I. C. IMBODEN.

BRACE CHUCK.

APPLICATION FILED JULY 11, 1906. RENEWED APR. 13, 1910.

961,777. Patented June 21, 1910.

Fig. 1.

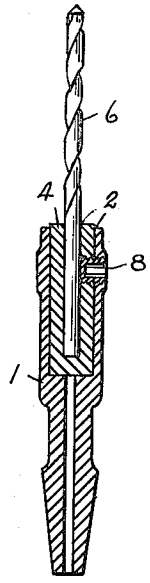


Fig. 2.

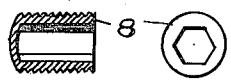


Fig. 3.

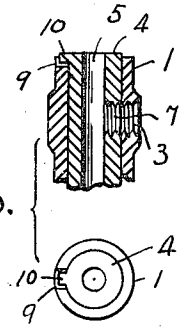


Fig. 5.

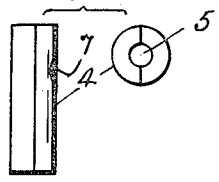


Fig. 6.

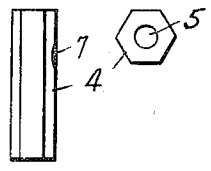
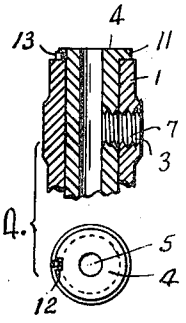


Fig. 4.



Isaac C. Imboden, Inventor

Witnesses
J. O'K. Kelly.
L. L. Dale.

By Attorney

UNITED STATES PATENT OFFICE.

ISAAC C. IMBODEN, OF CLEONA, PENNSYLVANIA.

BRACE-CHUCK.

961,777. Specification of Letters Patent. Patented June 21, 1910.

Application filed July 11, 1906, Serial No. 325,725. Renewed April 13, 1910. Serial No. 555,298.

To all whom it may concern:

Be it known that I, ISAAC C. IMBODEN, citizen of the United States, residing at Cleona, in the county of Lebanon and State of Pennsylvania, have invented new and useful Improvements in Brace-Chucks, of which the following is a specification.

This invention relates to an improved brace chuck, the object of the invention being to provide a device that may be secured in an ordinary brace in the usual manner and in which drills or other like tools having shanks of varied diameters may be held by securing them in sleeves of corresponding internal diameters which sleeves are held in the chuck. The construction is such that even the broken end of a drill may be securely held in position and operated.

The invention is more fully described in the following specifications and clearly illustrated in the accompanying drawing, in which:—

Figure 1 is a central sectional view of my device. Fig. 2 is a detail view of the hollow set screw. Figs. 3 and 4 show slightly modified forms of the device. Figs. 5 and 6 show modified forms of the sleeve.

The numeral 1 designates the chuck, which is made with a central longitudinal opening 2 and a right angled internally screw-threaded opening in the wall thereof leading into said longitudinal opening.

The numeral 4 designates a sleeve adapted to fit into the opening 2. This sleeve is also formed with a central longitudinal opening 5 adapted to receive the end or shank of the drill 6 and with an opening 7 in the wall thereof at right angles to said longitudinal opening and connecting therewith.

The numeral 8 designates a set screw. This set screw is preferably hollow, as shown, with a hexagonal opening by means of which it may be engaged with a suitable wrench. With this set screw in position there is no projection beyond the surface of the chuck when the drill is secured therein.

When it is desired to secure a drill in the chuck, the sleeve whose longitudinal opening corresponds with the diameter of the drill to be used is placed in the chuck with its side opening 7 registering with the opening 2 in the wall of the chuck. The set screw is then inserted and it passes through both the wall of the chuck and sleeve and bears against the shank of the drill, securely holding it therein.

In Fig. 3 I have shown the top edge of the chuck formed with a slot or depression 9 and the sleeve with a lug 10 on its upper edge adapted to engage the slot. This construction insures the proper registering of the openings 7 and 3 for the set screw and prevents accidental turning in the chuck.

In Fig. 4 I have shown the sleeve with a collar 11 having a depression therein, 12. The top edge of the chuck in this case is formed with a projection 13 adapted to engage said depression, for the same purpose as described in connection with the construction shown in Fig. 3.

In Fig. 5 I have shown a split sleeve, to facilitate its easy removal and in Fig. 6 I have shown it with a hexagonal outer surface. This latter construction will also insure the proper registering of the side openings and prevent turning in the chuck.

It is evident that with my chuck a number of sleeves may be used each having a different internal diameter adapted to hold drills of different sizes. It is also evident that the broken end of a drill may be held therein, if there is but enough to project beyond the edge of the chuck to be of use. It is evident also that my device may be used to hold tools other than drills and that it may be used in a drill press as well as a hand brace.

The chuck may if desired be made with a round shank and the sleeves may be tapered if desired instead of straight as shown, without departing from the spirit of the invention.

Having thus fully described my invention and its construction, what I claim and desire to secure by Letters Patent is:—

A brace chuck comprising a chuck body perforated longitudinally at one end and having a socket at its other end communicating with said longitudinal perforation, and a drill-holding sleeve fitting in said socket closed at one end to prevent accidental slipping of the tool during operation.

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

ISAAC C. IMBODEN.

Witnesses:
J. S. ULRICH,
H. G. LIGHT.