(No Model.)

L. E. WHITON.

CHUCK.

No. 422,479. Patented Mar. 4, 1890.

Fig. 1.

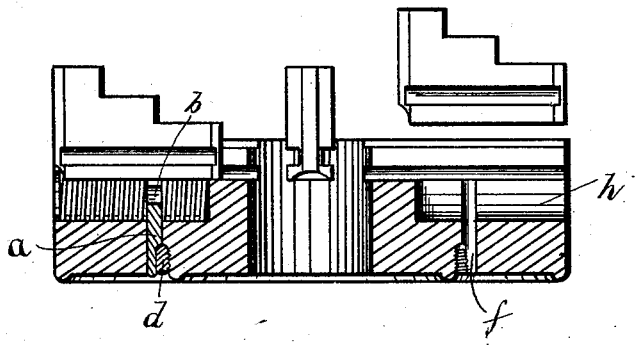


Fig. 2.

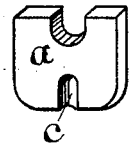


Fig. 3.

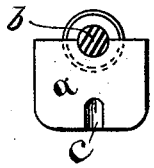
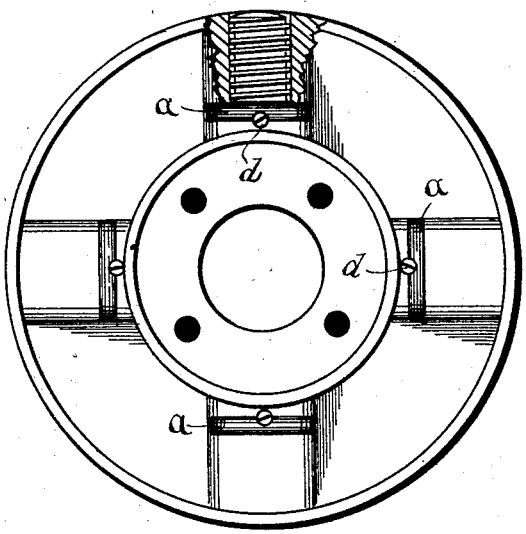


Fig. 4.



Witnesses

Alonzo M. Luther.

Allen Tenny.

Inventor

Lucius E. Whiton

By his Attorney

Frank A. Allen.

UNITED STATES PATENT OFFICE.

LUCIUS E. WHITON, OF NEW LONDON, CONNECTICUT.

CHUCK.

SPECIFICATION forming part of Letters Patent No. 422,479, dated March 4, 1890.

Application filed July 12, 1889. Serial No. 317,314. (No model.)

To all whom it may concern:

Be it known that I, LUCIUS E. WHITON, a citizen of the United States, residing at the city and county of New London, and State of Connecticut, have invented a certain new and useful Improvement in Chucks, which improvement is fully set forth and described in the following specification, reference being made to the annexed sheet of drawings.

On September 13, 1887, Letters Patent No. 369,758 were issued to me for certain improvements in that class of chucks having a series of radially-movable jaws, one feature of said improvements being a thrust pin or bearing, (indicated in said Letters Patent by the letter D,) that was provided to prevent undue endwise play of the screws that operate the said jaws. In manufacturing chucks embodying such thrust-bearings I have found the particular form described in said earlier patent somewhat difficult and expensive to make, although when made and put to service it performs its office satisfactorily.

My object in this present invention is to both simplify and cheapen the construction of such thrust-bearings, and at the same time to increase the resisting-surface of such bearings, so that there shall be no possibility of their becoming loosened or displaced by constant and severe use.

To more fully explain my said improvement, I have added the accompanying drawings, which show, in—

Figure 1, a cross-sectional view of a chuck embodying said improvement, two jaws being shown in place in the chuck and one removed therefrom. Fig. 2 is a detached perspective view of a thrust-bearing of my newly-improved form; and Fig. 3 is a face view of said bearing and a cross-section of a screw, showing the relation of said parts to each other when assembled for use. Fig. 4 is a rear view of a chuck-case, a portion of the same being cut away to expose one of the screws.

The general arrangement of case and operative parts of the chuck shown remain the same as before described and illustrated in my said patent, No. 369,758, and I therefore refer to said patent for a detailed description of such old features.

My improved form of thrust-bearings consists of a simple plate *a*, of metal, (preferably steel,) that may, if desired, be punched from sheet-stock of suitable gage, or may be drop-forged. Having thus blanked out the plate, it is only necessary to drop a finishing-mill or other suitable cutter into the end that straddles the screw and into the depression *c*, that is to receive the locking-screw *d*. The screw is shouldered down to provide a neck *b*, substantially as in my said earlier patent.

Instead of providing a circular seat for the thrust-bearing, as in my earlier patent, I provide a simple slot *f*, located transversely to the length of the screw-hole *h* in the chuck-case. After dropping said screw into said hole *h* the plate *a* is forced downward in the slot *f* until its bifurcated end straddles the neck of the screw, and is then securely locked in place by a screw *d*, tapped into the joint, as shown. The broad plate thus constructed is held positively against deflection, whereas the thrust-pin of my earlier form, being held in a circular seat, could, after continued use and strain, become loose and work in said seat.

Having described my invention, I claim—

As an improvement in chucks of the class referred to, in combination with a screw shouldered down to form a neck, as described, a thrust-bearing formed as a plate of uniform thickness having one edge bifurcated to straddle said neck, said plate being seated and locked within the chuck-case, substantially as and for the purpose specified.

LUCIUS E. WHITON.

Witnesses:
D. E. WHITON,
FRANK H. ALLEN.