of the rake-head and lying on the top side thereof, and connected to the rake-head by extending it to and above three or more middle teeth, and providing it with perforations, so that the pins, *b'*, of the said teeth will extend not only through the rake-head, but also through the said plate and have their ends headed down upon it.

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

1. The combination of a rake-head having a cross-section of rectangular shape and composed of metal and having a row of vertical apertures parallel with its edges, curved teeth having pins extending through said apertures and clinched on the top of the rake-head and projections on the teeth bearing against the back side of the rake-head, substantially as described.

2. The combination of a rake-head having a cross-section of rectangular shape and composed of metal and having a row of vertical apertures parallel with its edges, curved teeth extending through said apertures and clinched on the top of the rake-head, and projections on the teeth bearing against the back side of the rake-head and extending above

the top side of the rake-head, substantially as described.

3. The combination of a rake-head having a cross-section of rectangular shape, a socket
5 for the handle, a plate integral with said socket and lying upon the top side of the rake-head, a row of vertical apertures through the rake-head and said plate, curved teeth having pins integral therewith extending
10 through the apertures and clinched on the top side of said plate, and projections on said teeth bearing upon the back side of said rake-head as and for the purpose set forth.

4. The combination of a rake-head having
15 a cross-section of rectangular shape and com-

posed of metal and having a row of vertical apertures parallel with its edges, teeth formed of sheet metal, having curved edges and flat sides parallel with each other, pins on the teeth extending through said apertures and
20 clinched on the top of the rake-head, and projections on the teeth bearing against the back side of the rake-head, substantially as described.

In testimony whereof I have hereunto
25 signed my name.

AUSTIN R. DICKINSON. [L. S.]

Witnesses:

MARK W. DEWEY,

H. M. SEAMANS.