A. BASCOM.

Improvement in Hub-Boring Machines.

No. 127,296. Patented May 28, 1872.

Fig. I.

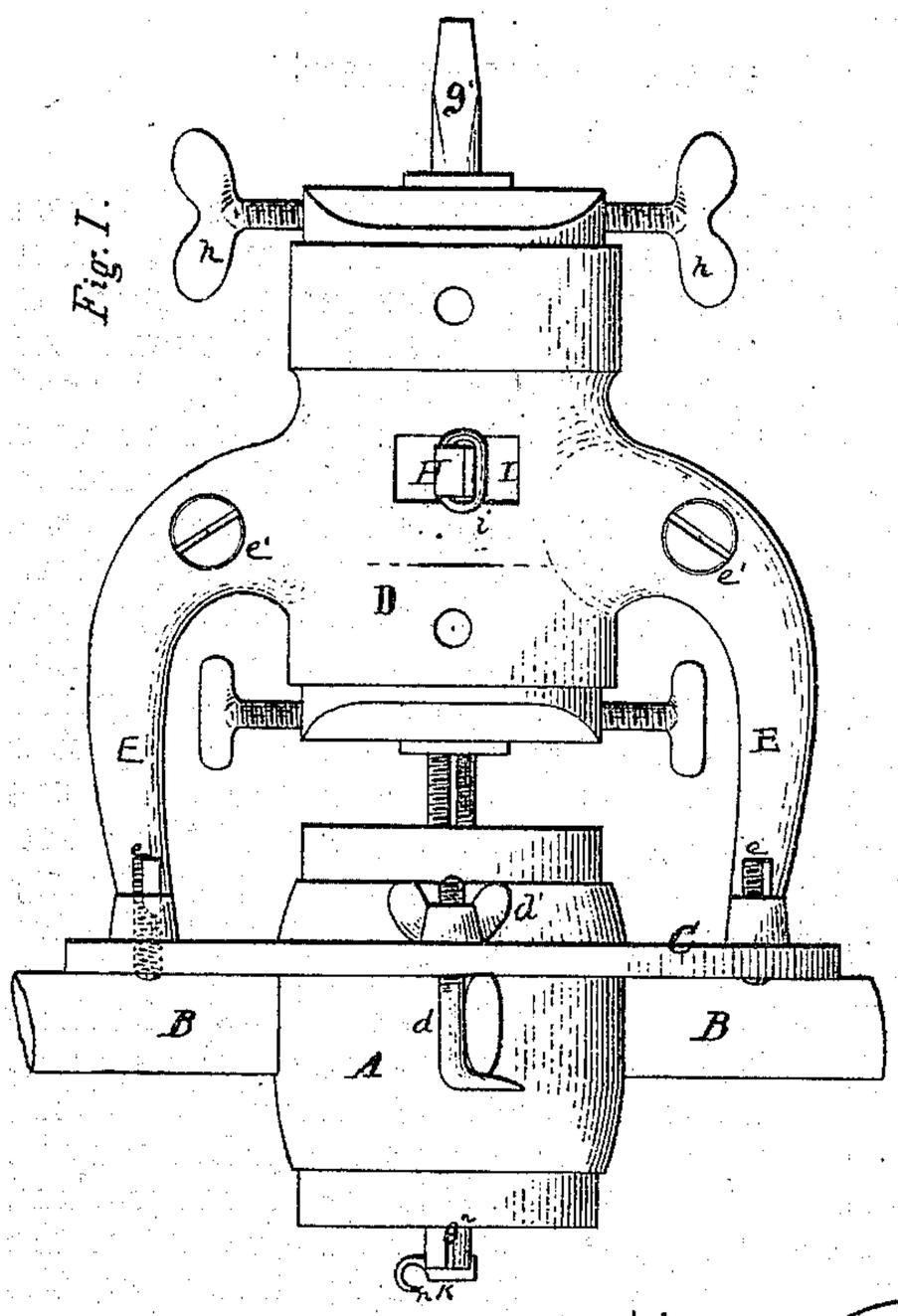


Fig. II.

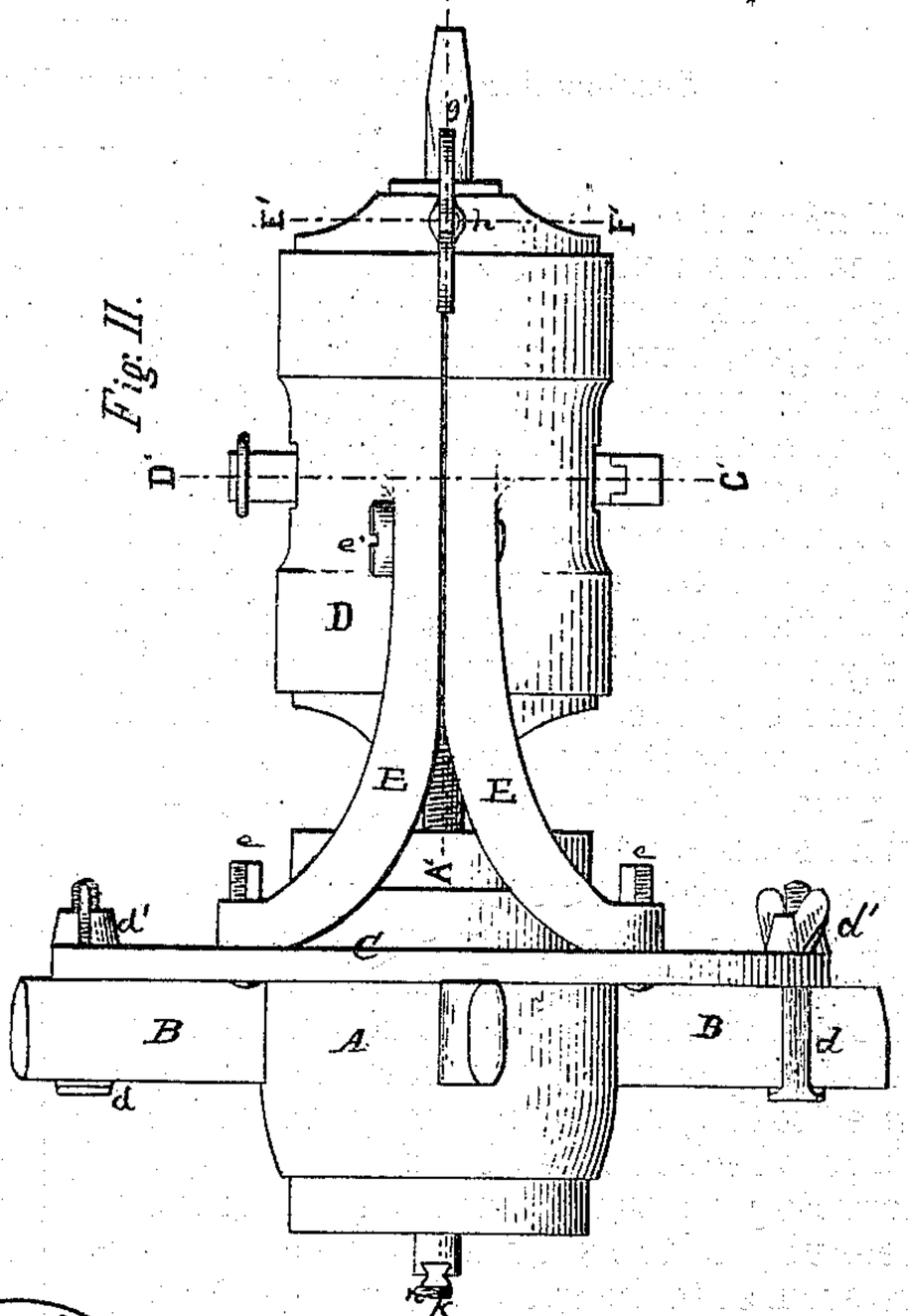


Fig. III.

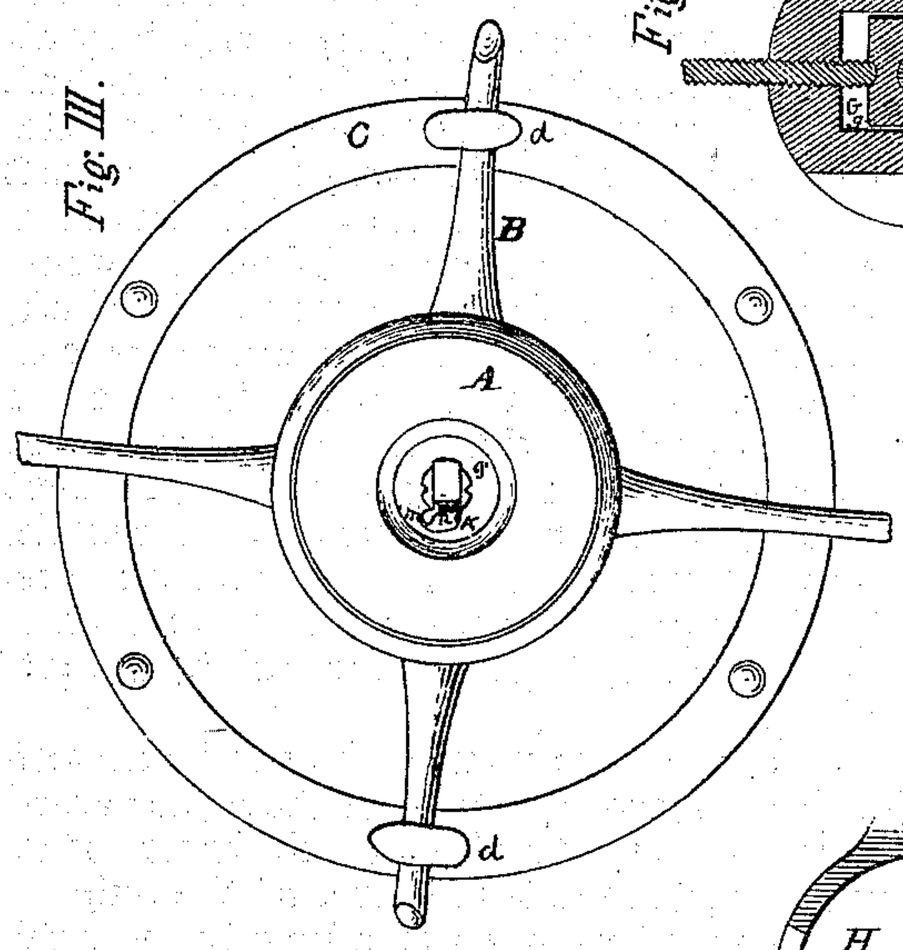


Fig. V.

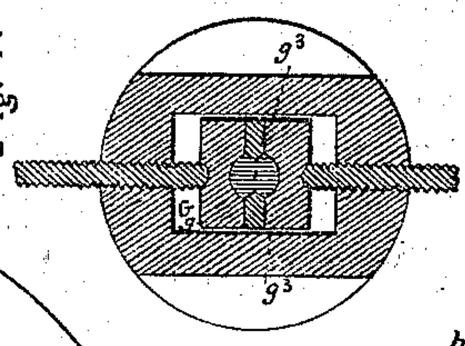


Fig. IV.

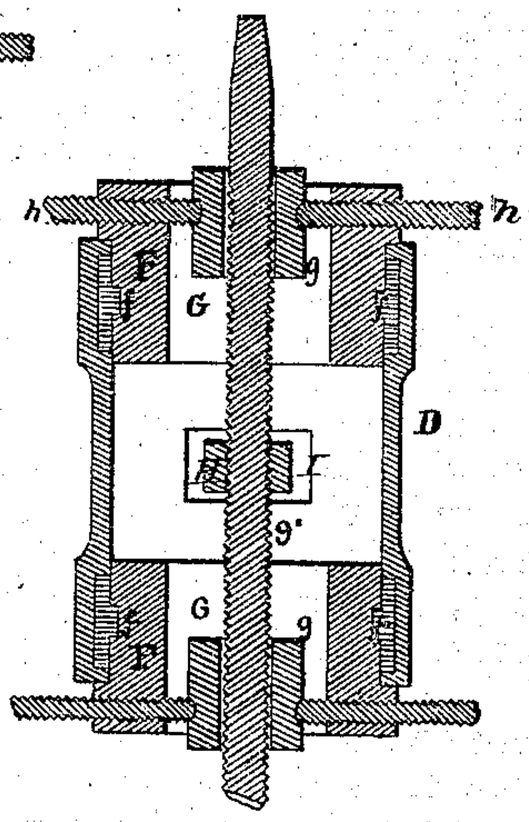
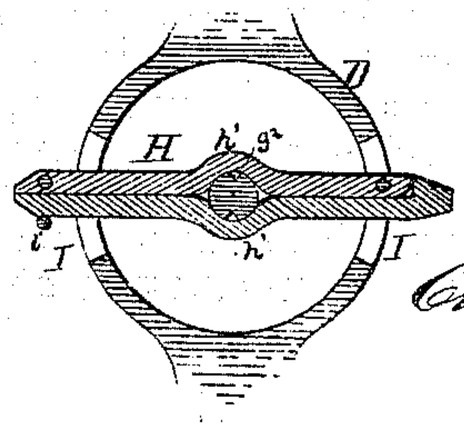


Fig. VI.



WITNESSES

A. D. Faner.

F. B. Curtis

INVENTOR

Austin Bascom

Chipman Thomas & Co

Attys

UNITED STATES PATENT OFFICE.

AUSTIN BASCOM, OF SENECA, MICHIGAN.

IMPROVEMENT IN HUB-BORING MACHINES.

Specification forming part of Letters Patent No. 127,296, dated May 28, 1872.

To all whom it may concern:

Be it known that I, AUSTIN BASCOM, of Seneca, in the county of Lenawee and State of Michigan, have invented a new and valuable Improvement in Hub-Boring Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a side view of my invention. Fig. 2 is an end view. Fig. 3 is a plan view. Fig. 4 is a vertical section on line A′ B′, Fig. 2. Figs. 5 and 6 are sectional views through lines D′ C′ and E′ F′, respectively, shown in Fig. 2.

This invention has relation to hub-boring devices; and consists in the construction and novel arrangement of the parts of a machine adapted to the purpose of boring tapering holes through wheel-hubs, as hereinafter described.

Referring to the drawing, A designates a wheel-hub; B, the spokes; C, a circular face-plate, secured to the spokes by means of clamps *d*, adjusted by the thumb-screws *d′*. D indicates a cylindrical box, made in two semicircular, coinciding parts, each part provided with laterally-projecting arms or braces E, which are bent down toward the face-plate C and secured to it by bolts or screws *e*. The arms on each side of the box D are secured together by means of screws or bolts *e′*. Each end of the box D is furnished with a cap, F, which is grooved around its periphery to receive an internal flange or ridge projecting from the box D at *f* for the purpose of holding it in place while allowing it a rotary motion. In said cap is made a rectangular aperture or mortise, G, which contains a square or cubical block, *g*, through which passes the threaded bit-shaft g^1; said block having a circular hole cut through its center. On opposite sides of said block notches are made to receive, respectively, the ends of right and left hand screws *h*, which pass through the cap F and serve to adjust the block to different positions within the mortise G. Along the shaft g^1 channels g^2 are formed, and entered by the ends of studs g^3 projecting from the sides of the hole through the blocks *g*. By means of said channels and studs the shaft g^1 is prevented from turning independently of the caps F, but is allowed to move lengthwise through them. H designates a pair of hinged jaws, constructed with an internally-threaded opening, formed by spreading the jaws at *h′* to the form of a collar and cutting threads to fit the thread on the bit-shaft, which passes between said jaws, these jaws being extended from a key which traverses the box D and projects through slots I, on opposite sides thereof, as shown. The jaws H being hinged together may be spread apart, when desired. They are locked together by means of a link, *i*, hinged to the end of one and adapted to encircle the end of the other. In one end of the shaft g^1 is cut transversely a dovetailed gain or channel, in which fits the shank of an adjustable cutter-bit, K.

This machine operates as follows: The face-plate C is secured to the outside of the spokes, concentric with the hub and rim of the wheel, in order that the hole through the hub may be bored true. The box D is then arranged, and the shaft g^1 passed through the center of the hub. It is then adjusted by means of the cubes *g*, the relative positions of which regulate the size and shape to which the hole is to be cut. The work is performed either by attaching a handle to the end of the bit-shaft and turning it, while the wheel remains stationary, or by securing the end of the shaft in a socket and turning the wheel. In either case the result is the same. When the wheel is turned the box D revolves around the shaft, moving along it, so that the operation of cutting progresses from the inner to the outer end of the hub, or vice versa. The motion of the shaft when turned, or what is equivalent thereto, the motion of the box D, is eccentric.

The tapering form of the hub-box is the result of the gradual lessening of the radius of the eccentric circle passed through by the cutter-bit.

The caps F revolve with the shaft, and with the blocks *g* govern the size of the circle passed through by the cutter-bit, and the extent of its deviation from the true center of the hub.

In order to form a tapering hole through the hub the cubical blocks *g* must be so arranged that the shaft g^1 shall describe a cone in its movement. But these blocks may be so ad-

justed that the shaft shall describe a cylinder, so that the shoulder for the axle-nut may be cut at the outer end of the hub after the tapering spindle-bearing has been formed.

By the opening of the jaws H the shaft g^1 may be moved along without cutting, so that after cutting the spindle-bearing through the shaft may be moved back to cut the nut-shoulder.

The cutter is in the form of a hook, and cuts with two edges, *n*, both of which are capable of being sharpened on a grindstone when dull.

The box D is made in two halves, so that the caps F may be properly fitted, and so that when their bearings become worn they may be diminished in size by filing the contiguous edges of the semicircular halves of the box.

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

The box D, constructed in two coinciding parts, rotary caps F, adjustable blocks *g*, and adjusting-screws *h*, applied to a hub-boring machine having the cutter-shaft g^1, said parts being combined as shown, and adapted to operate substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

AUSTIN BASCOM.

Witnesses:
A. S. BAKER,
JOHN FULLER.