A. BASCOM.

Hub-Borer.

No. 164,415. Patented June 15, 1875.

Fig. 1

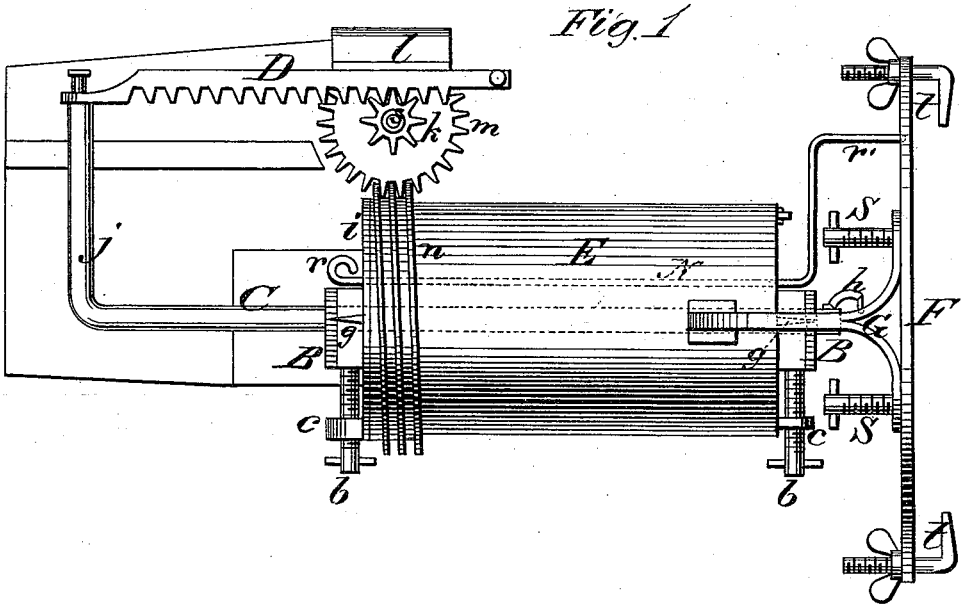
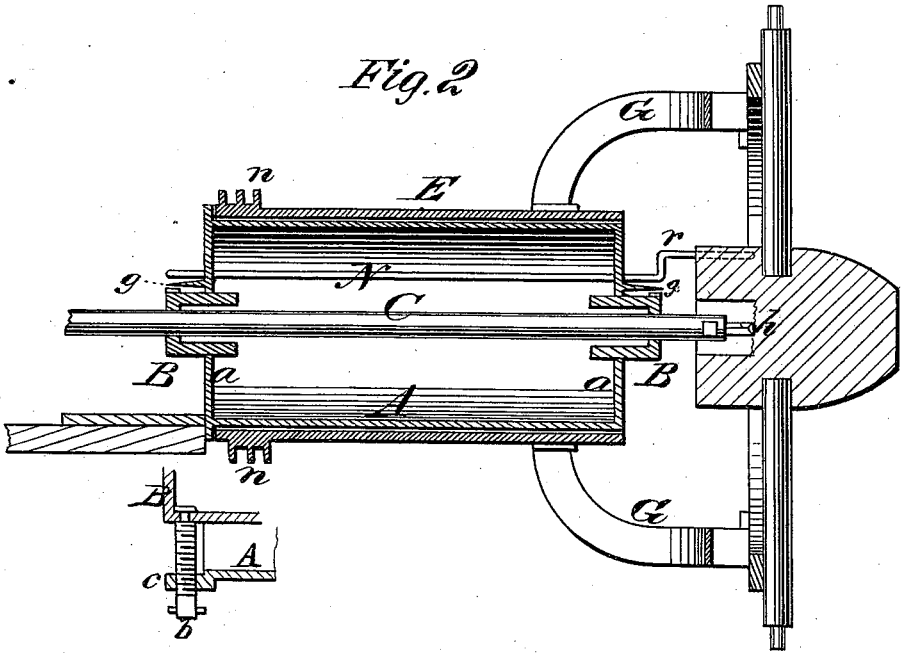


Fig. 2



WITNESSES

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UNITED STATES PATENT OFFICE.

AUSTIN BASCOM, OF NORWALK, OHIO.

IMPROVEMENT IN HUB-BORERS.

Specification forming part of Letters Patent No. **164,415**, dated June 15, 1875; application filed December 12, 1874.

To all whom it may concern:

Be it known that I, AUSTIN BASCOM, of Norwalk, in the county of Huron and State of Ohio, have invented a new and valuable Improvement in Hub-Borers; 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 drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side elevation of my hub-boring machine, and Fig. 2 is a longitudinal vertical sectional view of the same.

This invention has relation to means for boring holes through wheel-hubs; and it consists in a worm-thread on one end of a hollow rotating drum carrying the arms to which an adjustable face-plate is secured, in combination with a large spur-wheel engaging with said thread, a pinion, a spur-wheel, a rack, and a shaft carrying a boring-bit, as will be hereinafter explained. It also consists in adjustable bearings for the bit-shaft, applied in the heads of a fixed drum, around which the drum carrying the face-plate turns, in combination with fixed pointers and gage-marks, and an adjusting-screw for each one of said blocks, as will be hereinafter explained. It also consists in an adjustable wire-gage, in combination with an adjustable face-plate, a stationary drum, and a rotary drum carrying said face-plate, whereby a wheel can be correctly adjusted in the machine, as will be understood from the following explanation.

In the annexed drawings, A designates a stationary hollow drum, having heads *a a*, through which slots are made diametrically, for receiving and guiding two bearings, B, for the bit-shaft C. The bearings B are exposed at each end of the drum A, and are adjustable by means of screws *b b*, which are tapped through ears *c c*, fixed on the heads *a a*, and which turn loosely in the bearings B.

By this mode of applying the screws *b b* I require only one screw at each end of the bearings, and I can adjust the latter so as to give any desired degree of obliquity to the shaft C, according to the taper of the hole to be bored.

On the outer ends of the bearings B gage-marks are made, as shown in Fig. 1, and to each head *a* of the drum A a pointer, *g*, is fixed, by means of which and the said gage-marks the operator can see at a glance the size of the hole which the machine is cutting. The shaft C, which carries a suitable cutter, *h*, on one end, is connected by an angular arm, *j*, to a rack, D, the connection being such as will allow free adjustment of the shaft C with its bearing. The teeth of the rack D engage with the teeth of a pinion spur-wheel, *k*, and the engagement is maintained by a holding-down bracket, *l*, which is pivoted on a stud, *s*. The pinion *k* is fast on the side of a spur-wheel, *m*, which turns loosely on the stud *s*, and which engages with a worm-screw, *n*, which is on one end of a drum, E. The drum E abuts against a flange, *i*, on the drum A, and is free to rotate on this drum. F designates a face-plate, which is a ring of metal secured to the bifurcated ends of arms G G, which arms are rigidly secured to the drum E, diametrically opposite each other. Screws S are used for securing the face-plate F to the arms G, by means of which screws a wheel, which is clamped to this plate by hooks and nuts *t*, can be properly centered and truly adjusted. To indicate when a wheel is truly set in the machine I use a gage-rod, N, which has a loop, *r*, on one end, and a crank, *r'*, on the opposite end. This rod passes loosely through the heads *a a* of the stationary drum A, and by turning it about its axis, the cranked end can be made to approach or recede from the longitudinal axis of the drum A.

After a wheel is secured to the face-plate and the shaft C is properly adjusted, the boring is accomplished by rotating the drum E and its face-plate. The feeding of the cutter up to the work is performed by the gearing above described.

By simply detaching the rack-bar D from its pinion *k*, the cutter-shaft C can be drawn quickly back for commencing another stroke.

What I claim as new is—

1. The hollow rotary drum E, carrying arms G and adjustable plate F, and having a

worm-thread, *n*, on it, in combination with wheels *m k*, rack D, and cutter-carrying shaft C, substantially as and for the purposes described.

2. The stationary drum A, having pointers *g g*, and adjustable bearings B B, in combination with the rotary drum E, having face plate F and screws S, substantially as and for the purpose set forth.

3. The gage-rod N, formed as described, and combined with the machine, constructed as set forth.

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

AUSTIN BASCOM.

Witnesses:
H. C. BURWELL,
JAMES DOUGHERTY.