(No Model.)

J. F. HAY.

MOLD FOR GARDEN AND OTHER RAKES.

No. 273,683. Patented Mar. 6, 1883.

Fig. 1

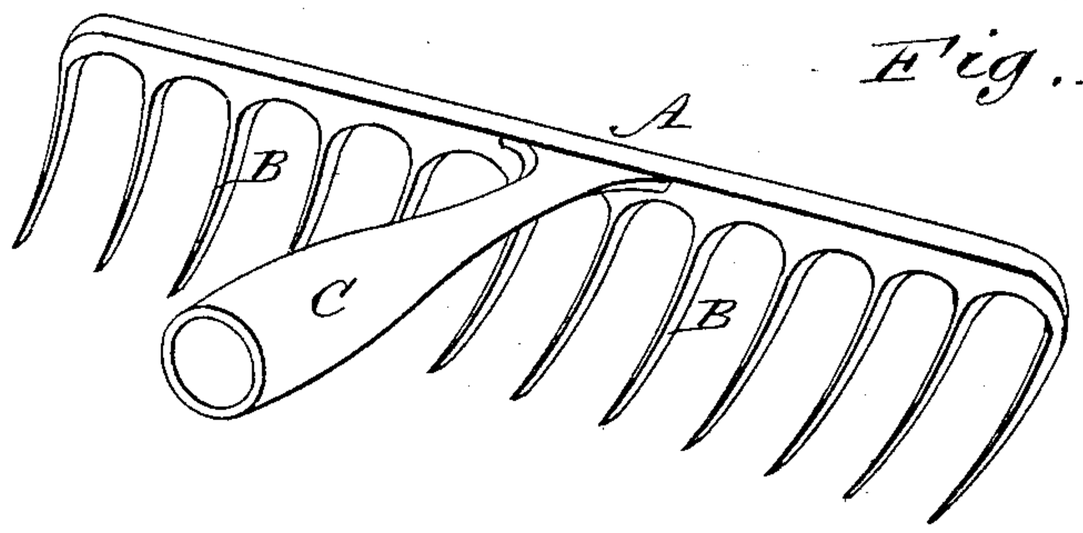


Fig. 2

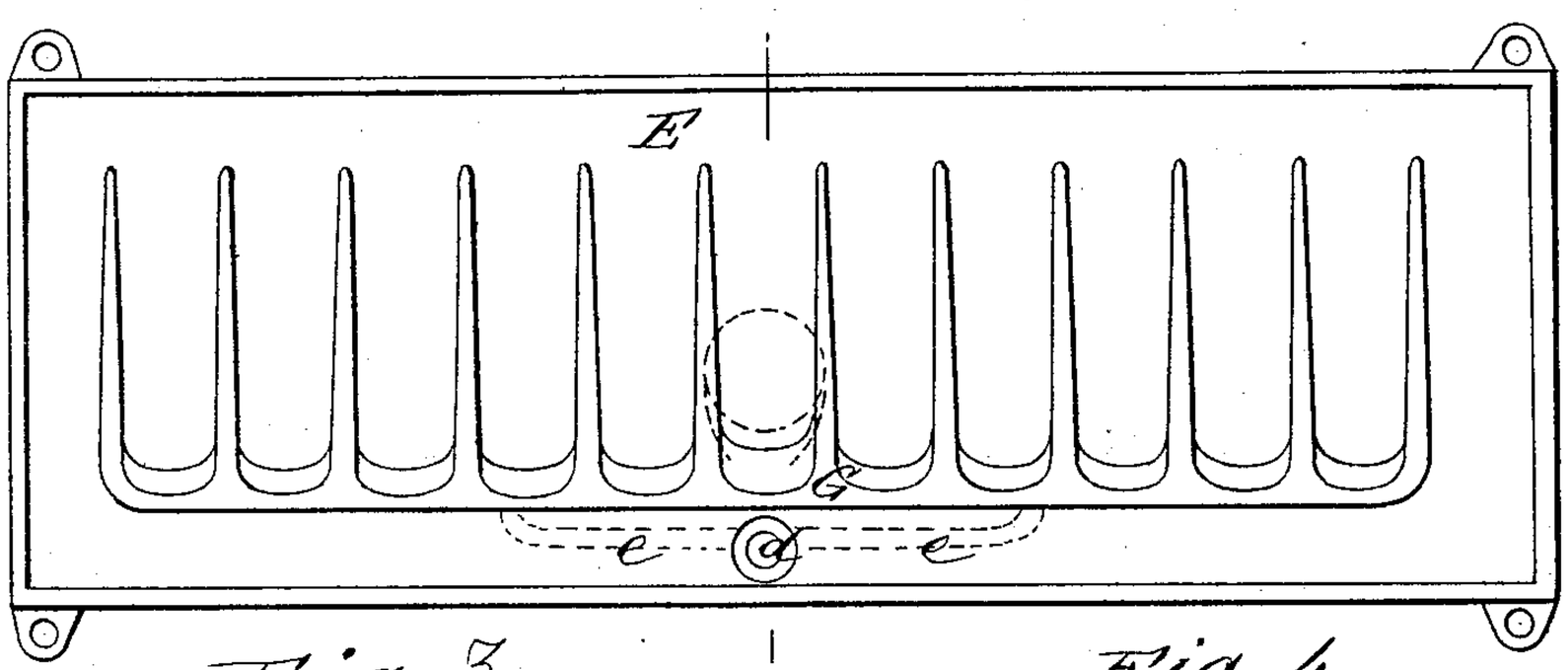


Fig. 3

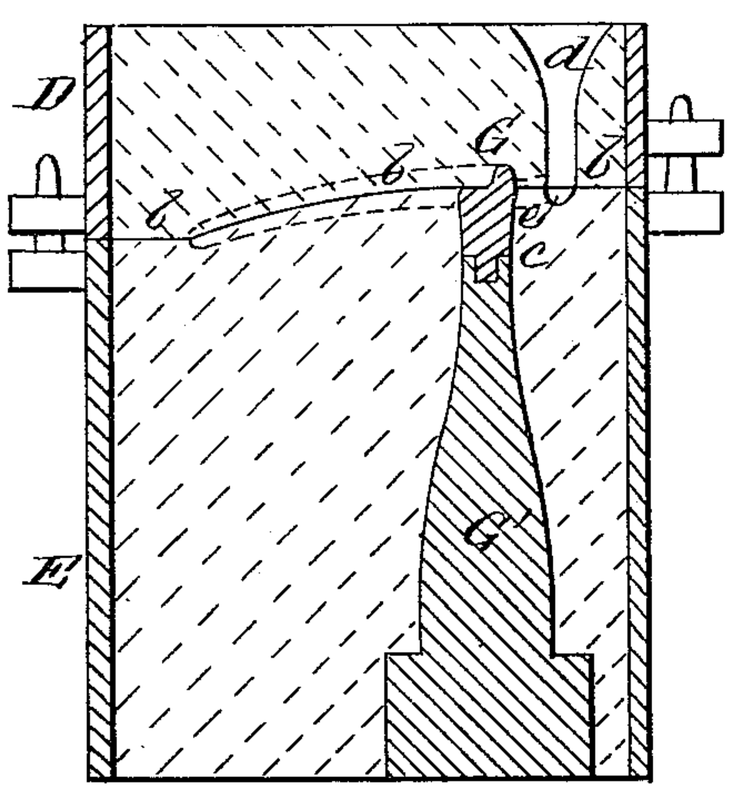


Fig. 4

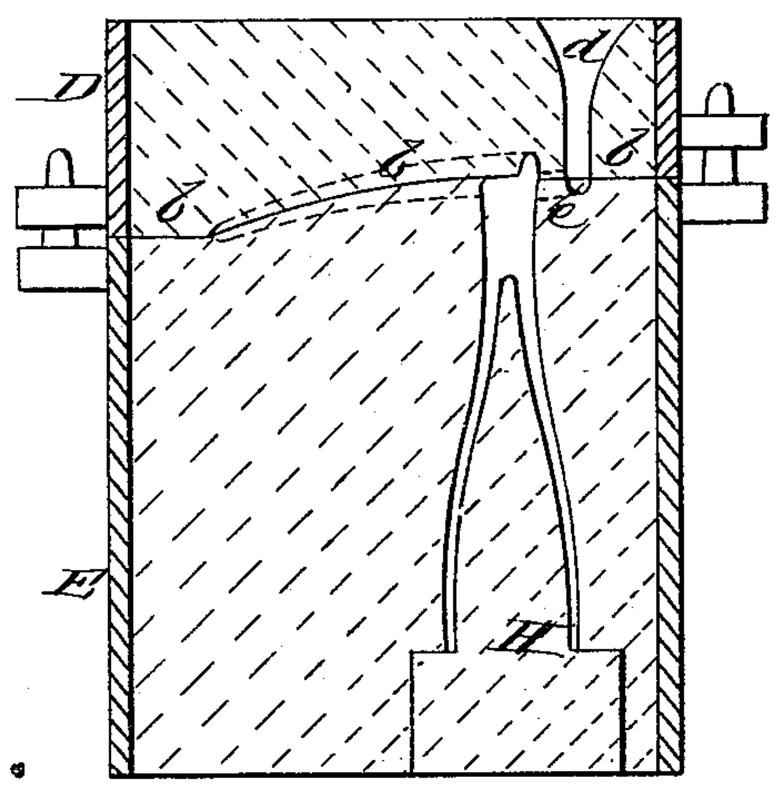
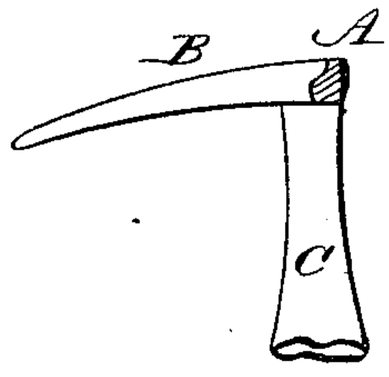


Fig. 5



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UNITED STATES PATENT OFFICE.

JOHN F. HAY, OF ERIE, PENNSYLVANIA.

MOLD FOR GARDEN AND OTHER RAKES.

SPECIFICATION forming part of Letters Patent No. 273,633, dated March 6, 1883.

Application filed July 3, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. HAY, of Erie, in the county of Erie and State of Pennsylvania, have invented an Improved Mold for Garden and other Rakes, of which the following is a full, clear, and exact description.

Heretofore it has been customary in manufacturing rakes to construct the rake-head with a solid shank and to secure its attachment to the handle by means of a separate ferrule, various methods having been adopted for fastening the shank within the ferrule to prevent the rake-head becoming detached from the handle; but most or all of these have failed to accomplish this result.

My invention has for its object the remedying of this defect; and the invention consists in means and a method or process of making the same by a transversely divided construction of the socket portion of the pattern used in forming the mold within which the rake-head, with its attached socket, is cast, and which is made to part, substantially as herein described.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents a view in perspective of a rake-head with ferrule or socket forming an integral portion of it in accordance with my invention. Fig. 2 is a top view of a lower box part used in molding the rake-head with its attached socket, and showing the pattern in its place therein. Fig. 3 is a vertical transverse section on the line *x x* in Fig. 2, showing also an upper box part in its place on the lower one; and Fig. 4, a like vertical section, showing the mold after the pattern has been removed and a core been inserted for forming the socket. Fig. 5 is a section in direction of the length of the teeth of the rake-head, with socket attached.

In Figs. 1 and 5 of the drawings, A is the back or web of the rake-head, and B its teeth projecting therefrom.

C is the socket, forming an integral portion of the rake-head. To cast said rake-head and attached socket two box parts, D E, containing the sand for forming the mold and arranged one above the other, are used. These box parts are divided by an irregular line or joint, *b*, which, when the pattern is inserted, intersects the rake-teeth and web at about half their thickness. The pattern is composed of two pieces, G G′, which are divided by a socket or detachable joint transversely, as at *c* in Fig. 3, of the socket portion of the rake-head, where said portion diverges in opposite directions. The lower box part, E, receives within it from below the larger main portion of the socket part G′ of the pattern and a contracted solid part of the socket, including the joint *c*, and a portion of the web of the rake-head in direction of its thickness. It also receives within it the rake-teeth of the part G of the pattern for about half their thickness, while the upper box part, D, takes in the balance in thickness of the rake-teeth and remaining portion of the web. By removing the top box part, D, the portion G of the pattern may readily be drawn out, and by inverting the lower box part, E, the remaining portion, G′, of the pattern, be removed, after which a core, H, is inserted to form the hollow of the socket, as shown in Fig. 4, and so that when the box parts are fitted together again the rake-head and attached socket may readily be cast by running the molten metal into an opening, *d*, having branches *e e* formed in the upper and lower box parts.

If desired, the method of casting may be reversed by arranging the teeth to occupy a lower instead of an upper position in the mold; but I prefer the arrangement herein shown and described.

A rake-head having a ferrule or socket forming an integral portion of it for reception of the handle is a decided improvement over rake-heads as heretofore constructed, but owing to the peculiarity in the shape or structure of such devices it has not been deemed practicable to produce the same.

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

The two sand-box sections D E, placed one above the other and divided by the joint *b*, in combination with a pattern consisting of the two pieces G G′, jointed at *c*, whereby a socket may be cast in one piece with the rake-head, as described.

JOHN FRANCIS HAY.

Witnesses:

RODOLPH GARDINER,

WM. P. HAYES.