

No. 791,641.

PATENTED JUNE 6, 1905.

I. W. McCLANAHAN.

TOOTH CROWN.

APPLICATION FILED MAR. 2, 1904.

Fig. 1.

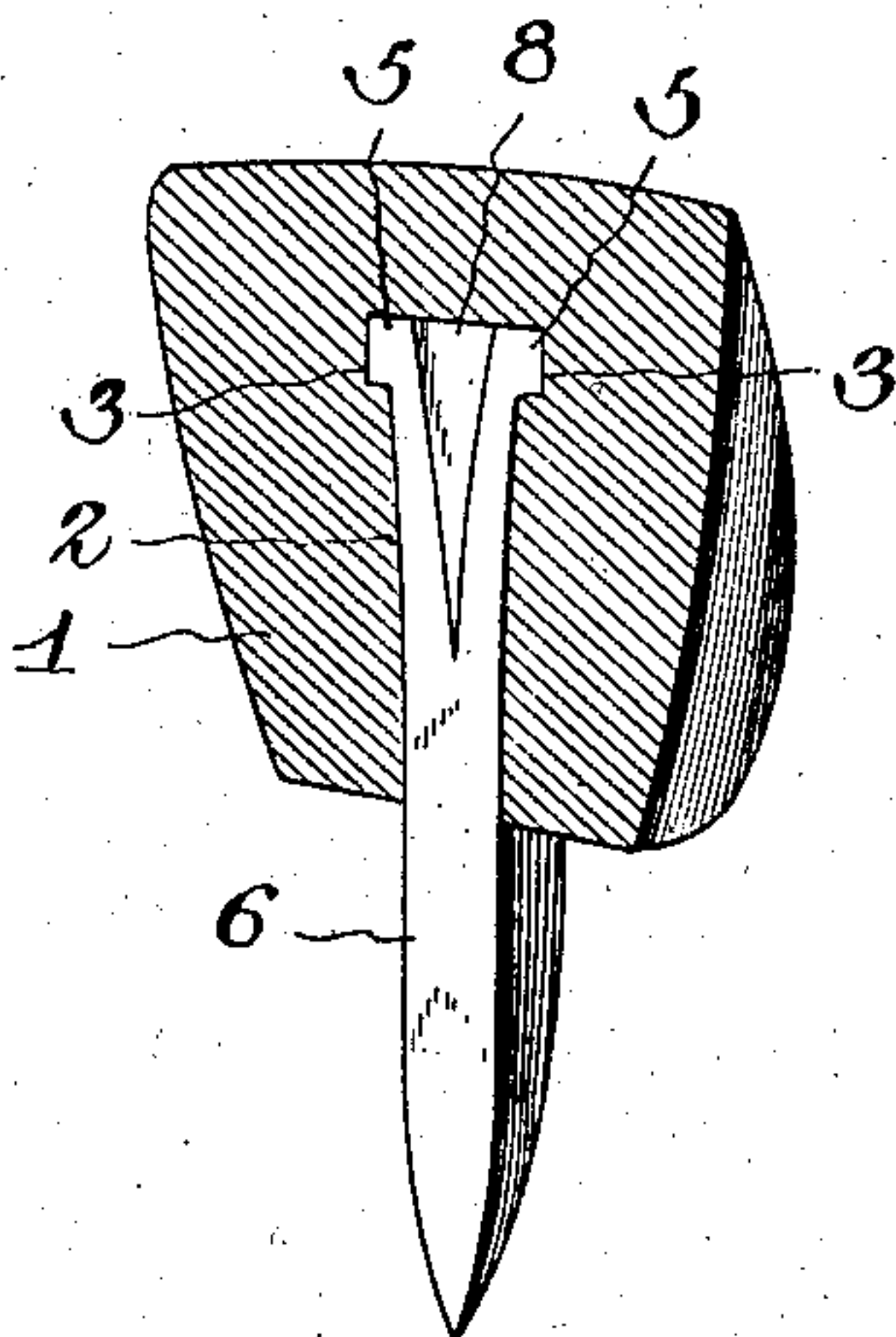


Fig. 2.

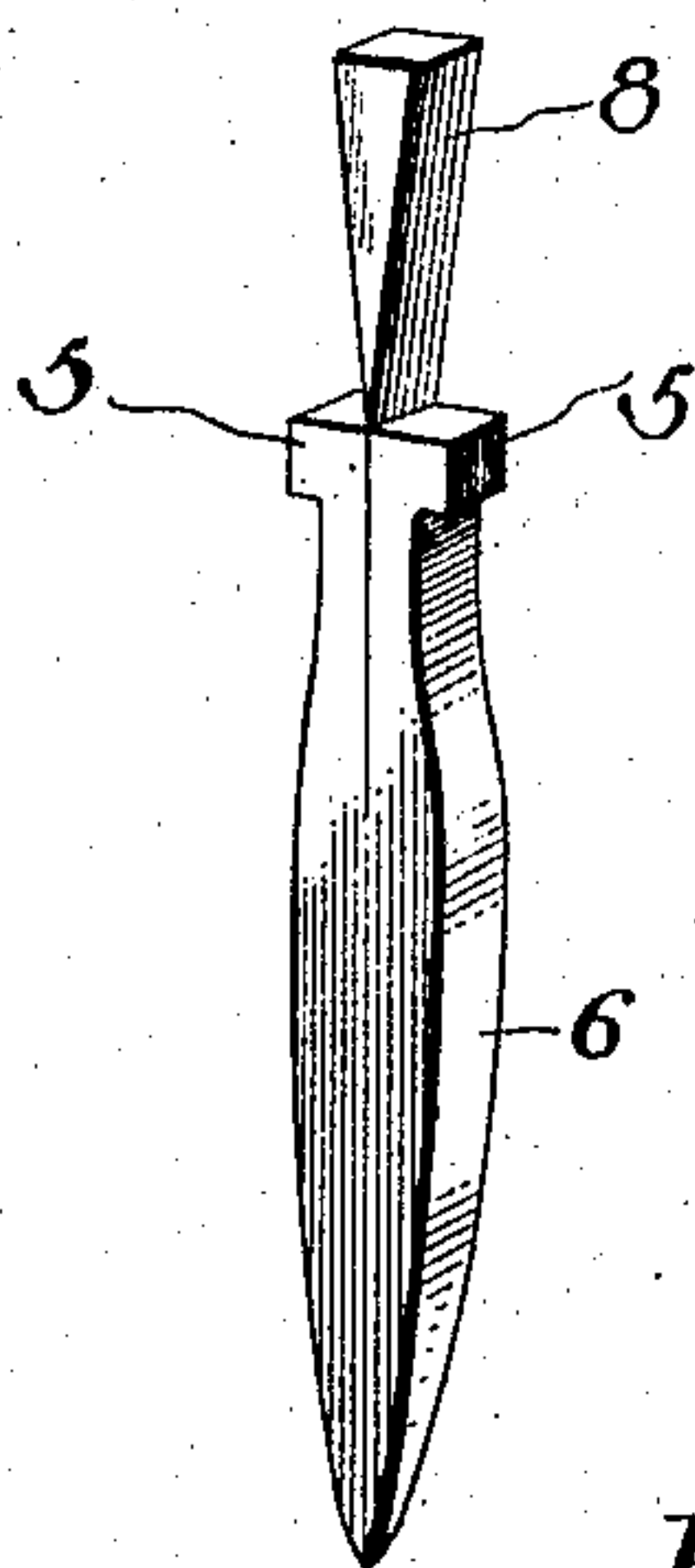


Fig. 3.

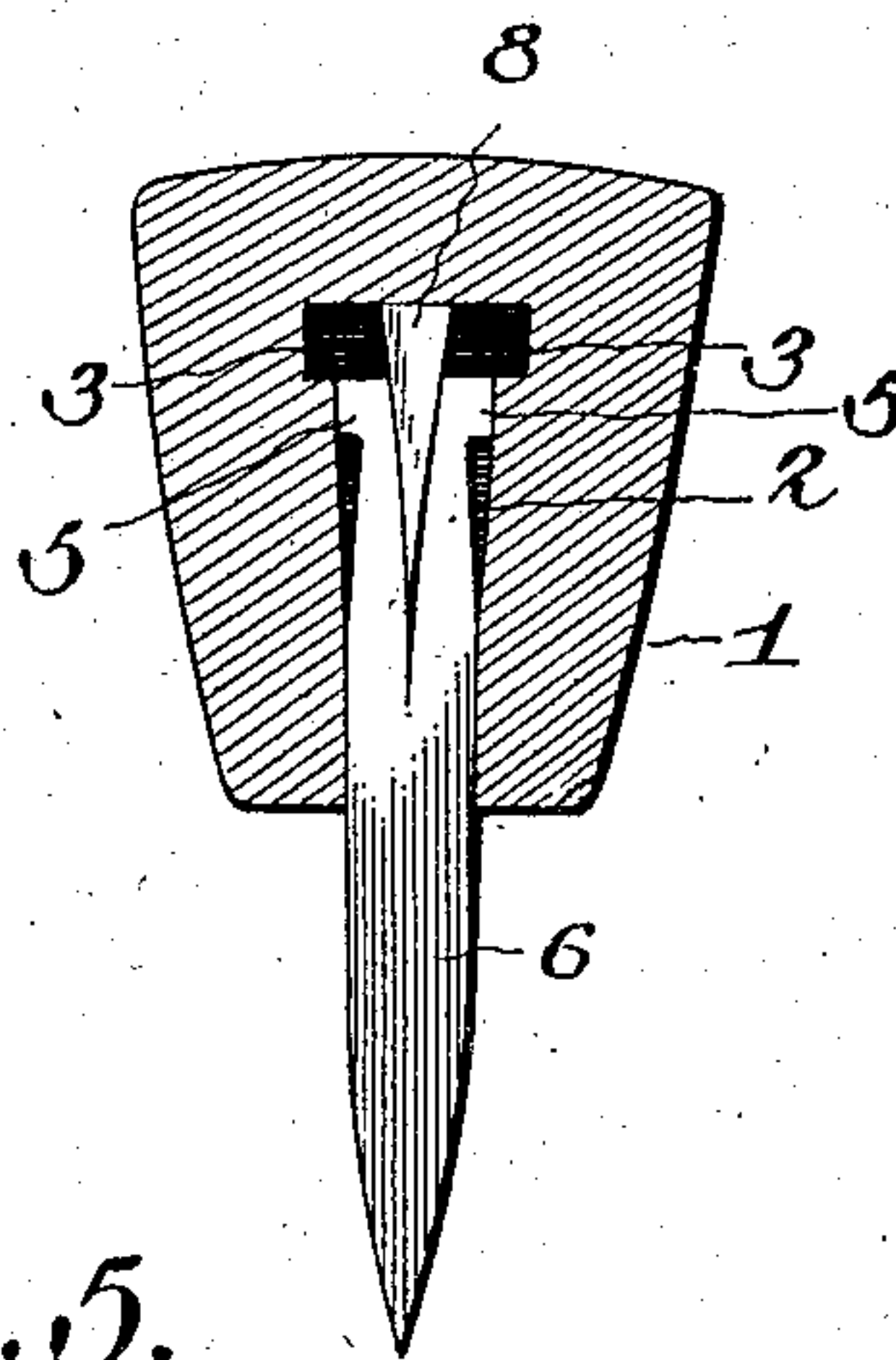


Fig. 4.

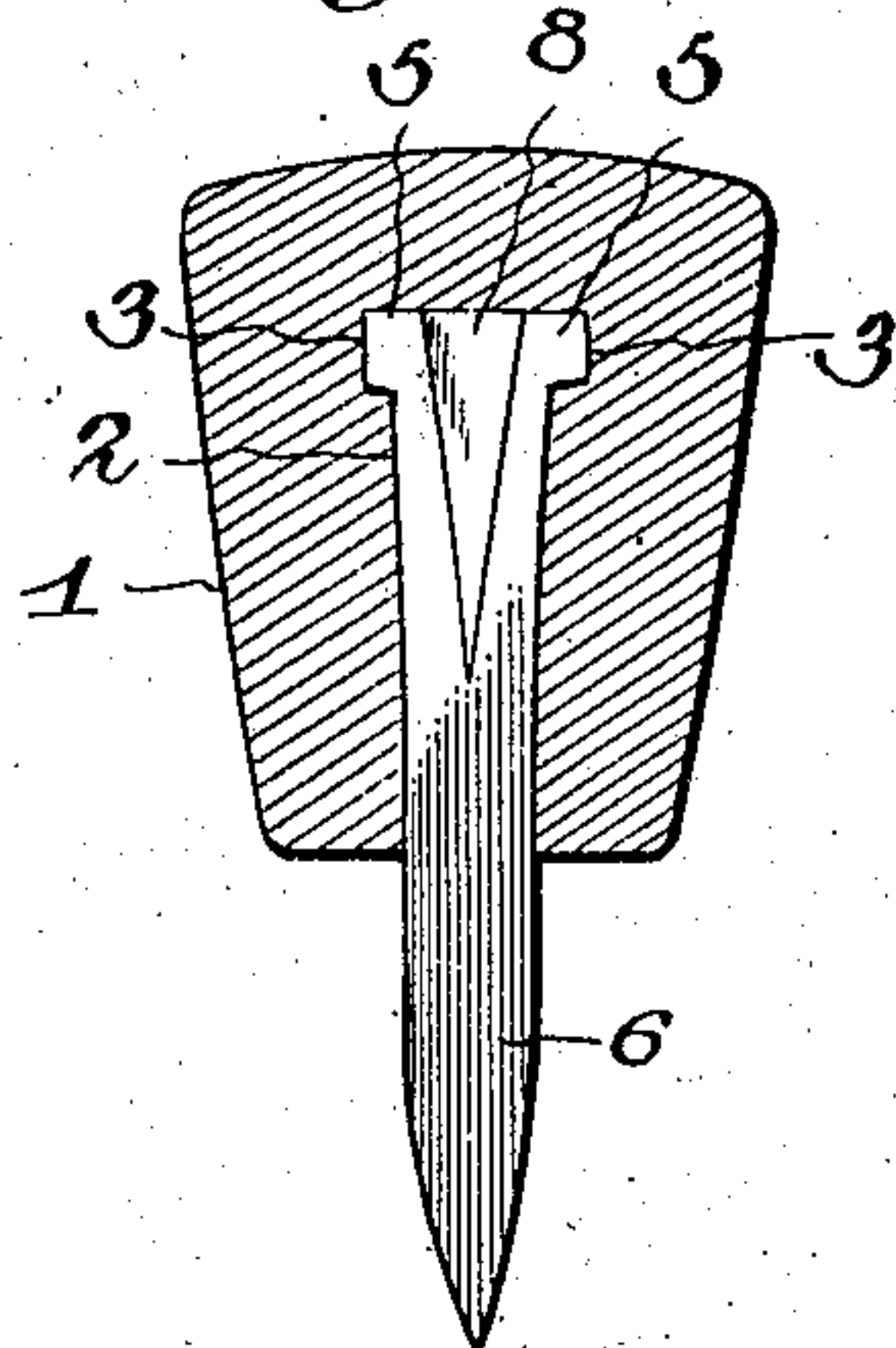
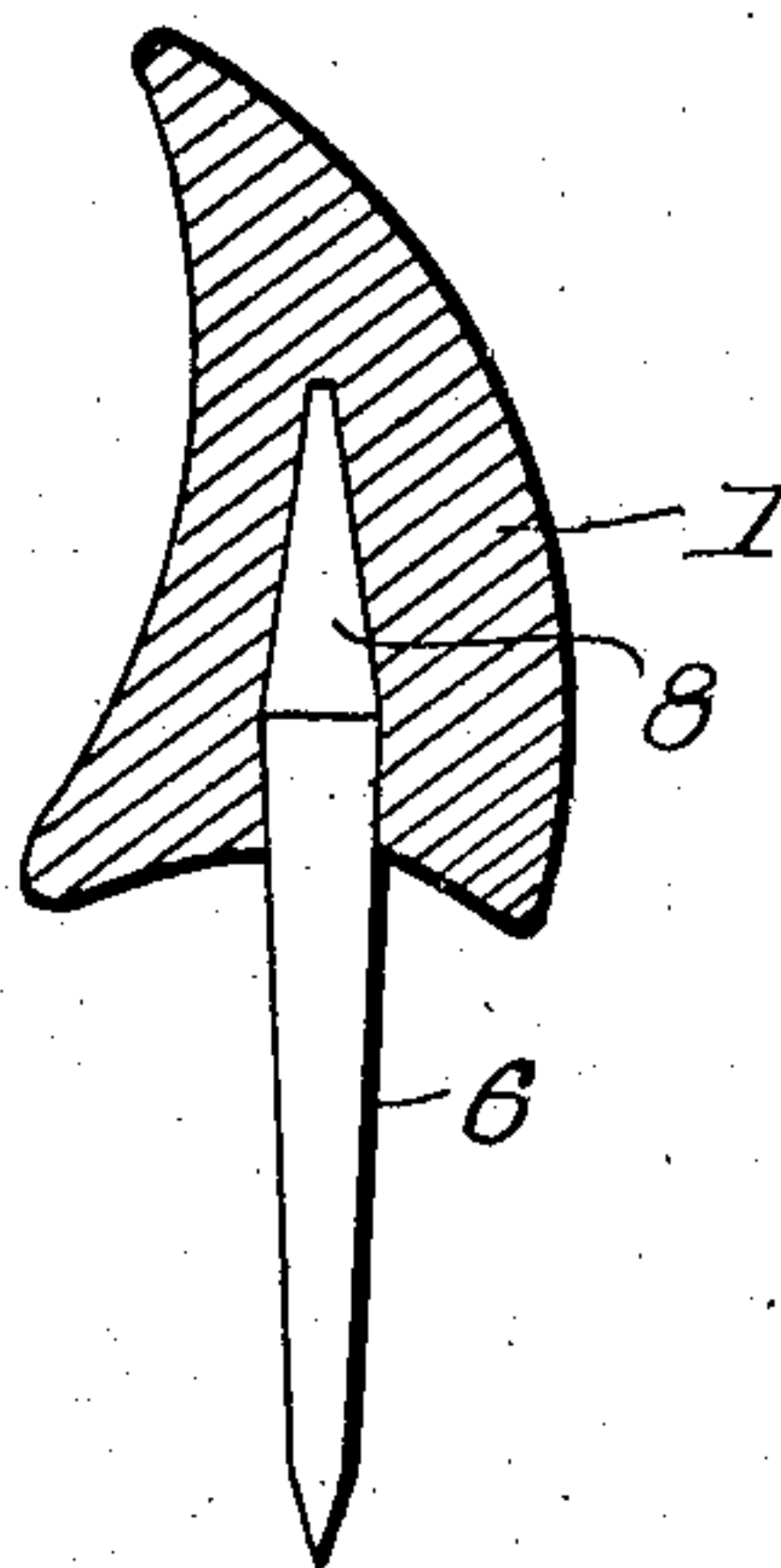


Fig. 5.



Witnesses

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## UNITED STATES PATENT OFFICE.

ISAAC WESLEY McCLANAHAN, OF FRIEND, NEBRASKA.

## TOOTH-CROWN.

SPECIFICATION forming part of Letters Patent No. 791,641, dated June 6, 1905.

Application filed March 2, 1904. Serial No. 196,206.

*To all whom it may concern:*

Be it known that I, ISAAC WESLEY McCLANAHAN, a citizen of the United States, residing at Friend, in the county of Saline and State of Nebraska, have invented a new and useful Tooth-Crown, of which the following is a specification.

This invention relates to improvements in tooth-crowns, and has for its principal object to provide improved means for securing an artificial tooth-crown to the root of a natural tooth in such manner as to permit of the utmost accuracy of adjustment, to hold the crown securely in place, and to so arrange the parts that in the event of breakage of the crown it will not be necessary to remove the pin from the root in order to place a new crown in position.

A further object of the invention is to provide a securing device of this character in which the parts are so arranged and related as to permit extensive grinding or reduction of the crown to secure perfect occlusion.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in the novel construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claim, it being understood that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a perspective view of a tooth-crown provided with fastening means arranged and constructed in accordance with the invention. Fig. 2 is a similar view of the fastening means removed. Figs. 3 and 4 are detail views, partly in section, showing the manner of securing the pin in place in the crown. Fig. 5 is a transverse sectional elevation of the crown, showing the pin in elevation.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The crown 1 may be of any desired shape and size, in accordance with the position in

which it is to be placed, and in said crown is formed a tapering opening 2, that is preferably rectangular in sectional plan, and the width from the labial to the lingual walls being less than the width of the opening in a direction at right angles thereto in the direction of the width of the tooth. At the upper ends of the tapering walls are formed slots or recesses 3, that are adapted to receive lugs 5, projecting from the upper ends of the pin 6. The pin is provided with a longitudinal slit at its upper end, and when the walls of this slit are in contact the distance between the outer edges of the pair of lugs will be less than the smallest diameter of the crown-opening, so as to permit of the ready introduction of the pin into the crown. It will be noticed that the two arms formed by the slit are separated from each other when the pin is introduced into the opening of the crown. The arms are spread apart by means of a small, preferably metallic, wedge 8, which is placed in position in advance of the introduction of the pin, and the latter is then forced in until the wedge enters the slit and by spreading the two arms at the upper end of the pin will force the lugs into engagement with their locking-recesses and will firmly hold the same in position therein, it being impossible to remove the crown from position without breaking it.

Inasmuch as the smallest width of the pin is in the plane between the labial and lingual walls of the tooth, it will permit extensive grinding for articulation or occlusion, and there is little or no danger of grinding into the pin, as sometimes happens when the pin is very large or when its greatest width is between the labial and lingual surfaces. This arrangement further permits of the formation of a much deeper opening in the crown and the insertion of the pin for a greater distance, thus forming a stronger connection, while the engagement of the lugs of the recess and engagement of the tapering sides of the pin with the correspondingly-shaped walls of the opening will positively prevent accidental removal or loosening of the crown.

Owing to the fact that the pin is rectangu-



lar in cross-section and the crown-opening of corresponding shape, there can be no independent rotative movement of the crown during or after the fitting operation and the crown will at all times be held to the position to which it is adjusted by the dentist.

In securing a crown of this character in place the root of the natural tooth is first ground to the proper shape. The crown is then ground to fit the root, after which the tooth-canal is opened up with a bur of suitable size to permit the entrance of the pin. The pin or post may then be adjusted in position and properly fitted with respect to the crown, after which a small quantity of cement is placed in the crown-opening and the pin and wedge inserted in proper position to spread the two arms and force the lugs into engagement with the recess formed to receive them, and in some cases the cement may be omitted, but it is preferred in order that the interstices may be filled.

Should the crown become fractured it can be replaced without removing the post from the root, and if the pin or post should break the crown can be used by boring out the old pin and inserting a new one.

Having thus described the invention, what is claimed is—

A tooth-crown having a pin-receiving opening provided with walls recessed laterally at their upper end to form well-defined shoulders, a split pin having a pair of lugs at one end, the lugs extending respectively in opposite directions at a right angle to the length of the pin and adapted to enter said recess, said lugs being formed by cutting away the opposite side walls of the pin at points below the top thereof, the distance between the outer faces of the two lugs when the pin is contracted being less than the width of the main portion of the pin-receiving opening, and a wedge adapted to spread the upper end of the pin and force the lugs outward into said recesses, and the side walls of the pin into engagement with the sides of the opening.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ISAAC WESLEY McCLANAHAN.

Witnesses:

I. M. BROWN,

H. J. SOUTHWICK.