

No. 698,444.

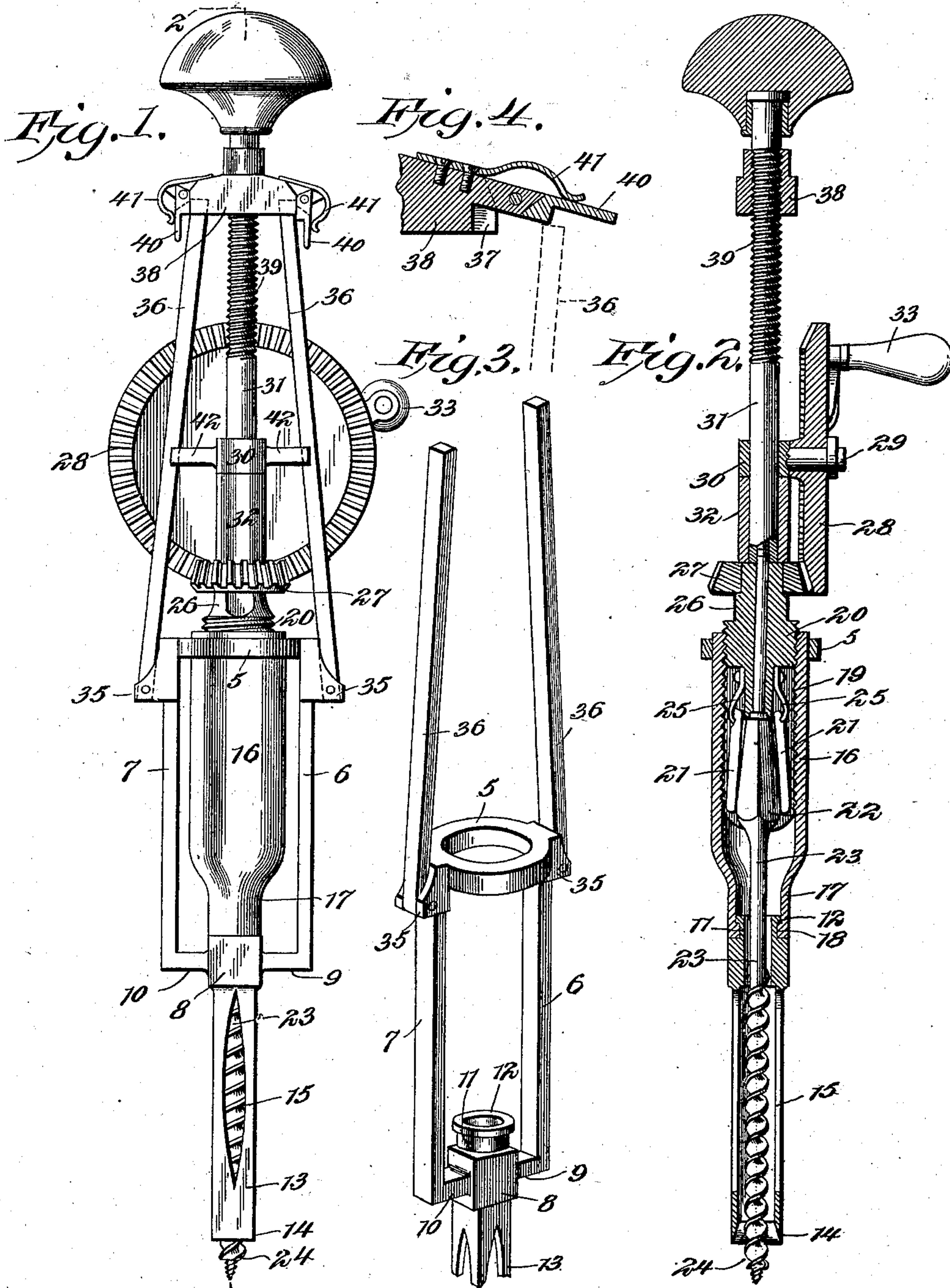
Patented Apr. 29, 1902.

J. J. BUNDY.

AUGER.

(Application filed Oct. 25, 1900.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN J. BUNDY, OF SAN ANTONIO, TEXAS.

AUGER.

SPECIFICATION forming part of Letters Patent No. 698,444, dated April 29, 1902.

Application filed October 25, 1900. Serial No. 34,326. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. BUNDY, a citizen of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented a new and useful Auger, of which the following is a specification.

This invention relates to augers in general, and more particularly to that class employed for cutting angular holes, the object of the invention being to provide a construction in which the parts may be adjusted to cut angular holes entirely through a body, and also to cut angular countersinks concentric with cylindrical openings, such as are made for the reception of the square heads of bolts, lag-screws, &c.

An additional object of the invention is to so construct and combine the parts that the auger-bit may be easily applied and removed and in which it may be adjusted for most efficient operation under different conditions.

In the accompanying drawings, Figure 1 is an elevation showing the complete auger. Fig. 2 is a section on line 2 2 of Fig. 1, the auger-bit and other parts being shown in elevation. Fig. 3 is a detail perspective view showing a portion of the frame of the auger. Fig. 4 is a detail sectional view showing an end of a cross-head and illustrating the latch for engagement with a side of the frame.

In the embodiment of my invention I provide a frame including an upper bearing-ring 5, to which are fixed parallel side bars 6 and 7, having a preferably angular block 8 fixed between their inturned lower ends 9 and 10, this block 8 having a cylindrical projection 11 upon its upper end provided with a peripheral flange 12, for a purpose which will be presently explained. Extending downwardly from the block 8 is a rectangular cutter-stem 13, which is hollow, and at the lower end of which is a cross-sectionally-angular chisel 14, in the present instance shown as squared, the sides of the frame 18 between the block 8 and the chisel 14 being slotted, as illustrated at 15.

A hollow cylindrical sleeve 16 has its lower end 17 contracted in diameter to snugly receive the flange 12 of the extension 11 of the block 8, this contracted portion 17 having an inner peripheral flange 18, which lies closely

against the extension 11 below the flange 12, and thus prevents separation of the parts, while permitting rotation of one with respect to the other.

The sleeve 16 is provided with interior threads 19, and with these threads is engaged a follower-block 20, carrying pivot-jaws 21, adapted to engage the cross-sectionally-angular butt 22 of an auger-bit 23, which is disposed to lie with its butt in the sleeve 16 and with its stem 23 passed through the block 8 and the stem 15, so that its cutting end 24 will project through and beyond the angular chisel 14. These jaws 21 are held in engagement with the butt 23 of the auger-bit through the medium of springs 25, and as the follower-block 20 is screwed downwardly in the sleeve 16 it acts to project the auger-bit to a greater extent through the chisel 14.

The follower-block 20 has a stem 26, upon which is fixed a bevel-gear 27, with which is engaged a second bevel-gear 28, mounted upon a stub-shaft 29, carried by a sleeve 30, which is mounted upon a spindle 31, which is free to revolve independently of the follower-block 20. This sleeve 30 is disposed against a spacing-sleeve 32, arranged to bear at its opposite ends against the sleeve 30 and the bevel-gear 27. The gear 28 is provided with an operating-crank 33.

The ring 5 and side bars 6 7 have radial outwardly-extending ears 35 formed therewith, as shown. The spindle 31 is screw-threaded throughout a considerable portion of its extent, as at 39, and the upper end of said spindle is swiveled in a head 2. It will be observed that the pitch of the screw-thread 39 is different from that of the screw-threads 19. Connecting-rods 36 are pivoted to the ears 35. A cross-head 38 is interiorly threaded and engaged by the screw-thread 39 of spindle 31, and has recesses 37 at its ends to receive the upper ends of the connecting-rods 36, pivoted latches 40 to lock the said upper ends of said rods in said recesses, and spring 41 to bear upon said latches and retain them in locked position.

As shown in Fig. 1 of the drawings, the upper end of the sleeve 16 has a bearing in the ring 5, while arms 42 extend radially from the sleeve 30 and have their extremities bi-

furcated to receive the connecting-rods 36 when the latter are engaged with the cross-head.

In practice when it is desired to cut an angular hole corresponding to the shape and size of the chisel 14 the auger-bit is projected slightly beyond the chisel. This is effected by disengaging the rods 36 from the sleeve 30 and cross-head 38, holding the crank 33 with one hand and turning the sleeve 16 with the other, thereby causing the follower 20 to move longitudinally in the sleeve 16, as will be understood. The rods 36 are then reengaged with the sleeve 30 and the cross-head 38, the latter being first adjusted on the threaded spindle 31. Thereafter, owing to the difference in pitch between the screw-threads 19 and 39, there can be no longitudinal movement of the follower 20 in the sleeve 16, and hence the adjustment of the point of the auger-bit with relation to the chisel is maintained. The auger is then used in the customary manner, the operator pressing against the head 2 and turning the crank 33, thereby causing the auger-bit to be rotated. The same is started into the board or other body in which the hole is to be cut and cuts the usual round hole, the feeding of the auger-bit through the body acting to draw the chisel with it and causing the chisel to cut an angular hole. The chips from the auger-bit and from the chisel pass upwardly and out through the slots 15.

When it is desired to bore a round hole with an angular countersink, the parts are manipulated in the manner above described to project the auger-bit beyond the chisel to the desired extent, after which the apparatus may be operated in the manner just mentioned, when the auger will bore entirely through the body and will draw the chisel only far enough to cut the angular countersink the depth of the countersink in proportion to the length of the round hole, this being of course dependent upon the projection of the auger-bit and the thickness of the body through which the hole is formed.

It will be understood that in practice modifications of the present invention may be made to facilitate the manufacture of the auger and that any suitable materials and proportions may be used without departing from the spirit of my invention.

Having thus described my invention, I claim—

1. An auger comprising a frame, a sleeve rotatably mounted in the frame, a hollow cross-

sectionally-angular chisel carried by the frame and concentric with the sleeve, said sleeve and chisel receiving an auger-bit to project beyond the chisel, a follower engaged with the sleeve and adapted for engagement with an auger-bit therein, a spindle carried by the follower, means for rotating the follower to operate the auger-bit, and means for feeding the bit through the chisel, substantially as described.

2. A device of the class described, comprising a hollow chisel, a sleeve rotatably connected with the chisel, a bit disposed in the chisel and sleeve and adapted to project through the chisel, a follower in the sleeve for engaging the bit, means for rotating the follower to rotate the bit, and means for adjusting the follower in the sleeve to vary the projection of the bit from the chisel.

3. A device of the class described comprising a frame, a hollow body carried by the frame, a hollow chisel, a sleeve rotatably connected with the frame and chisel, a follower adjustable in the sleeve and adapted to engage a bit disposed within the sleeve and chisel, a spindle carried by the follower, a cross-head in threaded engagement with the spindle, rigid connections between the cross-head and frame, said spindle being adapted for adjustment through the cross-head, to compensate for the adjustment of the follower in the sleeve, and means for rotating the follower to correspondingly move the bit.

4. An auger comprising a frame carrying a hollow chisel, a sleeve rotatably connected with the chisel and frame, a follower in the sleeve and adapted for engagement with an auger-bit therein, a spindle carried by the follower, a cross-head in threaded engagement with the spindle, latches carried by the cross-head, rigid connections pivoted to the frame and adapted for engagement with the latches to hold the cross-head spaced from the frame, said spindle being adapted for adjustment through the cross-head to compensate for the adjustment of the follower in the sleeve to vary the projection of the bit, and means for rotating the follower to correspondingly move the sleeve and bit, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN J. BUNDY.

Witnesses:

HEZEKIAH ELLIS,
R. E. BUMBREY.