(No Model.)

N. E. AUSTIN.

CHUCK.

No. 457,392. Patented Aug. 11, 1891.

Fig. 1.

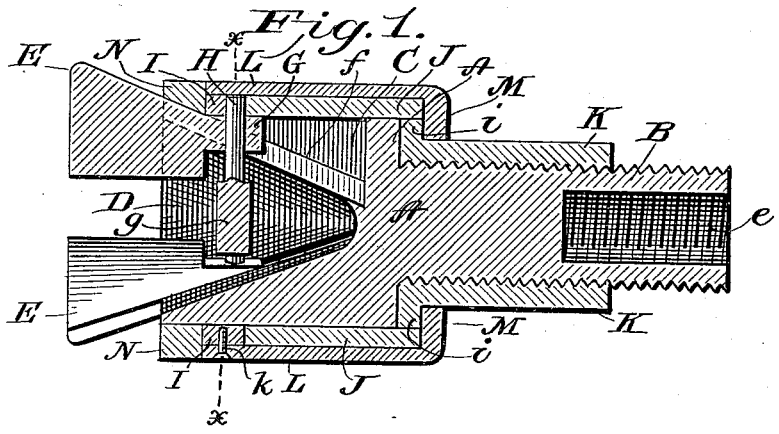


Fig. 2.

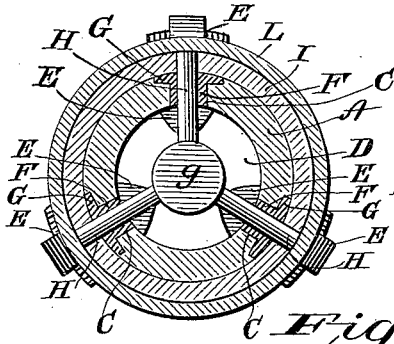


Fig. 3.

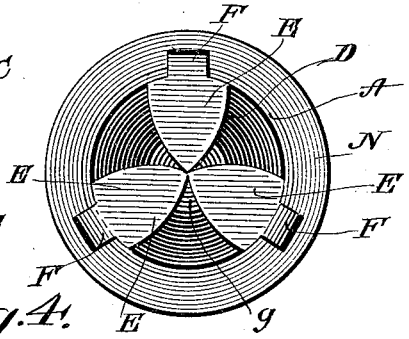
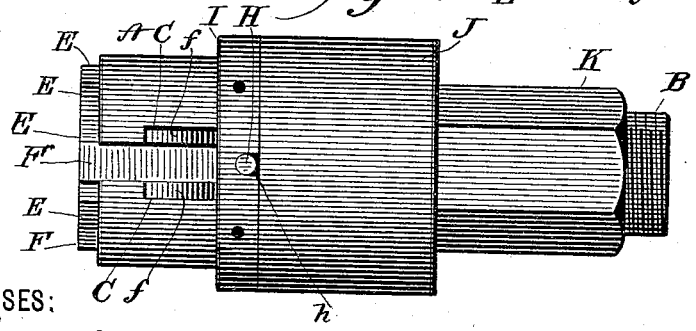


Fig. 4.



WITNESSES:

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NELSON E. AUSTIN, OF DANBURY, CONNECTICUT.

CHUCK.

SPECIFICATION forming part of Letters Patent No. 457,392, dated August 11, 1891.

Application filed November 3, 1890. Serial No. 370,108. (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 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 certain new and useful improvements in lathe-chucks, and has for its object to improve upon the construction shown and described in Letters Patent No. 438,135, issued to me October 14, 1890.

In the accompanying drawings, Figure 1 is a sectional elevation of my improved chuck; Fig. 2, a section at the line *x x* of Fig. 1; Fig. 3, a front elevation, and Fig. 4 a detail side elevation, of my improved chuck with the rim and casing removed.

Similar letters denote like parts in the several figures of the drawings.

It is the especial aim of this invention to simplify the construction shown in the aforesaid patent, so that the parts may be more readily assembled, and I will now describe my invention, referring by letter to the drawings above mentioned.

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.

D is a conical-shaped opening in the body of the head and central thereof, the apex of the cone pointing rearward.

C are slots within the head for the accommodation of the jaws, and *f* are inclined ledges on both sides of the walls of said slots, said ledges being parallel with the wall of the opening D at that point where the slots intersect the same. In my present improvement the slots extend through the front of the head, for the purpose presently set forth.

E are the jaws, which conform externally to the contour of the opening D, so that if the jaws are held against the wall of the said 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 surmounted by heads G, which rest upon the ledges *f*, whereby the jaws are prevented from dropping inward.

H are guide-pins, which extend from a common center block *g* through the tail ends of the jaws.

I is a ring, which encircles the chuck-head and has notches *h*, (only one being shown,) within which the pins are assembled.

J is a sleeve around the chuck-body and abutting against the ring I, so as to close the notches *h* and thereby prevent the withdrawal of the pins.

The tail-piece B is threaded exteriorly, and a nut K is run thereon. The forward end of said nut terminates in a head *v*, which normally is inclosed by the sleeve J, (see Fig. 1,) and an external casing L envelops the ring I and sleeve J and is secured to said ring by screws *k*, (only one being shown.) The rear of said casing has a shoulder M, which abuts against the head *i* and confines the latter after the manner of a swivel connection, for the purpose presently explained.

N is a rim secured around the periphery of the head merely for the purpose of strengthening the latter.

The operation of the jaws is effected by running the nut forward or backward along the tail-piece, since the nut, the casing, the ring, and sleeve are all rigidly secured together as far as longitudinal movement is concerned. It is of course not necessary that the guide-pins H should extend clear through the jaws into the center block, for any ordinary connection between the jaws and the parts carried by the nut may be used as long as the converging and diverging action of the jaws is not interfered with. By extending the slots clear through the front of the head the assembly of the jaws is greatly facilitated without materially impairing the strength of the head, and moreover the rim N may or may not be used.

I claim—

1. In a chuck, the combination of the head having conical recess and provided with slots extending through the outer face and inclined ledges in the walls of said slots, with the jaws fitting within said recess and having heads which rest upon said ledges, the

pins extending loosely through said jaws, an external sliding casing around the head and to which said pins are connected, and the operating-nut adapted to travel on the tail-piece of the chuck and swiveled to said casing, substantially as set forth.

2. In a chuck, the combination of the head having conically-shaped recess and provided with slots extending through the outer face and inclined ledges in the walls of said slots, with the jaws fitting within said recess and having heads which rest upon said ledges, the pins extending loosely through said jaws, the ring having notches which embrace said pins, the sleeve around the chuck-body and abutting against said ring, the operating-nut adapted to travel on the tail-piece of the chuck, and the external casing secured at the front end of the said ring and having a swivel connection at the rear end with the operating-nut, substantially as shown and described.

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

NELSON E. AUSTIN.

Witnesses:
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NORMAN HODGE.