J. RICH.

Lathe Chuck.

No. 107,291. Patented Sept. 13, 1870.

Fig. 1.

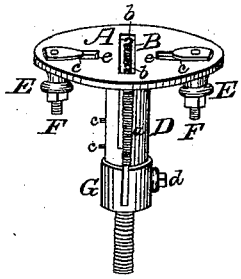
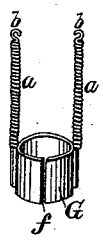


Fig. 2.



Witnesses:

James E. Chambers.

William Wadsworth

Inventor.

John Rich

United States Patent Office.

JOHN RICH, OF PAINESVILLE, OHIO.

Letters Patent No. 107,291, *dated September* 13, 1870.

IMPROVED LATHE-CHUCK.

The Schedule referred to in these Letters Patent and making part of the same

I, JOHN RICH, of Painesville, in the county of Lake and State of Ohio, have invented certain Improvements in Lathe-Chucks, of which the following is a specification.

My improvement relates to the application of coiled springs attached to a collar, which fits on the shaft of the chuck, said springs lying parallel to the said shaft. The free ends pass through the opening in the face-plate, and have hooks turned on their ends, which grasp the article to be acted on, holding the article temporarily until the center is found, when it is secured permanently by the clips. The object of the springs is to counteract the tendency of the article to slip off of the center after it is found, the elasticity of the coiled springs holding the article sufficiently firm until it is secured to the face-plate by the clips; also, the springs will stretch or contract sufficiently to allow articles of different thicknesses to be secured to the plate without moving the collar up on the shaft while at work. This is useful in centering for turning out spring seats in watch-cylinders, or any work of that class; the center is found by placing the article on the face-plate, hooking the spring-hooks over the edge, then revolving the chuck and pressing any soft substance against its edge until it runs perfectly true; then the points of the clips are placed on the edge of the article and secured firmly by the nuts.

The novelty of this improvement is in using the hooked springs to hold the article until the center is found. When necessary, the collar can be slipped up on the shaft and secured in position by the set-screw.

Figure I is a view of the chuck complete in all its parts, of which A is the face-plate; B, opening in the plate; C C, clips; D, shaft; E E, nuts; F F, bolts; G, collar; *a a*, coiled springs; *b b*, hooks on free ends of springs; *c c*, guide-pins; *d*, set-screw.

Figure II view of collar G, coiled springs *a a*, with the hooks *b b* on their free ends.

A is a disk of metal, secured on the end of the shaft D; said disk has a slot or opening, B, cut through its face to allow the entrance of any projection that may be attached to, or project from the article to be acted on; said slot is extended down through the shaft D.

a a are long coiled springs, which lie parallel to the length of the shaft D. The hooked ends *b b* of the springs pass through the opening sufficiently far to grasp the edge of the article to be acted on.

C C are clips, which secure the article permanently after the center is found. The clips slide inward or outward, guided by the slots *e e*, to accommodate the different diameters of the articles. After the clips are passed over the edge of the article, they are secured by the nuts E E.

F F are the bolts, which are headed into the clips, and are guided in the slots *e e*.

G is a collar, which fits round the shaft D with the springs secured to its sides.

d is a set-screw, that secures the collar at any point on the shaft.

c c are pins, which act as guides. The collar is divided on one side, which forms the slot *f*. The guide-pins *c c* work in the slot *f*, keeping the springs *a a* parallel to the line of the shaft D.

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

The collar G and elastic coiled springs *a a*, with their hooked ends *b b*, in combination with the chuck, substantially as and for the purpose as hereinbefore set forth.

JOHN RICH.

Witnesses:
JAMES E. CHAMBERS,
WILLIAM WADSWORTH.