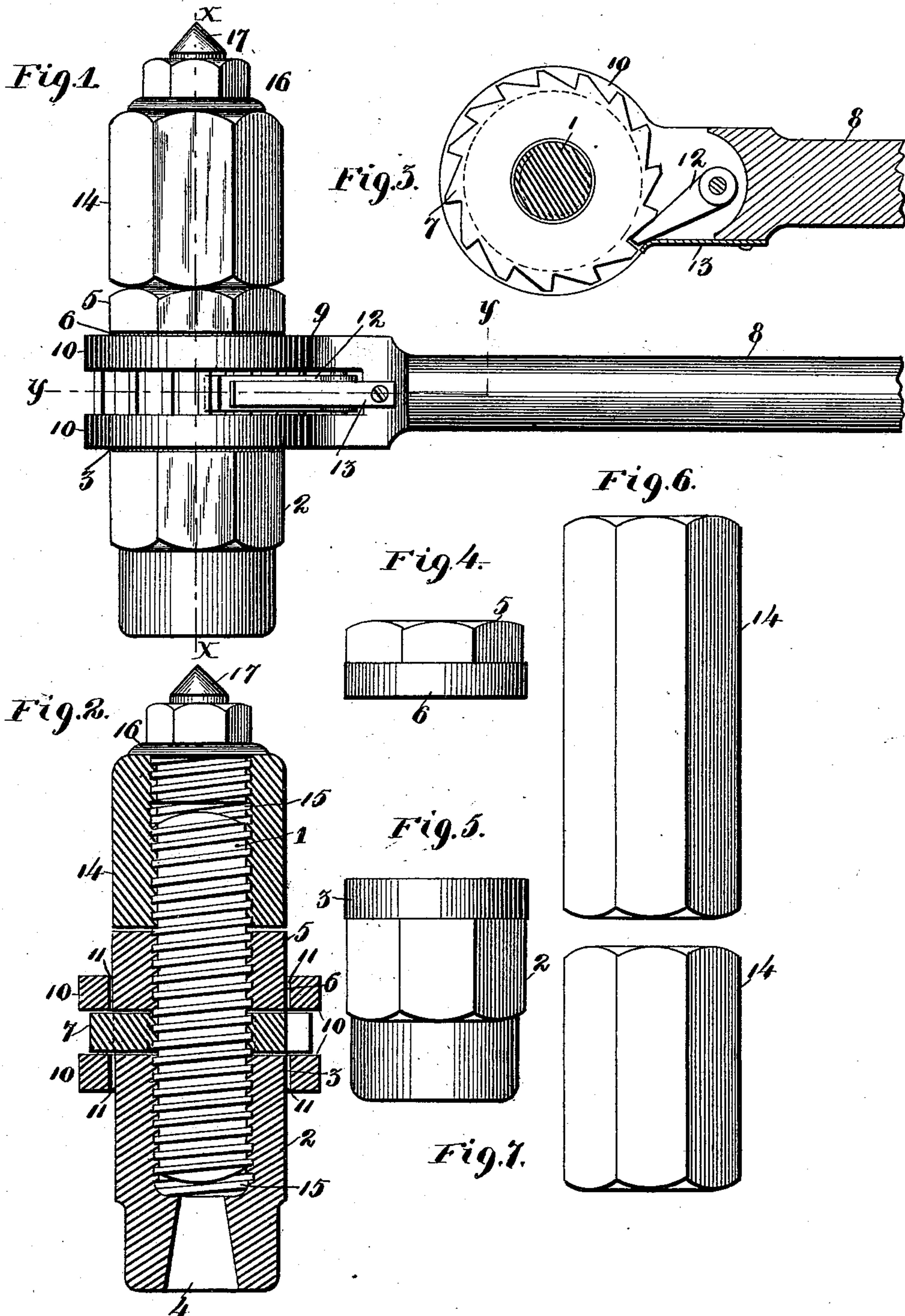


(No Model.)

O. K. SCHMIDT.  
DRILL CHUCK.

No. 514,165.

Patented Feb. 6, 1894.



Witnesses  
*James J. O'Brien*  
*John D. Murphy*

Inventor  
*O. K. Schmidt.*  
By his Attorneys  
*Keller & Starek*



# UNITED STATES PATENT OFFICE.

OSCAR K. SCHMIDT, OF ST. LOUIS, MISSOURI, ASSIGNOR OF TWO-THIRDS TO  
ROBERT KLAU AND GUSTAV POHLIG, OF PHILADELPHIA, PENNSYLVANIA.

## DRILL-CHUCK.

SPECIFICATION forming part of Letters Patent No. 514,165, dated February 6, 1894.

Application filed June 10, 1893. Serial No. 477,248. (No model.)

*To all whom it may concern:*

Be it known that I, OSCAR K. SCHMIDT, of the city of St. Louis, State of Missouri, have invented certain new and useful Improve-  
5 ments in Drill-Chucks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements  
10 in drill chucks, and consists in the novel arrangement and combination of parts more particularly set out in the specification and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of my complete invention. Fig. 2 is a  
15 vertical transverse section taken on the line  $x-x$  of Fig. 1. Fig. 3 is a horizontal cross section taken on the line  $y-y$  of Fig. 1. Figs. 4 and 5 are side elevations of the nuts which  
20 I employ in carrying out my invention; and Figs. 6 and 7 are side elevations showing the adjustable nuts for lengthening the chuck.

My invention consists essentially in the employment of various sizes of lengthening nuts  
25 and screw-threaded bolts, in combination with other details hereinafter described.

Referring to the drawings, 1 represents a screw-threaded bolt upon which the various detachable parts are screwed and secured together. Secured to the lower end of said bolt  
30 or screwed upon the same is a nut 2 the upper portion 3 of which is round in cross section, and formed in the lower end of said nut is a socket 4 for receiving a drill of well known  
35 construction.

5 represents a second nut having a rounded portion 6, and screwed upon the bolt 1 and interposed between the nut 2 and nut 5 is a  
40 ratchet toothed plate 7 which is held in a locked position upon the bolt, after the said nuts have been screwed against the same.

8 represents an operating handle having an enlarged end 9 and bifurcated as shown in Fig. 1.

10, 10 represent the bifurcations having circular openings 11 formed therein to receive the rounded portions 3 and 6 of the nuts 2  
45 and 5 respectively, the space between said bifurcations being of such a size as to receive  
50 the ratchet toothed plate 7.

From the foregoing description it will be seen that the handle 8 is free to be moved upon the nuts 2 and 5, and is held in its proper position by the ratchet toothed plate 7. Mov-  
ably secured between said bifurcations 10, 10, 55 is a pawl 12, the engaging end of which is normally in contact with the ratchet toothed plate 7, the same being caused to assume this position by the pressure of the spring 13 as best shown in Fig. 3, whereby the handle 8  
60 may be moved independent of the movement of the chuck in one direction, but caused to turn said chuck when operated in the reverse direction.

Screwed upon the upper or projecting end 65 of the screw threaded bolt 1 is a long nut 14 which is adjustable to and from the nut 5, and screwed within the screw-threaded bore 15 of said nut is a plug 16 having a conical end 17 which end is adapted to be brought in con-  
70 tact with any suitable brace, such as generally used for such purposes.

In operating the chuck, the drill carried by the same is fed to the material to be operated upon by the application of an ordinary wrench  
75 to the nut 14 which causes said nut to move from the nut 5 thereby lengthening the chuck as necessity demands. When it is desired to greatly lengthen the chuck, a bolt of greater length is employed and nuts such as shown in  
80 Figs. 6 and 7 are used in connection with said bolt. It is also necessary in some instances to lengthen the lower end of the chuck, which can be accomplished by the employment of a longer nut such as 2, the length of the chuck  
85 however depending entirely upon the length of the bolt 1, and nuts 2 and 14.

Having described my invention, what I claim is—

1. A chuck comprising a bolt, a nut 2 screwed  
90 upon one end of the same and forming a socket for the drill, a ratchet toothed plate also screwed upon said bolt and brought in contact with the said nut, a nut 5 screwed upon  
said bolt and against the said plate, an oper- 95  
ating handle movable upon the nuts 2 and 5 and held in position by the said plate, a spring pawl engaging with said plate, a nut 14 ad-  
justable upon said bolt for lengthening the  
100 chuck, and a screw threaded plug having a

conical end screwed into one end of the said nut 14, substantially as set forth.

2. A chuck comprising a bolt 1, a nut 2 screwed upon one end of the same and having a rounded portion 3, a ratchet toothed plate also screwed upon said bolt, a nut 5 having a rounded portion 6, an operating handle 8 having an enlarged portion 9 and bifurcations 10, circular openings 11 formed in said bifurcations for receiving the rounded portions 3 and 6 of the nuts 2 and 5 respectively, a spring actuated pawl carried by said han-

dle and engaging with said toothed plate, a nut 14 adjustable upon the opposite end of said bolt, and a screw-threaded plug screwed into the said nut 14 and having a conical end, substantially as set forth. 15

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

OSCAR K. SCHMIDT.

Witnesses:

JAMES J. O'DONOHUE,  
EMIL STARCK.