

W. PORTEOUS.
CHUCK.

No. 487,292.

Patented Dec. 6, 1892.

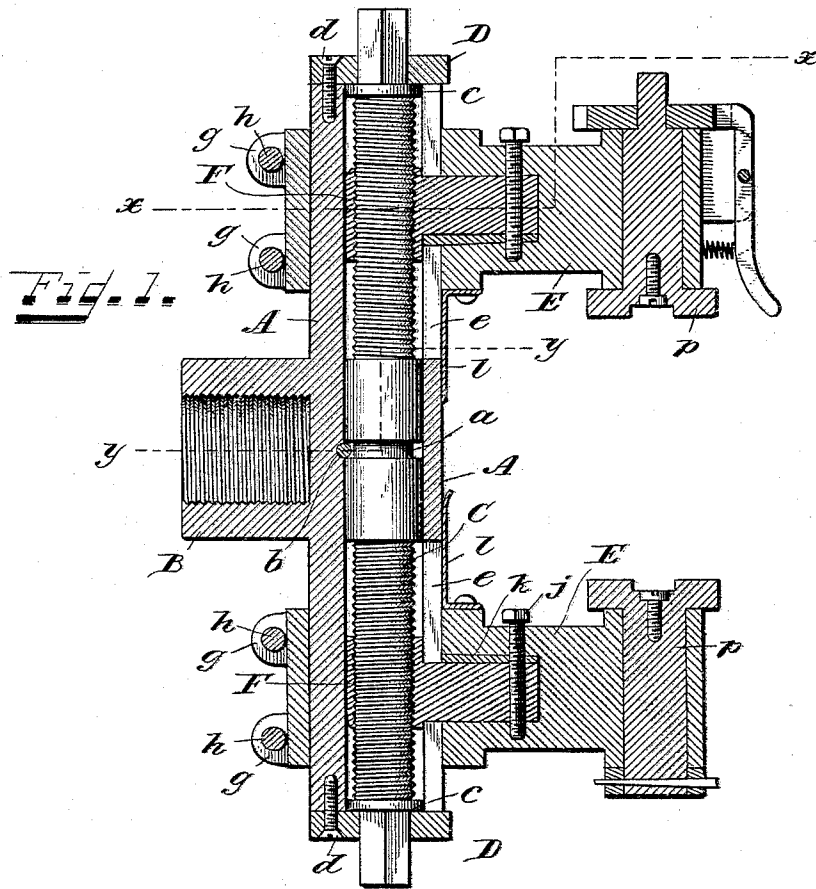


Fig. 1.

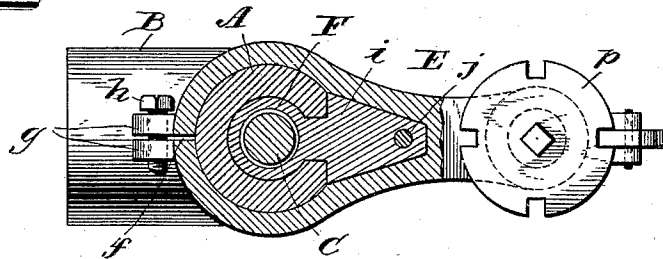


Fig. 2.

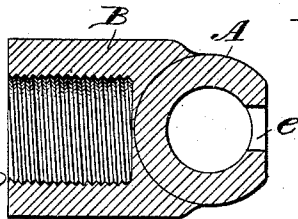


Fig. 3.

Witnesses.
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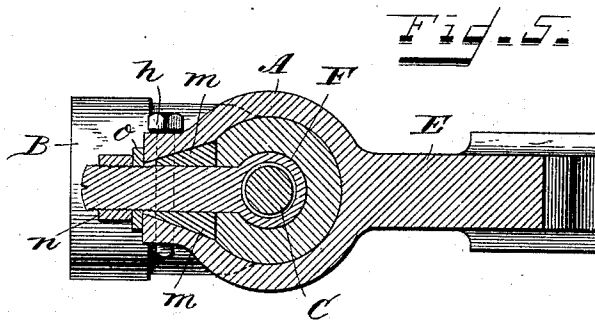
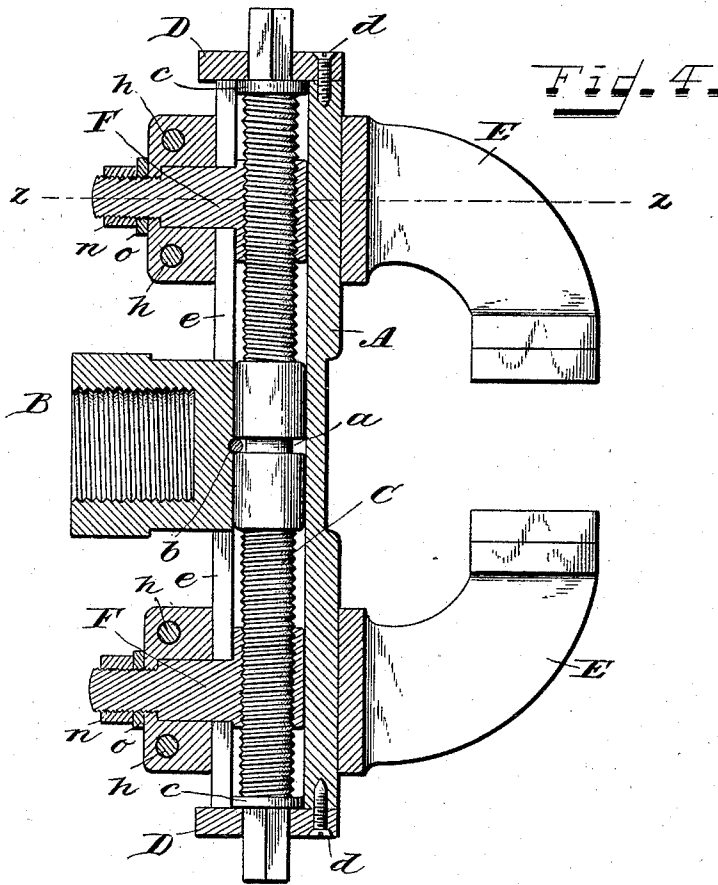
(No Model.)

2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

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CHUCK.

SPECIFICATION forming part of Letters Patent No. 487,292, dated December 6, 1892.

Application filed April 23, 1892. Serial No. 430,374. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM PORTEOUS, a citizen of the United States, residing at Elmwood Place, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Chucks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to two-jaw lathe-chucks, and has for its object the improved construction of the same, whereby the attachment of the jaws to the body is made rigid and whereby all wear can be readily taken up.

The novelty of my invention will be hereinafter set forth, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1, Sheet 1, is a longitudinal central section of a chuck embodying my invention under one form of construction. Fig. 2, Sheet 1, is a transverse section through the dotted line *xx* of Fig. 1. Fig. 3, Sheet 1, is a transverse section through the dotted line *yy* of Fig. 1. Fig. 4, Sheet 2, is a longitudinal section of a chuck embodying my invention under another form of construction. Fig. 5, Sheet 2, is a transverse section through the dotted line *zz* of Fig. 4.

The same letters of reference are used to indicate identical parts in all the figures.

The body A of the chuck is a straight tube provided at its middle with a stem B for attachment to the live-spindle of a lathe in the usual or any suitable manner. Journaled within the bore of the body A is a right and left hand screw C, having a circumferential groove *a* at its middle, in which is fitted a detent *b*, in this instance a pin inserted through an opening in the body just large enough to receive it. This detent securely holds the screw from endwise movement, as will be readily understood. The nut-shaped ends of the screw project through openings in caps D, secured by screws *d* upon the end of the body, and removable collars *c* upon the screw just within the caps serve as bearings for the outer ends of the screw. In Figs. 1, 2, and 3 the front side of the body is planed off or

flattened, and longitudinal slots *e* are cut through into the bore from the caps D nearly to the middle.

The inner ends of the jaws E have openings through them, so that they fit over and snugly embrace the body of the chuck, and their rear sides are split or cut through, as at Fig. 2, and are provided with tapped ears *g* to receive the clamping-bolts *h*.

Upon each end of the screw C is a nut F, snugly fitting within the bore of the body A and having a stem *i* extending through each of the slots *e* and recessed within each of the jaws E. That part of the stem which is recessed within the jaw is wedge-shaped, as shown, and its shoulders bear upon the flattened part of the body, as seen in Fig. 2. Bolts *j*, passed through the jaw and stem *i*, serve to unite the two, while *k* are simply filling-pieces to fill up the space in the recess between the jaw and stem *i*. Pieces of flat metal *l*, Fig. 1, are secured to the jaws to cover the slots *e* and keep chips from getting into the bore of the body A, and their adjacent ends are beveled, so that they can slide the one upon the other when the jaws are brought close together.

It will be seen from the above-described construction that the jaws are made to encompass or clip the body of the chuck, thereby giving a broad and very secure bearing, which enables me to make the jaws much longer than they have been heretofore made, and at the same time by tightening up the screws *h* all wear can readily be taken up, for owing to the wedge shape of the stems *i* not only is the base of the jaw made to closely embrace the body A, but the shoulders of the stems *i* are made to bear securely against the flattened side of the body, as will be readily understood. By turning the screw C the jaws are adjusted toward or from each other, as desired.

In Figs. 4 and 5 the body A is flattened and slotted on its rear side and the wedges *m* are separate pieces bearing against the stem *i* and the flattened part of the body A, while the stems *i* extend through the clamping-ears *g* and have their projecting ends threaded to receive nuts *n*, which, with interposed wash-

ers *o*, bear against the ears *g*, as shown, to aid in locking the jaws and nuts *F*, as will be readily understood.

In Figs. 1 and 2 the jaws are shown provided with rotating spindles *p* to enable the work to be turned to present different faces to the action of tools without disturbing the adjustment of the jaws; but this feature is old and forms no part of my present invention.

Having thus fully described my invention, I claim—

1. In a chuck, the combination of the hollow body, a right-and-left screw journaled therein, and the jaws having their inner ends encompassing the body and engaged by said screw.

2. In a chuck, the combination of the hollow body, a right-and-left screw journaled therein, the jaws having their inner ends encompassing the body and engaged by said screw, and clamping-bolts passed through the split ends of the jaws, substantially as described.

3. In a chuck, the combination, with the body, of the jaws having their inner ends encompassing the body, clamping-bolts therefor, wedges between the jaws and body, actuated by the clamping-bolts, and means for adjusting the jaws.

4. In a chuck, the combination of the hol-

low body, the jaws having their ends encompassing the body, the right-and-left screw for adjusting the jaws, and a detent at or near the middle of said screw engaging the same to prevent endwise movement, substantially as described.

5. In a chuck, the combination of the hollow body having a right-and-left screw journaled therein, jaws encompassing the body, and nuts on said screw having stems extending through slots in the body and connected to the jaws, substantially as described.

6. In a chuck, the combination of the hollow body having a right-and-left screw journaled therein, jaws encompassing the body and provided with clamping-bolts, nuts on said screw having stems extending through slots in the body and connected to the jaws, and wedges interposed between the jaws and body, substantially as described.

7. In a chuck, the combination of the hollow slotted body *A*, the right-and-left screw *C*, journaled therein, the recessed jaws *E*, clipping said body, and the nuts *F*, engaging the screw *C* and having stems *i*, secured in recesses in the jaws and provided with wedges, substantially as described.

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Witnesses:

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