

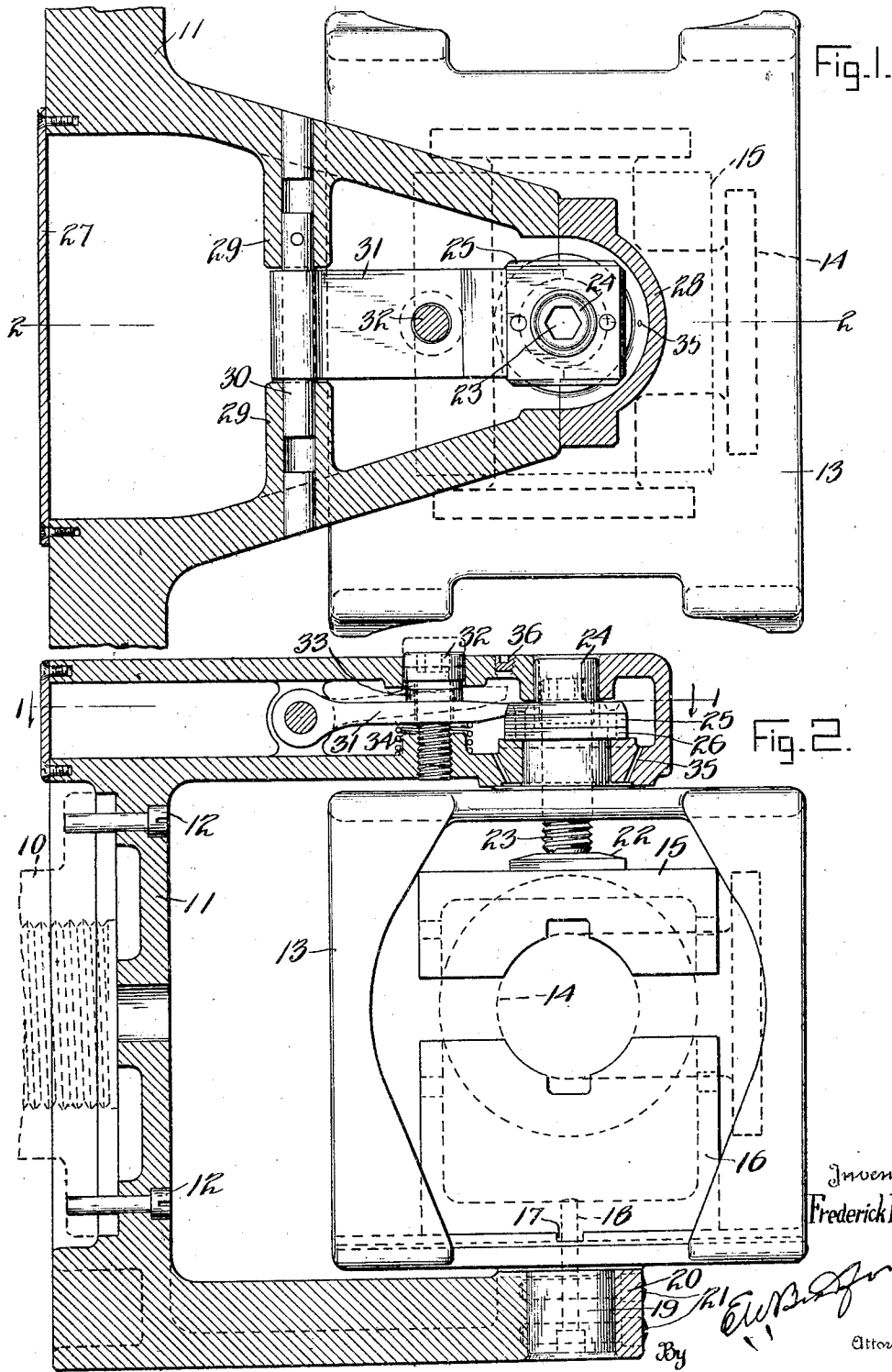
March 13, 1928.

1,662,571

F. FRICK

WORK HOLDING CHUCK FOR HEADSTOCKS

Filed Sept. 22, 1924



Inventor
Frederick Frick
By *E. B. [Signature]*
Attorney

UNITED STATES PATENT OFFICE.

FREDERICK FRICK, OF WAYNESBORO, PENNSYLVANIA.

WORK-HOLDING CHUCK FOR HEADSTOCKS.

Application filed September 22, 1924. Serial No. 739,191.

My said invention relates to a workholding chuck for head stocks and the like and the main object of the invention is to provide such a chuck with secure and accurate means whereby the work may be indexed and held in various positions.

Referring to the accompanying drawings, which are made a part hereof and on which similar reference characters indicate similar parts,

Figure 1 is a plan of my invention partly in section on line 1—1 of Figure 2, and

Figure 2, a vertical central section on line 2—2 of Figure 1.

In the drawings reference character 10 indicates any conventional supporting shank or device on which the frame or body 11 may be carried, relative rotation being prevented by means of screws 12. The frame or body carries a yoke 13 which has the form of a lantern or cage, the yoke having openings at the sides for access to the work which is indicated at 14. The work is held between a pair of jaws, one of which as indicated at 15 is movable while the other jaw 16 is fixed in place in the yoke. Any suitable means for holding this jaw in place may be provided, the jaw being here indicated as having a rib at 17 extending into a notch in the yoke, while a screw 18 projects upward through the lower trunnion 19 and serves to hold the lower jaw in place. It will be understood that the trunnion 19 is loose in the lower frame member which includes a cap 20 held in place by screws 21. Preferably the trunnion is integral with the yoke.

The upper jaw 15 has a boss 22 which screw 23 engages, this screw being threaded in the upper trunnion 24 of the yoke and serving to adjust and clamp the block 15. The upper trunnion includes a pair of cylindrical surfaces journaled in the upper member of the frame 11 and also has secured thereto in any suitable manner a holding block 25. In the present instance the trunnion is shown as having an integral collar on which the holding block rests and to which it is secured by rivets 26 but it will be understood that various other means may be provided for securing the holding block in place. As clearly shown in Figure 1 the holding block illustrated has four sides but this also may obviously be changed to suit the use to which the chuck is to be put.

The upper frame member is hollow, the

hollow space being closed at one end by a cover 27 and at the other end by a cap block 28, both of these being held in place by screws or other convenient means. Said member also has inward projections 29 in which a shaft 30 is journaled. A locking plate 31 is pivoted on the shaft 30, the front edge of this plate being formed to bear against one of the flat sides of the holding block. As shown in Figure 2 the flat sides of the holding block are beveled and the plate is similarly beveled at its front end so as to take up any wear or lost motion in the parts and to form strong and secure engagement all the way across the front end of the locking plate whereby the holding of the work in exact position is insured. By this means also it is made certain that the work will be turned through the correct angle at each indexing operation without any variation.

A screw 32 passes through an opening in the upper part of the hollow member of the frame and has threads at its lower end engaging a threaded opening whereby a collar at the upper end of the screw may be forced down against the locking plate 31 to insure locking engagement between this plate and the holding block. Preferably a pair of concavo-convex washers are positioned at 33 between the plate 31 and the head of the screw or a shoulder on the screw to provide a slight yielding action between the parts. In the present embodiment of the invention a spring 34 is located underneath the plate about a boss in which are formed the threads for engagement by the threaded portion of the screw 32, said spring serving to relieve the engagement between the plate and the locking block when the screw is backed off. It will be understood that this relieving means is not essential since the screw might be formed with a collar underneath the plate or a separate lifting screw might be provided and various other means for relieving the plate will suggest themselves to those skilled in the art.

The hollow chamber in the upper member of the frame provides oiling means for the shaft 30, the trunnion 24 and the other parts indicated, oil passages being formed at 35 for carrying oil down to the opposed faces of the yoke and the frame. For supplying this chamber with oil a passage is provided which is closed by a threaded plug 36.

It will be obvious to those skilled in the

art that various changes may be made in my device without departing from the spirit of the invention and therefore I do not limit myself to what is shown in the drawings and described in the specification but only as indicated in the appended claims.

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

10 1. In a chuck, a frame, a yoke pivotally mounted in the frame for indexing movement said yoke having a plurality of flat faces in fixed relation about the axis of the yoke, rigid pivoted locking means on the
15 frame having a flat face adapted to engage the entire length of one of said faces on the yoke, a screw for forcing the locking means positively into engagement with said face, and resilient means for disengaging
20 the locking plate from said face when the

screw is backed off, substantially as set forth.

2. A work-holding chuck for head-stocks comprising a frame, a pair of outwardly extending arms on said frame, bearings in said arms, a revolvable cage having shafts
25 mounted in said bearings, a polygonal block secured to one of said shafts and located within one of said arms, a pawl pivoted within one of said arms and adapted to engage said block, non-yielding means to en-
30 gage said pawl with said block and yielding means to disengage said pawl from said block when said engaging means is released and work-holding jaws carried within cage, sub-
35 stantially as set forth.

In witness whereof, I have hereunto set my hand at Waynesboro, Pennsylvania, this 20th day of September, A. D. nineteen hundred and twenty-four.

FREDERICK FRICK.