

(No Model.)

T. E. CHERRY.
CHUCK.

2 Sheets—Sheet 1.

No. 548,773.

Patented Oct. 29, 1895.

Fig. 1

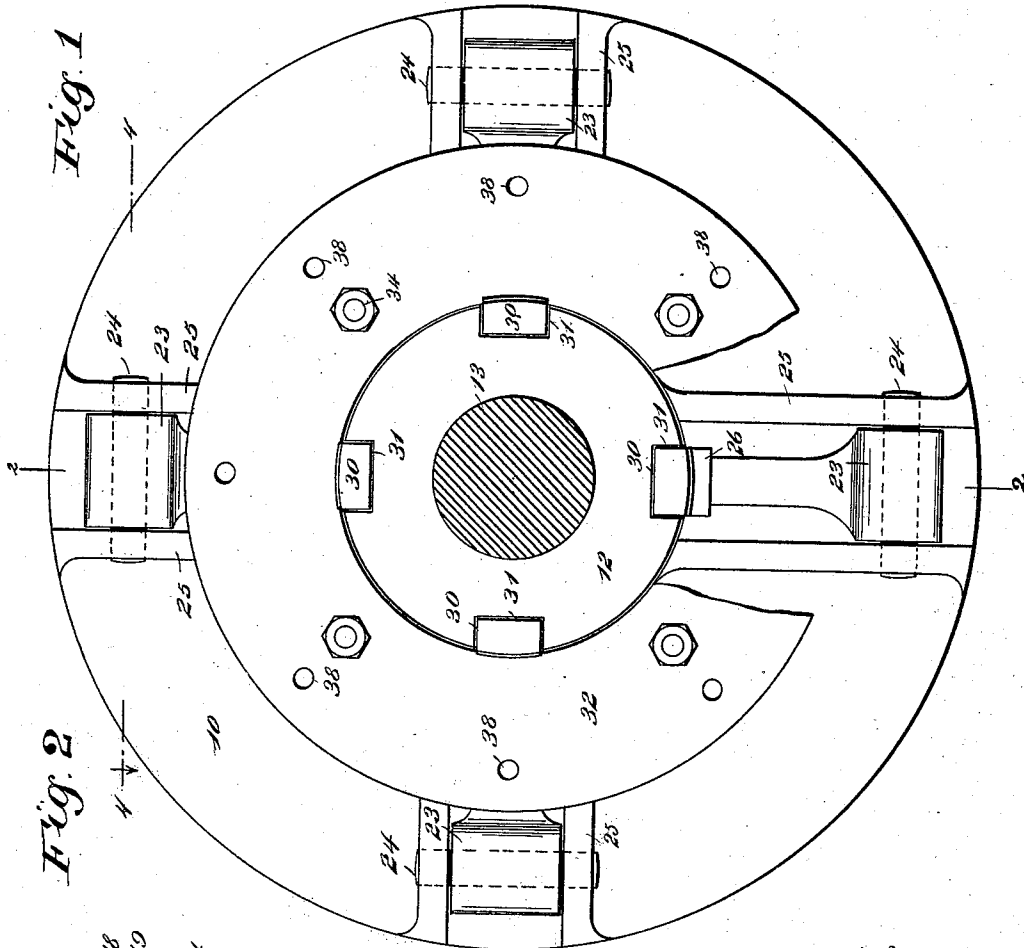
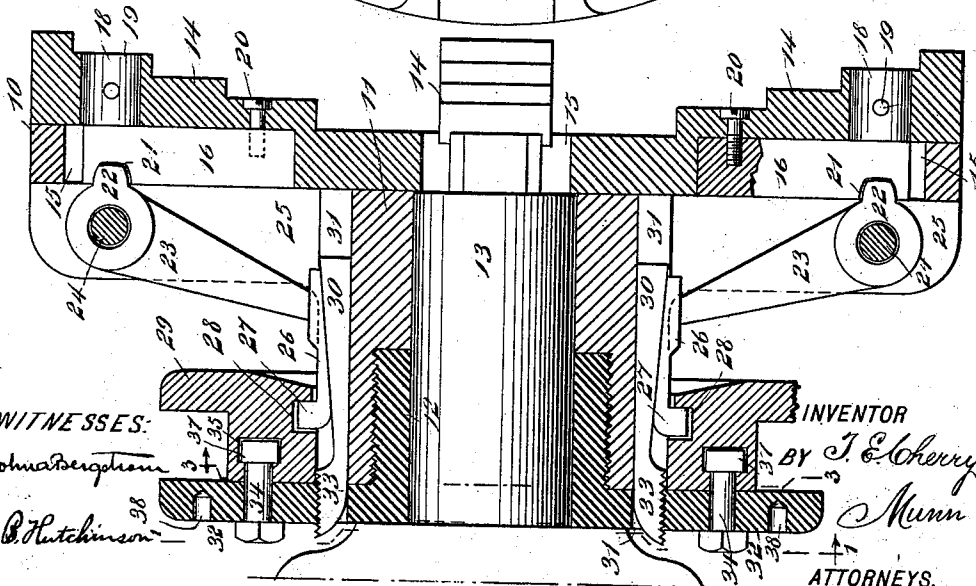


Fig. 2



WITNESSES:

John A. Bergstrom
H. B. Hutchinson

INVENTOR

BY T. E. Cherry

Munn & Co.

ATTORNEYS.

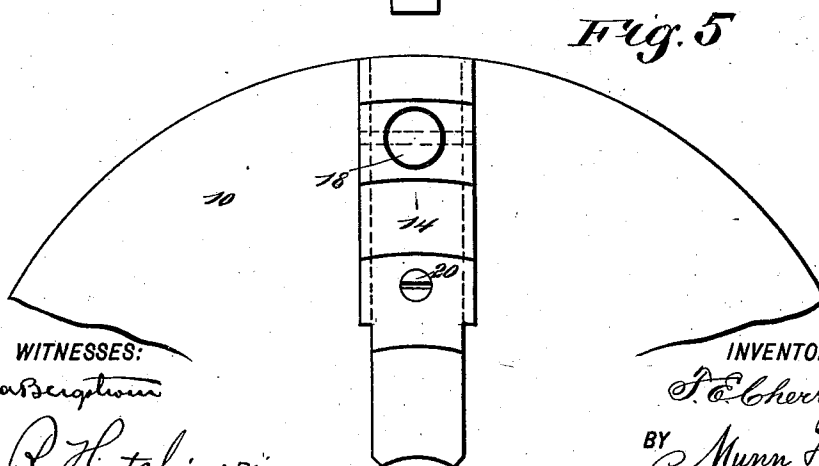
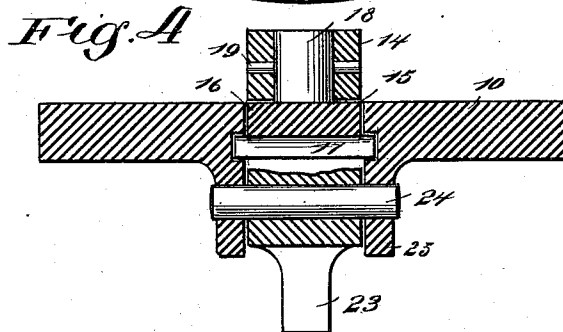
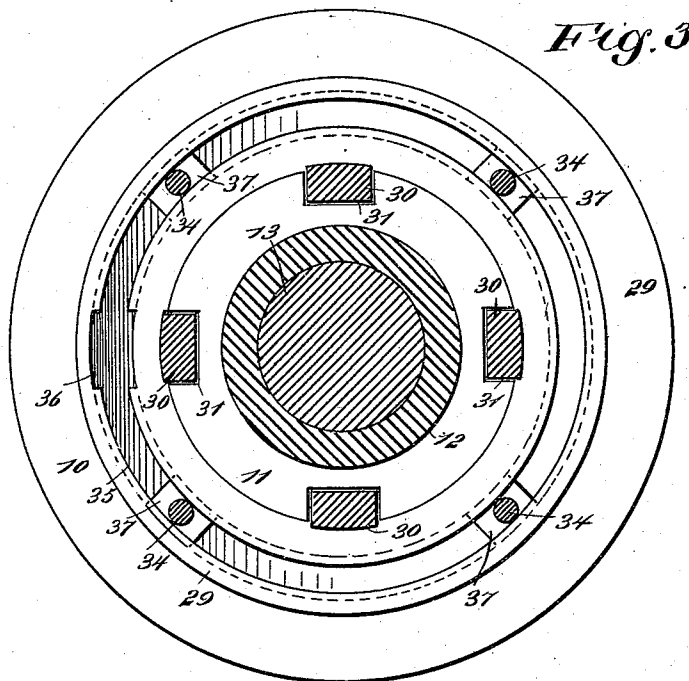
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UNITED STATES PATENT OFFICE.

THOMAS E. CHERRY, OF BATH, MAINE.

CHUCK.

SPECIFICATION forming part of Letters Patent No. 548,773, dated October 29, 1895.

Application filed October 30, 1894. Serial No. 527,411. (No model.)

To all whom it may concern:

Be it known that I, THOMAS E. CHERRY, of Bath, in the county of Sagadahoc and State of Maine, have invented a new and Improved Chuck, of which the following is a full, clear, and exact description.

My invention relates to improvements in lathe-chucks, and the object of my invention is to produce a very simple and substantial chuck which may be applied to an ordinary lathe-spindle, which has the usual arrangement of sliding jaws, but which has mechanism for actuating the jaws, which is arranged in such a way that the jaws may be very quickly adjusted and firmly fastened, and which has the jaws and mechanism arranged so that face-plate work—such as sheaves, bushings, gears, &c.—may be very advantageously held.

To these ends my invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a broken sectional elevation on the line 1 1 of Fig. 2 of my improved chuck, showing the back side thereof. Fig. 2 is a central longitudinal section on the line 2 2 of Fig. 1. Fig. 3 is a cross-section on the line 3 3 of Fig. 2. Fig. 4 is a detail section on the line 4 4 of Fig. 1 and shows the arrangement of one of the sliding jaws and the lever mechanism for moving it, and Fig. 5 is a broken face view of one of the jaws and of the adjacent portion of the chuck.

The chuck-body 10 is of the usual circular shape, and it is provided with a central sleeve or hub 11, which is counterbored and screwed to the collar 12, which is fastened rigidly to the ordinary spindle 13 of the lathe. The lathe has also the usual arrangement of radial jaws 14, having the customary notched faces, but the jaws are hung in a novel manner, so that they may be quickly worked and firmly clamped.

The jaws 14 slide in radial slots 15 in the chuck-body 10, and each jaw has a back plate 16 of steel which is widened near the center, as shown at 17 in Fig. 4, and this widened por-

tion enters corresponding grooves in the side walls of the slot 15, so as to prevent the displacement of the jaw. The slide-plate 16 has at its outer end a boss 18, which enters a hole in the jaw and is fastened to the jaw by a key 19, and the jaw and slide-plate are also held together by a screw 20.

In the back of each slide-plate 16 is a notch 21 to receive a tooth or lug 22 on a lever 23, which is fulcrumed on a pin 24, held in ribs 25 on the back of the chuck-body 10, and the inner end of the lever contacts with a gib 26, which lies parallel with the spindle 13 and has a turned-up retaining-lug 27, which enters a groove 28 in the collar 29, which will be more specifically described below. The gib 26 lies on a wedge 30, which is longitudinally movable in a groove 31 in the sleeve or hub 11 and collar 12, and there is a groove, wedge, gib, and lever for each jaw 14.

It will be seen that when the wedges 30 are drawn backward they will move outward the gibs 26, which, acting on the levers 23, tilt the levers on their fulcrums and force in the jaws 14, and when the wedges are pushed forward the reverse action takes place and the jaws are released. To enable the wedges to be powerfully moved and firmly held they are provided with threaded heads 33, which engage the threads on the inner edge of a ring 32, which connects by bolts 34 with the collar 29, and to enable the connection between the ring and collar to be easily made the collar is provided with a counterbored annular groove 35, which is widened at one point, as shown at 36 in Fig. 3, to enable the heads 37 of the bolts 34 to enter the groove 35 and be properly adjusted, and after the heads are so adjusted the bolts may be tightened up and the ring 32 and collar 29 held very firmly together. The ring 32 is preferably provided with holes 38 to receive a wrench, spanner, or other implement, so that the ring may be turned by it, if desired.

In adjusting the chuck the material to be held in the jaws is placed in position, and by slipping the collar comprising the ring 32 and collar 29 backward the wedges 30 are simultaneously pulled rearward and acting on the gibs 26 and levers 23 force the jaws 14 inward, so as to clamp the work, and then by turning the aforesaid collar the faces of the wedges are

acted on and the wedges pulled more firmly rearward, and thus consequently clamping the jaws upon the work which they hold.

It will be noticed that the ring 32 and collar 29 form practically a single collar and are made in two pieces for convenience; but in the claims I shall refer to the two as a "collar."

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A chuck, comprising a body having a central sleeve with external guide grooves therein, sliding jaws on the chuck body, levers on the back of the chuck to operate the jaws, wedges held in the guide grooves to engage the levers, and a screw collar to actuate the wedges, substantially as described.

2. A chuck, comprising a body portion having a central hub with longitudinal guide grooves therein, jaws sliding on the chuck face, levers fulcrumed on the back of the chuck and operatively connected with the jaws to slide them, wedges held in the guide grooves to engage the levers, the wedges having threaded ends thereon, and a revoluble collar on the chuck sleeve, the collar being threaded to engage the heads of the wedges, substantially as described.

3. A chuck, comprising a body having a central hub or sleeve with longitudinal guide grooves therein, jaws slidable on the face of the chuck, levers fulcrumed on the back of the chuck and operatively connected with the jaws, sliding wedges in the guide grooves, gibs carried by the wedges and engaging the free ends of the levers, and a screw mechanism

for adjusting the wedges, substantially as described.

4. A chuck, comprising a body having a sleeve or hub with guide grooves therein, radial jaws on the chuck face, levers fulcrumed on the back of the chuck and operatively connected with the jaws, wedges movable longitudinally in the guide grooves and provided with threaded heads, and a screw collar to adjust the wedges, the collar having a groove therein to receive lugs on the wedges, substantially as described.

5. A chuck comprising a body, movable jaws, a rotatively mounted screw threaded ring and wedges connected to said jaws and having screw threaded portions to be engaged by the screw threads of said ring, substantially as set forth.

6. A chuck comprising a body, movable jaws, a rotatively mounted screw threaded ring, and wedges adjustably connected to said jaws and provided with screw threaded portions to be engaged by the screw threads of said ring, substantially as set forth.

7. A chuck comprising a body, movable jaws, a collar having a recess, a rotatively mounted screw threaded ring, wedges having screw threaded portions to be engaged by the screw threads of said ring, and gibs having inclined faces engaged by the wedges, said gibs being connected to the jaws and provided with projections to engage the recess in the collar, substantially as set forth.

THOMAS E. CHERRY.

Witnesses:

A. B. DUNNING,
F. W. WEEKS.