(No Model.)

L. D. JONES.

CHUCK.

No. 374,743. Patented Dec. 13, 1887.

Fig. 1.

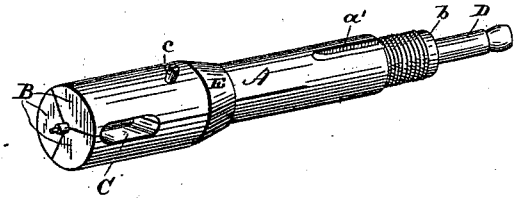


Fig. 2.

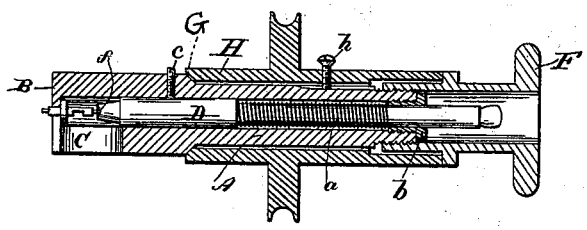


Fig. 3.

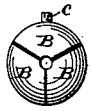
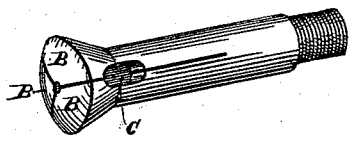


Fig. 4.



Witnesses.
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UNITED STATES PATENT OFFICE.

LOUIS D. JONES, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO WILLIAM E. SHAW, OF SAME PLACE.

CHUCK.

SPECIFICATION forming part of Letters Patent No. 374,743, dated December 13, 1887.

Application filed July 22, 1887. Serial No. 245,010. (No model.)

To all whom it may concern:

Be it known that I, LOUIS D. JONES, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Chucks; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

My present invention has for its object to improve the ordinary lathe-chuck, but particularly to improve that class of chucks employed by watch-makers in manipulating small and delicate articles — such, for instance, as watch-balance staffs, pinions, cylinders, &c.; and to this end the said invention consists in certain details of construction and combinations of parts, to be hereinafter described, and pointed out particularly in the claims at the end of this specification.

In the accompanying drawings, Figure 1 is a perspective view of a chuck-center constructed in accordance with my invention, and Fig. 2 is a sectional view of the entire chuck. Fig. 3 is an end view. Fig. 4 is a view showing the invention applied to an ordinary wire split chuck.

Similar letters of reference in the several figures indicate the same parts.

A represents the body of the chuck-center, split at the outer end, so as to form the three spring gripping-jaws B. These slots or slits between the spring-jaws are widened or enlarged into the opening C a short distance from the forward end of the chuck, which openings, meeting at the center, form quite a large open space at this point. Extending back from this space to the rear end of the chuck-center is a round opening, in which works a spring or "pump center," D, held forward by the spiral spring *a*, which abuts against an enlargement of the said center D at the forward end and against a collar, *b*, surrounding the said center and screwing into the body A at the rear end, as will be readily understood upon reference to Fig. 2. The outside of my center is very similar to the ordinary center, save that the inclines E for forcing the jaws together are located somewhat farther from the end. The openings C and set-screw *c* are located in this space.

The operation of the chuck will now be readily understood. The article to be operated upon — the cylinder of the balance-wheel of a watch, for instance, having a hub thereon — is inserted through one of the openings C and the end to be turned passed out between the gripping-jaws, the pump-center drawn back, and the other end of the cylinder inserted in the recess or socket *f* in its end. This has the effect of accurately centering the cylinder and holding it in line, at the same time pressing it forward in position to be grasped by the jaws. When this has been accomplished, the screw *c* may be set up, thereby holding the pump-center rigidly in position, effectually preventing all liability of the cylinder held by the jaws being moved out of alignment or displaced in any way. When the operations thus far described have been performed, the center grasping the article is inserted in the lathe-spindle and the jaws drawn together, as illustrated in Fig. 2, in which it will be seen the screw on the shaft of the hand-wheel F engages the screw on the rear of the center A and draws it back, and the inclines E, abutting against the inclines G on the lathe-spindle H, force the gripping-jaws together. The screw *h* in the lathe-spindle H, engaging the slot *a'* in the center A, prevents it turning with the hand-wheel.

Of course any form of mechanism may be employed for forcing the jaws together, as this feature forms no part of my present invention and is illustrated for convenience only.

It is obvious that it is not essential that the pump-center be employed, although I preferably do so. In Fig. 4 I have deemed it advisable to show the invention as applied to an ordinary chuck, such as is in universal use by watch-makers.

Although in both forms of chuck I have shown the openings C formed in the slots separating the spring-jaws, it is obvious that they may be located at any point in the periphery of the center, even though they be covered by the spindle of the lathe when it is in place in the same.

The advantages of my invention will be seen

at a glance. Various sizes of work may be operated upon with the same chuck, and work upon such articles as cylinders for watch-balances may be held much more advantageously than with the ordinary chuck, the hub or enlarged portion, being within the chuck, (see Fig. 2,) enabling the jaws to grasp the work very close to the point operated upon, greatly reducing the liability of bending or damaging the other portion, and entirely obviating the use of wax to secure the article in place.

Having thus described my invention, what I claim as new is—

1. A chuck-center having two or more spring-gripping-jaws and provided with an opening or openings at the side for the insertion of the work, substantially as described.

2. A chuck-center having two or more spring gripping-jaws provided with an opening or openings in the lines separating the said jaws for the insertion of the work within the chuck, substantially as described.

3. The combination, with a chuck-center provided with spring gripping-jaws and the spring or pump-center, of openings at the side for the insertion of the work, substantially as described.

4. The combination, with a chuck-center provided with spring gripping-jaws and openings at the side for the insertion of the work, of the spring or pump center provided with the recess or socket in its end, substantially as described.

LOUIS D. JONES.

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