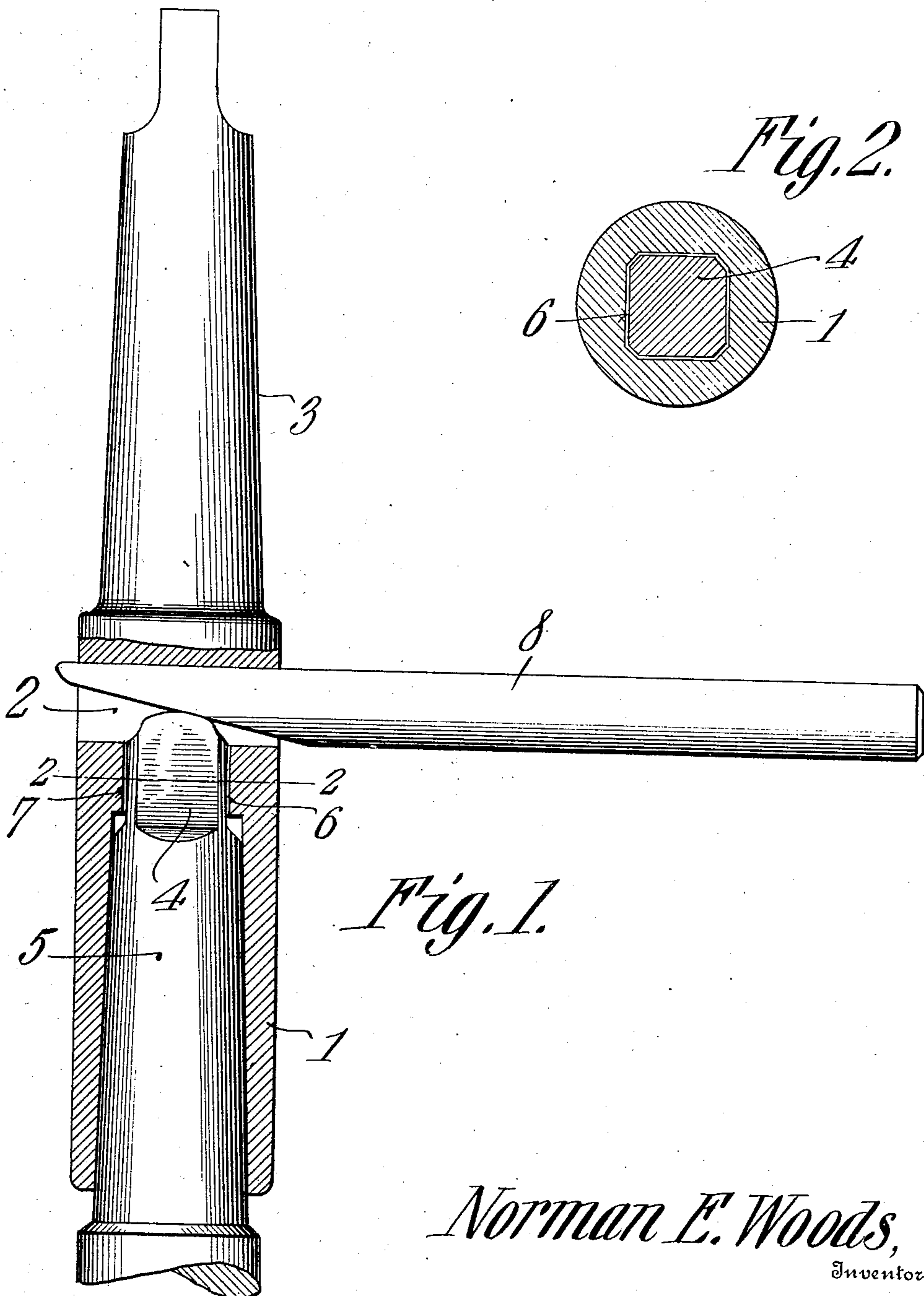


No. 894,250.

PATENTED JULY 28, 1908.

N. E. WOODS.  
DRILL SOCKET.

APPLICATION FILED SEPT. 30, 1907.



*Norman E. Woods,*  
Inventor.

Witnesses:

*E. J. Stewart*

*R. M. Elliott*

By

*C. A. Snow & Co.*

Attorneys.

# UNITED STATES PATENT OFFICE.

NORMAN E. WOODS, OF RICHMOND, VIRGINIA.

## DRILL-SOCKET.

No. 894,250.

Specification of Letters Patent.

Patented July 28, 1908.

Application filed September 30, 1907. Serial No. 395,257.

*To all whom it may concern:*

Be it known that I, NORMAN E. WOODS, a citizen of the United States, residing at Richmond, in the county of Henrico and State of Virginia, have invented a new and useful Drill-Socket, of which the following is a specification.

This invention relates to drill sockets. In implements of this character such as are in general use, the socket is provided with a transverse drift-slot that intersects the inner end of the shank bore, which latter is tapered, and the outer terminal of the drill shank is reduced transversely to provide a rectangular tang that projects into the slot and holds the drill against turning should the taper of its shank not coincide exactly with that of the shank bore. While effective for the purpose designed, this arrangement has the disadvantage of weakening the tang to such an extent that it will, under heavy strains, twist or break off. In fact, the stock removed to shape the tang properly to fit the drift-slot reduces the strength of the former about fifty per cent.

The object of the present invention is in a novel, simple and practical manner, without materially increasing the cost of manufacture of the socket, and with a marked reduction in the cost of production of the drill, to obviate the above objectionable features, thereby measurably prolonging the life of the drill.

The invention consists of a drill socket constructed and arranged as hereinafter set forth and claimed.

The invention consists further in various features of novelty hereinafter described and pointed out in the claims.

In the accompanying drawings, forming a part of this specification, and in which like characters of reference indicate corresponding parts, Figure 1 is a view in side elevation, partly in section, of a drill socket constructed in accordance with the present invention. Fig. 2 is a transverse sectional view taken on the line 2—2 of Fig. 1.

The implement embodies, as usual, a socket member 1 having a transverse drift-slot 2, and a tapered shank 3. These parts may be of the usual or any preferred construction, and therefore need no detailed description.

The present invention resides more particularly in the construction of the tang 4 of the drill shank 5, and in the seat 6 in the

socket by which it is held against turning. As will be seen by reference to Fig. 2 the tang 4 is quadrangular as is also the tang seat 6, and to form the tang only sufficient metal is removed to impart a general quadrangular shape thereto, it being seen that the corners of the tang are beveled or rounded. In effect, only about one-sixth of the stock of the tang is removed to impart to it the desired shape.

The tang seat 6 consists of a short quadrangular socket formed in a wall or septum 7 that normally separates the socket bore from the drift-slot, and in this instance its corners are shown as slightly curved or flat instead of being sharp, this contour being adopted to make the seat conform to the perimeter of the tang.

It will be noted by reference to Fig. 1, that the walls of the tang seat are approximately coextensive in length with the tang, so that the latter is inclosed on all four sides throughout practically its entire extent, only a short portion of the tang being projected into the drift slot. By means of this construction the weakening of the tang which results from the cutting away of the metal is obviated, and its position in its seat strengthens it to resist torsional strain.

As seen in Fig. 1, the tang projects into the drift-slot and its end is rounded and is adapted to be engaged by an ordinary drift 8 by which the drill can readily be removed from the socket in the usual manner.

It will be seen from the foregoing description that by the employment of a quadrangular tang, greater strength will be imparted to the drill for resisting torsional strain, whereby the life of the drill will be largely increased.

Having thus described the invention what is claimed is:—

A drill socket formed with a drift slot; a septum between the drift slot, and drill shank bore, with a short quadrangular socket opening into the drift slot, and said bore, and of less diameter than the latter, and adapted to receive a short quadrangular drill tang.

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

NORMAN E. WOODS.

Witnesses:

K. B. GUNN,  
JULIUS GUNN.