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E. H. W. WEIBULL

1,476,434

CHUCK

Filed Nov. 30, 1920

Fig. 1.

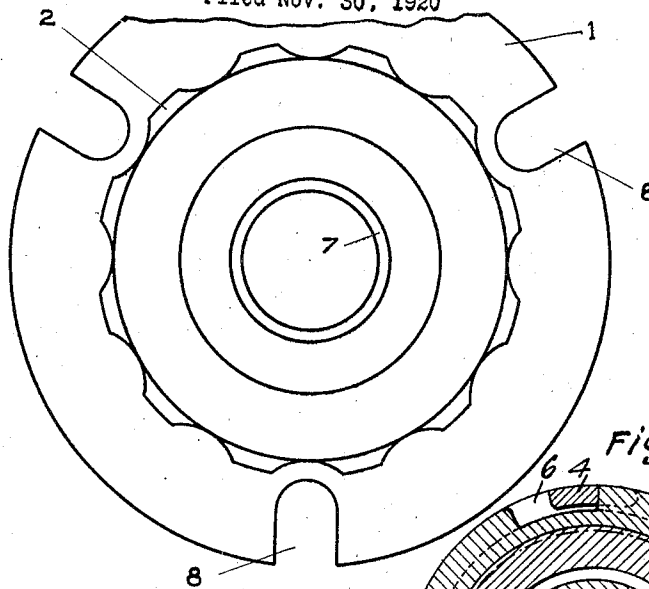


Fig. 4.

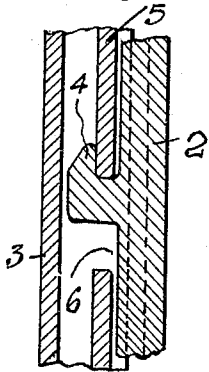


FIG. 2.

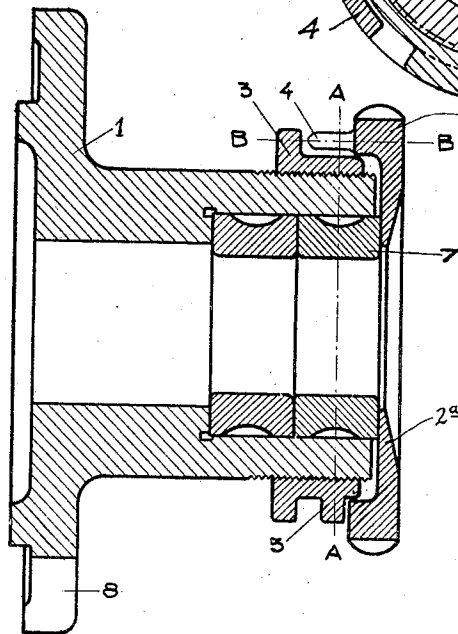
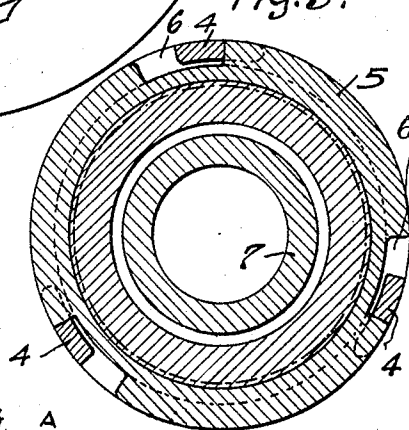


Fig. 3.



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UNITED STATES PATENT OFFICE.

ERNST HJALMAR WALODDI WEIBULL, OF GOTTENBORG, SWEDEN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO NYA NORDISKA KULLAGER AKTIEBOLAGET, OF GOTTENBORG, SWEDEN.

CHUCK.

Application filed November 30, 1920. Serial No. 427,411.

(GRANTED UNDER THE PROVISIONS OF THE ACT OF MARCH 3, 1921, 41 STAT. L., 1313.)

To all whom it may concern:

Be it known that I, ERNST HJALMAR WALODDI WEIBULL, a subject of the King of Sweden, residing at Gottenborg, in the county of Gottenborg and Bohus and Kingdom of Sweden, have invented a new and useful Improvement in Chucks (for which I have filed application in Sweden, November 15, 1919, #5,118; 1919), of which the following is a specification.

The present invention relates to chucks and has for its object to provide a device of this character which is so constructed that the workpiece by a simple operation may be quickly and easily fastened in position or removed, as desired.

The features which distinguish a chuck according to this invention consist essentially in that the holder to be used for fastening the workpiece is provided with fingers and bayonet slots and is mounted for adjustment bodily on the sleeve upon which the workpiece rests.

The embodiment shown in the accompanying drawing is a chuck which is particularly adapted for internal work on ring-shaped bodies.

In the accompanying drawing wherein an improved embodiment of the invention is illustrated;

Figure 1 is a front elevation of the chuck;

Fig. 2 is a longitudinal section of the chuck;

Figs. 3 and 4 are detail sectional views on the lines A—A and B—B of Fig. 2.

Referring to the drawing in detail, the numeral 1 indicates a sleeve provided with slots 8 adapted to receive suitable fastening means whereby the sleeve may be secured to a machine spindle or the like. The sleeve 1 is internally formed to provide a seat for the workpiece, which latter has been illustrated as ball bearing rings 7, and externally the sleeve is partially screw-threaded for mounting the adjustable ring 3. The ring 3 is provided at its outer end with a flange 5 having notches 6 therein. The workpiece holder 2 is adapted to clamp the workpiece in place in the sleeve 1 and for this purpose is provided with an internal flange 2^a. The holder is provided with angular fingers 4 adapted to be introduced in the notches 6 in the adjustable ring 3.

A workpiece is attached to the chuck as follows:—When the workpiece 7 has been placed in position in the sleeve 1 and the ring 3 screwed on the sleeve, the holder 2 is fitted so that its fingers 4 enter the notches 6 on the flange 5 of the ring 3. The holder 2 is then turned relative to the ring 3 so that its fingers engage behind the flange 5 according to Fig. 4, and then the holder 2 and ring 3 are turned as a unit so as to advance the threaded sleeve, until the workpiece 7 is clamped in its position.

The releasing of the workpiece 7 is made by turning the holder in a retrograde direction so that the fingers 4 are disengaged from the flange 5, whereafter the holder is taken off independently of the ring 3. Another workpiece of same dimensions may be subsequently fastened or unfastened by this simple turning of the holder combined with a similar motion of the adjustable ring.

If the fingers 4 or the flange 5 in their contact faces are worn, the ring 3 may be advanced so much as required for taking up the wear.

A chuck as per this invention may of course be used for a plurality of different sizes of workpieces, by screwing the ring 3 on or off of the sleeve 1 so much as may be required in every special case. It is evident, that the chuck also may be used as a mandrel for other kinds of workpieces than the above described or shown on the drawing.

What I claim is:—

1. A chuck comprising a sleeve provided with an internal work receiving recess, a ring threaded for adjustment longitudinally of said sleeve, a recessed flange on said ring, a work holder having an internal flange adapted to overlie said recess, angular fingers carried by the holder adapted for insertion in the recesses of the ring flange and responsive to partial rotation of the holder relative to the ring whereby to secure said holder in position thereon, said fingers acting to limit the rotary movement of the holder relative to the ring, whereby subsequent to the securing of the holder, further rotary movement of the latter is transmitted to the ring to cause the latter to advance on the threads of the sleeve and to cause the internal flange to approach the work receiving recess.

2. A chuck comprising a sleeve provided with an internal work receiving recess, a ring threaded for adjustment longitudinally of said sleeve, a removable work holder
5 having an internal flange adapted to overlie said recess, an external recessed flange on the ring, angular fingers carried by the holder adapted for insertion in the recesses of the ring flange and responsive to partial
10 rotation of the ring relative to the holder whereby to secure the latter in position, said fingers acting to limit the rotary movement of the holder relative to the ring whereby, subsequent to the securing of the holder,
15 further rotary movement of the latter is transmitted to the ring to cause the latter to advance on the threads of the sleeve and to cause the internal flange to approach the work receiving recess.

20 3. A chuck comprising a sleeve provided with a terminal internal work receiving recess, a ring member threaded on the recessed

end of the sleeve and adapted for adjustable movement thereon, a peripheral flange having recesses therein carried by said ring member, a removable work piece holder
25 provided with an internal flange overlying the recess in said sleeve for engaging and retaining a work piece therein, and angular fingers carried by said work piece holder, said fingers being adapted to be inserted in
30 the recesses of the peripheral flange and, incident to turning of said work piece holder, to have the angular extremities thereof engaged behind said flange, said ring member
35 and work piece holder being adjustable as a unit, when assembled, on said sleeve and said work piece holder being removable separately from said ring member by disengaging the angular fingers from the peripheral
40 flange.

In testimony whereof I have affixed my signature.

ERNST HJALMAR WALODDI WEIBULL.