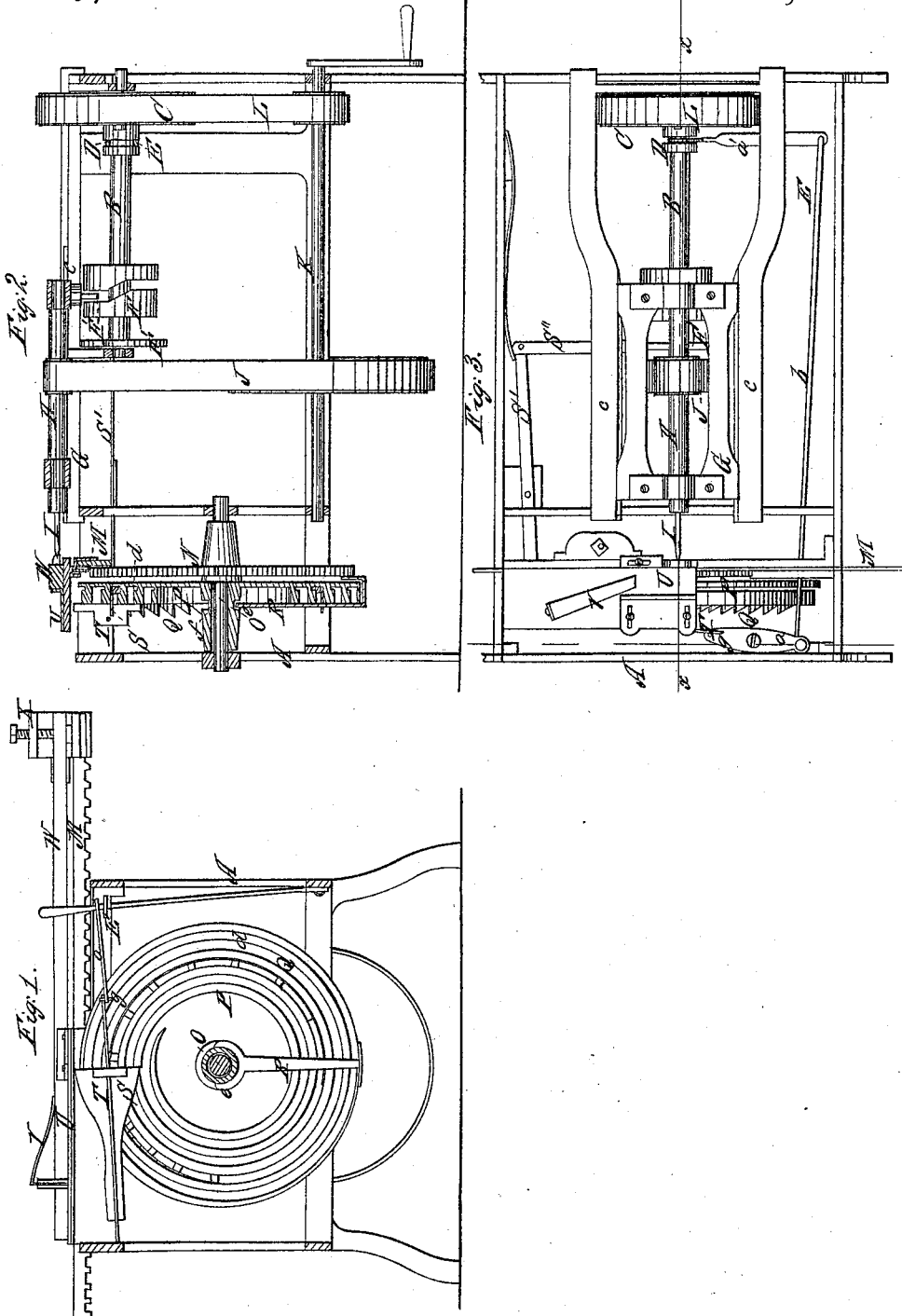


*J. H. Gibbs,*  
*Boring Blinds.*

*N<sup>o</sup> 52,409.*

*Patented Feb. 6, 1866.*



*Witnesses:*

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# UNITED STATES PATENT OFFICE.

JOSIAH H. GIBBS, OF GRAND RAPIDS, MICHIGAN.

## IMPROVEMENT IN MACHINES FOR BORING BLINDS.

Specification forming part of Letters Patent No. 52,409, dated February 6, 1866.

*To all whom it may concern:*

Be it known that I, JOSIAH H. GIBBS, of Grand Rapids, in the county of Kent and State of Michigan, have invented a new and Improved Machine for Boring Blinds and other Articles, and for Spacing Articles Generally; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a transverse vertical section of my invention, taken in the line *x x*, Fig. 3; Fig. 2, a longitudinal vertical section of the same, taken in the line *y y*, Fig. 3; Fig. 3, a plan or top view of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved machine for boring blinds, and also for boring articles for mortising, and any article which requires to be bored at certain distances apart, or for spacing articles for other purposes.

The invention consists in a new and improved means for spacing or regulating the distance between the holes so that the wood may be bored accurately, as may be required. This means consists of a scroll-cam with a curved rack fitted therein and arranged with a dog, toothed wheel, and a sliding rack, as herein-after fully shown and described, whereby the stick or wood to be bored may, with the greatest facility, be adjusted or moved relatively with the auger or bit, so that the work may be done in an accurate and perfect manner.

A represents a framing, which may be constructed in any proper manner to support the working-parts, and B is a shaft placed horizontally in the upper part of the framing A, and having a pulley, C, placed loosely upon it, said pulley being connected with the shaft, when desired, by means of a clutch, D, which is operated by a shipper, E, composed of two levers, *a a'*, connected by a rod, *b*. (Shown clearly in Fig. 3.) This shaft B has a cam, F, upon it, in which a pendent pin, F', attached to a sliding frame, G, works, said frame working on guides *c c* on the framing A. This frame G has a shaft, H, placed longitudinally in it, an auger or bit, I, being in one end of said shaft, and the shaft is rotated by a belt, J, from a driving-shaft, K, in the lower part of

the framing A. The pulley C is also rotated by a belt, L, from said shaft.

From the above description it will be seen that by turning the shaft K a rotary motion will be given the shaft H, and also the auger or bit, and a reciprocating motion given the frame G when the pulley C is connected with the shaft H, the latter movement being produced by the cam F and pin F', and feeding the auger or bit to its work and withdrawing it therefrom.

M is a sliding rack, fitted transversely on the framing A near the end of the auger or bit I, and gearing into a toothed wheel, N, on a shaft, O. On this same shaft O there is placed loosely a cam, P, composed of a wheel having a spiral groove, *d*, in its outer side, in which a curved rack, Q, is fitted loosely, (see more particularly Fig. 1,) and a cam, F', is also placed on said shaft, to act against a bar, S'', connected with a lever, S'.

To the wheel N an arm, R, is attached, said arm passing around the edge of the cam P, and having a fork, *e*, at its end, which fits in a groove, *f*, in the hub of the cam P. This arm fits in a notch of the rack Q, and connects the latter with the toothed wheel N, so that when the wheel N is turned by sliding the rack M, the rack Q will be moved in the cam.

S is a dog, one end of which is connected by a joint to lever S' and the opposite end made to engage with the rack Q by means of a spring, T. The end of the dog S which engages with the rack M is of considerable depth, as shown in Fig. 1, and the spring T, which keeps the dog engaged with the rack, projects through the end of the dog S and extends past a pin, *g*, on the lever *a* of the shipper E.

On the framing A there is placed a bed-plate, U, one end of said bed-plate being near the end of the auger or bit, and having a spring, V, upon it, which serves as a clamp to keep the stick W to be bored down on the bed-plate, the opposite end of said stick being secured to the end of the sliding rack M by a screw, X. (Shown in Fig. 1.)

The operation of the device will be readily seen. The stick W is fed to the auger or bit by means of the sliding rack M, the distance of the movement being regulated by the dog S and the rack Q, the former being moved by the lever S' and bar S'', acted upon by cam F', wheel N and arm R also moving, and the

cam P turning with them by friction, and the rack M moving or feeding the stick. The sliding rack M, in moving in the direction indicated by the arrow, Fig. 3, will feed the stick W the distance of one tooth of the rack Q each time the auger or bit is being drawn back from the stick. The length of the spaces between the auger or bit holes may be varied with the greatest facility by simply changing the position of the rack Q in the spiral groove *d* of the cam P, which may be readily done by turning the cam P, which will cause the rack Q to approach or recede from the center of the cam. The nearer the rack Q is to the periphery of the cam P, the shorter the spaces will be between the auger or bit holes, the spaces being increased in length by adjusting the rack toward the center of the cam-wheel. In turning the cam-wheel for this adjustment of the rack Q, the wheel N and arm R are, of course, stationary, the cam-wheel, it being understood, is placed loosely on the shaft of wheel N.

The whole arrangement is extremely simple and efficient and admits of the auger or bit holes being bored at a greater or less distance apart, as may be desired, and the changes made with the greatest facility.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The cam P, formed of a spiral groove made in the side of a wheel, in connection with the rack Q, fitted in said groove, the toothed wheel N, arm R, connected with the rack Q, and the sliding rack M, all arranged, in connection with an auger or bit or other tool, to operate in the manner substantially as and for the purpose set forth.

JOSIAH H. GIBBS.

Witnesses:

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