

J. EISENMANN.

Machines for Boring Hubs.

No. 138,742.

Patented May 13, 1873.

Fig. I.

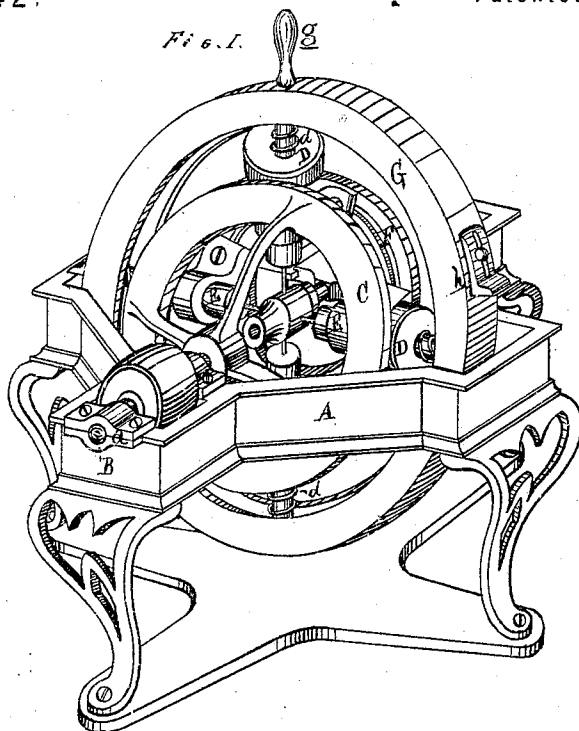


Fig. II.

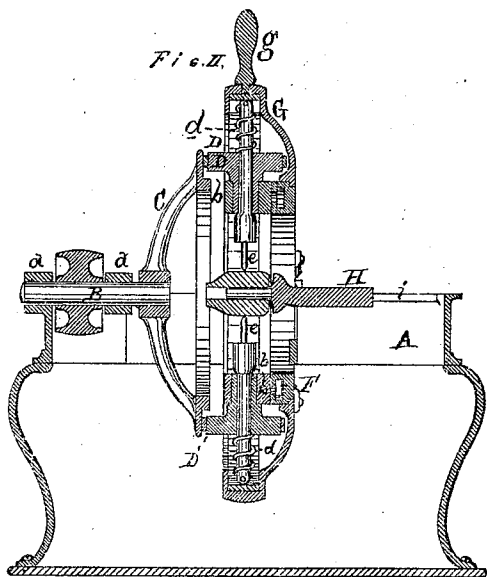
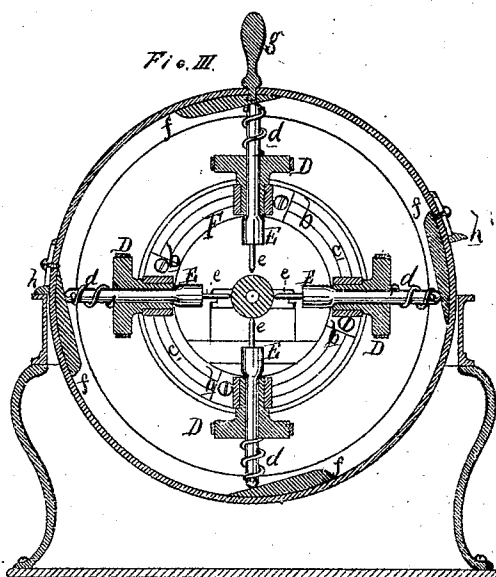


Fig. III.



Attest

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JOHN EISENMANN, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN MACHINES FOR BORING HUBS.

Specification forming part of Letters Patent No. **138,742**, dated May 13, 1873; application filed February 7, 1873.

To all whom it may concern:

Be it known that I, JOHN EISENMANN, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Machines for Boring Hubs, &c.; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, and being a part of this specification, in which—

Figure 1 is a perspective view of my boring-machine. Fig. 2 is a vertical longitudinal section through the center of the machine; and Fig. 3 is a cross-section of the same on the plan of the bits.

Like letters refer to like parts in the several figures.

This invention relates to a machine so constructed that all the radial spoke holes or sockets in a hub may be simultaneously bored to a uniform depth at one movement of the hub-carrier and feed-ring. The invention consists in a cruciform frame having a hub-supporting slide moving in guides at one end, and at the opposite side of the frame a driving-shaft carrying a large friction-pulley giving motion to a series of boring-spindles journaled in a ring attached to the frame perpendicular to the plane of the driving-shaft, said spindles having also a longitudinal movement in their bearings imparted to them by a cam-ring, the whole being arranged to operate as more fully hereinafter set forth.

In the drawing, A represents a cruciform frame, in one end of which a shaft, B, is journaled in bearings *a*, with a driving-pulley secured to it between bearings. At the inner end is a friction-pulley, C, which gives motion to a series of friction-pinions, D, on spindles E radially journaled in boxes *b*, adjustably secured in a circular groove, *c*, in a flange projecting inwardly from a ring, F, secured to the frame axially across the center-line of the driving-shaft. The spindles have their pulleys feathered on them, and a spiral spring, *d*,

coiled around each between its back end and the pulley presses the latter into contact with the friction-pulley *c*, while at the same time the spring retracts the spindle, it having a longitudinal movement therein. To each spindle is attached a bit or auger, *e*. G is a ring moving on the exterior periphery of the ring F, with a series of inclines or cams, *f*, on the inner edge of a flange at its periphery, one cam being provided for each spindle. *g* is a handle at the top, by which it is moved; and *h h* are two stops diametrically opposite each other on its periphery, which stops coming against the frame top arrest its motion, and by adjusting them govern its throw or oscillation.

By moving the cam-ring to the right, from the position shown in Fig. 3, the cams will force the spindles inwardly into a hub or other cylindrical object placed in the axis of the machine. A reverse movement allows the springs to retract the bits and their spindles.

As many spindles may be employed as desired, a cam being provided to force inwardly each one, while the depth of the holes bored by them will be governed by the throw of the cam-ring.

In guides *i i* in the frame, opposite the driving-shaft, slides a rest, H, with an arm or other chuck, for holding the hub or object to be bored in the axis of the driving-shaft.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The cam-ring G provided with the cams *f* for moving inwardly the spindles E, as shown.

2. The construction and arrangement of the frame A, driving-shaft B, friction-gear C, pulleys D, spindles E, springs *d*, ring F, cam-ring G, cams *f*, and stops *h*, substantially as and for the purpose set forth.

JOHN EISENMANN.

Witnesses:

WM. H. LOTZ,
GEO. FERRIS.