(No Model.)

A. R. DICKINSON.

RAKE.

No. 518,001. Patented Apr. 10, 1894.

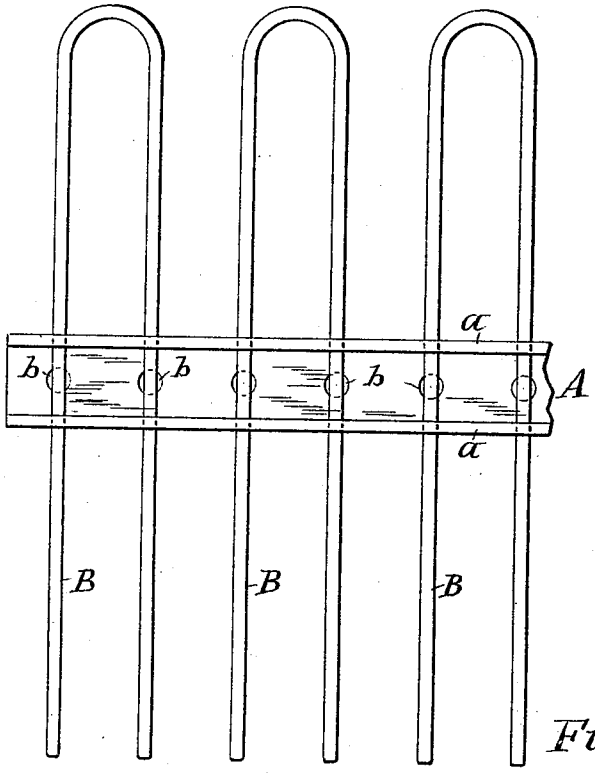

Fig. 1.

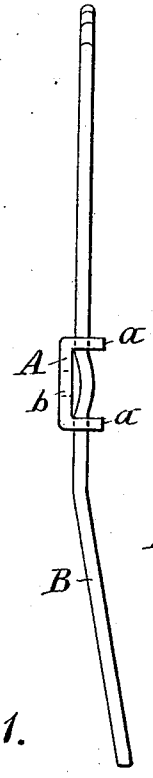

Fig. 2.

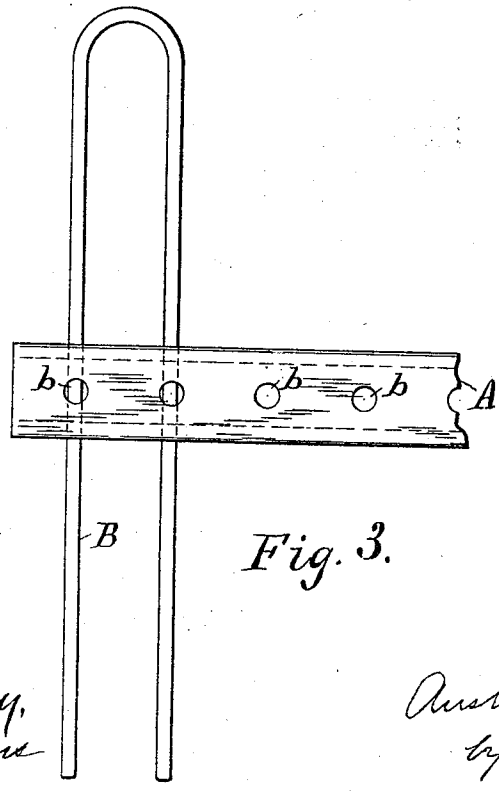

Fig. 3.

WITNESSES:
Mark W. Dewey,
H. M. Seamans

INVENTOR,
Austin R. Dickinson
by C. H. Duell
his ATTORNEY.

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

AUSTIN R. DICKINSON, OF SYRACUSE, NEW YORK.

RAKE.

SPECIFICATION forming part of Letters Patent No. 518,001, dated April 10, 1894.

Application filed November 25, 1893. Serial No. 491,934. (No model.)

To all whom it may concern:

Be it known that I, AUSTIN R. DICKINSON, a citizen of the United States, residing at 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 and the object is to secure the teeth in the rake-head so that they cannot work out or loosen, and to effect this without adding much to the cost of manufacture. When the teeth are held by and in a metallic head of the form shown in the drawings, especially when held at their central portions they work loose in a short time and work out more or less. It has been attempted to remedy this by solder upon the teeth between the ribs, but solder cannot stand the strain because it is too soft. It has been attempted to secure the teeth in the head by other means, but all have failed to permanently fix the teeth in this metallic head.

To this end my invention consists in the combination of a rake-head composed of metal and formed with perforated horizontal projecting longitudinal ribs on its top and bottom edges, teeth formed in pairs, each pair being formed of one piece of wire bent at its central portion so that its end portions lie parallel to each other, said end portions passing through the perforations in the ribs so that the central portion of each tooth lies between the said ribs, and a bend in the central portion of each tooth.

In the drawings hereto annexed and forming a part of this specification, Figure 1 is a rear view of a portion of the rake-head, or the side from which the handle, which is omitted, extends. Fig. 2 is an end view of the rake-head, and Fig. 3 is a front view of a portion of said rake-head.

Referring specifically to the drawings, A represents the rake-head which I form in one piece of metal with horizontally projecting longitudinal ribs *a*, *a*, on its top and bottom edges. The ribs are preferably at right angles to the body of the head A. These ribs *a*, *a*, are perforated vertically equal distances apart, the perforations in the lower rib being opposite those in the upper rib.

B represents the teeth of the rake. These teeth I form in pairs, each pair consisting of a piece of wire bent at its central portion in a semi circle, so that the end portions are parallel to each other. Each of said pairs of teeth passes through a pair of perforations in the top and bottom ribs *a*, *a*, in the head. The central portions of the teeth lie between the ribs, as they project above the head as well as below it in order to form a guard or hood to prevent the material raked from passing over the head A. The said teeth may be straight or curved or bent in any desired form, but preferably as shown in the drawings.

In order to hold the teeth securely in place and to prevent them from becoming loose in the head, I bend each tooth outward more or less from the head A between the ribs, as shown also clearly in the drawings. This bend locks the teeth in the head and prevents them from sliding out. I have found that this bend can be formed easily and without injuring the heads—as it must be formed after the teeth are inserted in the heads—by first making horizontal perforations *b*, *b*, in the head A opposite the teeth and midway between the ribs *a*, *a*, and then, after the teeth are inserted, the proper distance in the head, placing said head with the edges of its ribs upon a base, and by means of a punch or a series of punches entering the perforations *b*, *b*, forcing the portions of the teeth lying between the ribs *a*, *a*, outward as before mentioned.

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

The combination of a rake-head composed of metal and formed with perforated horizontally projecting longitudinal ribs on its top and bottom edges, teeth formed in pairs, each pair being formed of one piece of wire bent at its central portion so that its end portions are parallel, said end portions passing through the perforations in the ribs, perforations in the said head one opposite each tooth, and a bend in the portion of each tooth lying between said ribs, as and for the purpose described.

In testimony whereof I have hereunto signed my name.

AUSTIN R. DICKINSON.

Witnesses:
MARK W. DEWEY,
H. M. SEAMANS.