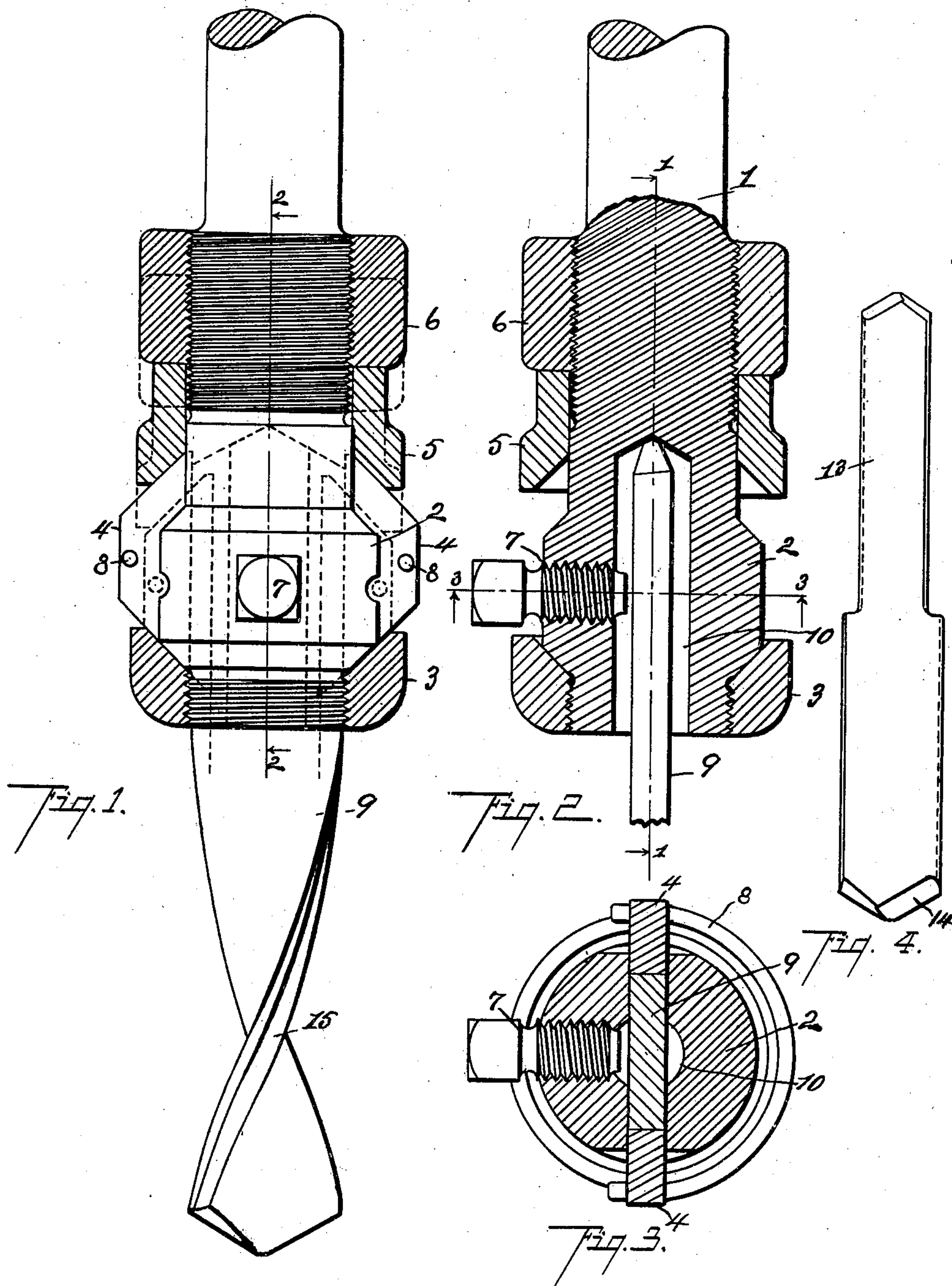


No. 885,946.

PATENTED APR. 28, 1908.

D. A. MOORE.  
CHUCK.

APPLICATION FILED DEC. 6, 1906.



Witnesses:

*F. H. Tallman*  
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Att'ys



# UNITED STATES PATENT OFFICE.

DAVID A. MOORE, OF KALAMAZOO, MICHIGAN.

## CHUCK.

No. 885,946.

Specification of Letters Patent.

Patented April 28, 1908.

Application filed December 6, 1906. Serial No. 346,656.

*To all whom it may concern:*

Be it known that I, DAVID A. MOORE, a citizen of the United States, residing at the city of Kalamazoo, county of Kalamazoo, State of Michigan, have invented certain new and useful Improvements in Chucks, of which the following is a specification.

This invention relates to improvements in chucks.

The objects of this invention are: First: to provide an improved chuck which is adapted to receive and properly hold drills having flat shanks or drills having round shanks. Second: to provide an improved chuck which is very quickly and easily adjusted to receive and secure a drill, and one which is very convenient to adjust.

Further objects, and objects relating to structural details, will definitely appear in the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

The invention is clearly defined and pointed out in the claims.

A structure embodying the features of my invention is clearly illustrated in the accompanying drawing, forming a part of this specification, in which,

Figure 1 is a view partially in longitudinal section taken on a line corresponding to line 1—1 Fig. 2. Fig. 2 is a view partially in longitudinal section taken on a line corresponding to line 2—2 Fig. 1. Fig. 3 is a cross section taken on a line corresponding to line 3—3 Fig. 2. Fig. 4 is a plan of a double ended flat drill for which my improved chuck is adapted.

In the drawing the sectional views are taken looking in the direction of the little arrows at ends of the section lines, and similar reference characters refer to similar parts throughout the several views.

Referring to the drawing, 1 is the body of the chuck and is provided with a suitable spindle at its inner end, preferably being formed integral therewith. At the outer end of the body 1 is a double conical enlargement 2, that is, it has cone shaped ends. The outer end of body 1 is threaded to receive the ring-like clamping member 3, which is adapted to fit the outer end of the enlargement 2. The ring-like clamping member 5 is loosely sleeved on the body and is adapted to fit the inner end of the enlargement 2. This ring is adjusted and held in position by

the nut 6, threaded upon the inner end of the body.

The body is provided with a slot-like socket at its outer end, the socket extending entirely across the same. Loosely arranged into this socket are clamping jaws 4, having tapered ends adapted to be engaged by the clamping members 3 and 5, whereby they are clamped inwardly upon the edges of the drill as 9. The shank of the drill 9 is flat and designed to fit loosely in the socket.

To hold the jaws normally out and prevent their falling into the socket I preferably provide a spring 8. This spring is preferably formed of spring wire bent into a half arch with its ends inserted through jaws, as clearly appears in Fig. 3.

To adapt the chuck for drills having round shanks the socket is provided with a cylindrically central portion 10. This does not in any way interfere with the use of the chuck as a chuck for drills having flat shanks, and at the same time provides a satisfactory chuck for holding drills having round shanks.

A set screw 7 is provided for securing the drills having the round shanks in the chuck. This set screw is located between the jaw clamping members 3 and 5, as clearly appears from the drawings. The bottom of the cylindrical portion of the socket is preferably conical, so that it serves to center the inner end of the drill shank when the double ended flat drill 13 is placed in the chuck.

My improved chuck is particularly designed by me for use in connection with my improved drills 9 and 13, although it is, of course, adapted for use in connection with any drill, having a flat shank or a round shank, as stated. My improved chuck is also very economical to produce, as the parts are easily produced and very easily assembled. It is evident that the same is very easy to adjust, as the adjusting ring is at the rear of the body where it is within the convenient reach of the operator. It is also capable of very rapid adjustment, as but slight movement of the nut 6 is necessary in order to release the jaws. The chuck is adapted to receive drills having flat shanks of varying widths, the inner position of the jaws of the structure illustrated being indicated by dotted lines in Fig. 1. Another advantage is that by this arrangement there is no liability of the parts becoming stuck or wedged so but that they may be readily freed or released.

I have illustrated and described my im-



proved chuck in detail in the form preferred by me on account of structural simplicity and economy. I am, however, aware that it is capable of considerable variation in structural detail without departing from my invention.

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

1. In a chuck, the combination of a cylindrical body provided with a double conical enlargement, said body having a slot-like socket; a clamping ring adapted to fit the outer end of said conical enlargement; an adjustable clamping ring adapted to fit the inner end of said conical enlargement sleeved upon said body; a clamping nut for adjustably securing said adjustable clamping ring threaded upon said body; clamping jaws having tapered ends adapted to be engaged by said clamping rings loosely arranged in said slot-like socket; and a spring arranged to hold said jaws normally outward for the purpose specified.

2. In a chuck, the combination of a cylindrical body provided with a double conical enlargement, said body having a slot-like socket provided with a cylindrical central portion; a clamping ring adapted to fit the outer end of said conical enlargement; an adjustable clamping ring adapted to fit the inner end of said conical enlargement sleeved upon said body; a clamping nut for adjustably securing said adjustable clamping ring threaded upon said body; clamping jaws having tapered ends adapted to be engaged by said clamping rings loosely arranged in said slot-like socket; and a set screw arranged between said clamping rings, for the purpose specified.

3. In a chuck, the combination of a cylindrical body provided with a double conical enlargement, said body having a slot-like socket; a clamping ring adapted to fit the outer end of said conical enlargement; an adjustable clamping ring adapted to fit the inner end of said conical enlargement sleeved upon said body; a clamping nut for adjustably securing said adjustable clamping ring threaded upon said body; and clamping jaws having tapered ends adapted to be engaged by said clamping rings loosely arranged in said slot-like socket, for the purpose specified.

4. In a chuck, the combination of a body having a slot-like socket adapted to receive a flat shank; an inwardly facing clamping member arranged at the outer end of said body; an outwardly facing adjustable clamping member sleeved upon said body; a clamping nut for securing said adjustable clamping member threaded upon said body; clamping

jaws having beveled ends adapted to be engaged by said clamping members loosely arranged in said slot-like socket, said clamping jaws being adapted to center the drill in the chuck; and a spring arranged to hold said jaws normally outward, for the purpose specified.

5. In a chuck, the combination of a body having a slot-like socket adapted to receive a flat shank; an inwardly facing clamping member arranged at the outer end of said body; an outwardly facing adjustable clamping member sleeved upon said body; a clamping nut threaded upon said body; clamping jaws adapted to be engaged by said clamping members loosely arranged in said slot-like socket, said clamping jaws being adapted to center the drill in the chuck, for the purpose specified.

6. In a chuck, the combination of a body having a slot-like socket therein adapted to receive a flat shank; an inwardly facing clamping member arranged upon the outer end of said body; an outwardly facing adjustable clamping member arranged upon said body; securing means for said adjustable clamping member; and clamping jaws adapted to be engaged by said clamping members loosely arranged in said slot-like socket, said clamping jaws being adapted to center the drill in the chuck, for the purpose specified.

7. In a chuck, the combination of a body provided with a conical enlargement, said body having a slot-like socket therein adapted to receive a flat shank; a clamping ring adapted to fit said conical enlargement sleeved upon said body; a clamping nut for adjustably securing said clamping ring threaded upon said body; and clamping jaws adapted to be engaged by said clamping ring arranged in said slot-like socket, said clamping jaws being adapted to center the drill in the chuck, for the purpose specified.

8. In a chuck, the combination of a body having a slot-like socket therein adapted to receive a flat shank, said socket being provided with a cylindrical central portion adapted to receive a round shank; clamping jaws arranged in said slot-like socket; adjusting means therefor; and a set screw arranged through said body, adapted to engage a round shank arranged in the cylindrical portion of said socket, for the purpose specified.

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

DAVID A. MOORE. [L. s.]

Witnesses:

OTIS A. EARL,  
LULU GREENFIELD.