

No. 631,117.

Patented Aug. 15, 1899.

W. S. MARSH.

AX HANDLE.

(Application filed May 20, 1899.)

(No Model.)

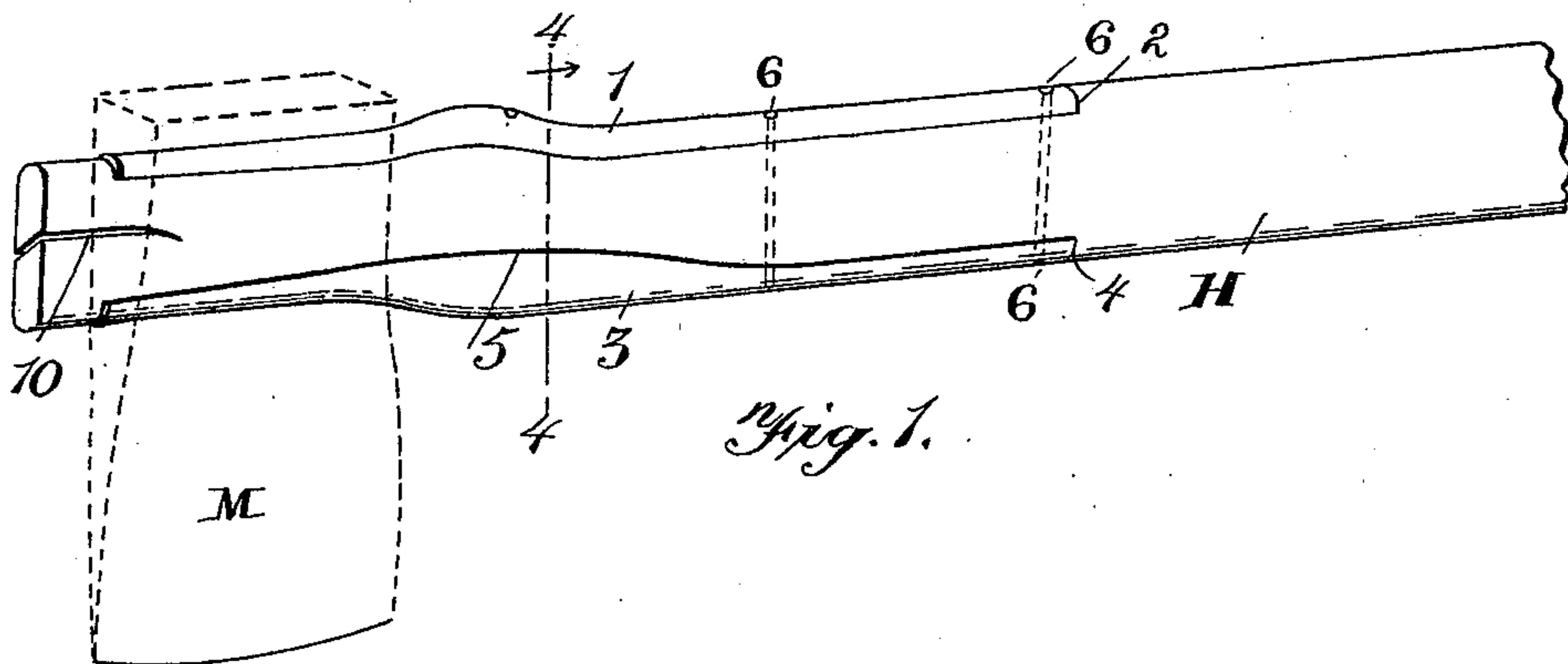


Fig. 2.

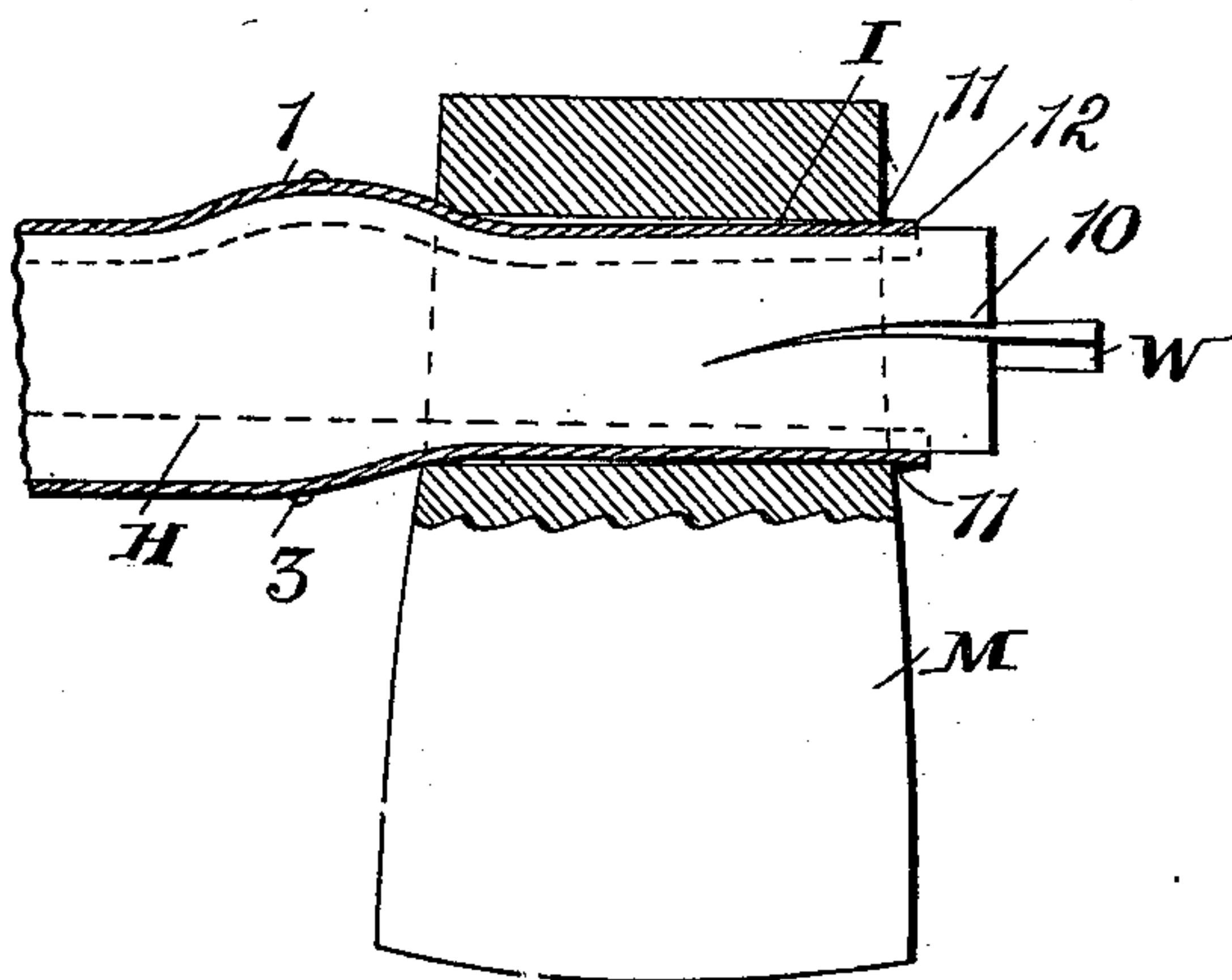


Fig. 3.

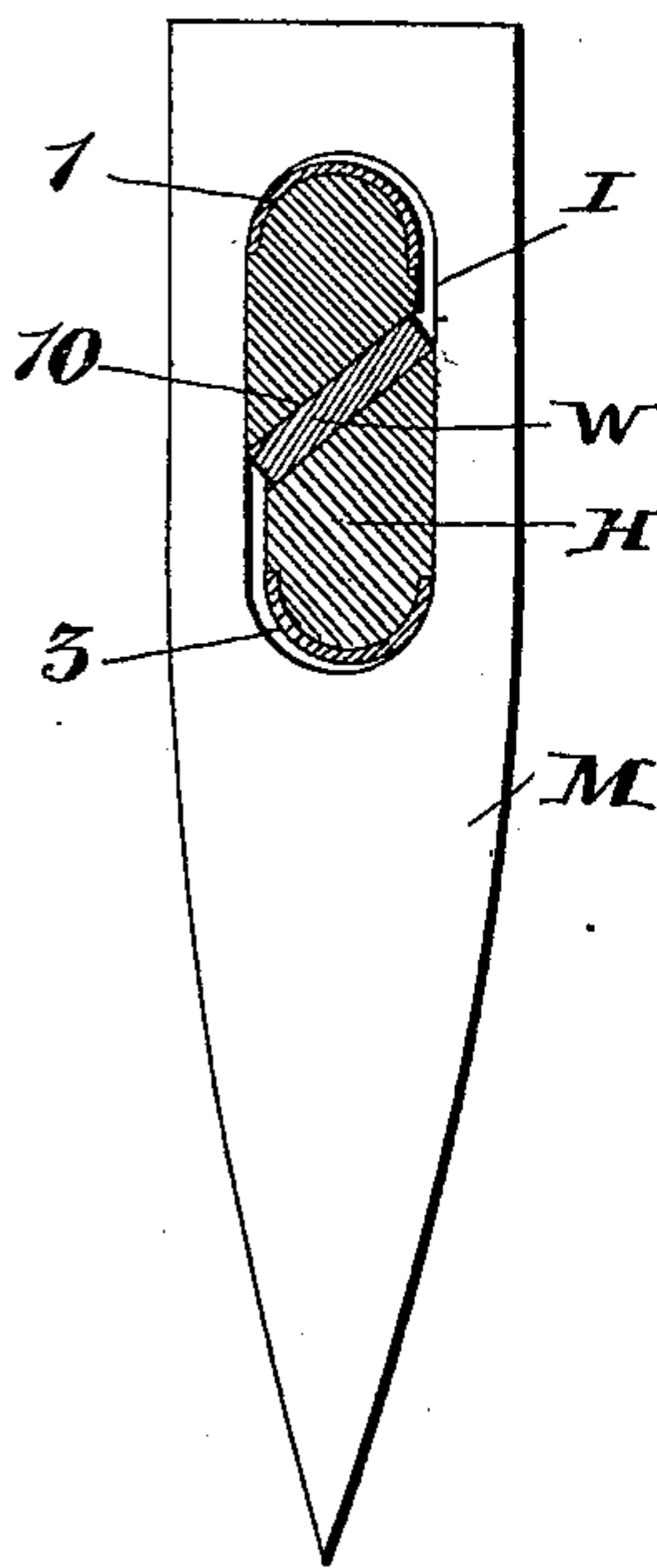
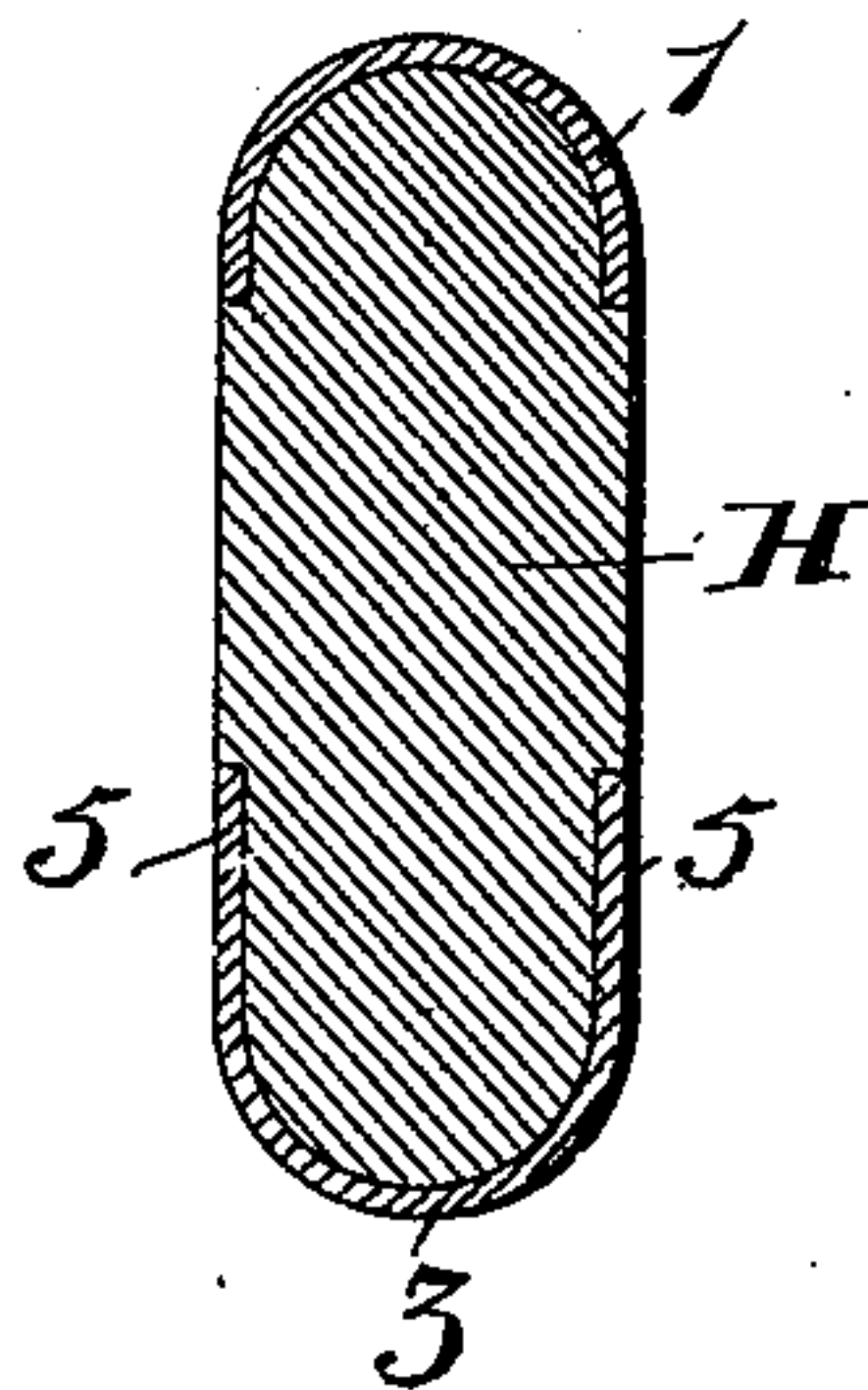


Fig. 4.



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# UNITED STATES PATENT OFFICE.

WILLIAM S. MARSH, OF INTERVALE, MAINE.

## AX-HANDLE.

SPECIFICATION forming part of Letters Patent No. 631,117, dated August 15, 1899.

Application filed May 20, 1899. Serial No. 717,643. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM S. MARSH, a citizen of the United States, and a resident of Intervale, Cumberland county, State of Maine, have invented certain new and useful Improvements in Ax-Handles; and my preferred manner of carrying out the invention is set forth in the following full, clear, and exact description, terminating with claims particularly specifying the novelty.

This invention relates to wood working-tools, and more especially to the handles thereof; and the object of the same is to produce a handle possessing peculiar guard-plates along its upper and lower edges, as well as special means for fastening into the tool-head.

To this end the invention consists in the details of construction described and illustrated hereinafter in connection with an ax-head, although it will be clear that the handle could be attached to and used with many varieties of heads not necessarily employed in tools adapted only for working on wood.

In the accompanying drawings, Figure 1 is a perspective view of this handle and its guards, with a tool-head shown in dotted lines. Fig. 2 is a sectional view of the tool head and handle, showing the wedge about to enter the front end of the latter. Fig. 3 is a front end elevation of the handle in place in the eye of the head and illustrating in detail the action of the wedge. Fig. 4 is a cross-section on the line 4 4 of Fig. 1.

In the drawings hereto attached, H designates a handle as of wood and here shown adapted in shape to be used with an ax-head. M is the metal tool-head, here shown as an ax-head having a vertically-elongated transverse eye I for the reception of the front end of the handle, and W is a wedge, preferably of steel, although it may be of other material, and here shown as driven into the front end of the handle to spread and fasten it within said eye. All these elements are well known and form no part of the present invention.

It is common knowledge that the operator often fails to exactly strike the object aimed at, and the result is that the tool-handle instead of the head falls on a substantially hard substance with considerable force, tending in time to abrade the handle on its upper and lower edges next the head, as well as

to loosen the connection of these parts. It is also well known that handles are sold separately for application to heads of various sizes and shapes, both as to their exterior and as to their eyes for the reception of the handle, and the latter does not always accurately fit in said eyes. This necessitates the use of wedges, which more or less split and weaken the fastening end of the handle and always leave its connection with the head a matter of some uncertainty. The object of the present invention is to overcome these objections in a novel manner and also to produce a fastening means which spreads the end of the handle within the eye transversely as well as vertically, and I will now describe my invention in detail as applied to the above well-known elements, which are simply shown herein for the sake of illustration.

1 designates the upper guard, which is preferably seated at its rear end in a recess 2 in the upper edge of the handle H, so that it shall stand flush therewith, and whose body is curved over said handle, as best seen in Fig. 4, and conforms longitudinally with the shape thereof, as seen in Fig. 1.

3 designates the lower guard, also standing in a recess 4 in the lower edge of the handle, flush therewith and conforming longitudinally with the shape of the handle, as illustrated. This guard also curves around the lower edge of the handle, and at the point where the accidental blows most often occur it is carried up on the sides thereof in wings 5, so that even if the chopping is done in substance which is comparatively soft no injury will accidentally result to the wooden handle. The two guards are attached near their rear ends by bolts or rivets 6, while their front ends cover the edges of the handle, but need not necessarily be secured thereto. By preference I make these guards of sufficient thickness to withstand the strain and blows they may receive, yet not of the hardest metal obtainable and possibly even of lead, for a purpose to be described below.

In the front end of the handle I cut a slit or kerf 10, located, preferably, about midway between its lower and upper edges and standing oblique, as shown in the drawings, and into this kerf is adapted to be driven the wedge W, which is preferably of metal. In



assembling the parts of the entire tool the handle, with its guards, is passed through the eye I of the head M until the front ends of the guards are about flush with or extend slightly 5 beyond the outer end of the head, as seen in Fig. 1. The wedge W is then inserted in the kerf 10 and driven into place. By reason of the oblique position of this kerf the insertion of the wedge, which spreads the halves of the 10 handle on a line at right angles to the transverse length of the kerf, causes said halves to be separated not only vertically in the eye, but also transversely therein, and the result is that the handle is tightened in the head 15 against looseness in either direction, a point which I consider of great advantage in tools of this character. If the guards be of soft metal, such as lead, it will be clear that the insertion of the wedge will cause the outer 20 corners of eye to embed the outer faces of the guards slightly at the points 11. If the guards are of hard metal, the act of fastening will cause their outer ends to embed the upper and lower edges of the handle at the 25 points 12; but if the guards are of only moderately hard metal (which I prefer) the insertion of the wedge will embed the eye in each guard and the end of each guard in the handle and will also bend the protruding end 30 of the guard slightly outward, as will be clear. Thus is effected a most positive lock between the handle and the head—one which adapts the handle to insertion in eyes of a considerable variety of sizes and shapes and 35 yet one which permits the removal of the wedge when it is desired to disconnect the

parts—another point which I consider of vital advantage in a tool of this character.

I do not limit myself to the precise details of construction nor to the sizes, shapes, or 40 proportions of parts, and such materials and of such degree of hardness as is necessary or advantageous may be employed, as the user may find desirable.

What I claim as new is— 45

1. The combination with a tool-head having an eye parallel with its operative face and vertically elongated; of a wooden handle fitting said eye and whose outer end has therein a kerf extending completely across it and ob- 50 lique to its longest axis, and a wedge inserted in said kerf, as and for the purpose set forth.

2. The combination with a tool-head having a transverse eye which is vertically elongated; of a wooden handle whose outer end conforms 55 substantially in shape with said eye and has therein a kerf extending completely across it oblique to its longest axis, metallic guards on the upper and lower edges of said handle and adapted to extend through and project 60 beyond the outer end of the eye when the handle is in place in the head, and a wedge inserted in said kerf, as and for the purpose set forth.

In testimony whereof I have hereunto sub- 65 scribed my signature this the 16th day of May, A. D. 1899.

WILLIAM S. MARSII.

Witnesses:

CARRIE M. TRUE,  
JOHN W. TRUE.