G. B. KIRKHAM.
Chuck.

No. 227,114. Patented May 4, 1880.

Fig. 1

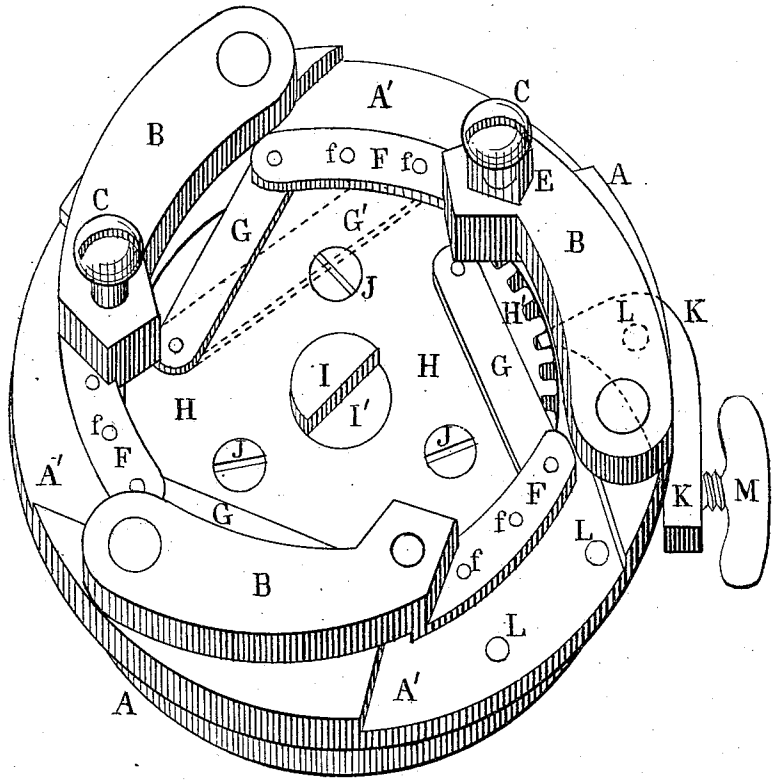
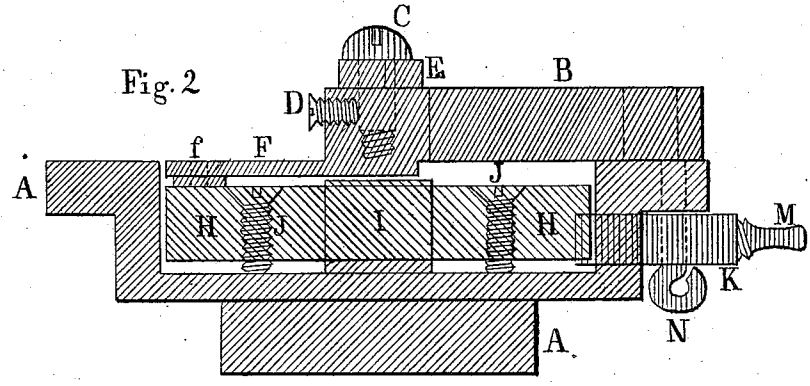


Fig. 2



WITNESSES.

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GEORGE B. KIRKHAM, OF NEW YORK, N. Y.

CHUCK.

SPECIFICATION forming part of Letters Patent No. 227,114, dated May 4, 1880.

Application filed August 14, 1879.

To all whom it may concern:

Be it known that I, GEORGE BYRON KIRKHAM, of 167 East Thirty-third street, New York city, county and State of New York, have invented a new Chuck, of which the following is a specification.

The object of this invention is to provide a chuck which is self-centering, which will hold things of most any size, from a needle upward, which will also hold irregular-shaped objects, and which has a vise-like gripe.

In the drawings, Figure 1 gives a general perspective view of the chuck, looking toward the face of it. Fig. 2 gives a sectional view of the chuck, looking at it sidewise.

In Figs. 1 and 2, A A is the body or bed-plate of the chuck, which is secured to the lathe in the usual manner. This bed-plate A has depressions A′ A′ in it to allow free play to the jaws B and prolongations F. These jaws B are pivoted to A securely, are three or more in number, and have pins or screws C C, which are removable when it is so desired. The purpose of these pins C is especially to hold any object by inside contact—as, for instance, to hold a round box by the three pins C pressing against the inside of it. The pins C are secured to the jaws B either by having a screw-thread on the pin C and screwing it into B, or by means of a set-screw, D, Fig. 2, or any such suitable device. Connected with C there is also a block, E, which can be used to help in holding various irregular-shaped objects. Each jaw B has a prolongation, F, which has pivot-holes *f f* in it to attach it to the link G, and the link G is pivoted to the wheel H, which, when turned, opens or shuts the jaws B.

While the link G could be pivoted to any part of B, the main object of having the prolongation F is to give a longer leverage, and thus a tighter gripe to the jaws.

In holding objects of an irregular shape the link G may be moved from one hole, *f*, to another, and occasionally a longer link, G′, may be used.

To allow of the link G being shifted from one hole to another the whole wheel H is lowered down toward the bed-plate A, sliding on its axle I, which is part of the plate A, and being lowered by turning the screws J J partly out of the wheel H. Then when the links G are placed on the proper pivots the wheel H is raised as much as is necessary to hold them by screwing in the screws J J.

The axle I has a depression, I′, to hold the ends of drills and other tools, which will have the ends of their shank ground to fit the depression, and thus make it impossible for the drill to turn or slip in the jaws B.

In using the chuck, when the jaws B have been placed against the work the knee K is placed in between the cogs H′ of the wheel H, the pivot N is put into the knee K and the plate A, and the gripe is given by turning the thumb-screw M, which bears against A.

The pivot-holes L L in A are placed at distances from each other which do not correspond to the distances between the cogs H′ H′.

The advantage of this arrangement is to allow of larger cogs H′ being used, and thus greater strength is given to them, for if when putting the knee into a position by a hole, L, the point of it does not go readily between the cogs H, it may be shifted to another hole L, and is sure to fit in without trouble, the pin N being placed in whichever hole L will allow of the knee K and thumb-piece M being kept closest to the chuck.

The knee K is reversible, and may be placed as shown in the drawings, or may be turned around, so that the thumb-piece M will bear against the plate A near the pin and block C E. In that way it will give a gripe either to open or shut the jaws B.

I claim as my invention—

1. The axle I or bed-plate A, cut away at I′, behind the jaws of a chuck, and in combination therewith, substantially as and for the purpose hereinbefore set forth.

2. The combination, with the jaw B, of the prolongation F and removable pins or blocks C E, substantially as and for the purpose hereinbefore set forth.

3. In combination with the links G, wheel H, and bed-plate A I, the screws J, to raise and lower the wheel H, substantially as and for the purpose hereinbefore set forth.

4. The knee K, thumb-screw M, pin N, in combination with a wheel, H H′, and a bed-plate, A, provided with a series of holes, L, substantially as and for the purpose hereinbefore set forth.

GEORGE BYRON KIRKHAM.

Witnesses:
CHARLES HAUPTNER,
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