

No. 771,656.

PATENTED OCT. 4, 1904.

J. F. MORGENTHALE & J. S. WICKES.

BORING TOOL.

APPLICATION FILED NOV. 25, 1902.

NO MODEL.

FIG. 1.

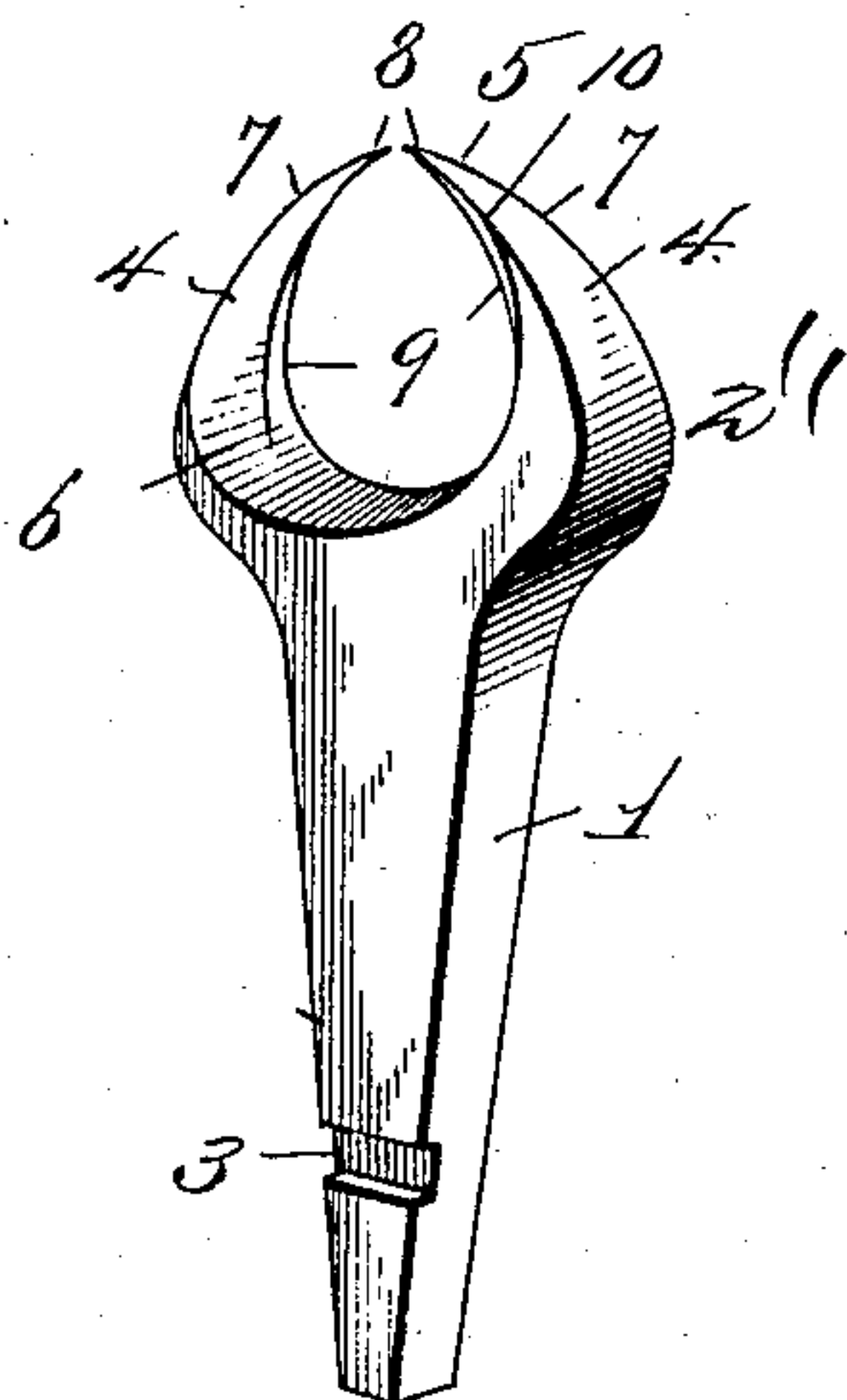


FIG. 2.

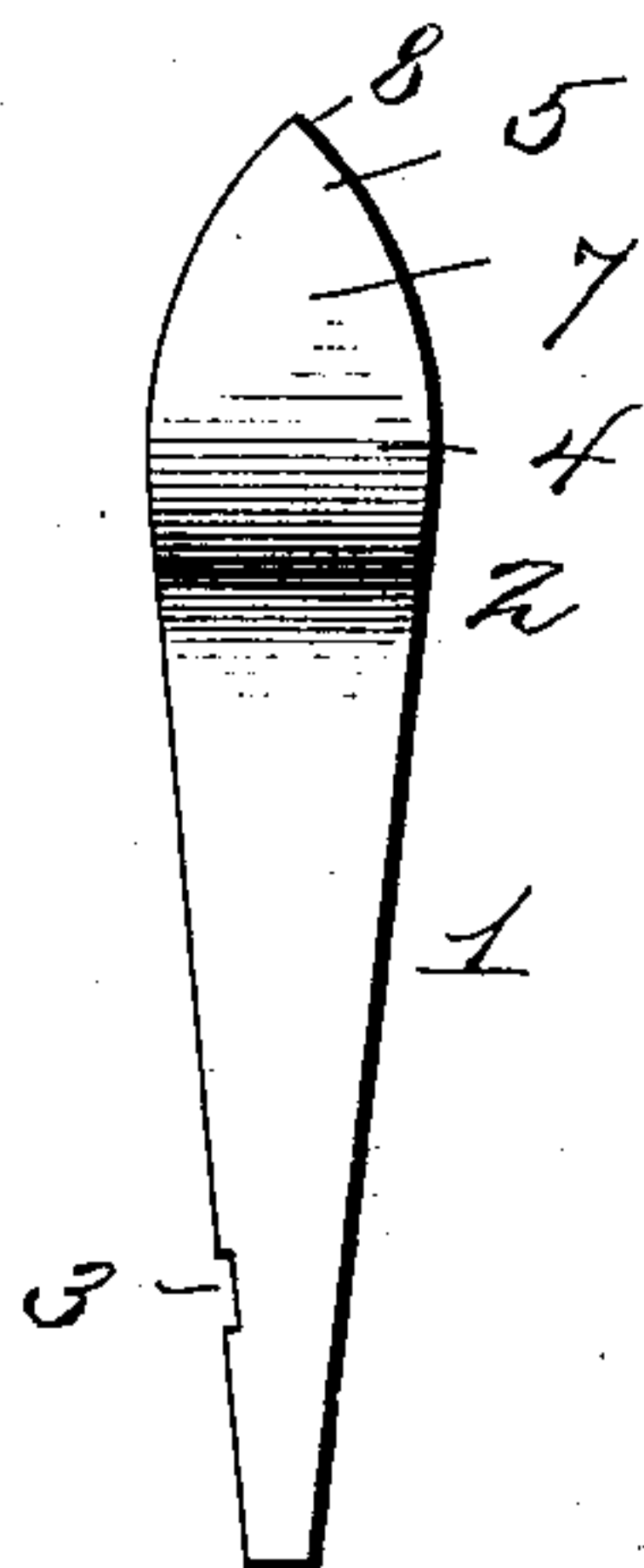


FIG. 3.

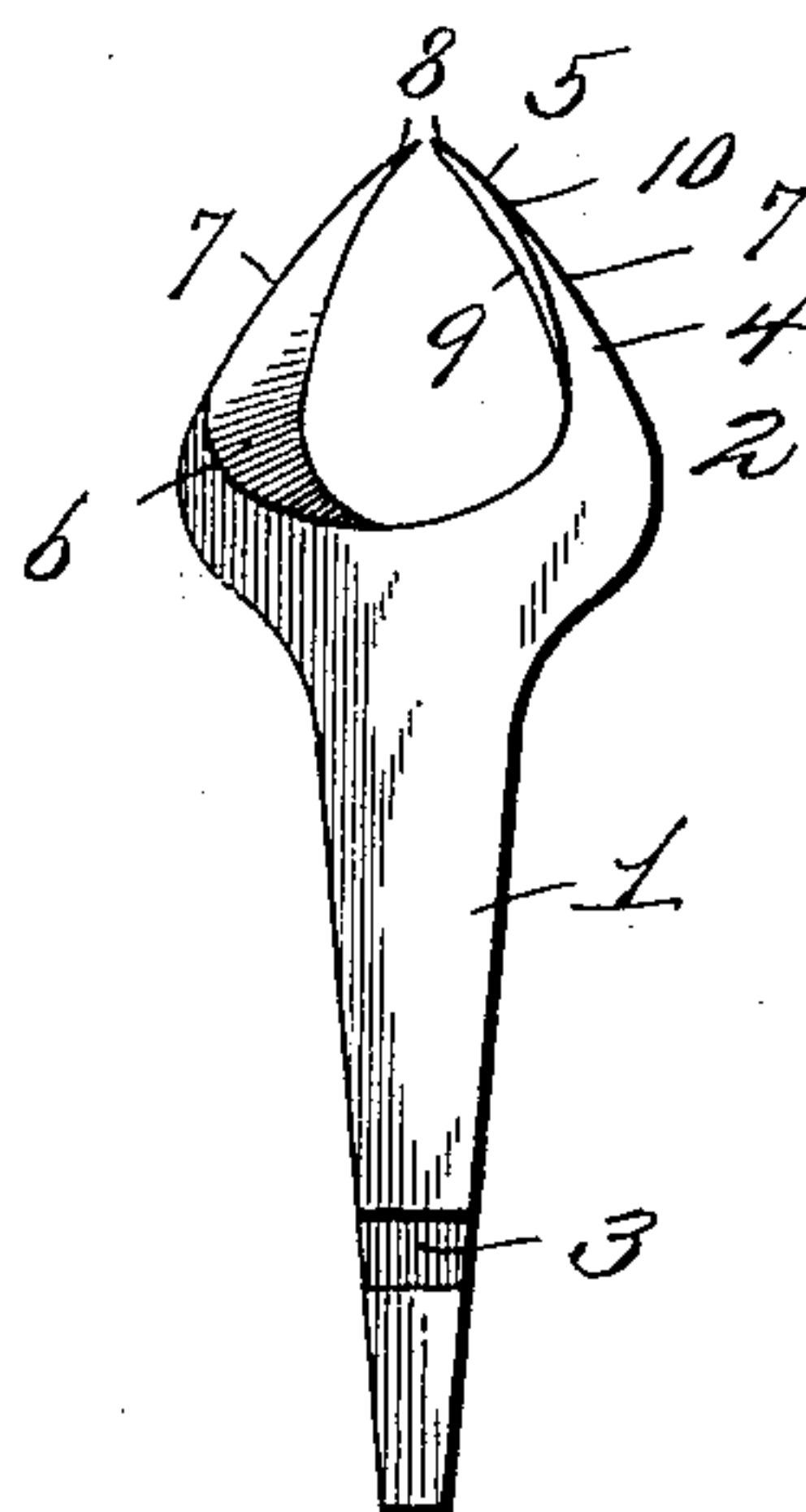


FIG. 4.

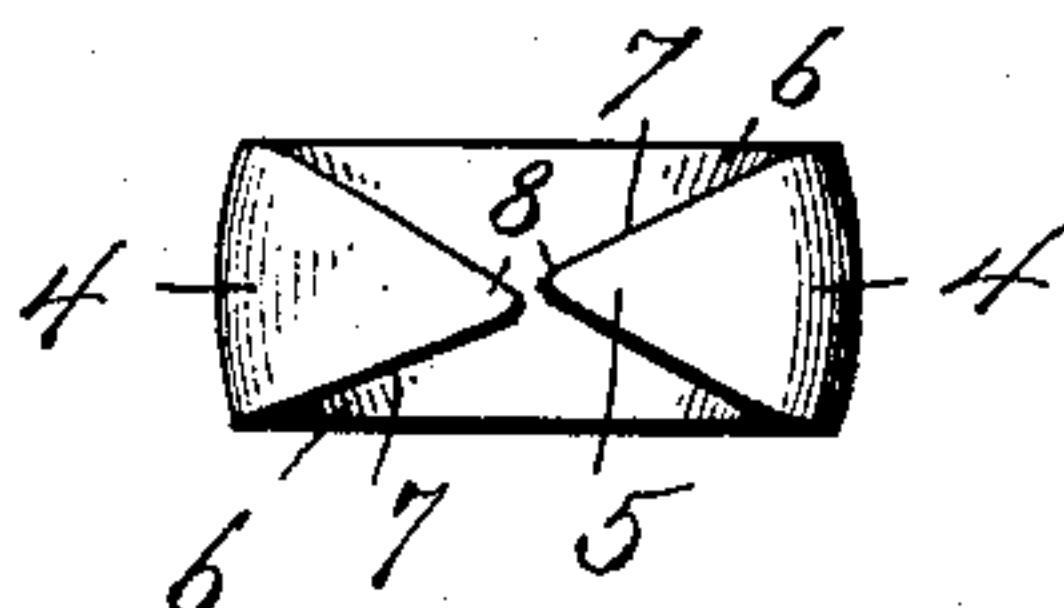
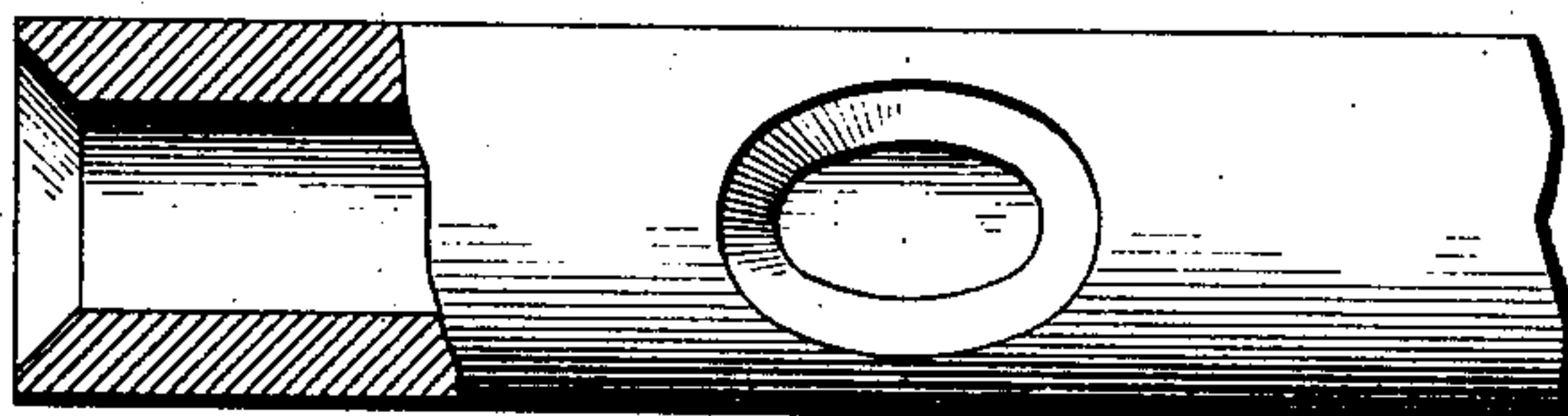


FIG. 5.



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# UNITED STATES PATENT OFFICE.

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## BORING-TOOL.

SPECIFICATION forming part of Letters Patent No. 771,656, dated October 4, 1904.

Application filed November 25, 1902. Serial No. 132,768. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN F. MORGENTHALER and JESSIE S. WICKES, citizens of the United States, residing at Allegheny city, in the county of Allegheny and State of Pennsylvania, have invented new and useful Improvements in Boring-Tools, of which the following is a specification.

This invention relates to a tool or implement for use in preparing lead water-pipe for plumbers for producing wiped joints; and the primary object of the same is to provide a device of this class which will gradually evenly cut the lead without jerking during the boring operation and applicable either to the side or end of a pipe to ream out the pipe end or form an elliptical opening in one side, the improved tool being applicable to an operating device similar to an ordinary bit-stock and forming means whereby the operation of connecting pipe-sections, spigots, or the like may be expeditiously carried on.

The invention consists in the construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of a tool embodying the features of the invention. Fig. 2 is an edge elevation of the same. Fig. 3 is a side elevation thereof. Fig. 4 is a top plan view. Fig. 5 is a detail elevation of a piece of pipe, showing the effect of the use of the tool in the side and end thereof.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The numeral 1 designates a shank which is diverged gradually toward a cutting-head 2, the shank at one side being formed with a transverse slot 3 for engagement with a locking device in a bit or other holding device. As clearly indicated by Figs. 1 and 2, the shank 1 not only diverges at opposite sides, but also at opposite edges and gradually merges into the base of the head. The head 2 comprises a pair of oppositely-disposed inwardly-curved cutting-arms 4 with an approximately pear-shaped opening 5 between the same. The arms 4 at diametrically oppo-

site points have beveled inner faces 6 extending in reverse direction to remove the metal and form cutting edges 7, also on reverse sides of the arms. The said arms 4 terminate in points 8, which are closely arranged and out of alinement or to one side of each other, the said arms gradually converging toward the points 8. Each arm edge from the point thereof downwardly for a short distance on the side opposite the location of the edge 7 is backed off or beveled, as at 9, to form a supplemental cutting edge 10, which effectively operates to remove the metal in starting to form an opening in the side of a lead pipe or in reaming the end of the latter.

The provision of the bevels 9 reduces the resistance at the sides of the arms 4 opposite the edges 7 and relieves the tool of obstructing faces or edges which might exist if the said bevels were not provided. The formation of the supplemental cutting edges 10 removes the thickness of metal that would exist if the said supplemental cutting edges were not provided at points in rear of the cutting edges 7. It is obvious that if the cutting edges 10 were not provided the rotation of the arms would be obstructed.

In the use of the improved device it is held in or applied to a stock or any companion implement with which it is adapted for use. After such application the points 8 are pressed against the lead pipe in a lateral direction relatively to the pipe to form the side opening and the tool rapidly rotated. Owing to the shape of the head 2 and the particular disposition of the arms 4, as set forth, this opening will be given a beveled edge at all times and an elliptical contour when acting on a convex surface, and to aid in the production of this form of opening the arms at their bases project laterally in regular curved lines outwardly beyond the planes of the side edges of the shank 1. As a further aid in producing this form of opening the cutting edges 7 stand in diagonal relation to each other, and the opening 5 between the inner sides of the arms is also diagonally arranged in relation to the shank.

The improved tool will be found exception-



ally useful for the purpose for which it has been devised, and it is proposed to manufacture the same in different sizes in accordance with the gages of pipes and spigots now in common use in the market. It will be understood that the tool will be formed of metal of sufficient hardness to resist wear and that it may be sharpened from time to time to maintain the cutting edges thereof in practical working condition.

Having thus fully described the invention, what is claimed as new is—

1. A boring-tool, having a head with outwardly-bowed arms which have pointed extremities converging inwardly in curved lines, the points of the arms being beside each other, a diagonal opening being formed through the arms and the latter adjacent to their re-

duced ends having reversely-disposed cutting edges.

2. A tool, having a shank merging into a head provided with edgewise laterally-projected inwardly-curved arms converging to points and separated by a diagonal open space, the said arms having reversely-arranged side cutting edges and supplemental cutting edges at the sides opposite the former cutting edges, the supplemental cutting edges partially extending downward over the arms.

In testimony whereof we affix our signatures in presence of two witnesses.

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