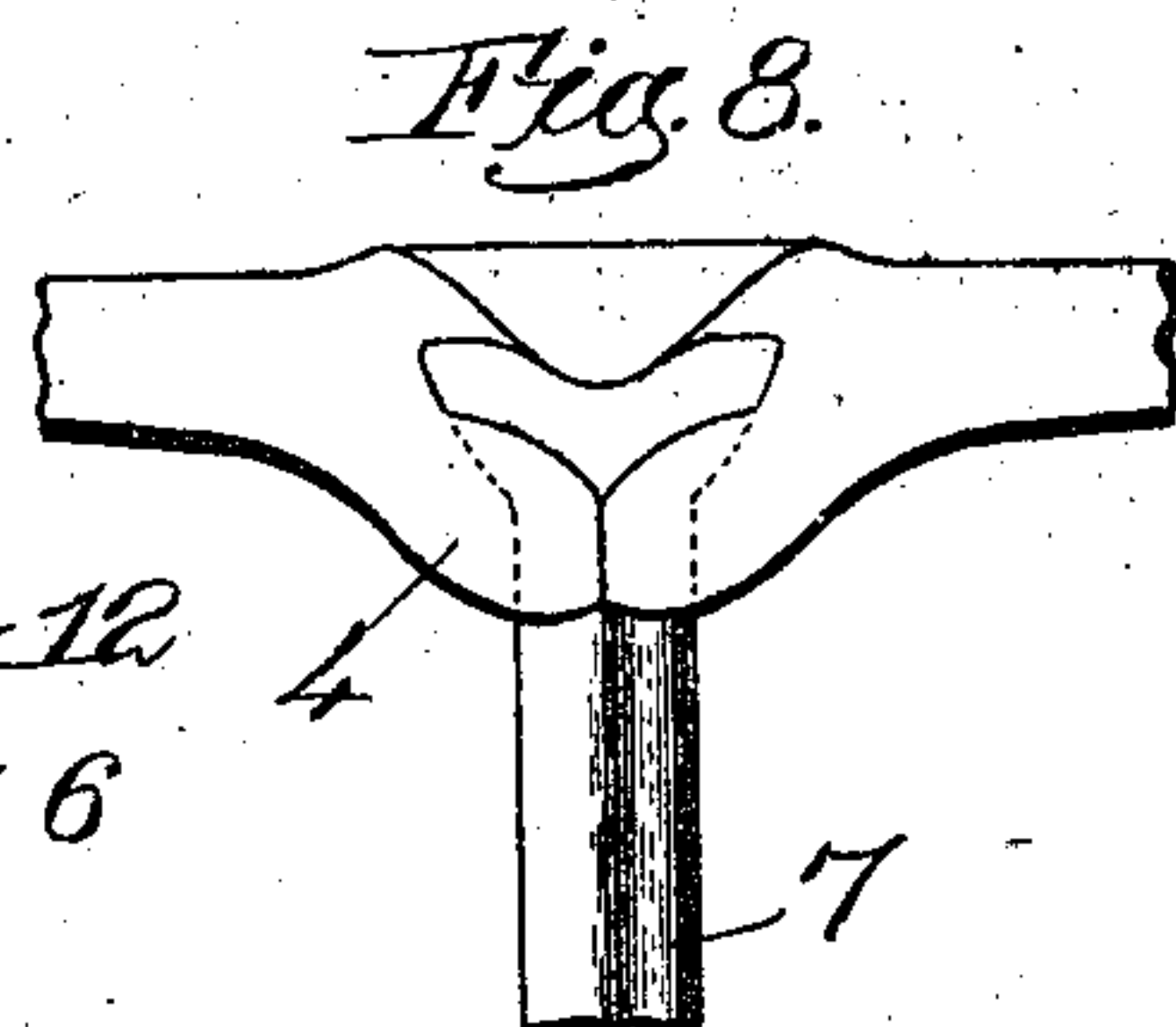
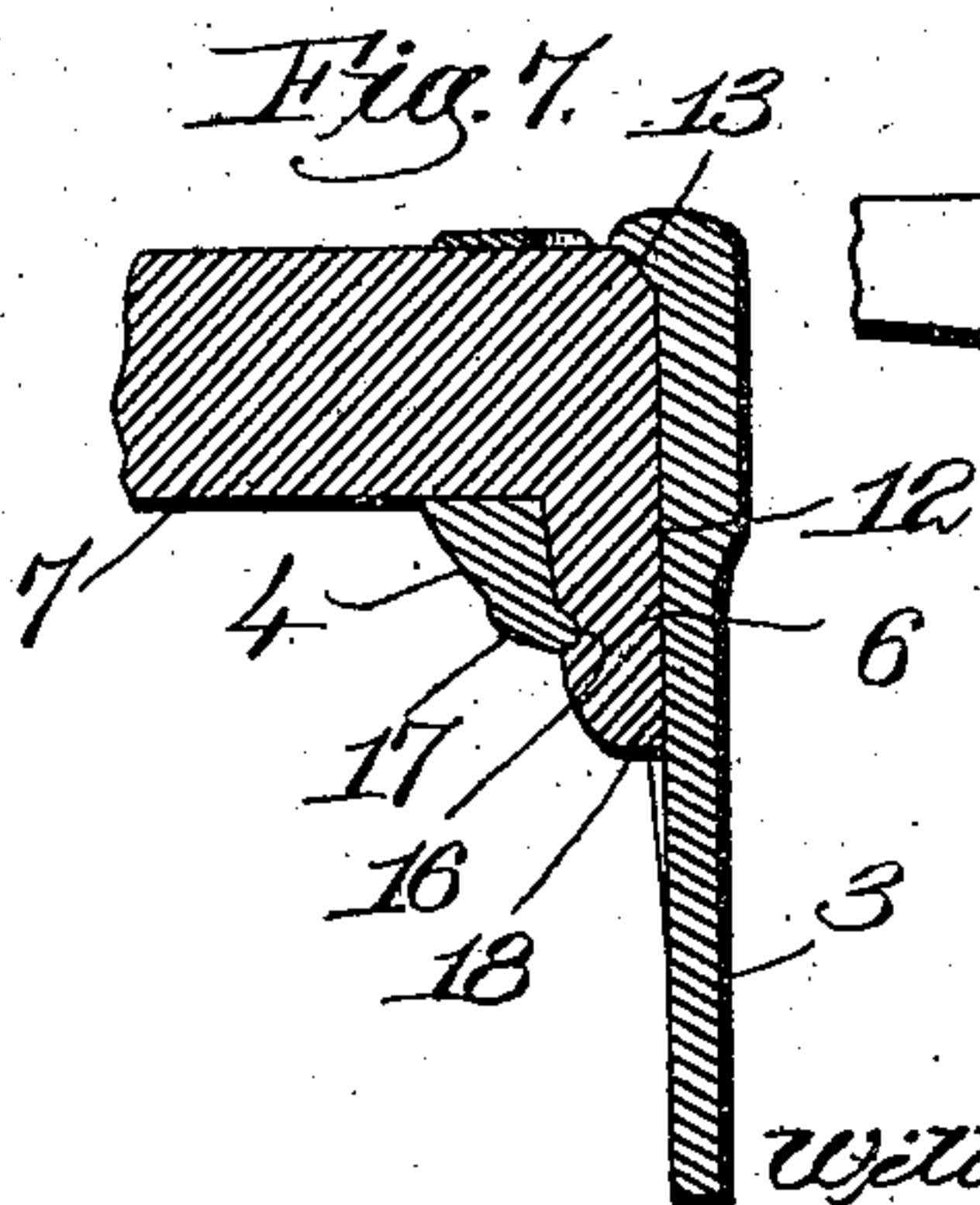
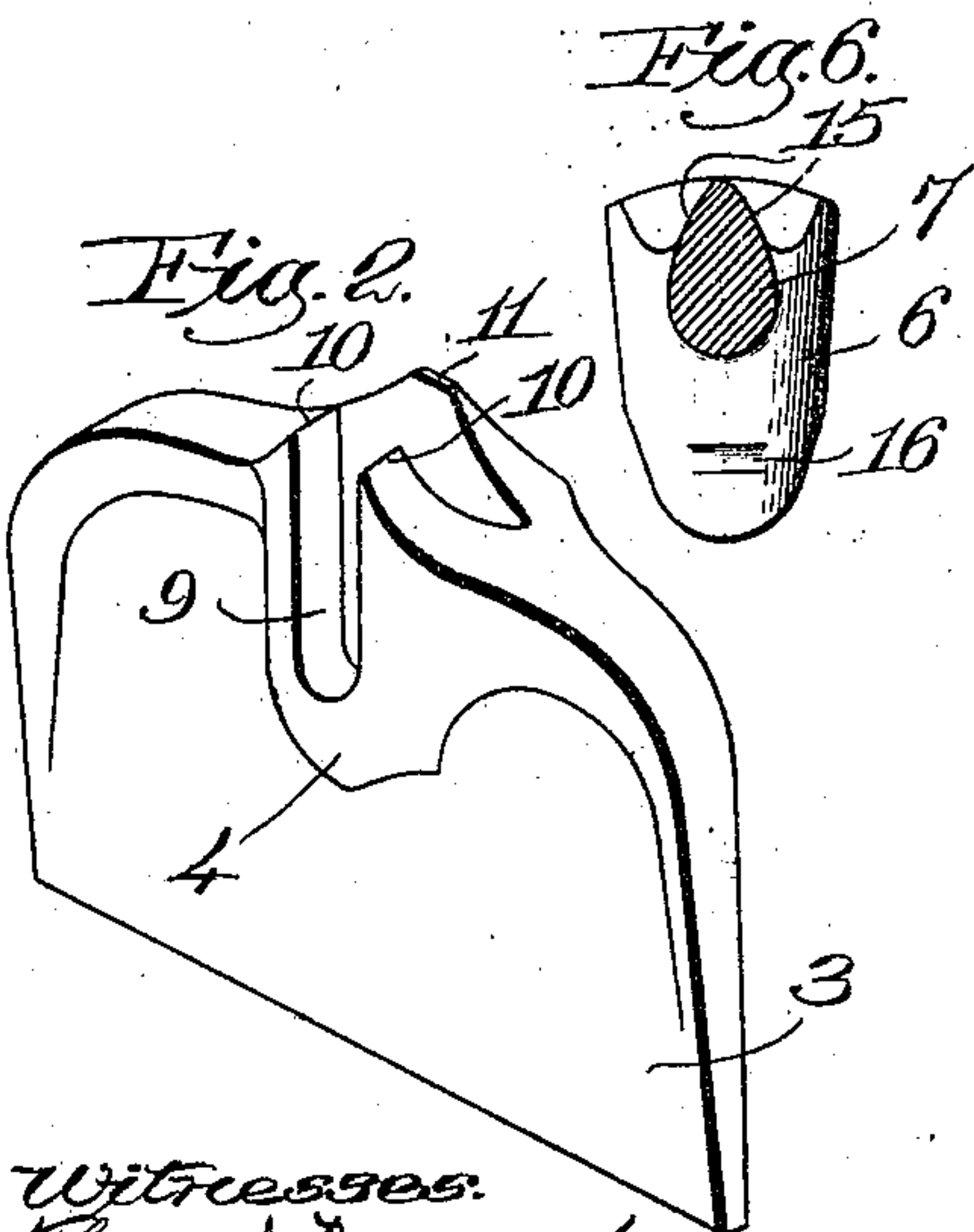
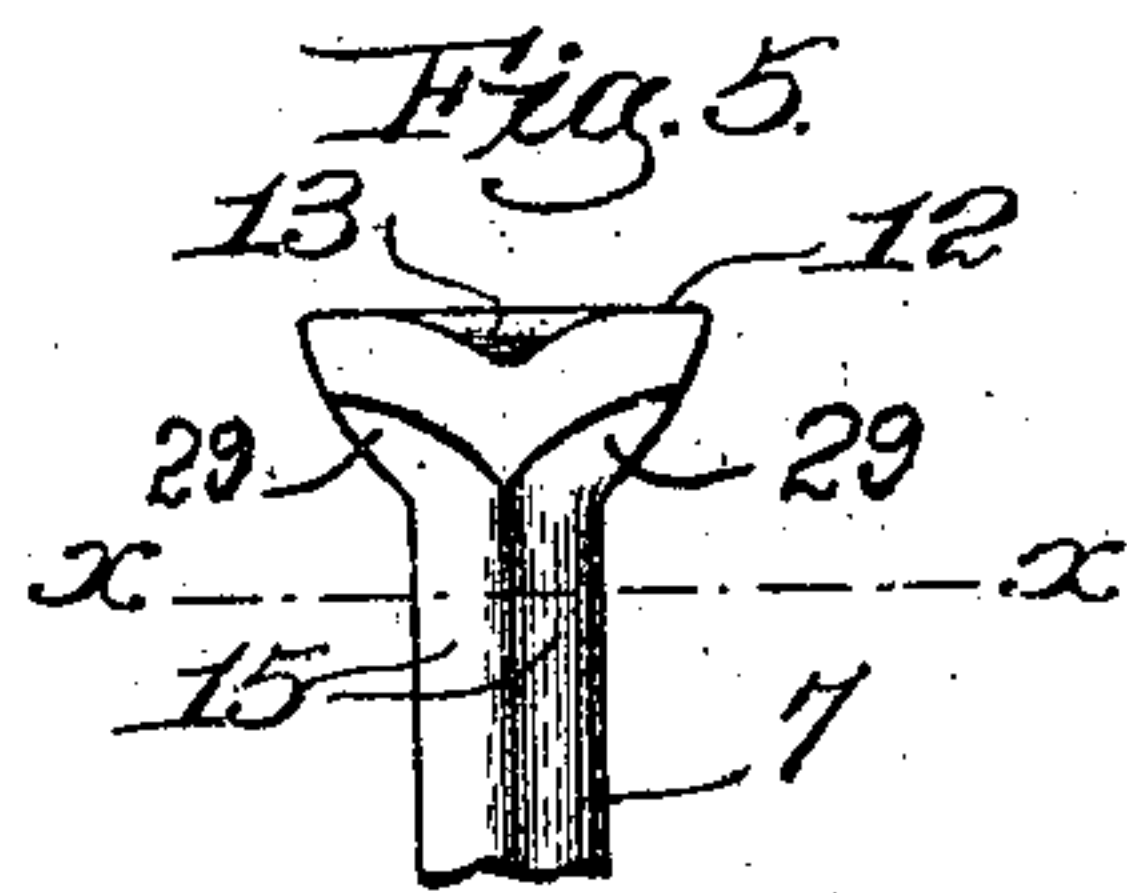
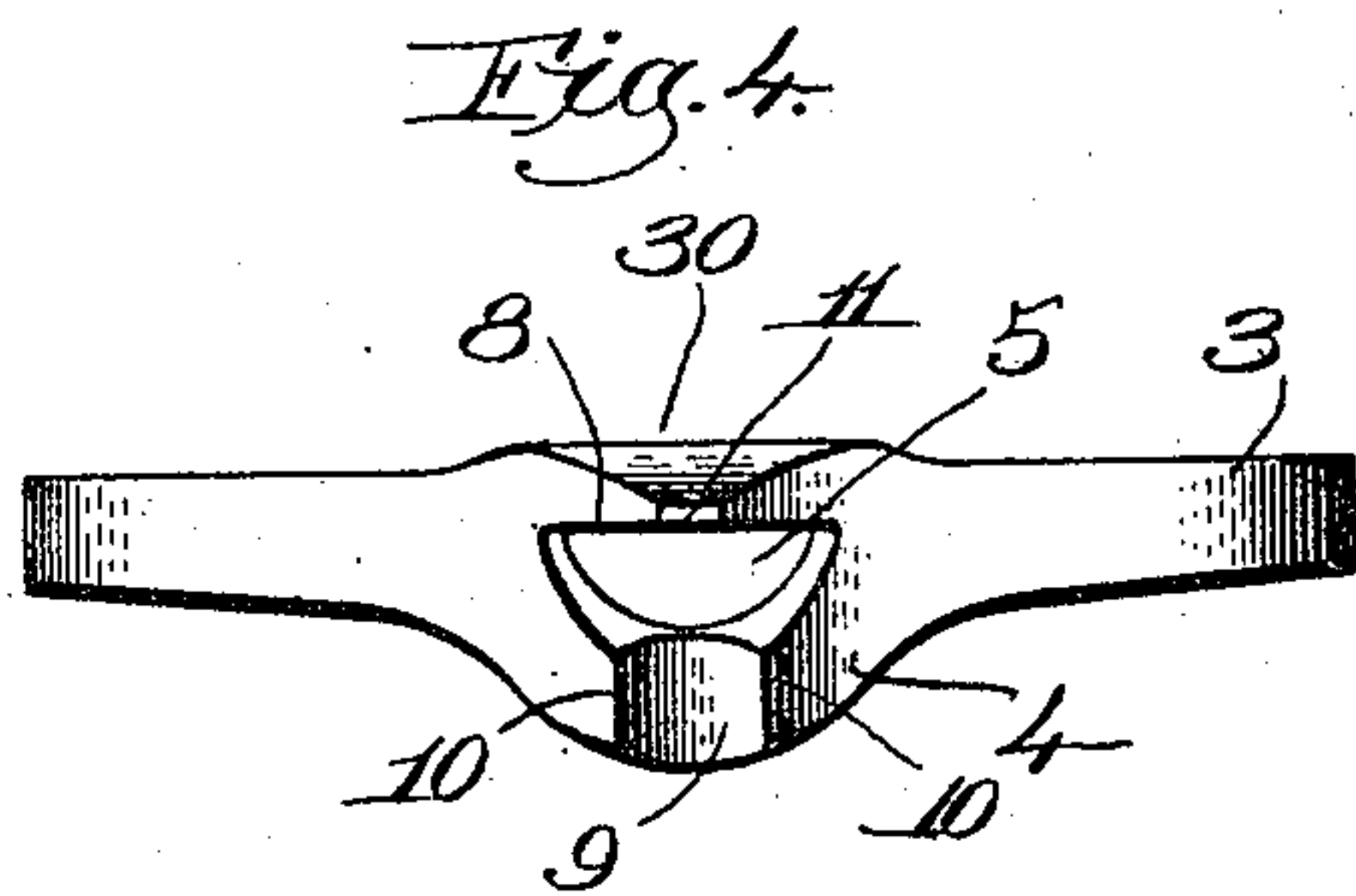
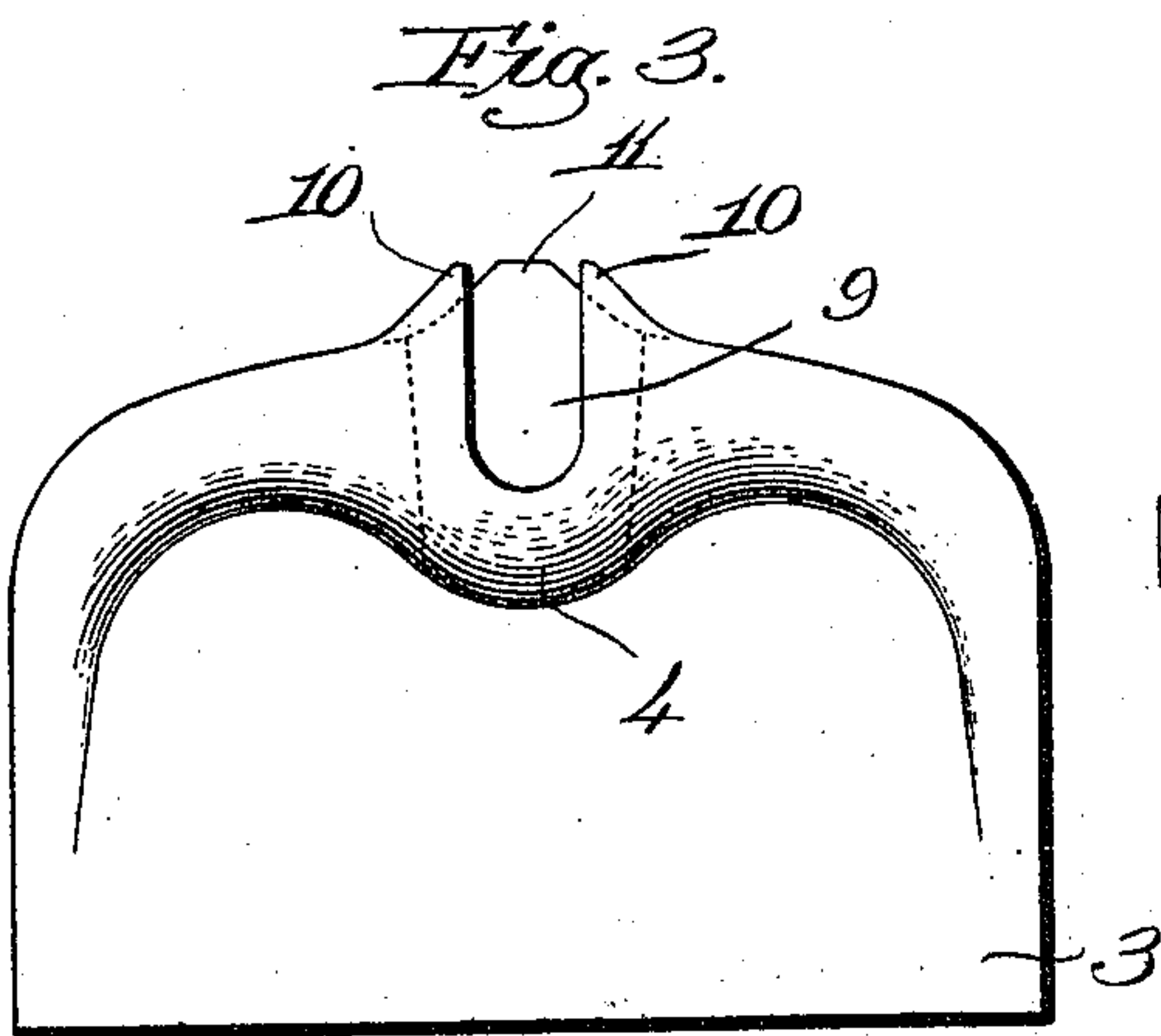
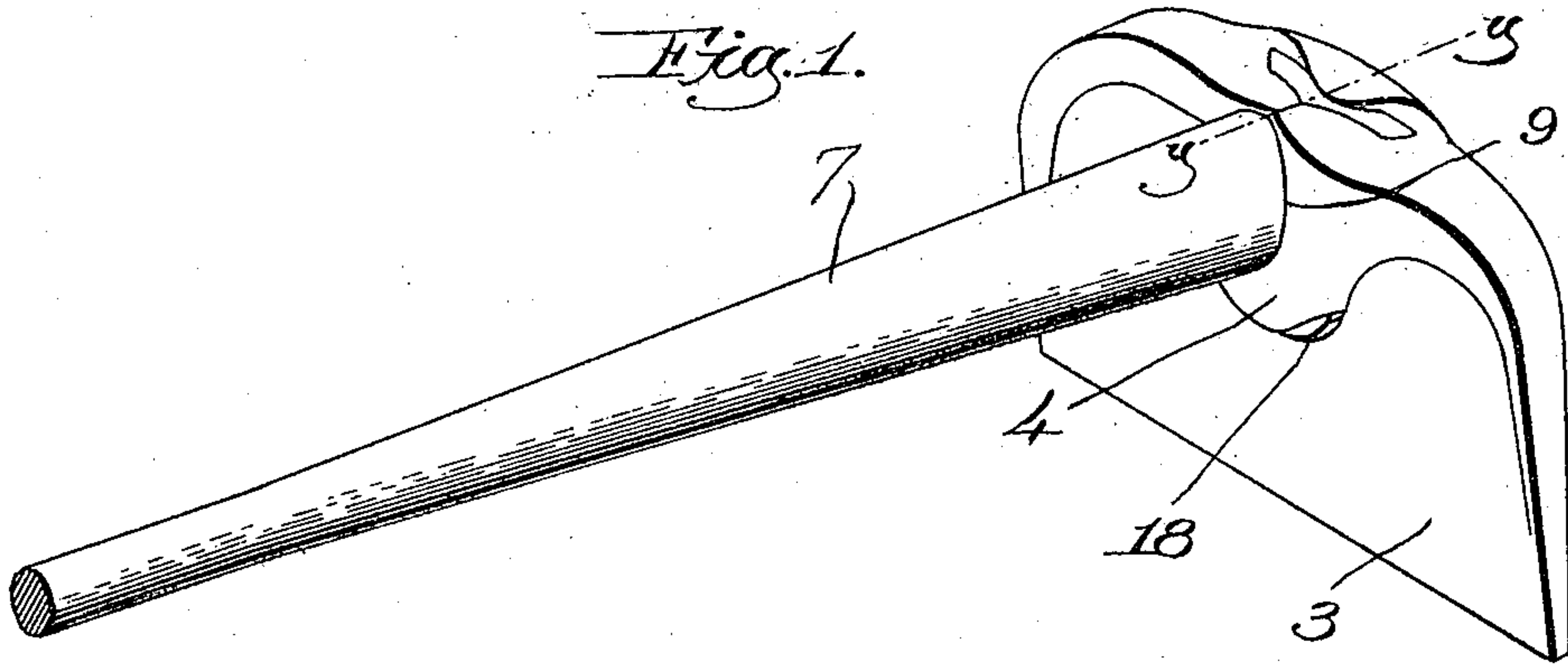


W. E. SHEEHY.
STOKER'S HOE.
APPLICATION FILED JUNE 24, 1910.

975,082.

Patented Nov. 8, 1910.



Witnesses:
Thomas J. Drummond.
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UNITED STATES PATENT OFFICE.

WILLIAM E. SHEEHY, OF NEWFIELDS, NEW HAMPSHIRE.

STOKER'S HOE.

975,082.

Specification of Letters Patent.

Patented Nov. 8, 1910.

Application filed June 24, 1910. Serial No. 568,693.

To all whom it may concern:

Be it known that I, WILLIAM E. SHEEHY, a citizen of the United States, residing at Newfields, county of Rockingham, State of New Hampshire, have invented an Improvement in Stokers' Hoes, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention relates to a stoker's hoe and has for one of its objects to provide a novel hoe which can be made less expensively and yet be stronger and more durable than such implements are now commonly made.

Another object is to provide a hoe of such a construction that when the head or blade of the hoe is worn out, it can be readily removed from the handle and a new blade placed thereon without throwing away any part of the handle.

I will first describe one embodiment of my invention and then point out the novel features thereof in the appended claims.

In the drawings, Figure 1 is a perspective view of a hoe made in accordance with my invention; Fig. 2 is a perspective view of the head of the hoe before the handle is applied thereto; Fig. 3 is a front view of the hoe head; Fig. 4 is a top plan view thereof; Fig. 5 is a top view of the end of the handle which is connected to the head; Fig. 6 is a section on the line $x-x$, Fig. 5; Fig. 7 is a section through the hoe head and handle on substantially the line $y-y$, Fig. 1; Fig. 8 is a top plan view of Fig. 7.

One common way of making hoes of this class is to forge the hoe head and the portion of the stem and handle in one piece and then to weld the long handle to the stem. One objection to this method is its expense. Another method is to make the handle with a foot at the end and then to weld this foot directly to the front face of the blade of the hoe, but the disadvantage of this method is that the welded joint is apt to break long before the hoe is worn out.

In making my improved hoe I make the blade 3 with a rib 4 which is integral therewith and which forms with the front face of the blade a socket 5 adapted to receive a foot 6 formed on the end of the stem or handle 7. The back face 8 of the socket is formed in the same plane as the front face of the blade 3 and the rib 4 is formed with a slot 9 which is open at the upper side of the

rib and which terminates in two horns 10 at either side of the slot. The head 3 is also formed on its upper edge with the projection 11 situated at the back side of the socket 5. This socket is preferably open at the bottom. A blade of this shape can readily be cast and I will preferably make it of cast steel.

The handle 7 is provided at its end with the foot portion 6 having a shape to fit the socket 5, that is, said foot portion has the flat face 12 to engage the flat face 8 of the socket, and in other respects it is of a shape to accurately fill said socket. Said foot is also formed with the beveled portion 13 near its top, which beveled portion stands opposite the projection 11. The stem of the handle 7 is of a size to fit the slot 9 and enters the slot when the parts are assembled. Said handle is cut away on two sides near the top, as at 15, and the foot 6 will preferably be provided with a groove or indentation 16 extending transversely thereof. The head is fastened to the handle by first heating said head to a red heat or any suitable temperature, and then inserting the foot into the socket with the stem 7 occupying the slot 9, said foot and stem preferably being cold. After the stem and foot have been driven firmly into the socket, the horns 10 are swaged over onto the portions 15 of the stem, as shown in Figs. 1 and 8, and the projection 11 is also swaged or folded over to overlap the inclined surface 13 of the head. The handle is also formed with the beveled or inclined surface 29 at either side of the foot and the horns are swaged over onto said surfaces as well as over onto the surfaces 15 and thus said horns grip the handle and foot at the same time. It is intended also that the rib 4 shall be struck opposite the groove 16 so as to force the material of the rib into the groove, and to facilitate this operation, I may if desired make the rib with a bulb or swell 17 opposite the groove 16. This operation of swaging the projections 10 and 11 over onto the handle can be easily accomplished when the head is at a sufficient heat. The head is by this means firmly secured to the handle and a joint is produced which will not give way even under the most exacting conditions. The rib 4 embracing the foot 6 prevents the handle from being drawn away from the head 3 and the bending of the projections 10 and 11 prevents the foot from being with-

drawn from the socket. Since the head is hot when the foot is inserted into the socket, the cooling of the head will cause the side walls of the socket to shrink onto the foot and thus firmly hold the latter in place.

It will be noted that the foot 6 is long enough to project through the bottom of the socket, as shown at 18, and this is an advantage for two reasons. When the hoe is being used in the furnace for stoking purposes, the heat of the fire will be readily transmitted into the foot through the exposed end thereof so that the foot will tend to expand before the head is thoroughly heated, which operation will only tighten the joint. Moreover whenever the blade of the hoe becomes too worn for further use the head may be heated and then the foot may be driven up from the socket by striking the lower projecting end 18 of the foot.

In practice I propose to make a comparatively short stem 7 with the foot 6 and then to weld to the end of the stem a handle of sufficient length. I propose to do this because a short stem 7 with the foot thereon can be readily drop forged and after the stem has been secured to the hoe head, a handle of any desired length can be readily welded to the stem.

Although I have described my invention as it would be used in connection with a stoker's hoe, yet the same construction might be embodied in other implements of a similar nature, and I do not wish to be limited to this particular tool.

The head of the hoe is shown as reinforced so as to strengthen the joint.

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

1. In a stoker's hoe, the combination with a head having on its front face a rib forming with said face a socket open at the top and bottom, said rib having a slot therein communicating with said socket, of a handle having a foot occupying said socket, and a stem which extends through said slot, said rib having horns on either side of the slot which are bent over to embrace the handle.

2. In stoker's hoe, the combination with a head having on its front face a rib forming with said face a socket open at the top and bottom, said rib having a slot therein communicating with said socket, of a handle having a foot occupying said socket, and a stem which extends through said slot, said rib having horns on either side of the slot which are bent over to embrace the handle and said hoe head having at its top a projection which is bent over to overlie the top of the foot.

3. In a stoker's hoe, the combination with a head formed with a socket on its front face which is open at the top and which has a slot communicating therewith and horns on either side of the slot, of a handle having a foot occupying said socket, and a stem which extends through the slot, said horns being bent over to embrace the handle.

4. In a stoker's hoe, the combination with a head formed with a socket on its front face which is open at the top and which has a slot communicating therewith and horns on either side of the slot, of a handle having a foot occupying said socket, and a stem which extends through the slot, said horns being bent over to embrace the handle, said head also having at its top a projection which is bent over to overlie the top of the foot.

5. In a stoker's hoe, the combination with a head formed on its front face with a socket open at the top and bottom and with a slot leading to the socket, of a handle having a foot occupying said socket and exposed through the open bottom thereof, and a stem which extends through the slot, said head having an integral portion thereof bent over to overlie a portion of the handle and thus hold the latter in the socket.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

WILLIAM E. SHEEHY.

Witnesses:

BERTHA F. HEUSER,
FREDERICK S. GREENLEAF.