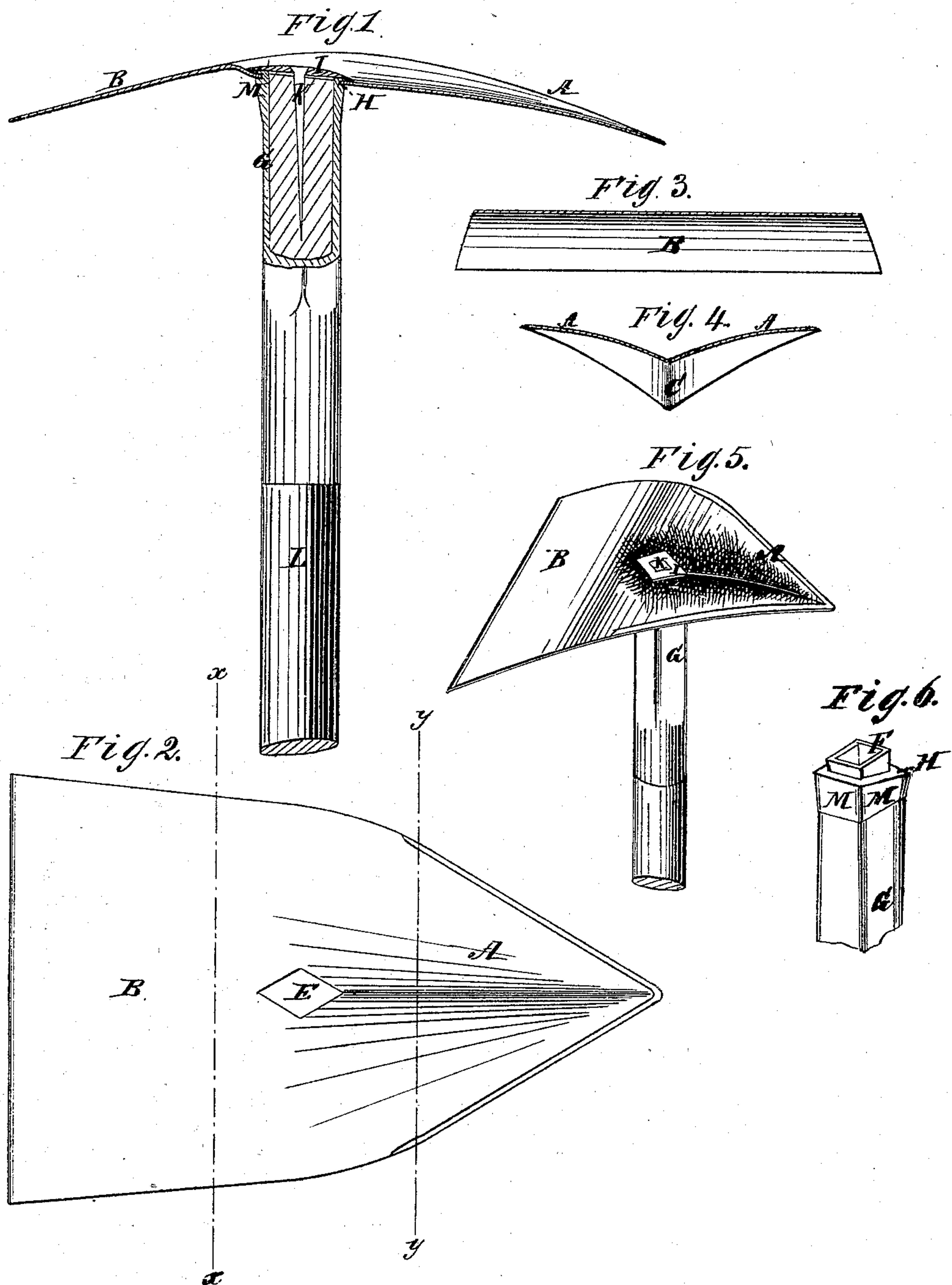


H. PARKMAN.

Hoes.

No. 144,127.

Patented Oct. 28, 1873.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

HARRISON PARKMAN, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN HOES.

Specification forming part of Letters Patent No. **144,127**, dated October 28, 1873; application filed July 24, 1873.

*To all whom it may concern:*

Be it known that I, HARRISON PARKMAN, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and Improved Hoe; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification.

My invention is an improvement in that class of hoes which are double-bladed—*i. e.*, pointed on one side or edge and straight on the other or opposite one, to adapt them for different kinds of work. The invention consists in bending or striking up the hoe-blade, so as to form a central rib on the inner side or surface thereof, and a corresponding groove on the other side, the same extending from the center to the termination of the pointed end. The object of this construction is twofold—to strengthen the hoe-blade and adapt it to work easily in the earth, and to form a suitable recess to receive the end of the handle-socket or other devices by which the blade is secured to the handle. The remaining feature of my invention relates to the construction of the handle-socket, whereby it is adapted for firm and durable connection with the hoe-blade and for other purposes, as hereinafter described.

In the accompanying drawing, Figure 1 is a longitudinal sectional view of the hoe-blade, showing the same applied to its handle. Fig. 2 is a top or face view of the same. Fig. 3 is a cross-section of the field-hoe taken through the line *x x*, Fig. 2. Fig. 4 is a similar view of the garden-hoe taken through the line *y y*, Fig. 2. Fig. 5 is a perspective view of a complete hoe. Fig. 6 is a detail view of the end of the handle-socket.

A plate of metal, previously cut to the desired form, has its opposite ends curved or shaped into a pointed blade, A, and broad blade B, as shown. The pointed blade or portion A is curved or made convex from the center of the plate to the point, and has its lateral edges beveled or slightly flanged to produce a suitable cutting-edge. A ridge or struck-up

portion, C, extending from the center of the hoe to the point of the blade A, causes the latter to be more perfectly adapted for penetrating and loosening or furrowing the earth, as the blade on both sides of the ridge is thus inclined toward the edge, which permits the earth to pass off laterally when the hoe is withdrawn from the ground. A hoe-blade, A, curved or made convex from the center of the hoe-plate, or from the upper termination of the blade A proper, to its point, possesses advantages in respect to strength and the ease with which it may be made to penetrate and work in the earth, for, the sides of the same being inclined backward, it is obvious that they offer less resistance than they would if made straight or parallel to the same line. A corresponding groove or depression is necessarily formed on the opposite side of the blade. To attach the blade to the handle I provide it with a central eye, E, of a diamond shape, adapted to receive the reduced portion or shank F of a handle-socket, G, which possesses a shoulder, H, upon which the hoe-blade rests. The portion of the shank F which projects through the eye E is, after the hoe has been applied to the socket, riveted or struck down, as shown in Fig. 1 of drawing, to hold the hoe in position. A cap-plate, I, possessing a spike or stem, K, is then applied to cover the end of the handle-socket and eye, and as the spike enters the handle L extending into the socket, it will serve as additional means for securing the hoe. It will be seen that the headed end F of the socket G and the covering-cap I are prevented from projecting beyond the convex outer surface of the blade by reason of the groove therein. The importance of this construction is apparent. The upper portion of the handle-socket, located in juxtaposition to the hoe-blade, is made of a diamond shape, or provided with inclined sides, as shown at M, Fig. 6 of drawing, so that the earth which usually accumulates around the eye or handle of an ordinary hoe is permitted to pass off more readily, as said inclined sides act as deflecting-surfaces.



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

1. The combination, with the hoe-blade A B, having a central groove and rib, of the cap-plate I and handle-socket G, provided with tenon F, as shown and described.

2. The improved hoe-blade, formed of the wide straight-edged part B, and the pointed end A, provided with a rib, *a*, ridge C, and

inclined sides, as and for the purpose specified.

3. The handle-socket G, made of rhombic form in cross-section, and arranged with the angles coinciding with the sides or edges of the hoe-blade, as and for the purpose specified.

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