A. M. CAMPBELL.

CHUCK.

APPLICATION FILED APR. 16, 1917.

1,264,892.

Patented May 7, 1918.

Fig. 1.

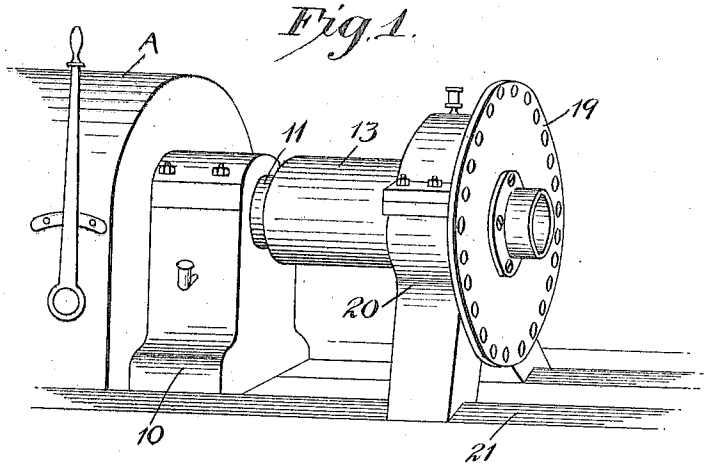


Fig. 2.

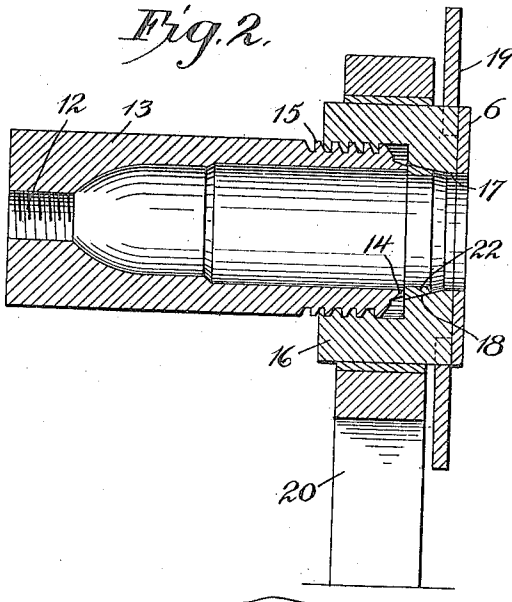
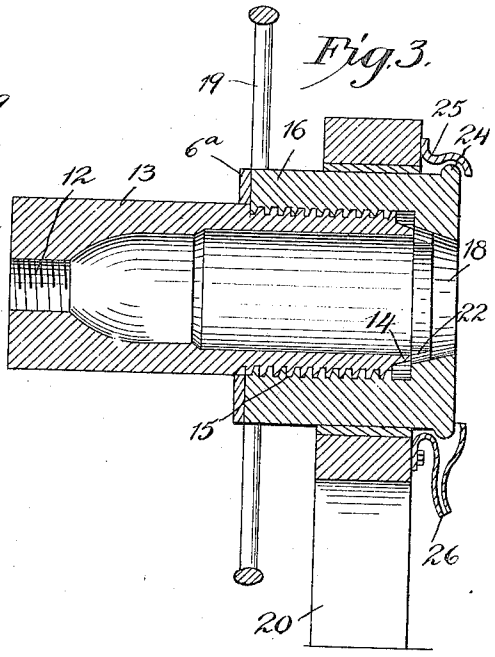


Fig. 3.



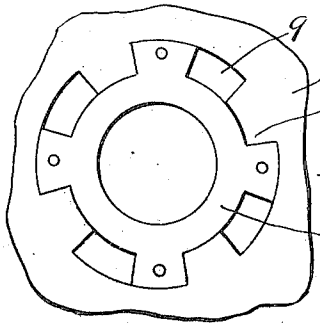


Fig. 4.

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UNITED STATES PATENT OFFICE.

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CHUCK.

1,264,892. Specification of Letters Patent. Patented May 7, 1918.

Application filed April 16, 1917. Serial No. 162,565.

To all whom it may concern:

Be it known that I, ACHESON MEACHEM CAMPBELL, a subject of the King of Great Britain, and resident of Port Robinson, in the Province of Ontario, Dominion of Canada, have invented certain new and useful Improvements in Chucks, and do hereby declare that the following is a full, clear, and exact description of the same, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in chucks particularly adapted for the use on lathes and the objects of the invention are to facilitate in automatically centering and driving a shell or other piece of work in the chuck, to permit of the chuck being readily assembled, to simplify the construction and generally to adapt the several parts to better perform the functions required of them, and it consists essentially of the improved construction particularly described and set forth in the following specifications and accompanying drawings forming part of the same.

In the drawings—

Figure 1 is a perspective view of the improved chuck.

Fig. 2 is a longitudinal section of the same.

Fig. 3 is a longitudinal section of an alternative form of the chuck.

Fig. 4 is a fragmentary end elevation of the nut and coacting hand wheel with the cover plate removed.

Like characters of reference refer to like parts in the several figures.

Referring to the drawing, A represents a lathe of any usual description comprising the head 10 rotatably supporting the driving spindle 11. This spindle makes threaded engagement with the orifice 12 provided on the inner end of the body portion 13 of the chuck, which body portion in the embodiment illustrated is recessed so that it will conform to the outer periphery of a shell, the forward end of the body portion being formed with or without a reduced conical portion 14 and being threaded as shown at 15.

The threaded end of the body portion is adapted to engage with the nut 16 which is only threaded partially therethrough and is formed with a reduced parallel wall 17 at the front connected to the threaded portion of the nut by the conical wall 18, the said nut being provided at the front with peripheral recesses 9, the object of which will be made clear hereafter.

A hand wheel 19 is rotatably mounted on the nut 16 which in turn may or may not be rotatably mounted in the bracket 20 carried by the bed 21 of the lathe. This hand wheel is provided with projections 8 on its inner periphery designed to engage with the recesses 9 in the nut and to coact with the end walls thereof. The hand wheel is retained in its operative position by the cover plate 6 secured to the nut 16.

Slidably mounted within the conical wall 18 is a split conical ring 22 designed to coact with the conical portion 14 of the body 13, so that when the nut 16 is tightened on the said body portion, the ring will be forced into engagement with the outer periphery of a shell or other piece of work placed in the chuck, and will result in the automatic centering and gripping of the work.

In Fig. 3 the chuck is somewhat modified, the hand wheel 19 being located at the rear end of the nut 16 and engaging therewith in the manner above disclosed, being held in position by the cover plate 6^a secured to the rear face of the nut.

The outer face of the nut is also provided with a beading 24 embraced by the guard 25 carried by the bracket 20, which guard is provided at the lower end with a drain pipe 26 by means of which the lubricant or cooling liquid used in turning or on the chuck may be carried off.

The assembly of the chuck will be readily understood from the foregoing description.

When the chuck is in use, a shell is placed in the hollow body portion 13 whereupon the hand wheel 19 is quickly rotated, and the projections 8 impacting on the end walls of the recesses 9 tighten the nut 16 and drive the split ring 22 into engagement with the outer periphery of the shell automatically centering the same, when the boring or other operation may be commenced.

In removing the shell it is only necessary to rotate the hand wheel 19 in the opposite direction to that when tightening the nut, whereupon the projections 8 will impact on the end walls of the recesses 9 in the nut which will consequently become loosened and permit of the shell or other work being withdrawn from the chuck.

As many changes could be made in the above construction and many apparently widely different embodiments of my inven-

tion, within the scope of the claims, constructed without departing from the spirit or scope thereof, it is intended that all matter contained in the accompanying specification and drawing shall be interpreted as illustrative and not in a limiting sense.

What I claim as my invention is:

1. A chuck of the class described comprising a body portion having a threaded orifice in one end thereof, a reduced conical portion on the opposite end of the body, a nut making threaded engagement with the body portion and provided with a tapering wall of the nut, means for rotating the nut, and means for draining off lubricant from the chuck.

2. A chuck of the class described comprising a body portion, a nut making threaded engagement therewith, a split resilient conical ring engaging with the nut, a bracket rotatably supporting the nut, and a guard on the frame encircling the outer end of the nut and provided with an overflow.

3. A chuck of the class described comprising a body portion, a nut making threaded engagement with the body portion and provided with peripheral recesses, a hand wheel provided with projections designed to coact with the end walls of the recesses, and means located in the body portion adapted to engage with the outer periphery of the work secured in the chuck when the hand wheel has been rotated.

In testimony whereof I have signed at Port Robinson, Ont.

ACHESON M. CAMPBELL.

In the presence of—

H. PARK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."