(No Model.)

T. H. COSTELLO.

LATHE CHUCK JAW.

No. 323,279. Patented July 28, 1885.

Fig. 1

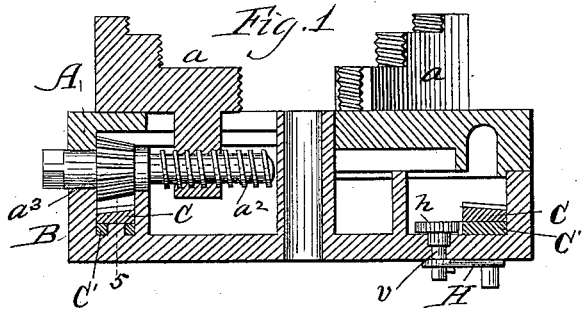


Fig. 2

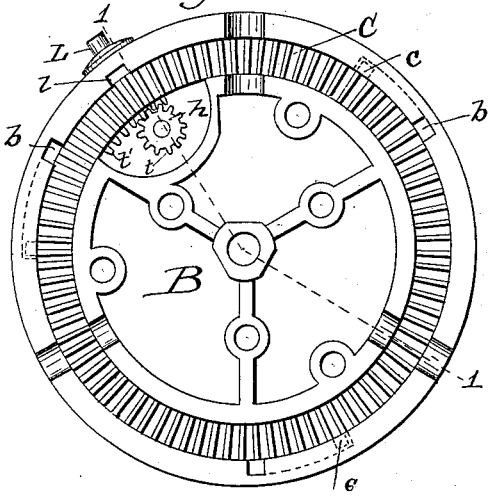


Fig. 3.

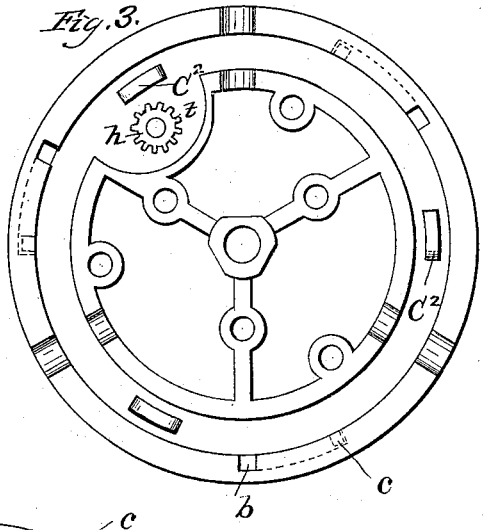


Fig. 4.

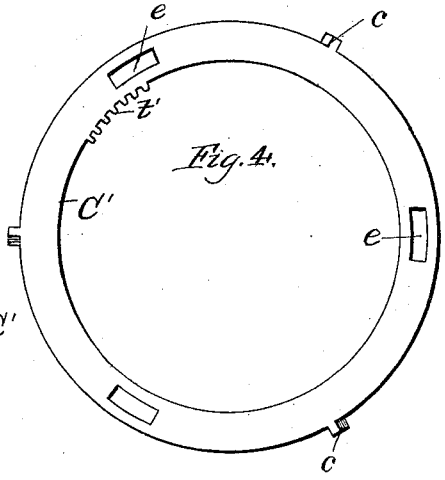


Fig. 5

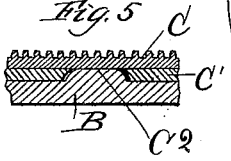
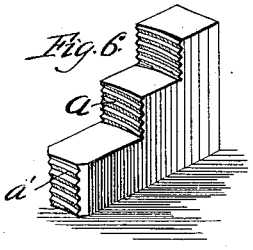


Fig. 6.



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UNITED STATES PATENT OFFICE.

THOMAS H. COSTELLO, OF CHICAGO, ILLINOIS, ASSIGNOR TO H. H. GOSS, OF SAME PLACE.

LATHE-CHUCK JAW.

SPECIFICATION forming part of Letters Patent No. 323,279, dated July 28, 1885.

Application filed May 8, 1882. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. COSTELLO, of Chicago, county of Cook, and State of Illinois, have invented certain Improvements in Lathe-Chucks, of which the following is a specification.

My invention relates to certain improvements in lathe-chucks generally, and especially to such an one as is shown and described in the Letters Patent of the United States issued to me for an improvement in lathe-chucks, dated the 13th day of June, 1882, No. 259,291; and my said improvement claimed herein will be fully described hereinafter with reference to the accompanying drawings, in which—

Figure 1 represents a cross-section of a lathe-chuck embracing my improvement in its construction, taken as indicated by the broken line 1 1 in Fig. 2, in which latter figure is represented an interior view of part B, with annular gear C and ring C′ in position in the groove in that part; Fig. 3, a like view of the same part with the gear and ring removed; Fig. 4, a face view of the ring C′; Fig. 5, a detail view of segmental parts of gear C and ring C′ in position together, and Fig. 6 a perspective of one of the jaws *a*.

A indicates one of the parts of the chuck; B, the other; *a*, the jaws, and *a′* the ridges and grooves on the portions of the jaws designed to hold against the work or thing to be operated upon in the chuck. These grooves and ridges, instead of running in planes parallel to the motion of the chuck, as usual in chucks heretofore, run at an inclination thereto, so that if the ridges on the jaws should cut into the material of the work held by them such ridges shall, by reason of such inclination, acquire a faster hold of the work, instead of merely cutting circular grooves in the same as they would do if run in the old way.

The part B is provided with a deep circular groove, as shown, for the reception of the ring C′ and the annular gear C, and said groove is provided on its bottom with three elevations, C^2, as shown in Fig. 3, and the ring C′ is provided with three corresponding openings, *e*, extending entirely through the same, with the design that when it is desired to have the face of the ring C′ to rest solidly upon the bottom of the said groove it may be made to do so by placing the ring with its openings *e* over the projections C^2 on the bottom of the groove; but, on the other hand, when it is desired to have the ring C′ held in position in a higher plane the said projections will hold it so upon the ring being moved around so far that the body of the same will rest upon said projections. These openings and projections are not designed to have any agency in moving the ring C′ and annular gear C from a higher to a lower plane, or vice versa, for in my said Letters Patent I have described and claimed a special device for that very purpose, but merely to provide the said openings or recesses into which the projections are to be received and kept out of the way when not in use, to raise the annular gear C into mesh with the pinions a^3 upon the screw-shafts a^2.

Heretofore mere depressions have been used for the same purpose for which my holes or openings *e* through the ring C′ are designed. That construction is objectionable, because such depressions weaken the ring too much, unless it be made much thicker and heavier than usual, and if that were done the case would have to be made much deeper and heavier, and would be more expensive and require more material in its construction; and a still more serious objection would be that the said depressions would have to be milled out, which would be a separate and additional operation to the one of casting the ring with the openings through it, as shown in the drawings, for the openings would not add to the cost of casting the ring.

In order to move the ring C′ around in the groove back and forth, so that the projections may be either in or out of the openings, as required, I employ the toothed wheel *h*, and mount it upon shaft *v*, which turns in an opening through part B of the case, and have provided a part of the inner periphery of the ring C′ with a series of teeth, *t*, as shown in Fig. 4, corresponding with those on wheel *h*, so that by turning the shaft *v* by means of the crank H, or otherwise, the ring may be moved around in the groove. The said ring C′ is provided with three pins or studs upon its outer periphery, and the part B with three slots, *b*, for them, arranged correspondingly and inclining downwardly, as indicated by the broken lines in

Figs. 2 and 3; and when the ring is moved back and forth the studs travel in the slots *b*, and these devices raise and lower the ring C', as specified in my said Letters Patent, and no claim is made herein for the same. The ring C' has to be turned on both faces to render such faces true and smooth, and if depressions had to be made in one of them by milling, as before stated, the cost of its manufacture would be materially increased above that of making both faces plain.

What I claim as my invention, and desire to secure by Letters Patent, is—

The jaws *a*, having their holding-surfaces, by which they grasp the work, provided with inclined grooves and ridges *a'*, substantially as and for the purpose described.

THOMAS H. COSTELLO.

Witnesses:
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