(No Model.)

C. J. HIGGINS.

RAKE.

No. 333,299. Patented Dec. 29, 1885.

Fig. 1.

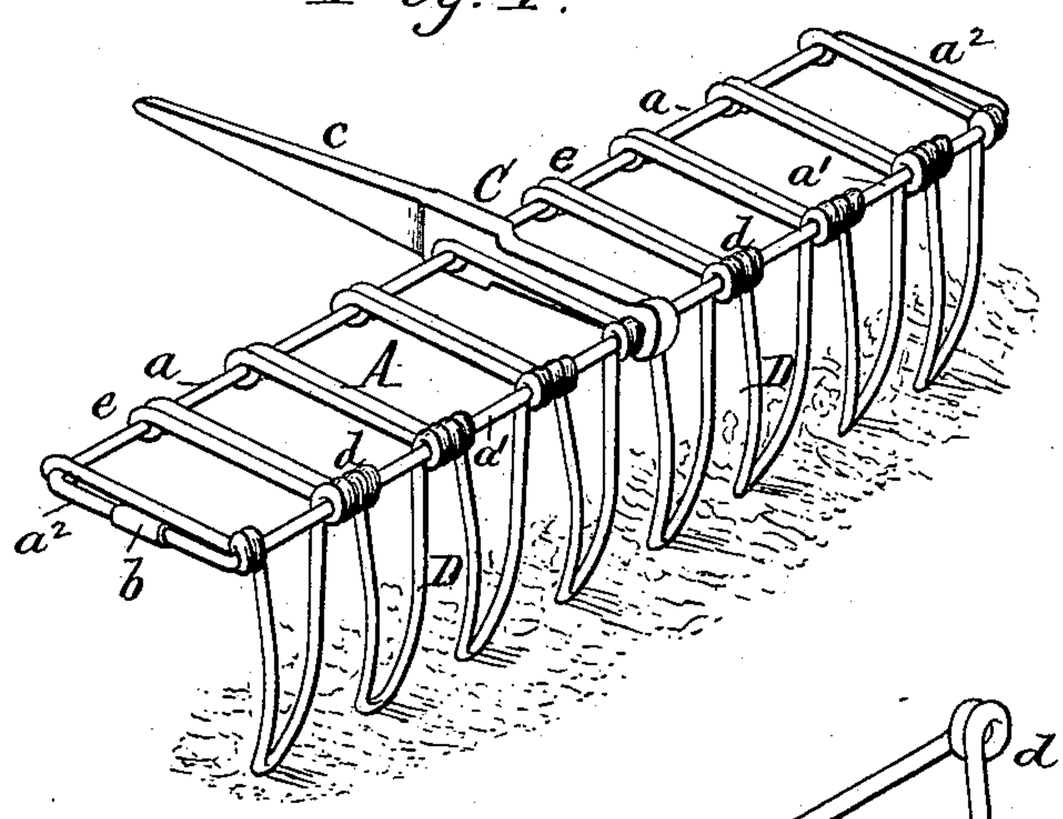


Fig. 2.

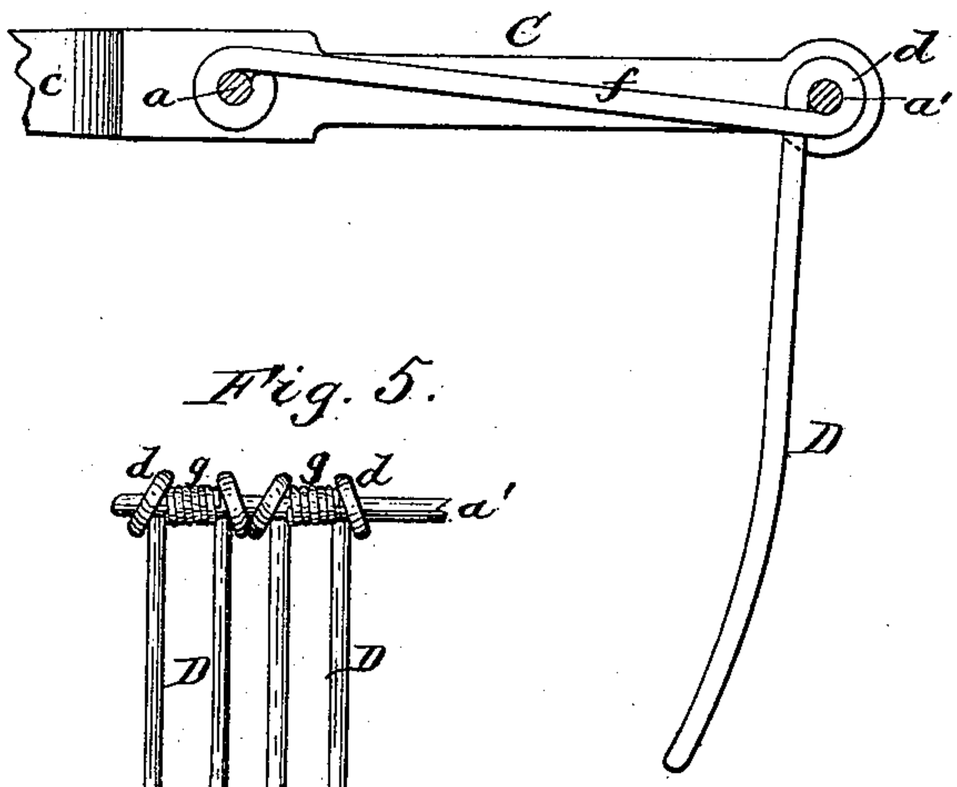


Fig. 3.

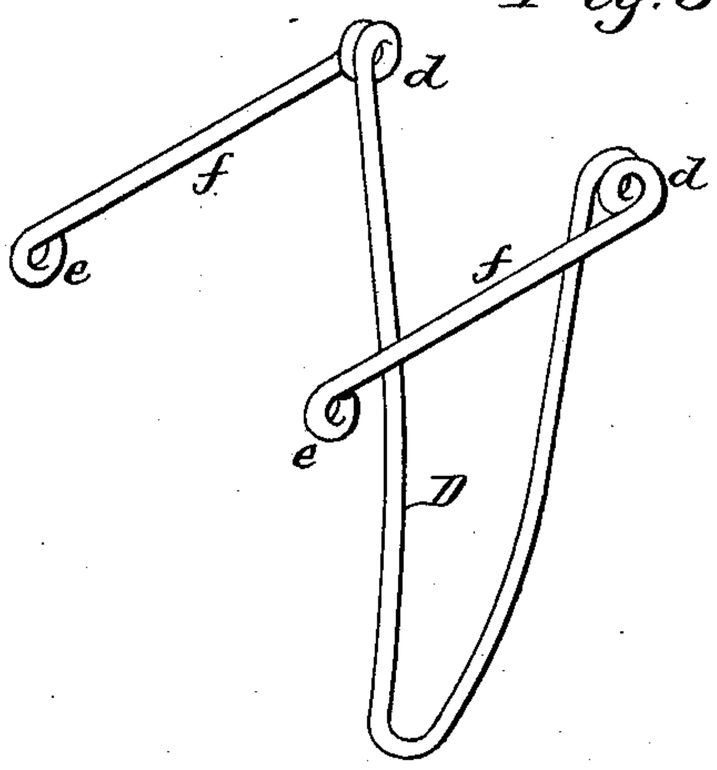
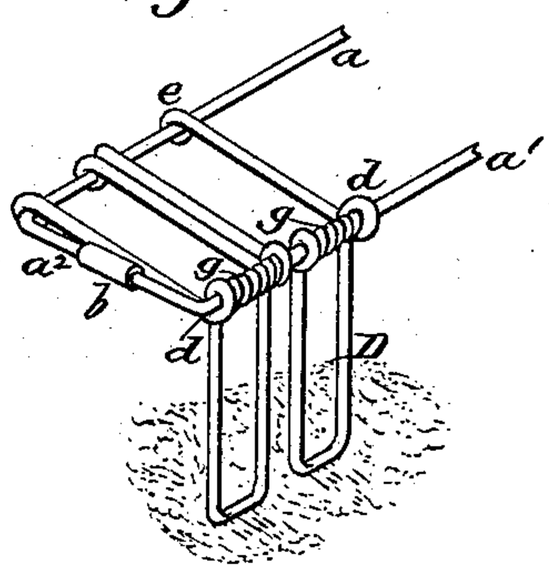


Fig. 5.

Fig. 4.



Witnesses:
Geo. E. Pelman
Theo. L. Popp.

C. J. Higgins Inventor.
By Wilhelm & Bonner.
Attorneys.

UNITED STATES PATENT OFFICE.

CHARLES J. HIGGINS, OF HALLOWELL, MAINE.

RAKE.

SPECIFICATION forming part of Letters Patent No. 333,299, dated December 29, 1885.

Application filed May 5, 1885. Serial No. 164,512. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. HIGGINS, of Hallowell, in the county of Kennebec, in the State of Maine, have invented a new and useful Improvement in Rakes, of which the following is a specification.

This invention relates to an improvement in that class of hand-rakes in which the teeth are constructed of wire, and has for its object the construction of a strong and light metallic rake having elastic teeth.

My invention consists, to that end, of the improvements in the construction of the rake, which will be hereinafter fully set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a perspective view of my improved rake. Fig. 2 is a cross-section on an enlarged scale. Fig. 3 is a perspective view of one of the rake-teeth. Fig. 4 is a perspective view showing a slightly modified form of the rake-teeth. Fig. 5 is a front view of this construction on an enlarged scale.

Like letters of reference refer to like parts in the several figures.

A represents the rake-head consisting of a rectangular wire frame, which is composed of longitudinal wires *a a'*, and end wires, a^2, all preferably bent of a single length of wire, the ends of which are secured together at *b* by soldering or otherwise.

C represents the metallic end portion of the handle, to which the rake-head is secured by the longitudinal wires *a a'*, which pass through holes in the handle portion C, and are fastened therein by soldering. The handle portion C is provided with a tang, *c*, as shown, or with a socket, to which the wooden portion of the handle is secured.

D represents the rake-teeth, each bent of a single length of wire, and attached to the longitudinal wires *a a'* of the rake-head. The two wire branches of each tooth extend from the point or lower end of the tooth upwardly to the front wire, *a'*, of the head and are coiled around the same, as shown at *d*, and thence backwardly to the rear wire, *a*, around which the rear ends are bent, as shown at *e*. The portions *f* of the wire teeth, which extend from the front wire, *a'*, to the rear wire, *a*, are preferably secured to these wires by soldering, and form stays by which the wires *a a'* are rigidly connected between the end wires, a^2, thus forming a strong and light rake-head, which does not change its form in use, and which is sufficiently strong to support the teeth properly. The adjacent wires, *f f*, of two teeth are also preferably secured together by soldering. The coils *d* which connect the teeth with the front wire, *a'*, permit the teeth to spring or yield upon striking an obstruction, thereby preventing breakage.

In the construction represented in Fig. 1 the two branches of each tooth converge downwardly toward the point; but, if desired, they may be made parallel, as represented in Fig. 4. In this construction the coils *d* of the same tooth are preferably held at the proper distance apart by separate stay-coils *g*, which are secured to the front wire, *a'*, between the two coils *d* of each tooth.

The rake head and teeth are easily constructed of wire, as shown and described, and constitute a light and strong rake, in which the rake-head is practically rigid, while the rake-teeth possess the required elasticity.

I claim as my invention—

1. In a rake, the combination of a head, A, composed of longitudinal wires *a a'* and end wires, a^2, and wire teeth D, attached to both longitudinal wires of the rake-head, substantially as set forth.

2. In a rake, the combination, with a head, A, composed of longitudinal wires *a a'* and end wires, a^2, of the wire teeth D, each provided with branches *f*, attached to the wires *a a'* of the head, substantially as set forth.

3. In a rake, the combination, with a head, A, composed of longitudinal wires *a a'* and end wires, a^2, of the wire teeth D, each provided with branches *f*, having coils *d* embracing the front wire, *a'*, and secured with their rear ends to the rear wire, *a*, substantially as set forth.

4. In a rake, the combination, with the metallic handle portion C, provided with a tang, *c*, and transverse openings, of a head, A, composed of longitudinal wires *a a'* and end wires,

a^2, both longitudinal wires being secured in the openings of the handle portion, substantially as set forth.

5. The combination, with the rake-head A, composed of longitudinal wires a a' and end wires, a^2, of the wire teeth D, each provided with two branches, f f, attached to the wires of the head, and stay-coils g, applied to the rake-head between the branches f of each tooth, substantially as set forth.

Witness my hand this 6th day of April, 1885.

CHARLES J. HIGGINS.

Witnesses:
J. F. BROOKINGS,
H. G. HIGGINS.