(No Model.)

C. H. REID.

LATHE CHUCK.

No. 279,017. Patented June 5, 1883.

Fig. 1.

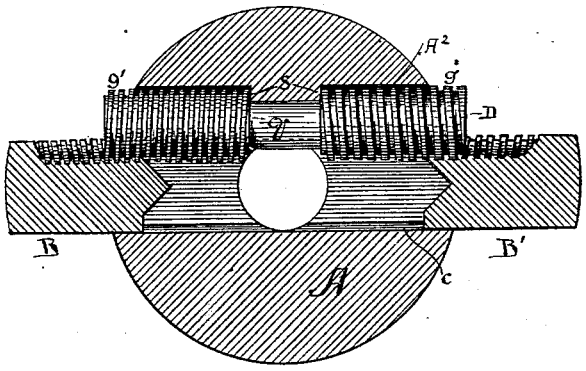
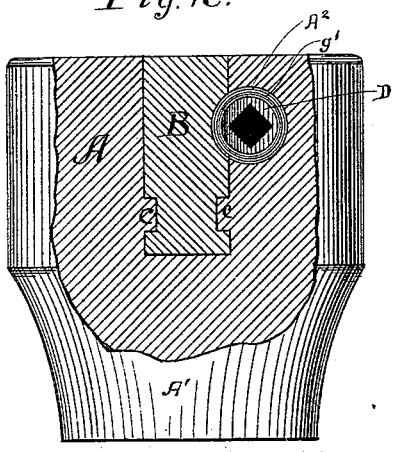


Fig. 2.



Witnesses
J. C. Turner
M. V. Smith.

Inventor
Chas. H. Reid
Per his Atty
R. D. C. Smith

UNITED STATES PATENT OFFICE.

CHARLES H. REID, OF DANBURY, ASSIGNOR TO R. H. BROWN & CO., OF NEW HAVEN, CONNECTICUT.

LATHE-CHUCK.

SPECIFICATION forming part of Letters Patent No. 279,017, dated June 5, 1883.

Application filed January 23, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. REID, of Danbury, in the county of Fairfield and State of Connecticut, have invented new and useful Improvements in Lathe-Chucks; and I do hereby declare that the following is a full and accurate description of the same.

This invention relates to the chuck for which Letters Patent No. 226,246 were granted to me April 6, 1880; and it consists in changing the structure of the double or right and left screw, so that the bearing-shoulders for the same are between the adjacent ends of said screws, instead of at their distant ends, as in said patent, whereby several important advantages are secured, viz: first, the cells or seats for the screws may be bored full size from the outside of the chuck; second, the separation of the screws at the center of the chuck permits the insertion of a larger body between the jaws than would otherwise be possible; third, the screws maintain a longer engagement with the jaws, and therefore permit them to open wide; fourth, the screw will keep cleaner than heretofore, because, the end being exposed, the dirt can work out of the thread freely.

That others may fully understand my invention, I will particularly describe it, having reference to the accompanying drawings, wherein—

Figure 1 is a transverse horizontal sectional view of my improved chuck. Fig. 2 is a vertical section view.

In the accompanying drawings, A is the cylindrical body or bed of the chuck, which has a smaller cylindrical extension, A′. The extension A′ is longitudinally cored out or perforated to afford means of attachment to the spindle of the lathe. The body or bed A is channeled transversely to receive the laterally-adjustable jaws B B′, which are grooved on each side to receive the guide-tongues or tenons *c′* upon the bed A, as shown, Fig. 2. The bed A is constructed with a recess, A^2, which is parallel to the transverse channel. The recess receives the shaft D, which is provided with right and left screw-threads *g g′*, and projecting head, to which a wrench may be applied for turning it, as shown. The threads upon the two sections of this shaft D are at different inclinations and operate in opposite directions, so as to open or close the jaws B B′ simultaneously. The screws *g g′* do not approach close together, as in my patent above named, but are separated a distance on the shaft which, at the central point, is less in diameter than the screw-thread, and therefore offers less obstruction to the entrance between the jaws, as shown at *q*. To properly accommodate this central part of the shaft D, the recess A^2 is made smaller at the middle, and the larger portion of it, at each side of this central part, forms shoulders *s*, against which the adjacent ends of the screws *g g′* bear when in action. The recess A^2 may therefore be extended full size to the exterior surface of the chuck, and may be formed by boring in full size from the outside to the shoulders *s*—an operation of much easier character than the enlargement of the central part, as required in my patent above named. The screws *g g′* may therefore extend to or beyond the exterior surface of the chuck, and will have a correspondingly longer engagement with the jaws, and said jaws may therefore separate farther than before without diminishing the hold of the screw. The projection of the ends of screws also affords facility for the escape of dirt or other obstructing matter, which could not so freely escape before.

Having described my improvement, what I claim as new is—

1. The head A, having a transverse channel and also a recess, A^2, with central shoulders, *s*, formed in it, combined with the shaft D, having the right and left hand screws *g g′* thereon, fitted to bear against said shoulders, and the jaws B B′, adapted to be moved by said screws, substantially as set forth.

2. The head A, provided with a transverse channel, and also with a cylindrical recess, A^2, parallel with and communicating with said channel, and provided with the shoulders *s s* near its center, combined with the jaws B B′, each fitted to slide in said channel, and provided with a screw-thread cut in one side, and the shaft D, extended full size to the exterior surface of the head A, and provided with the

screw-threads *g g'* to engage with the corresponding screw-threads of said jaws, substantially as set forth.

3. The jaws B B, having a rectilinear motion in the same plane, but in opposite directions, and the shaft D, having fixed upon it the operative screw-threads, combined with the head A, provided with the central abutting shoulders, *s*, substantially as set forth.

4. The head A, having a transverse channel, and also a recess, A^2, with shoulders *s* near its center, combined with jaws B B', adapted to move radially in said channel, and the shaft D, wholly outside the plane of said jaws, so as not to encroach upon the open center, and the screws *g g'*, fixed to the ends of said shaft outside the shoulders *s s*, substantially as set forth.

CHAS. H. REID.

Witnesses:
ALLAN W. PAIGE,
DAVID B. BOOTH.