

The image contains two technical drawings of a mechanical device, labeled Fig. 1 and Fig. 3.

Fig. 1 is a side view of the device. It features a horizontal base plate with a curved front edge, labeled 'A'. A vertical support structure is mounted on the base, consisting of a main vertical beam labeled 'B' and a smaller vertical beam labeled 'C'. A horizontal rod, labeled 'D', passes through the center of the device. A large, curved, lever-like component, labeled 'E', is pivoted to the main vertical beam 'B'. This lever has a curved end labeled 'F' and a smaller curved end labeled 'G'. A spring, labeled 'H', is attached to the lever. A gear, labeled 'I', is mounted on the lever. A smaller gear, labeled 'J', is mounted on the main vertical beam 'B'. A spring, labeled 'K', is attached to the main vertical beam. A handle, labeled 'L', is attached to the main vertical beam. A spring, labeled 'M', is attached to the handle. A spring, labeled 'N', is attached to the main vertical beam. A spring, labeled 'O', is attached to the main vertical beam. A spring, labeled 'P', is attached to the main vertical beam. A spring, labeled 'Q', is attached to the main vertical beam. A spring, labeled 'R', is attached to the main vertical beam. A spring, labeled 'S', is attached to the main vertical beam. A spring, labeled 'T', is attached to the main vertical beam. A spring, labeled 'U', is attached to the main vertical beam. A spring, labeled 'V', is attached to the main vertical beam. A spring, labeled 'W', is attached to the main vertical beam. A spring, labeled 'X', is attached to the main vertical beam. A spring, labeled 'Y', is attached to the main vertical beam. A spring, labeled 'Z', is attached to the main vertical beam.

Fig. 3 is a cross-sectional view of the device. It shows the internal components of the device, including the main vertical beam 'B', the smaller vertical beam 'C', and the horizontal rod 'D'. The lever 'E' is shown in a cross-section, revealing its internal structure. The gear 'I' is shown in a cross-section, revealing its teeth. The spring 'H' is shown in a cross-section, revealing its coils. The handle 'L' is shown in a cross-section, revealing its internal structure. The spring 'M' is shown in a cross-section, revealing its coils. The spring 'N' is shown in a cross-section, revealing its coils. The spring 'O' is shown in a cross-section, revealing its coils. The spring 'P' is shown in a cross-section, revealing its coils. The spring 'Q' is shown in a cross-section, revealing its coils. The spring 'R' is shown in a cross-section, revealing its coils. The spring 'S' is shown in a cross-section, revealing its coils. The spring 'T' is shown in a cross-section, revealing its coils. The spring 'U' is shown in a cross-section, revealing its coils. The spring 'V' is shown in a cross-section, revealing its coils. The spring 'W' is shown in a cross-section, revealing its coils. The spring 'X' is shown in a cross-section, revealing its coils. The spring 'Y' is shown in a cross-section, revealing its coils. The spring 'Z' is shown in a cross-section, revealing its coils.



Inventor:
J. Waugh

UNITED STATES PATENT OFFICE.

JOHN WAUGH, OF ELMIRA, NEW YORK.

BORING-MACHINE.

Specification of Letters Patent No. 24,252, dated May 31, 1859.

To all whom it may concern:

Be it known that I, JOHN WAUGH, of Elmira, in the county of Chemung, in the State of New York, have invented a new and Improved Machine for Boring Wood; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, being a part of this specification.

Figure 1, is a side view or elevation of machine. Fig. 2, is a geometrical view of perpendicular frame, adjustable gate and screw. Fig. 3, is a horizontal view of the adjustable portion of machine.

The nature of my invention is to enable all artificers in wood, more especially shipwrights, boat-builders, chair makers and such like to bore holes with an auger bit, (from any position) perpendicularly, upward or downward, horizontally, or at an angle of any degree or any number of degrees or fractional part of a degree from 0° to 90° above or below a horizontal.

To enable others skilled in the art to make and use my invention; I will proceed to describe its construction and operation.

In two woodsills, A, A, Figs. 1, 2, placed at proper distance apart, and parallel to each other and connected by two flat rails *t, t*, Fig. 1, framed into each, I place, (perpendicularly,) two square posts B, B, Figs. 1, 2, connected at the top by being framed into the cross rail C, Figs. 1, 2. These posts, have tongues or fillets *a, a*, on opposite sides; between these posts I place a framed gate D, having grooves in sides to match tongues *a, a*, on which it moves up or down by means of the iron screw *b*, and crank, *c*, attached to top rail, C. This screw acts upon iron nuts *x* inserted in cross rails D, D.

To the sides of gate D, are secured two peculiarly shaped, circular, iron adjusting plates E, E, Figs. 1, 2. In each plate, and at a short distance from periphery is a narrow, semicircular slot, *d*, Fig. 1, and at the center or radiating point of the circular part of plate, is a circular opening, *e*, Fig. 1, to receive a short iron axle which projects from the center of plate, *f*, Figs. 1, 3. I also construct of hard wood, of suitable dimensions, a framed way F, F, Figs. 1, 3, of any convenient length, but of a width to fit and work easily between the adjusting plates attached to sliding gate, D,

Figs. 1, 2, 3, on the sides of this way frame, and at a distance from and equal to the projection, of adjusting plates E, E from sides of gate D, D. Fig. 1, is secured two other, iron (circular) plates, *f, f*, made to coincide precisely with the circular part, of adjusting plates E, E. These plates, have at their centers, projecting axles to revolve in opening, *e*, of plates, E, E, and also projecting screw-bolts to traverse in the slots, *d*, of plates, E, E. By means of these axles and screw-bolts, this way frame is attached to gate, D. Between the sides of this way frame, by means of tongues and grooves (on which it moves) I place a framed carriage G, G. On the underside of this carriage is a rack H, acted upon by pinion K, (Fig. 1) placed on a shaft suspended in iron brackets, and revolved by hand-crank, I, (Figs. 1, 2.) On this carriage, G, G, in proper boxes and head-blocks, is placed longitudinally an iron shaft, L, having at one end, an enlarged cylinder, *h*, to receive the auger, T, and having at the other end a bevel pinion, M, which meshing with the bevel breast-wheel, N, is made to revolve by means of the hand crank, P, (Fig. 1.) On one side of the way frame is an iron band, R, movable on the same. This band may be secured at any point by tightening the thumb-screw S by means of this gage band the auger carriage is stopped and the depth of the hole to be made by auger determined. In the ends of the sides of way are points of iron which enter the material to be bored and prevents the way frame shifting position during the operation of boring.

To use my machine, the perpendicular frame is placed on a firm bench or stand opposite the point to be bored, having previously placed and secured in the auger stock, *h*, (Figs. 1, 2,) the proper size auger, the operator then elevates or depresses the way frame, F, to the desired angle at which the hole is to be made, and then secured in position by tightening the nuts, *g, g*, so as to prevent the adjusting plates moving. The auger carriage is then pushed forward by means of the crank, I, which causes the pinion K to act upon the rack, H, advancing the carriage until the gimblet point, *l*, of auger takes hold in the wood to be bored. The hand crank P on both sides of way is then revolved which communicates motion to auger, the gimblet point of auger draw-

ing the auger into wood, until the carriage is stopped by gage band, R. The auger carriage is drawn back by rack and pinion H, K.

5 I do not claim as my invention any of the mechanical appliances which I make use of in my machine as they are all well known and used in various ways; but

What I do claim as my invention and

which I desire to secure by Letters Patent 10 is—

The arrangement of those mechanical appliances in a peculiar manner, for a new and useful purpose, as substantially set forth.

J. WAUGH.

Witnesses:

C. CARPENTER,

T. S. SPAULDING.