

W. S. OWEN.
Hub-Boring Machines.

No. 145,894.

Patented Dec. 23, 1873.

Fig. 1.

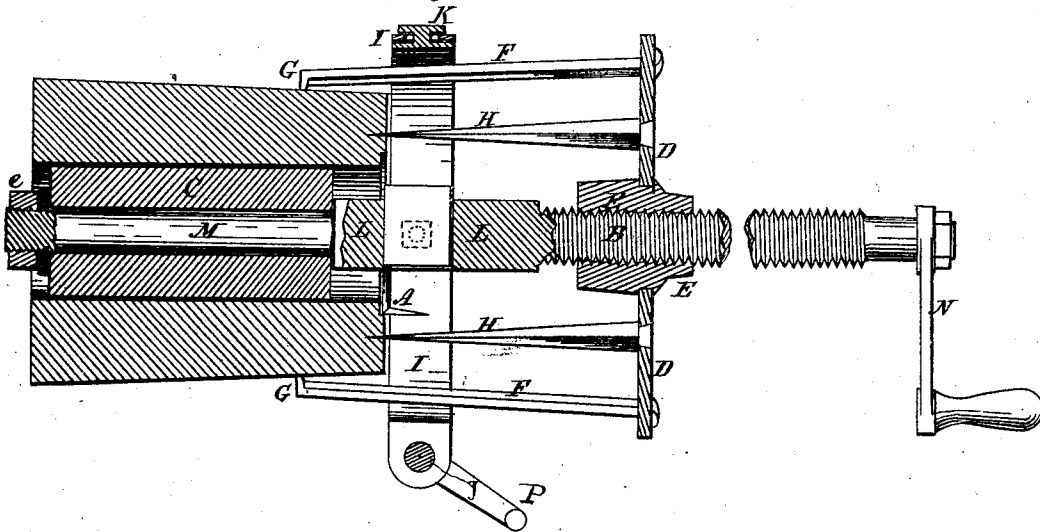
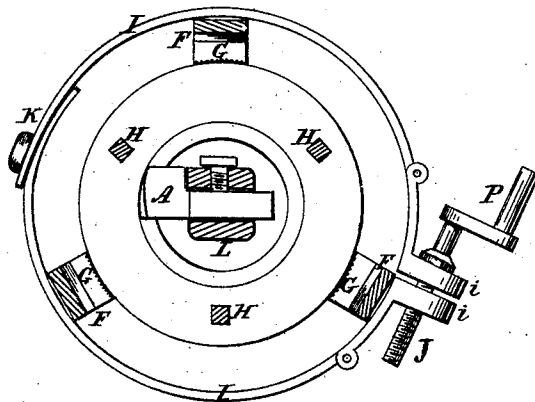


Fig. 2.



Witnesses:
West Wagner,
J. R. Rutherford.

Inventor,
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By Johnson & Johnson
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UNITED STATES PATENT OFFICE.

WILLIAM S. OWEN, OF OSKALOOSA, IOWA.

IMPROVEMENT IN HUB-BORING MACHINES.

Specification forming part of Letters Patent No. **145,894**, dated December 23, 1873; application filed December 3, 1873.

To all whom it may concern:

Be it known that I, WILLIAM S. OWEN, of Oskaloosa, in the county of Mahaska and State of Iowa, have invented a new and useful Improvement in Hub-Boring Machines, &c., of which the following is a specification:

My invention relates to devices for reaming pump-stocks and wagon-hubs which have been already bored; and my improvement consists of an adjustable holding and centering frame for the reaming-tool and to clamp it in position for use, as will be hereinafter described and shown.

In the accompanying drawings, Figure 1 represents a section of a reaming device embracing my invention, and Fig. 2 a cross-section.

The cutter A is the ordinary right-angled reamer, carried by a screw-stem, B, one end of which passes through and is centered by a plug-core, C, fitted within the bore to be reamed; and the other end passes through a center plate, D, which has a center screw-nut, E, to receive the screw-stem B, by which the cutter is revolved and fed. The plate D of the screw-stem is secured to the work by three arms, F, hinged to the plate, and having dogs G at their free ends to be driven or pressed into the cylindrical end of the thing to be reamed, while the said plate is centered by three points, H, projecting therefrom into the end of the stock or hub, centrally with the bore, and which also serve as braces against the action of the cutter. The dogs G are held and clamped upon the surface by an encompassing-clasp, I, drawn together over the dogs by a shouldered screw, J, passing through hinged ends of the clasp, and having a crank-handle, P, by which to clamp the clasp and

press the dogs to a firm hold upon the work. This clasp I has an extensible joint, K, to adapt it for work of different diameters. The cutter-stock L has a plain cylindrical shank, M, upon which the center core C is secured, between the cutter-stock L and a nut, e, on the inner end of said shank. By this arrangement the shank M turns freely in the core C, while the latter has only a movement lengthwise of the bore, as the cutter is fed in by the screw, which is operated by a crank-handle, N. In this way the screw is centered, the ream is cut, and the dogs hold the device firmly in position. The center points H give support against the resistance to the turning of the cutter, and the dogs G hold against the feeding resistance of the screw.

In operating, the core C is inserted into the bore, the points H centered and driven into the end of the pump-stock or hub, the dogs G made to bite firmly into the sides by the hinged clasp I, and clamped; the screw-stem B is then turned, and the cutter makes the ream of the proper depth and diameter, being adjustable for the purpose, and the extensible clasp and the hinged dogs fitting different diameters of work.

I claim—

In a hub-boring machine, the center plate D, having the fixed centering and holding points H, hinged dogs G, and extensible clasp I, in combination with the cutter screw-stem B, as and for use as described.

W. S. OWEN.

Witnesses:

JOHN VANCE,
J. M. LOUGHRIDGE.