

(No Model.)

J. S. REID.

HUB BLOCK BORING MACHINE.

No. 255,670.

Patented Mar. 28, 1882.

Fig. 2.

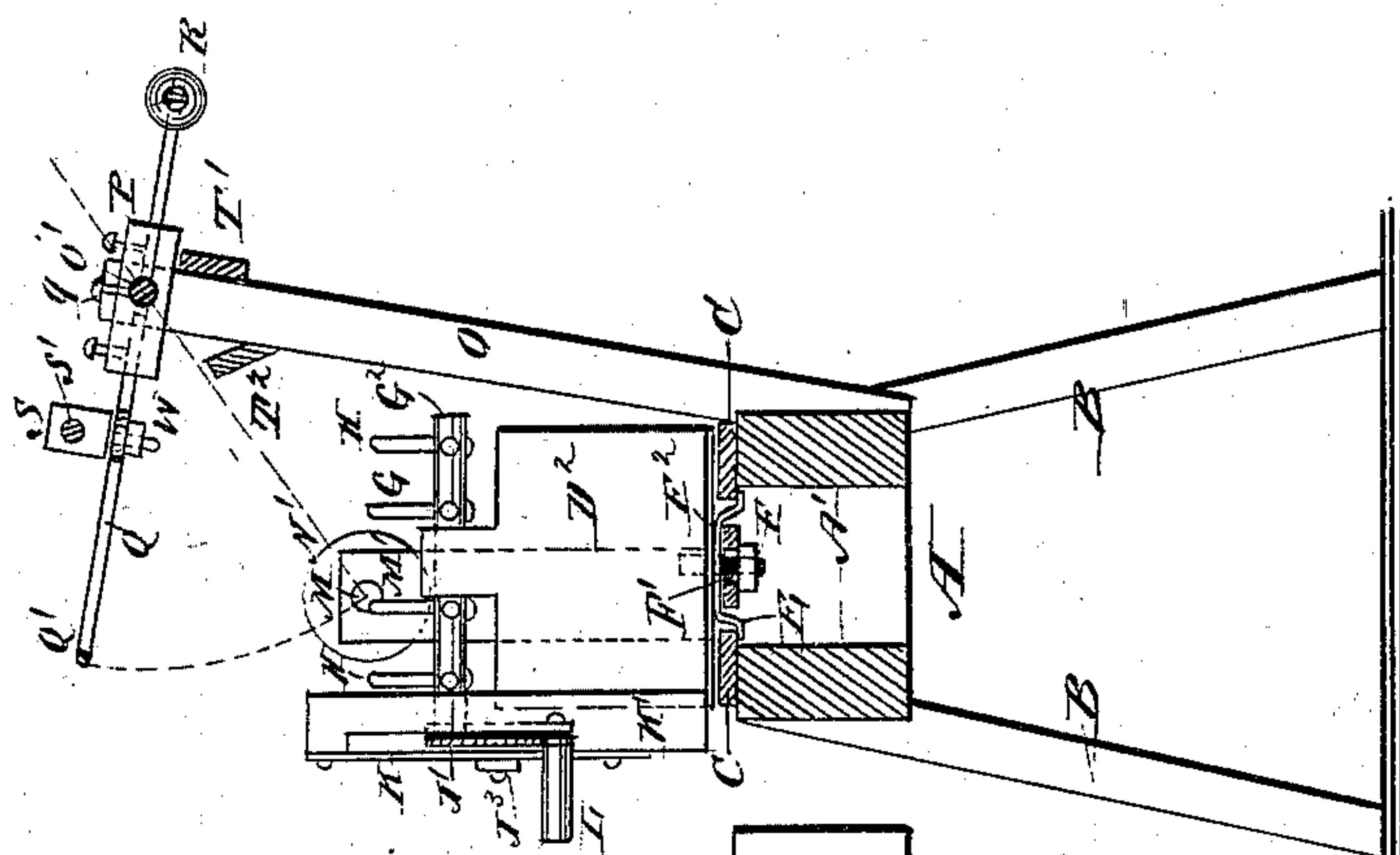
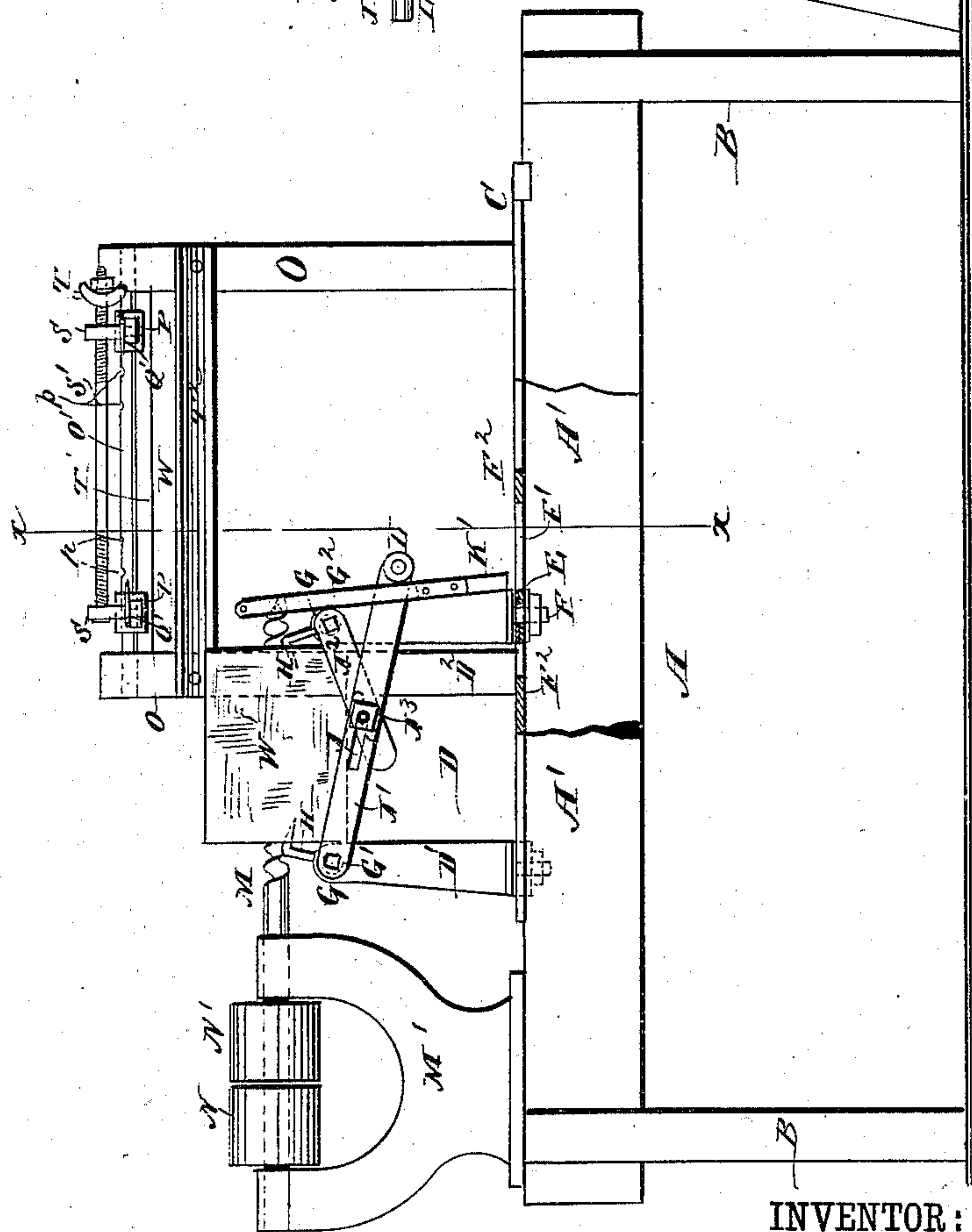


Fig. 1.



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# UNITED STATES PATENT OFFICE.

JOHN S. REID, OF MUNCIE, INDIANA.

## HUB-BLOCK-BORING MACHINE.

SPECIFICATION forming part of Letters Patent No. 255,670, dated March 28, 1882.

Application filed January 11, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN SPERETTE REID, of Muncie, in the county of Delaware and State of Indiana, have invented a new and Improved Hub-Block-Boring Machine, of which the following is a full, clear, and exact description.

The object of my invention is to facilitate boring the apertures of hub-blocks directly on the pith-line of these blocks.

10 The invention consists in a frame carrying a sliding block-holder provided with dogs operated by handle-arms for pressing the dogs into the ends of the block, which is adjusted into the proper position by means of a swinging frame provided at the ends with pith-points, 15 which are forced into the pith in the ends of the block. When this adjusting-frame holding the block in the pith at the ends is lowered the pith-line will be on a level with the longitudinal axis of the auger, and if the block is 20 now seized by the block-holder (the pith-points having been removed) and moved toward the auger this auger will bore an aperture through the block on the pith-line of the same.

25 Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

30 Figure 1 is a longitudinal elevation of my improved boring-machine, parts being shown broken out and in section and the carriage holding a block. Fig. 2 is a cross-sectional elevation of the same on the line *xx*, Fig. 1, the block being removed from the carriage.

35 The longitudinal frame A is formed of two beams, A' A', resting on legs B, and on the upper longitudinal edge of each beam A' A' a track-plate, C, is fastened, which overlaps the beam on the inner side. A block holding or clamping and carrying frame or carriage, D, 40 is formed of two plates or frames, D' D<sup>2</sup>, resting transversely on the track-plates C, and held to the same so as to be adapted to slide on these track-plates by clips E projecting under the inner edges of these track-plates, and 45 held to the bottoms of the frames D' D<sup>2</sup> by screw-bolts F, passing through the longitudinal slots F' of a plate, F<sup>2</sup>, connecting the frames D' D<sup>2</sup>. Each frame D' D<sup>2</sup> is provided with a 50 block clamping or holding dog, G, formed of a shaft, G' or G<sup>2</sup>, journaled parallel with the

frame in the top of the same, and provided with a series of upwardly-projecting hooks, H, the hooks of one shaft, G', projecting toward the opposite shaft, G<sup>2</sup>—that is, the points of 55 the hooks face each other. The shaft G' has a flat arm, J', attached to one end, which arm is provided at or near the middle with a longitudinal slot, J, and at the outer or free end with a handle, L. This outer or handle end of 60 the arm J' projects beyond the other frame, D<sup>2</sup>, and is guided in a vertical slot, K, near the outer edge of a standard, K', at the outer end of the frame D<sup>2</sup>.

An arm, J<sup>2</sup>, is attached to the shaft G<sup>2</sup> of 65 the frame D<sup>2</sup>, and a pintle passes through the slot J of the arm J' and through the slot of the arm J<sup>2</sup>, and has a nut, J<sup>3</sup>, screwed in its outer end to prevent it from leaving the slots. The shafts G' G<sup>2</sup> are thus connected, and if the 70 handle L of the arm J' is lowered the hooks H will be moved toward each other, and if the handle is raised the hooks will be moved from each other. An auger, M, is journaled in a standard, M', on the frame A, on which auger 75 a fixed belt-pulley, N', and a loose belt-pulley, N<sup>2</sup>, are mounted. The auger projects parallel with the frame A toward the block-holding carriage D.

Two arms or standards, O O, are attached 80 to that longitudinal side of the frame A opposite the one from which the handle L of the carriage D projects, which arms are connected at their upper ends by a shaft, O'. On this shaft a swinging frame, W, is loosely mounted, 85 consisting of two sliding blocks, P, being adapted to slide on the shaft. The shaft O' is provided with a series of notches or recesses, *p*, for receiving the ends of locking screws or pins *q* of the bearing-blocks P for locking these 90 blocks in various positions, according to the size of the blocks to be bored.

In each block P a rod or arm, Q, which I name "pith-arms," is securely fastened, which rods extend in a direction transversely over 95 the frame A, and each has a hook, Q', which I name "pith-points," at its outer end, which hooks project toward each other. A counterweight, R, is mounted on each rod Q, that is beyond the bearing-blocks P. The arms Q are 100 each provided with a fixed screw-nut, S, into which the oppositely-threaded ends of a rod,



S', connecting the arms Q, pass. On one of the threaded ends of the rod S' a winged nut, T, is secured. The arms or standards O are connected on the outer sides, or side toward the weights, by a slat or strip, T', upon which the outer ends of the journal-blocks P rest when the weights R hold the arms Q in a raised position, and on the inner sides the standards O are connected by a beveled or inclined slat, T<sup>2</sup>, upon which the arms Q rest when a block is held by the hooks at the ends of these arms. The length of the arms Q from the shaft O' to the hooked ends is such that when these arms are inclined downward—that is, when the journal-blocks P rest on the inclined rail T<sup>2</sup>—a line drawn longitudinally through the hooks Q' will coincide with the longitudinal central axis of the auger M.

The operation is as follows: Hubs are generally made of elm-wood, and it is necessary that the central longitudinal aperture of the hub be on the pith-line of the block—that is, the center of the auger should enter the block at the pith-center at one end of the block and come out at the pith-center at the opposite end of the block—to prevent cracking in seasoning. To obtain this result one of the pith-points Q is placed in the pith at the front end of the block W', the pith-arms Q Q having been separated by means of the winged nut T, and the pith-point of the other pith-arm Q is placed in the pith at the rear end of the block, and then the two pith-arms Q Q are brought together by turning the winged nut T in the inverse direction, and the pith-points will be forced into the pith of the block at the ends of the same. The inner ends of the blocks P now rest on the inclined slat T<sup>2</sup> and are inclined downward, as shown in dotted lines in Fig. 2, and the pith-line of the block W' will be on the line of the longitudinal axis of the auger M. The carriage D is then so adjusted that the frames D' and D<sup>2</sup> will be at each end of the block W'. Then the hooks H are forced into the ends of the block by pressing the handle L downward, whereby the block W' will be grasped firmly by the dogs. The pith-points are then withdrawn from the block W' by reverse motion of winged nut T, and the weights R will swing the arms Q upward, as shown in Fig. 2. The carriage D is then pushed toward the point of the auger, which enters the front of the block and bores into it. The aperture made in the block by the auger will be exactly on the pith-line of the block.

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

1. In a boring-machine, the combination, with a clamping frame or carriage, of a swing-frame provided with pith-points adapted to be forced into pith in the ends of the blocks to be bored, substantially as herein shown and described, whereby provision is made for so adjusting the block that the auger will bore through the pith-line of the said block, as set forth.

2. In a boring-machine, the combination, with the frame A, carrying the sliding block-clamping frame D, of the swinging block-adjusting frame W, substantially as herein shown and described, and for the purpose set forth.

3. In a boring-machine, the combination, with the frame A, carrying sliding frames D' D<sup>2</sup>, provided with dogs G, of the arms J' J<sup>2</sup>, adapted to slide on each other, and of the handle L, attached to the end of the arm J', substantially as herein shown and described, and for the purpose set forth.

4. In a boring-machine, the combination, with the frame A, carrying the sliding frames D' D<sup>2</sup>, provided with dogs G, the arms J' J<sup>2</sup>, adapted to slide on each other, and the handle L on the end of the arm J', of the guide-standard K for guiding the arm J', substantially as herein shown and described, and for the purpose set forth.

5. In a boring-machine, the combination, with the frame A, carrying a sliding block-holder, of the standards O, the swinging frame W, and the strip or rail T<sup>2</sup>, upon which the frame W rests when inclined downward, whereby the pith-points Q' at the end of the frame W will be on a line with the center of the auger M when the frame W is inclined downward as far as the rail or strip T<sup>2</sup> permits, substantially as herein shown and described.

6. In a boring-machine, the combination, with the frame A, carrying a sliding block-holder, D, of the standards O, the swinging frame W, the strips or slats T' T<sup>2</sup>, and the weights R, substantially as herein shown and described, and for the purpose set forth.

7. In a boring-machine, the combination, with the frame A, carrying a sliding block-holder, D, of the standards O, the shaft O', the loose blocks P, and the arms Q, passing into these blocks and provided at the ends with pith-points Q', substantially as herein shown and described, and for the purpose set forth.

8. In a boring-machine, the combination, with the frame A, carrying a sliding block-holder, D, of the standards O, the shaft O', the blocks P, the rods Q, provided at the ends with pith-points Q', the nuts S on the rod S', and the rod S', provided with opposite screw-threads at the ends, substantially as herein shown and described, and for the purpose set forth.

9. In a boring-machine, the combination, with the frame A, carrying a sliding block-holder, D, of the standards O, the shaft O', and the pith-arms Q, being in length from the shaft O' to the pith-points Q' equal to the distance from the shaft O' to the longitudinal axis of the auger, substantially as herein shown and described, and for the purpose set forth.

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Witnesses:

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