(No Model.)

N. E. AUSTIN.

LATHE CHUCK.

No. 438,135. Patented Oct. 14, 1890.

Fig. 1.

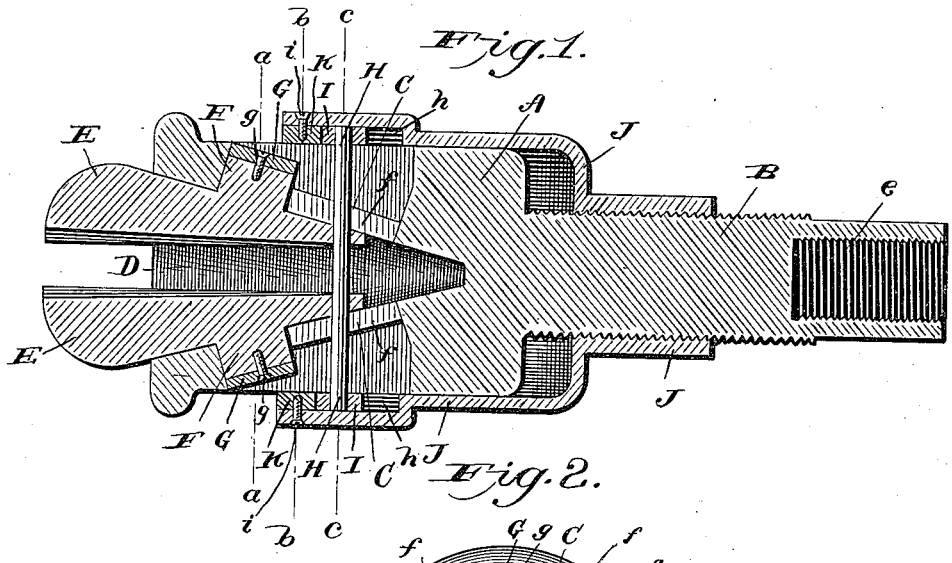


Fig. 2.

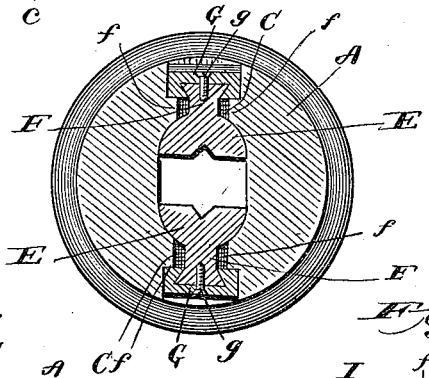


Fig. 3.

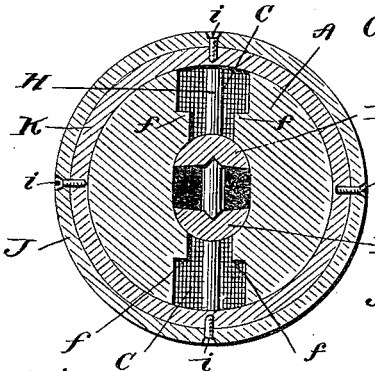


Fig. 4.

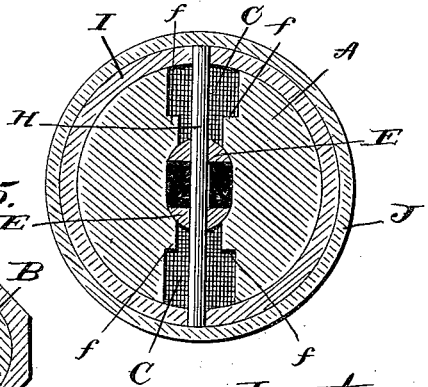
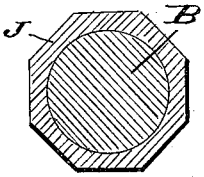


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

NELSON E. AUSTIN, OF DANBURY, CONNECTICUT.

LATHE-CHUCK.

SPECIFICATION forming part of Letters Patent No. 438,135, dated October 14, 1890.

Application filed February 8, 1890. Serial No. 339,662. (No model.)

To all whom it may concern:

Be it known that I, NELSON E. AUSTIN, a citizen of the United States, residing at Danbury, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Lathe-Chucks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has reference to lathe-chucks, and has for its object to provide a very simple and economical device of this description; and with these ends in view my invention consists in the details of construction and combination of elements, such as will be hereinafter fully set forth, and then specifically designated by the claims.

In the accompanying drawings, Figure 1 is a longitudinal sectional elevation of my improvement; and Figs. 2, 3, 4, and 5, cross-sections taken, respectively, at the lines *a*, *b*, *c*, and *d* of Fig. 1.

Similar letters denote like parts in the several figures.

A is the chuck-head, which has a tail-piece B, hollow, as seen at *e*, and interiorly threaded for attachment to the usual threaded lathe-spindle.

C are slots made within the head for the accommodation of the jaws, as will be presently set forth. These slots are so shaped that a ledge *f* is formed on either side.

D is a conical-shaped opening in the body of the head and central thereof, the apex of the cone pointing rearward. The aforesaid ledges are parallel with the wall of the opening at that point where the slots C intersect the same.

E are jaws, which conform externally to the contour of the opening D, so that if the jaws are held against the wall of the opening and forced in and out they will advance toward or recede from each other, respectively.

F are necks projecting from said jaws through the slots C and dovetailed in cross-section. The dovetailed portion extends above the ledge *f*, and heads G are run on said dovetails, as clearly seen at Fig. 2, said heads resting immediately upon said ledges, whereby the jaws are prevented from dropping inward. These heads are secured by means of screws *g*.

H is a pin inserted loosely through the heel ends of said jaws and extended at each end through the slots C within a ring I, which encircles the chuck-head. The tail-piece B is exteriorly threaded, and a sleeve J extends around said chuck-head and tail-piece. The rear part of said sleeve is threaded interiorly and is adapted to run with a screw action over the threaded tail-piece, while the forward part of said sleeve is enlarged to fit over the chuck-head and at the extreme end is swelled away from said head, so as to leave a recess *h* between the head and the sleeve. The ring I is within this recess and is confined therein by a second ring K, which is secured within the extreme end of the sleeve by screws *i*. By running the sleeve backward along the tail-piece the ring K is forced against the ring I, thereby drawing the jaws inward and closing them, while the reverse action of the sleeve will throw the jaws outward and open them.

The heads G serve to retain the jaws in position and act also as guides when the jaws are operated to and fro.

In illustrating my invention I have shown but two jaws; but the number of jaws is of course immaterial, and I do not wish to be limited in this respect.

After the jaws have been tightly forced against a drill or a piece of work there is a free space in the immediate rear of the ring I, so that the end-thrust of said drill or work will tend to drive the jaws back and cause them to hold all the tighter.

I prefer to make the rear end of the sleeve of an octagonal shape, as shown at Fig. 5, in order to afford a wrench-hold for setting up the jaws.

I claim—

1. In a lathe-chuck, the combination of the slotted head provided with the conical-shaped recess, the jaws fitting within said recess and having dovetailed necks extending through said slots, the heads secured to said necks, the pin extended through said jaws, the ring encircling the chuck-head and attached to said pin, the sleeve adapted to travel to and

fro along the chuck-head, and the ring secured within the end of said sleeve, substantially as set forth.

2. In a chuck, the combination of the recessed head slotted and provided with inclined ledges in the walls of said slots, the jaws within said head and having dovetailed necks extending within said slots, and the heads secured to said necks and resting upon said ledges, substantially as set forth.

3. In a chuck, the combination of the jaws secured within the chuck-head, as described, the ring encircling said head, the pin extended through the tail ends of the jaws within said ring, the screw-acting reciprocatory sleeve around said head inclosing said ring, and the confining-ring secured within the outer end of said sleeve, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

NELSON E. AUSTIN.

Witnesses:
JABEZ AMSBURY,
JOSEPH E. PLATT.