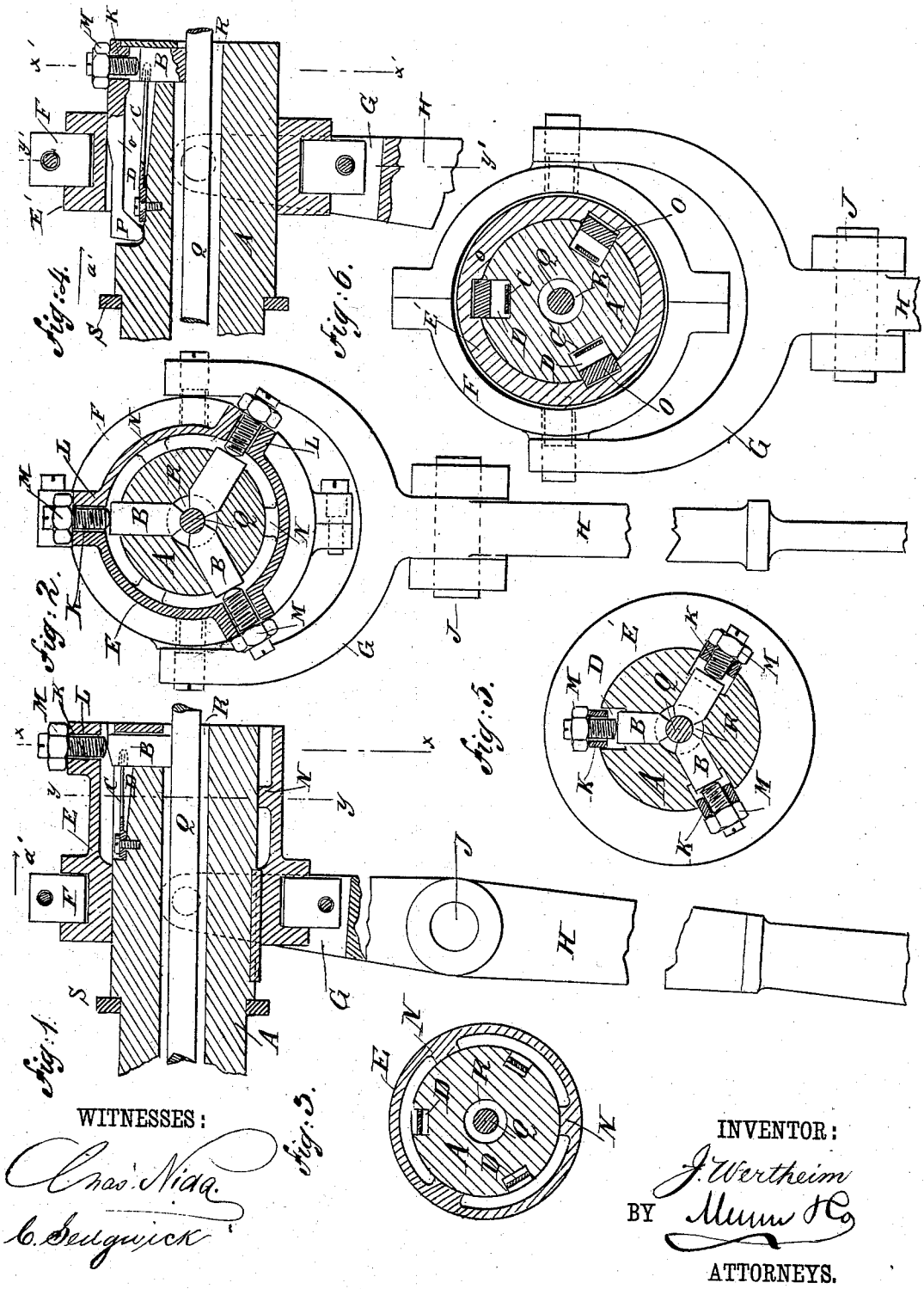
(No Model.)

J. WERTHEIM.

CHUCK.

No. 262,869. Patented Aug. 15, 1882.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOSEPH WERTHEIM, OF FRANKFORT-ON-THE-MAIN, GERMANY.

CHUCK.

SPECIFICATION forming part of Letters Patent No. 262,869, dated August 15, 1882.

Application filed October 25, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH WERTHEIM, of Frankfort-on-the-Main, Germany, have invented a new and Improved Chuck, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved chuck which grasps and holds rods or tools very firmly, and is simple in construction and operation.

The invention consists in the combination, with the stock, of the radially-sliding jaws, the longitudinally-sliding sleeve, the studs, the ring, and the pivoted lever, as hereinafter described.

In the accompanying drawings, Figure 1 is a longitudinal sectional elevation of my improved chuck. Fig. 2 is a cross-sectional elevation of the same on the line *x x*, Fig. 1. Fig. 3 is a cross-sectional elevation of the same on the line *y y*, Fig. 1. Fig. 4 is a longitudinal sectional elevation of a modification of my improved chuck. Fig. 5 is a cross-sectional elevation of the same on the line *x' x'*, Fig. 4. Fig. 6 is a cross-sectional elevation of the same on the line *y' y'*, Fig. 4.

Similar letters of reference indicate corresponding parts.

The tubular stock A is provided at one end with a series of radially-sliding jaws, B, having concaved inner ends, and having their outer ends beveled downward from the end of the stock. A spring, C, is passed into the outer end of each jaw, and these springs, which are attached to the stock A in suitable recesses, D, of the same, serve to draw the jaws outward. A sleeve, E, surrounds the stock A and is guided to slide longitudinally on the same, and also to revolve with the stock. A ring, F, fits loosely in an annular groove in one end of the sleeve E, so that the sleeve can revolve in this ring F, which is pivoted between the ends of the fork G of a lever, H, suitably pivoted at J. As many screw-studs K as there are jaws B in the chuck are contained in radial bosses L on the outer end of the sleeve E, which bosses are so located that the rounded inner ends of the studs K rest on or on a line with the outer ends of the jaws B. The studs K can be so adjusted by means of nuts M on their outer ends that their inner ends will project more or less from the inner surface of the sleeve E. The sleeve E is made very thin, so as to be elastic, and this sleeve does not fit closely on the stock A, but is provided with internal projections, N, resting on the surface of the stock A.

In the modification shown in Figs. 4, 5, and 6 the outer ends of the jaws B are not beveled and the studs K do not pass through bosses of the sleeve, but pass through the outer ends of spring-strips O, provided at the inner ends with a lug, P, resting against the inner ends of the recesses D in the stock A. The upper edges of these spring-strips have a bevel from the outer end downward at or near the middle. The sleeve E' in this case is not elastic, and is much narrower than the sleeve E, but is also surrounded by the ring F, pivoted in the fork G at the upper end of the lever H. The studs K need not necessarily be screw-studs, but can be held in the bosses L by other suitable devices.

The operation is as follows: The rod Q, tool, or other object to be held by the chuck is passed into the longitudinal aperture R of the stock A, as shown. By operating the lever H the sleeve E is pushed toward the outer end of the stock A, as indicated by the arrow *a'*. The studs K will slide up the beveled outer ends of the jaws B and will press these jaws radially against the rod Q or other object in the stock, as shown in Fig. 1. If the rod Q is to be released, the lever H is operated to draw the sleeve in the inverse direction of the arrow *a'*, whereby the studs K will be removed from the jaws B, which are drawn outward a short distance by their springs C.

The operation of the modification shown in Figs. 4, 5, and 6 is similar. The sleeve E' slides up the bevel of the spring-strips O and thus depresses the outer ends of these strips, thereby pressing the jaws B against the rod Q. The collar S forms a check to prevent the sleeve E or E' from being drawn too far in the inverse direction of the arrow *a'*.

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

In a chuck, the combination, with the stock A, of the radially-sliding jaws B, the sleeve E, the studs K, the ring F, and the pivoted lever H, substantially as herein shown and described, and for the purpose set forth.

JOSEPH WERTHEIM.

Witnesses:

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