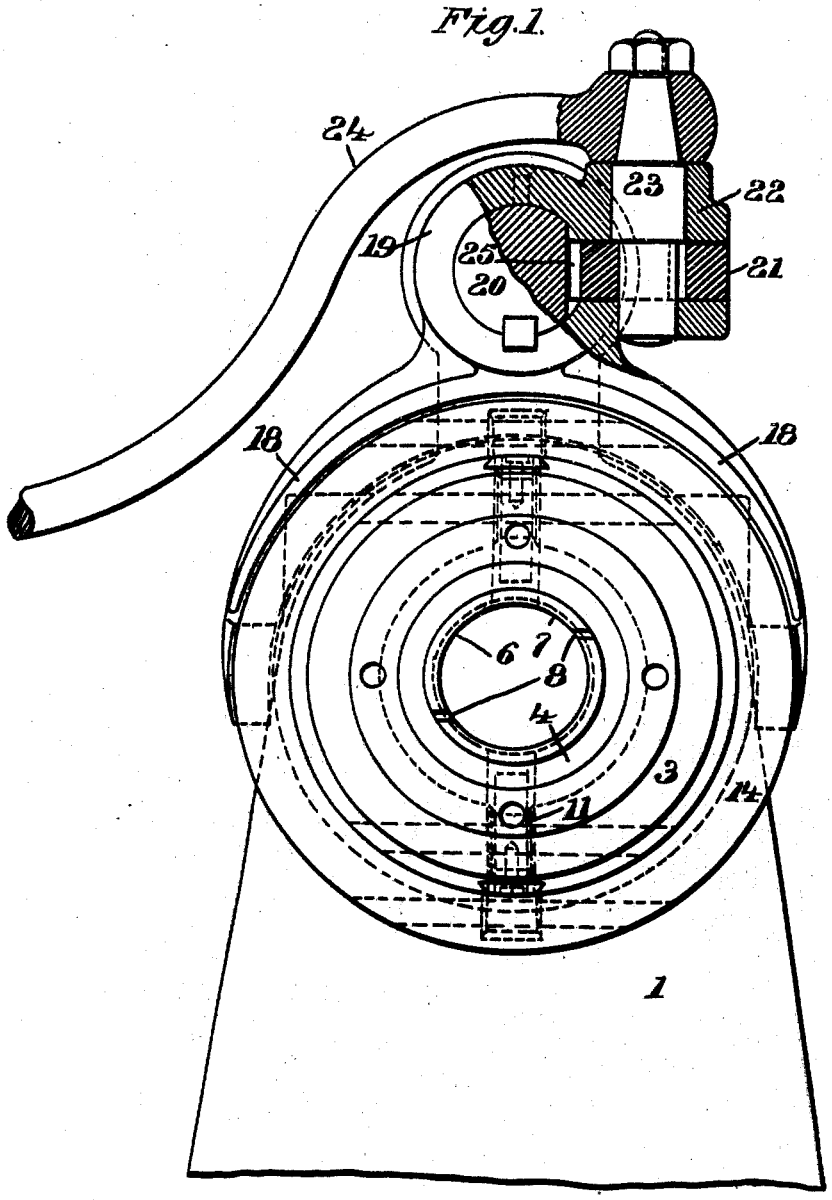
(No Model.) 2 Sheets—Sheet 1.

C. L. LIBBY.

CHUCK FOR SCREW MACHINES.

No. 442,230. Patented Dec. 9, 1890.

Fig. 1.



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UNITED STATES PATENT OFFICE.

CHARLES LEON LIBBY, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO EDWARD P. BULLARD, OF SAME PLACE.

CHUCK FOR SCREW-MACHINES.

SPECIFICATION forming part of Letters Patent No. 442,230, dated December 9, 1890.

Application filed August 16, 1890. Serial No. 362,190. (No model.)

To all whom it may concern:

Be it known that I, CHARLES LEON LIBBY, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Chucks for Screw-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain new and useful improvements in chucks such as are used in screw-machines and similar machines, and has for its object to provide a chuck in which a parallel movement is imparted to two independent grasping-surfaces, whereby the rod to be worked is held perfectly axial with the chuck, and, furthermore, it is the object of my invention to provide simple and efficient mechanism whereby the appropriate movement of the chuck, both opening and closing, may be effected; and with these ends in view my invention consists in the construction and the several combinations of cooperative elements hereinafter to be fully and in detail explained, and then recited in the claims.

In order that those skilled in the art to which my invention appertains may fully understand both its construction and its method of operation, I will proceed to describe them in detail, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is the front elevation, partly in section, and Fig. 2 a central vertical longitudinal section.

Like numerals denote the same parts in both the figures of the drawings.

The standard, which is designated by 1, is mounted upon the bed of the lathe, which I have not thought it necessary to show, as is common and usual in such machines. The lower end of said standard is provided with a bearing, in which is journaled and adapted to revolve a hollow lathe-spindle 2. The forward end of this spindle carries an annular head 3. Within the extreme outer end of this head is firmly secured a ring 4, whose sectional shape is shown at Fig. 2, and whose interior is therefore tapering. Somewhat behind this ring is a second ring 5, very similar in shape, but oppositely tapered, and so arranged within the bore of the head that it may have a sliding movement therein toward and away from the ring 4, for the purpose presently to be explained.

6 is a sleeve having grasping-surfaces 7 at either end thereof. At its center it is cut away both within and without, although this is not absolutely essential. Said ring is split from both ends, as shown at 8, Fig. 2, the slits therein being cut alternately from each extremity. Said ring has also upon each end tapered surfaces 9, which, when the chuck is in the central position are adjacent to the tapered surfaces of the rings 4 and 5.

From the foregoing description and an inspection of Fig. 2 of the drawings it is apparent that if the ring 5 be forced toward the ring 4 the action of the two rings will be to compress the split sleeve, which is enabled by the slit therein to yield inwardly.

The second portion of my invention has for its object, as heretofore stated, a means for operating the parts hereinbefore described, and the mechanism which I employ for this purpose is as follows: Upon opposite sides I cut through the head 3 recesses 10, in each of which I pivot a lever 11, having a short projection 12, which abuts against the rear end of the ring 5, and a longer projection or tail 13. Either two or more of these levers may be used, as convenience may dictate; but two are amply sufficient for all practical purposes. Arranged around the outside of the head is a ring 14, having a groove 15 in its outer surface, and being recessed, as shown at 16, to form housings, in which rest rolls 17, immediately over and in contact with the parts 13 of the levers 11. This ring 14 is adapted to have a sliding movement lengthwise of the head for the purpose of changing the bearing between the rolls and levers, as presently to be set forth. A yoke 18 partially embraces the ring 14, resting in the groove 15. This yoke is fastened to or made integral with a sleeve 19, which is arranged to slide upon a shaft 20, which latter extends horizontally, as shown in Fig. 2, and has no movement.

21 is a gear, which is journaled in an ex-