

W. R. HOCKABOUT.

DRILL.

APPLICATION FILED DEC. 31, 1914.

1,154,636.

Patented Sept. 28, 1915.

Fig. 1.

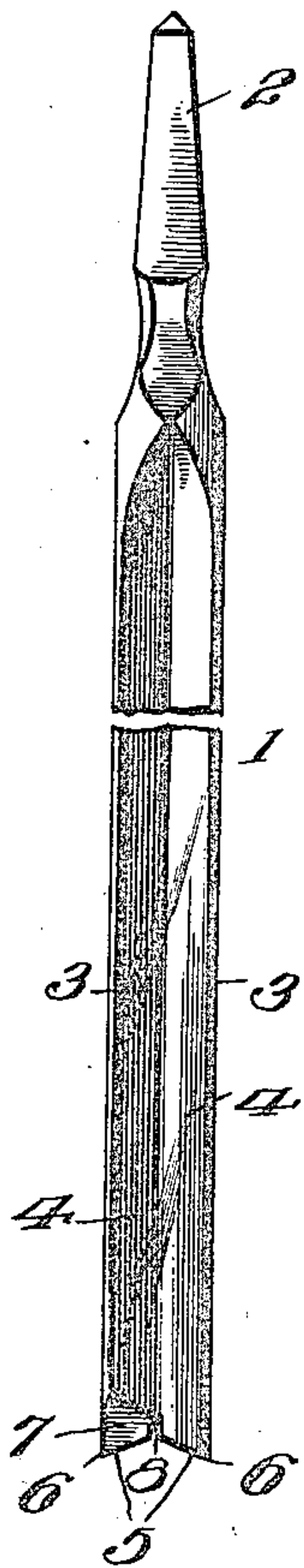


Fig. 2.

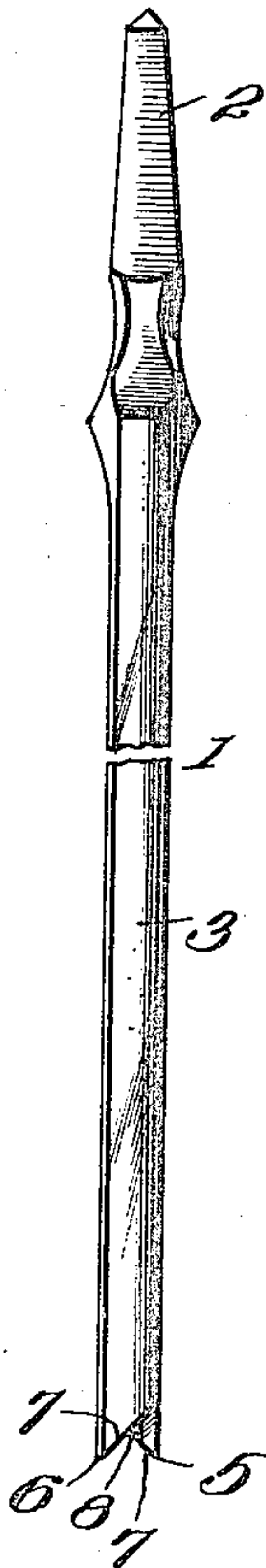


Fig. 3.

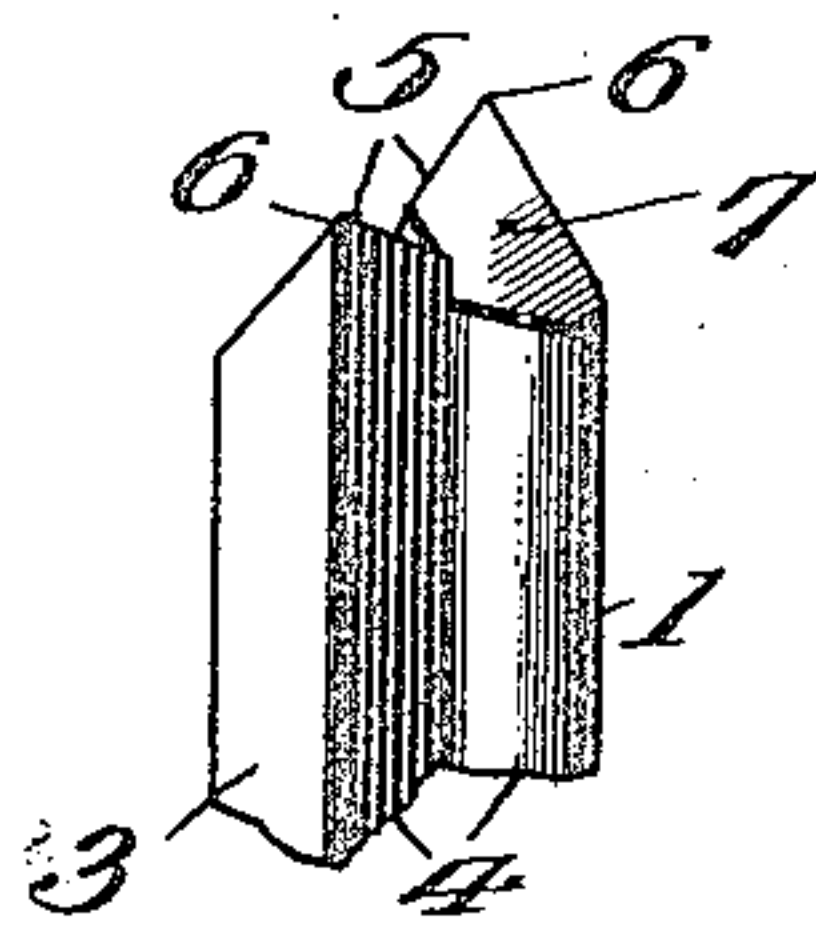


Fig. 4.

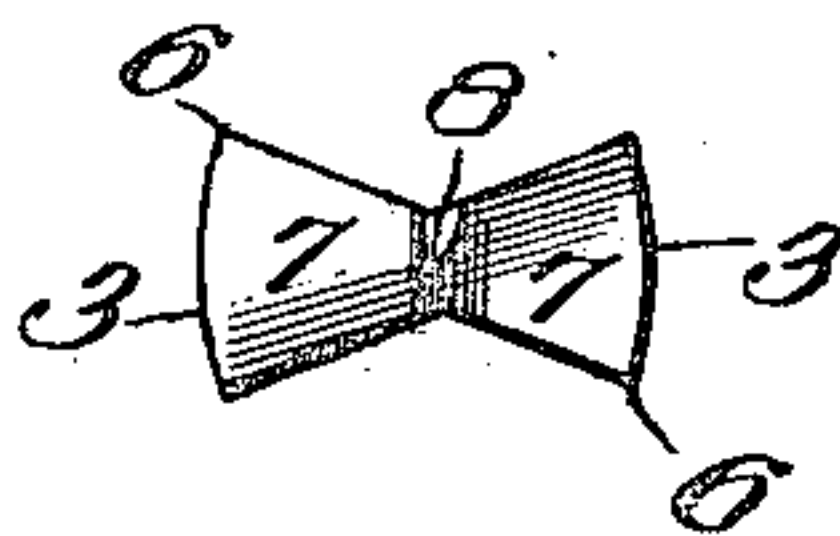
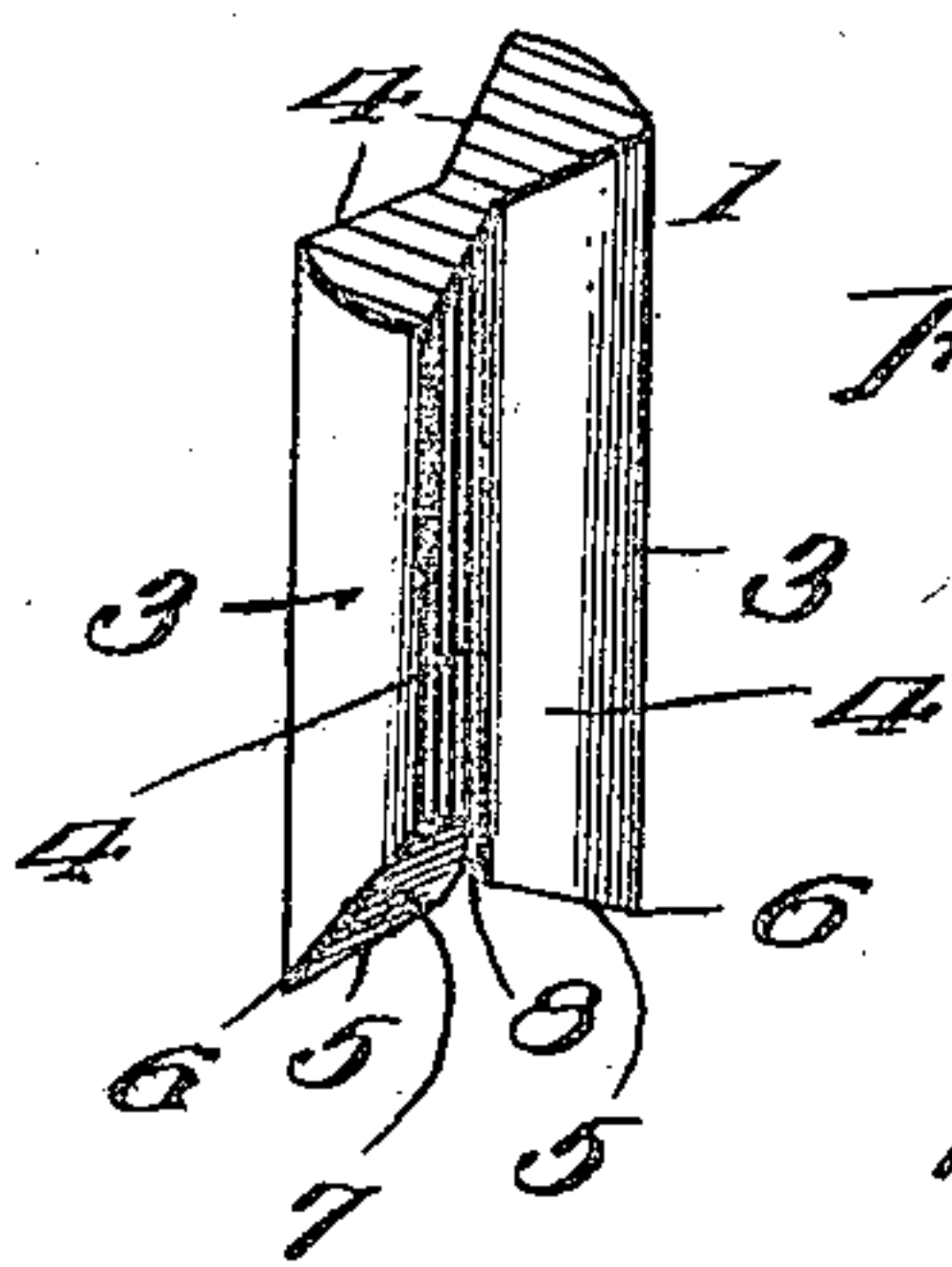


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

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DRILL.

1,154,636.

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To all whom it may concern:

Be it known that I, WALTER R. HOCKABOUT, a citizen of the United States, residing at Palo Alto, in the county of Santa Clara and State of California, have invented certain new and useful Improvements in Drills, of which the following is a specification.

This invention relates to certain improvements in drills for cutting brick, tile, concrete, stone, and the like; and the objects and nature of the invention will be readily understood by those skilled in the art in the light of the following explanation of the accompanying drawing illustrating what I now believe to be the preferred embodiment or mechanical expression of my invention from among other forms, and constructions, within the spirit and scope thereof.

An object of the invention is to provide an improved rotary drill bit peculiarly designed for cutting bricks, tiles, or the like, concrete, and marble or other stone, and adapted for use in any ordinary or desirable brace, drill press, breast drill or other suitable operating mechanism.

The invention consists in certain novel features in construction and formation as more fully and particularly set forth and pointed out hereinafter.

Referring to the accompanying drawings:—Figure 1, is a side elevation of a drill bit constructed in accordance with this invention. Fig. 2, is an edge elevation thereof. Fig. 3, is a view of the working end of the bit. Fig. 4, is a detail perspective view of said working end. Fig. 5, is a cross section on the line 5—5, Fig. 2.

The body 1, of the bit is formed at its upper end in any suitable manner, although in the example illustrated I show the bit formed with a squared upper end 2, to enter the chuck or other holding or locking device of any suitable operating means.

The body of the drill is straight and, in the example illustrated, is of a flattened formation to provide two diametrically-opposite similar parallel comparatively-narrow longitudinal edges 3, and two similar opposite longitudinal parallel wide sides. The sides are centrally and longitudinally depressed so that each side embodies a pair of angularly-arranged similar longitudinal flat faces 4, transversely diverging from the longitudinal center line of the side. The body of the bit is thus of greater width at

its edges than at its center with each longitudinal half of the body having its side faces converging transversely toward the longitudinal center of the body. The body is thus composed of two similar halves wedge shape in cross section and joining at their narrow portions at the center of the body. The working end of this bit or body is formed by transversely or oppositely beveling off said similar halves, each at an angle of approximately forty five degrees, with one half beveled from one side of the bit and the other half from the other side of the bit, to produce two similar inclined straight cutting edges 5, at their outer ends terminating at two triangular cutting points or spurs 6, at the opposite outer edges of the bit, and two flat beveled or inclined faces 7, the planes of which are approximately at right angles to each other. Each inclined face 7, extends completely across one half of the bit from one side thereof to the other, and consequently the two cutting edges 5, are straight and similar but converge upwardly and inwardly, although at their inner ends said edges terminate at the centers of the opposite sides of the bit and are spaced apart a distance equal to the thickness of the bit at its center, leaving the center space 8. This formation of the bit to provide the similar straight inclined cutting edges with the sharp triangular depending cutting points or spurs at the opposite edges of the bit, renders it possible to accomplish the object of my invention, to wit; to provide a bit that will successfully operate in hard fired ceramic material such as bricks and tiles, also concrete, and marble and other stone.

The drill can be readily sharpened by grinding or filing the opposite flat transverse beveled faces.

The drill bit can be of the twisted type, if so desired, so that the opposite side faces and the opposite edges will be spirally arranged (instead of straight as illustrated) as the body of the drill will even then be composed of the two longitudinal halves and the working end of the bit will be as shown and described.

It is evident that various modifications and variations might be resorted to without departing from the spirit and scope of my invention.

What I claim is;—

A rotary drill having a straight shank

substantially elliptical in cross section and provided with two wide V-shaped longitudinal grooves along opposite edges thereof, arranged symmetrically with respect to and
5 on opposite sides of the plane defined by the minor axis of the ellipse and the longitudinal axis of the drill, so as to form a contracted central axial portion, and two outwardly diverging longitudinal side portions, said side portions being ground at the

end of the shank so as to present two flat faces disposed in perpendicular planes, said planes intersecting in a line parallel to the minor axis of said ellipse.

In testimony whereof I affix my signature 15
in presence of two witnesses.

WALTER ROY HOCKABOUT.

Witnesses:

M. H. THOMAS,

MARION McKENDRY.