

No. 824,346.

PATENTED JUNE 26, 1906.

P. W. FAWCETT.

TWIST DRILL.

APPLICATION FILED MAY 2, 1905.

FIG. 1.

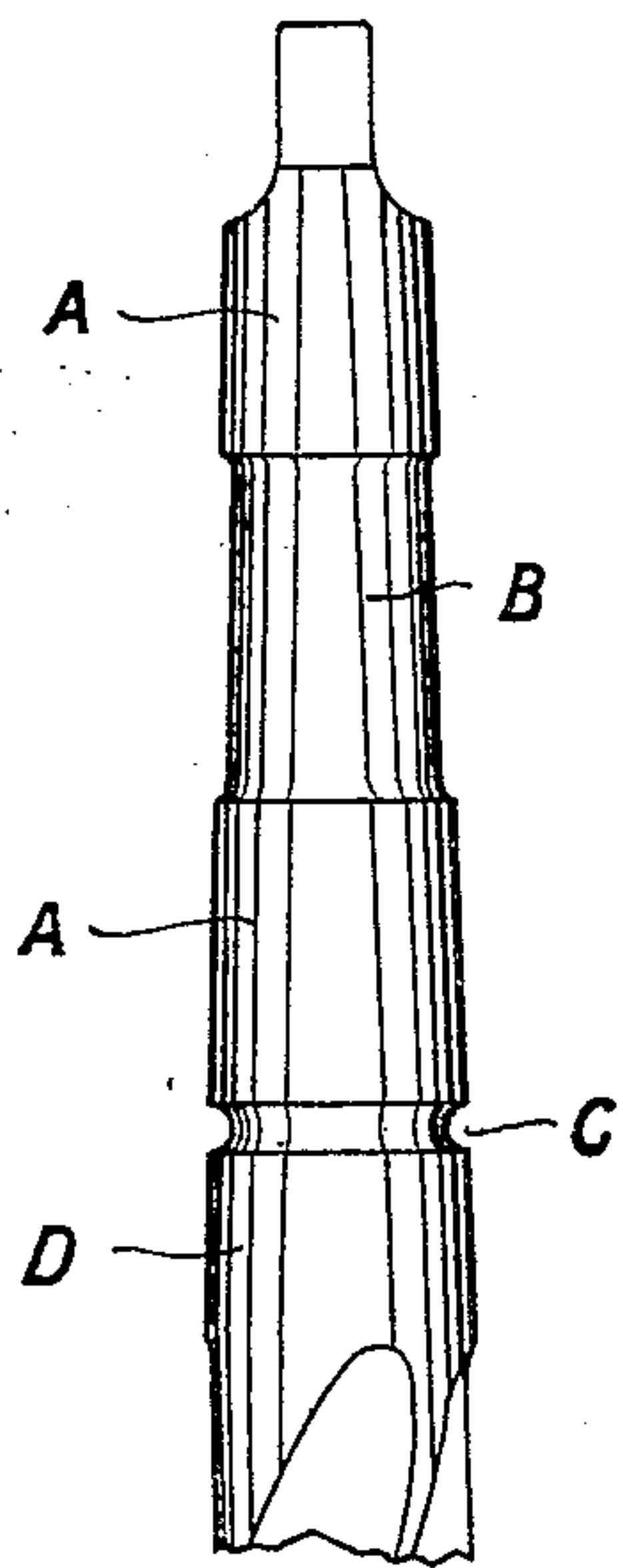
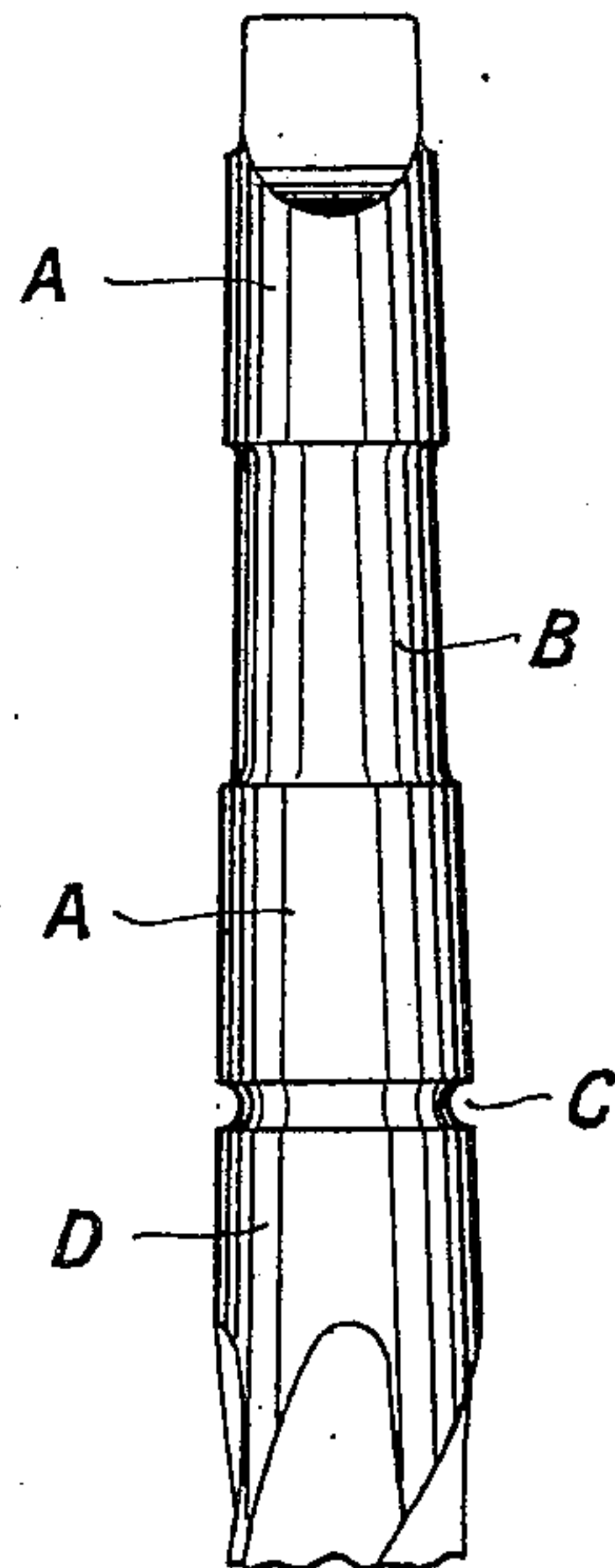


FIG. 2.



Witnesses

Wm. Tuckwell

John A. Percival

Inventor
Percy Wm. Fawcett

By *Richard H. [Signature]*
ATTORNEYS

UNITED STATES PATENT OFFICE.

PERCY WILLIAM FAWCETT, OF SHEFFIELD, ENGLAND.

TWIST-DRILL.

No. 824,346.

Specification of Letters Patent.

Patented June 26, 1906.

Application filed May 2, 1905. Serial No. 258,530.

To all whom it may concern:

Be it known that I, PERCY WILLIAM FAWCETT, a subject of the King of Great Britain and Ireland, and a resident of Middlewood Hall, near Sheffield, county of York, England, have invented a certain new and useful Improvement in Twist-Drills, (for which I have applied for a patent in Great Britain, No. 11,781, dated May 24, 1904,) of which the following is a specification.

This invention, entitled "Improvements in twist-drills," relates more particularly to the construction of the shank portion of such drills, which are sometimes parallel, but are usually made tapering to fit into holes of corresponding configuration either in chucks or other like holders for such tools, such drills when in use being carried round by frictional contact between the shank and the holder, and it is therefore most important that the shanks of the drill should fit the holder accurately, and especially so at the opposite ends.

My invention is only applicable to twist-drills having such tapered shanks, and the chief objects I have in view are to obtain more perfect contact between the surfaces of the drill-shank and the holder; to avoid any rocking movement of the drill in the socket, and to reduce the area upon the shank, which requires the careful process of surface-grinding.

The annexed drawings illustrate my said improvements.

Figure 1 is a front elevation, and Fig. 2

side view, of the shank portion of a twist-drill.

In carrying out my invention instead of making the shank A of the drill D of one continuous taper from end to end, I make the central portion B, which, for example, may be one-third, or thereabout, of its entire length, of reduced diameter, or, if desired, there may be more than one reduced part, the amount of hardened surface requiring to be carefully and accurately ground to size and to the correct angle, being thereby considerably reduced. Also at the point of junction between the shank A and the body D of the drill I form an annular concave groove C to provide a clearance space between the line of the face of chuck or other drill-holder and the drill, with the object of avoiding a right-angle junction or corner, and therefore preventing any tendency for the drill to snap at that point from side strain or the like.

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

A twist-drill with tapering shank, having the central portion of the shank reduced in diameter, as hereinbefore described and shown.

In witness whereof I have hereunto set my hand in presence of two witnesses.

PERCY WILLIAM FAWCETT.

Witnesses:

ROBERT F. DRURY,
BERNARD E. DRURY.