(No Model.)

E. P. BAVILLE.

LATHE CHUCK.

No. 377,596. Patented Feb. 7, 1888.

Fig. 1.

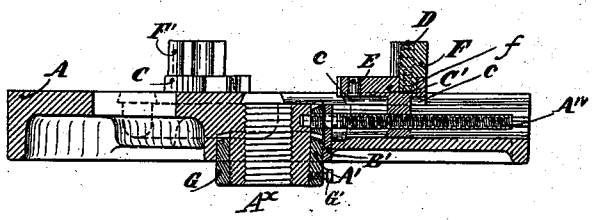
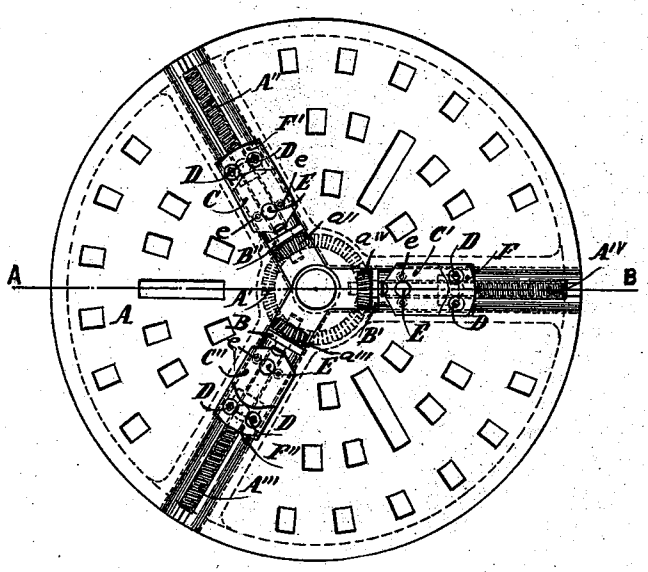


Fig. 2.



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UNITED STATES PATENT OFFICE.

EDMOND PIERRE BAVILLE, OF BRUSSELS, BELGIUM, ASSIGNOR, BY MESNE ASSIGNMENTS, TO STEPHEN NICHOLSON AND STEPHEN WATERMAN, BOTH OF PROVIDENCE, RHODE ISLAND.

LATHE-CHUCK.

SPECIFICATION forming part of Letters Patent No. 377,596, dated February 7, 1888.

Application filed October 27, 1886. Serial No. 217,317. (No model.) Patented in England June 24, 1881, No. 2,771, and April 30, 1886, No. 5,875.

To all whom it may concern:

Be it known that I, EDMOND PIERRE BAVILLE, of Brussels, in the Kingdom of Belgium, have invented certain new and useful Improvements in Universal Face-Plates or Chucks for Lathes, (for which I have obtained Letters Patent in England, No. 2,771, dated June 24, 1881, and No. 5,875, dated April 30, 1886,) of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, in which—

Figure 1 is an axial section of the improved chuck on the line A B, Fig. 2; and Fig. 2 is a face view thereof.

A is the face-plate of the lathe, provided in the usual manner with grooves or slots of any known shape for receiving and guiding the gripping-blocks, hereinafter fully described.

A′ is a crown-wheel which surrounds and fits snugly the cylindrical portion of the hub $A^{\times}$ of the face-plate A, being held in place thereon by an internally-screw-threaded ring, G, which is screwed onto the screw-threaded extremity of said hub, and is there confined by a pressure-screw, G′.

The teeth of the wheel A′ gear with pinions a'' a''' a^{iv}, fixed, respectively, to screws A″ A‴ A^{iv}, which occupy positions beneath the aforesaid grooves in the face-plate A. The inner extremities of these screws are slipped into sockets in the hub $A^{\times}$, while their outer extremities are similarly slipped in sockets in the rim or external flange of the plate A, whereby they are confined against longitudinal movement. As an additional safeguard against the longitudinal movement of these screws, they are passed through perforated steel plates B B′ B″, between which and the hub of the plate the pinions a'' a''' a^{iv} are confined.

C C′ C″ are blocks fitted to slide in the grooves in the face-plate heretofore referred to, and confined to movement in proper planes by dovetails *c*, projecting beneath the undercut walls of said grooves, each of said blocks being provided on its under side with a lug perforated and internally screw-threaded for engaging the respective screws A″ A‴ A^{iv}, whereby said blocks are moved in their bearings simultaneously toward or from the axis of the face-plate, according to the direction in which the wheel A′ is turned. Each of these blocks is provided with two or more sockets, E, either of which is adapted to receive a lug or boss, *f*, projecting from the under side of a block or dog, F, F′, or F″, and also with screw-threaded holes *e* for the reception of shouldered screws D, which pass through perforations in said block F, F′, or F″, whereby it is secured to the top of the block C, C′, or C″.

The blocks F F′ F″ are shown in the drawings as secured near the outer extremities of the blocks C C′ C″, respectively; but if it should be found that they do not approach each other sufficiently to grasp the article to be operated upon when the blocks C C′ C″ shall have arrived at the inner extremity of their permitted movement, then the blocks F F′ F″ may be removed and replaced with the bosses *f* and screws D in the holes E and *e*, which are nearer the inner extremities of the blocks C C′ C″, respectively. If, after this, the blocks F F′ F″ do not approach sufficiently close, the article may be grasped between the inner extremities of the blocks C C′ C″, which are grooved for this purpose.

It will be observed that the crown-wheel A′ is not fixed to the hub of the chuck, so as to be incapable of turning independently of it, but that the face-plate is so fixed.

I am aware that it has been proposed to form the face-plate and hub separately and secure to the hub cog-teeth which engage with the pinions carried by the screws which actuate the gripping-dogs, said screws and dogs being carried by said face-plate. With such a device, so long as the chuck is rotated in one direction, the tendency is to tighten the dogs or jaws upon the article; but if it is desired for any reason to reverse the direction in which the chuck is rotated, or if it is reversed accidentally, the effect is to loosen the bite of the jaws and permit the article to fall out.

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

1. The combination, with the face-plate A,

having the hub $A^{\times}$ formed integrally therewith, and the gripping-blocks adapted to slide on said face-plate, of the radial screws engaging said blocks and having the pinions secured thereto, the crown-wheel A′, surrounding and adapted to turn freely upon the cylindrical portion of said hub, and the ring G, secured to said hub for holding the wheel in place.

2. The combination, with the face-plate A, having the perforated hub $A^{\times}$ formed integrally therewith, and screw-threaded both internally and externally, of the gripping-blocks adapted to slide on said face-plate, the radial screws engaging said blocks and having the pinions secured thereto, the crown-wheel A′, surrounding and adapted to turn freely upon the cylindrical portion of the hub, and the internally-screw-threaded ring G, screwed onto the hub for holding the crown-wheel in place, substantially as set forth.

In testimony whereof I have hereunto set my hand.

EDMOND PIERRE BAVILLE.

Witnesses:
LÉON DOCQUIER,
AUG. FOERISSEN.