(No Model.)

W. A. McCOOL.

CHUCK.

No. 420,016. Patented Jan. 21, 1890.

FIG. 1.

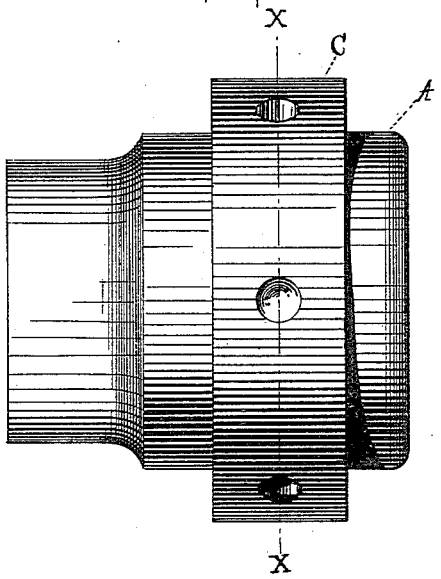


FIG. 2.

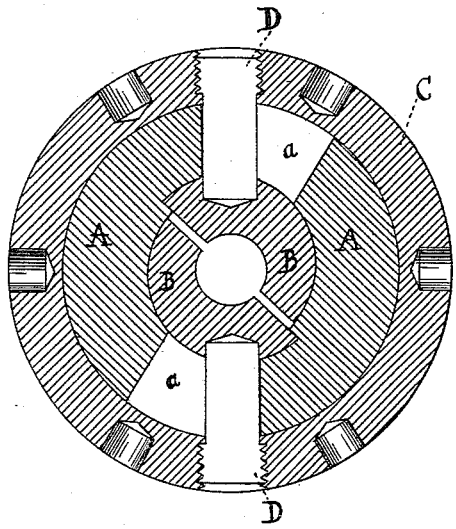


FIG. 3.

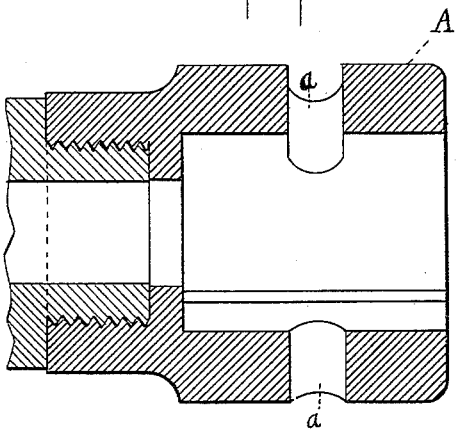


FIG. 4.

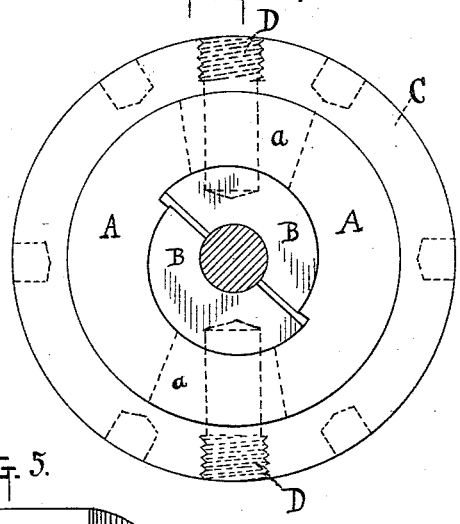
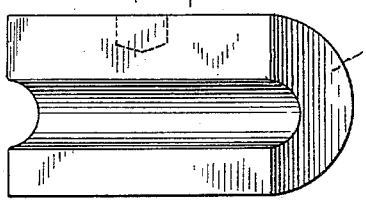


FIG. 5.



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WILLIAM A. McCOOL, OF BEAVER FALLS, PENNSYLVANIA.

CHUCK.

SPECIFICATION forming part of Letters Patent No. 420,016, dated January 21, 1890.

Application filed May 20, 1889. Serial No. 311,458. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. McCOOL, of Beaver Falls, in the county of Beaver and State of Pennsylvania, have invented a certain new and useful Improvement in Chucks, of which the following is a specification.

In the accompanying drawings, forming a part hereof, Figure 1 is an outside view of my device. Fig. 2 is a cross-section through line X X of Fig. 1. Fig. 3 is central longitudinal section of the socket with the spanner-ring removed. Fig. 4 is an end view of my device, and Fig. 5 is a perspective view of one of the clamping-jaws.

A is a socket, preferably of metal, one end of which is smaller in diameter than the other and having an opening at each end, one screw-threaded, so that the socket may be secured to the shaft or spindle or the like, and the other opening much larger every way, so as to hold the clamping-jaws B B, which are also preferably of metal and which set in said socket.

C is a metal ring, called a "spanner-ring," which fits over the socket, as shown in Fig. 4. There are openings or screw-holes in this ring, into which are screwed the screws D D, which, as shown, are screw-threaded for only a part of their lengths at their outer ends or heads, the inner ends passing through slots *a a* in socket A and extending into the jaws B B. As shown in Fig. 2, the outer circumferences of the clamping-jaws B B are eccentric and the inner circumferences concentric.

The operation of this device is as follows: The socket A is screwed or otherwise secured to a spindle or mandrel and the clamping-jaws B B placed therein. The spanner-ring is then put on and the screws D D inserted. The end of the bar or rod to be operated upon is then inserted in the central opening between the jaws B B. The screws D D passing through slots in the socket the socket is free to move laterally, but these screws secure the jaws B B and the spanner-ring C together against lateral movement. Hence, by holding the spanner-ring and turning the socket in one direction or the other the pressure is against the jaws, which, since, as above stated, they cannot move laterally, are thereby compressed or forced together onto the rod or bar that they encircle, holding it tightly while it is being worked. The turning of the socket which compresses the jaws is in the direction of revolution of the revolving spindle, and when the spindle stops revolving the pressure of the jaws on the rod or bar is decreased and their grip may be wholly released by turning the socket in the opposite direction, all of which will be readily understood.

What I claim as my invention is—

1. A chuck which consists of a socket or holder, two semi-cylindrical jaws which set in said socket, the outer circumferences of which being eccentric and the inner circumferences concentric, a ring which encircles said socket or holder, and screws which pass through said ring through slots in said socket and extend into the jaws, so that by holding the spanner-ring and turning the socket in one direction or the other the diameter of the central opening between the jaws is increased or diminished, substantially as and for the purpose set forth.

2. A chuck which consists of a socket A, screw-threaded at one end and having slots *a a* therein, clamping-jaws B B, which set in said socket, spanner-ring C, which encircles said socket, screws D D, screw-threaded for a part of their length only at their outer ends or heads, which pass through said ring C, through slots *a a* in said socket A, and extend into clamping-jaws B B, so that by holding spanner-ring C and turning socket A in one direction or the other the diameter of the central opening between the clamping-jaws B B is increased or diminished, substantially as and for the purpose set forth.

This specification signed and witnessed this 15th day of April, 1889.

WILLIAM A. McCOOL.

In presence of—

J. F. MERRIMAN,

H. W. NAIR.