

P. H. WILMS.  
BORING MACHINE.

No. 180,976.

Patented Aug. 8, 1876.

Fig 1

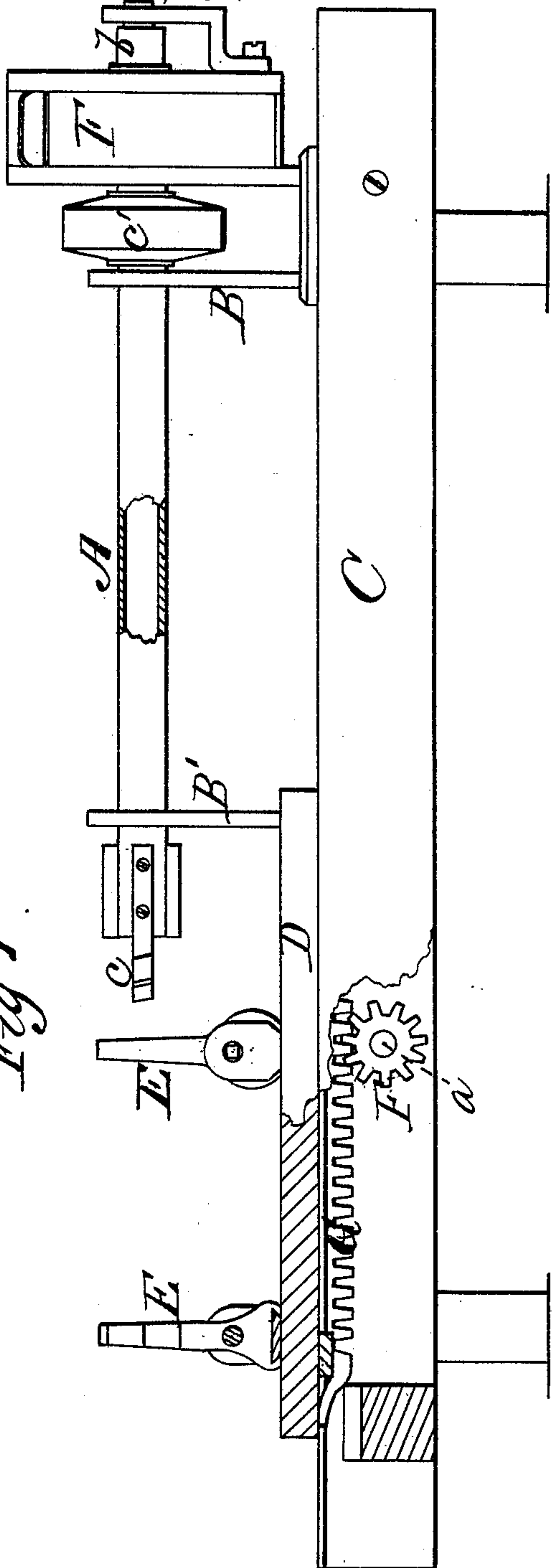
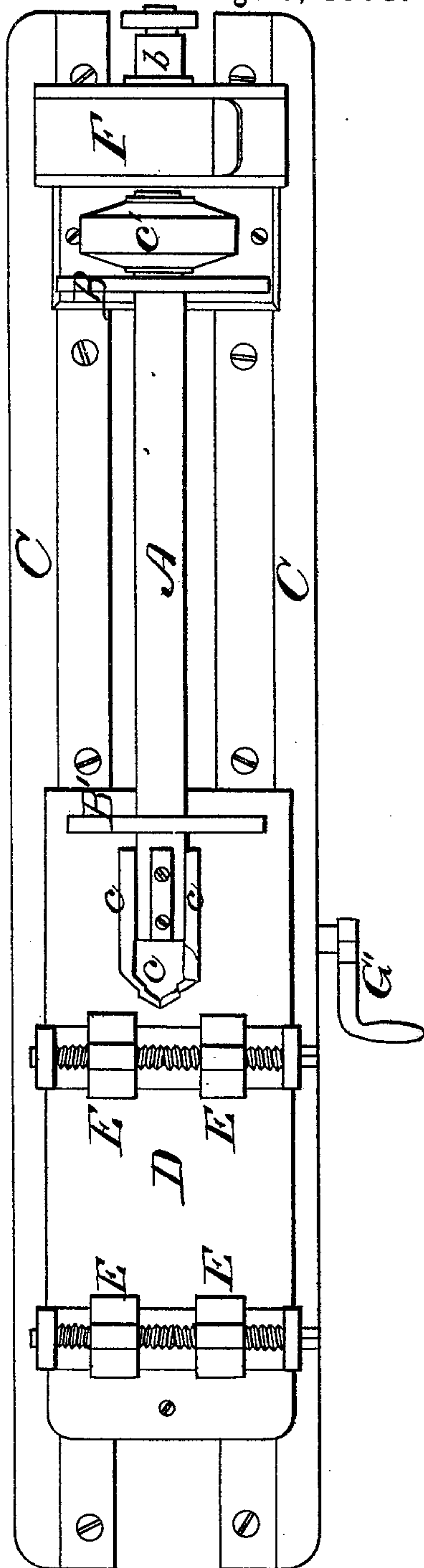


Fig 2



WITNESSES

Eng. W. Johnson  
Francis J. Clasi

INVENTOR

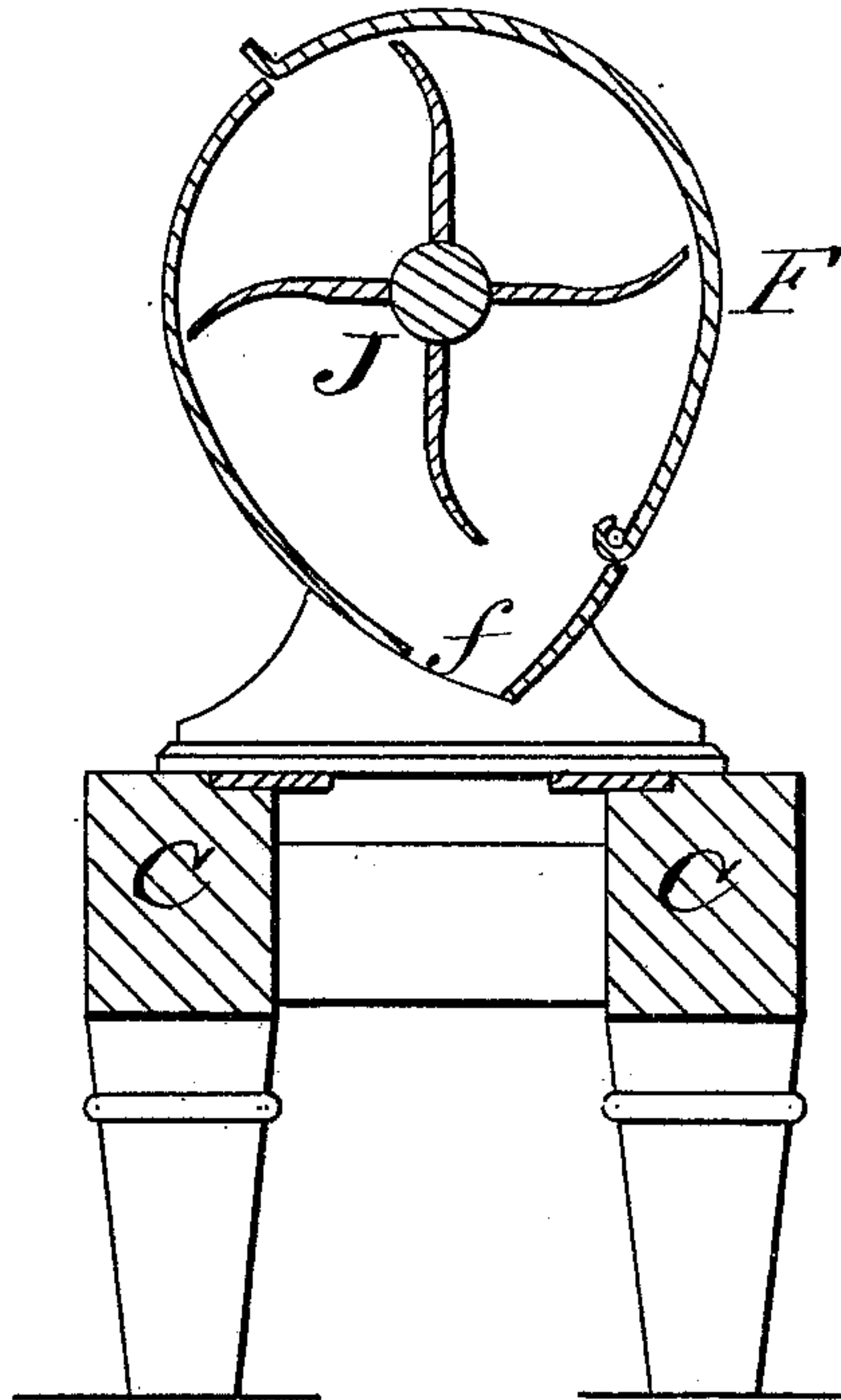
Pete. H. Wilms  
Chipman and Fossum & Co  
ATTORNEYS

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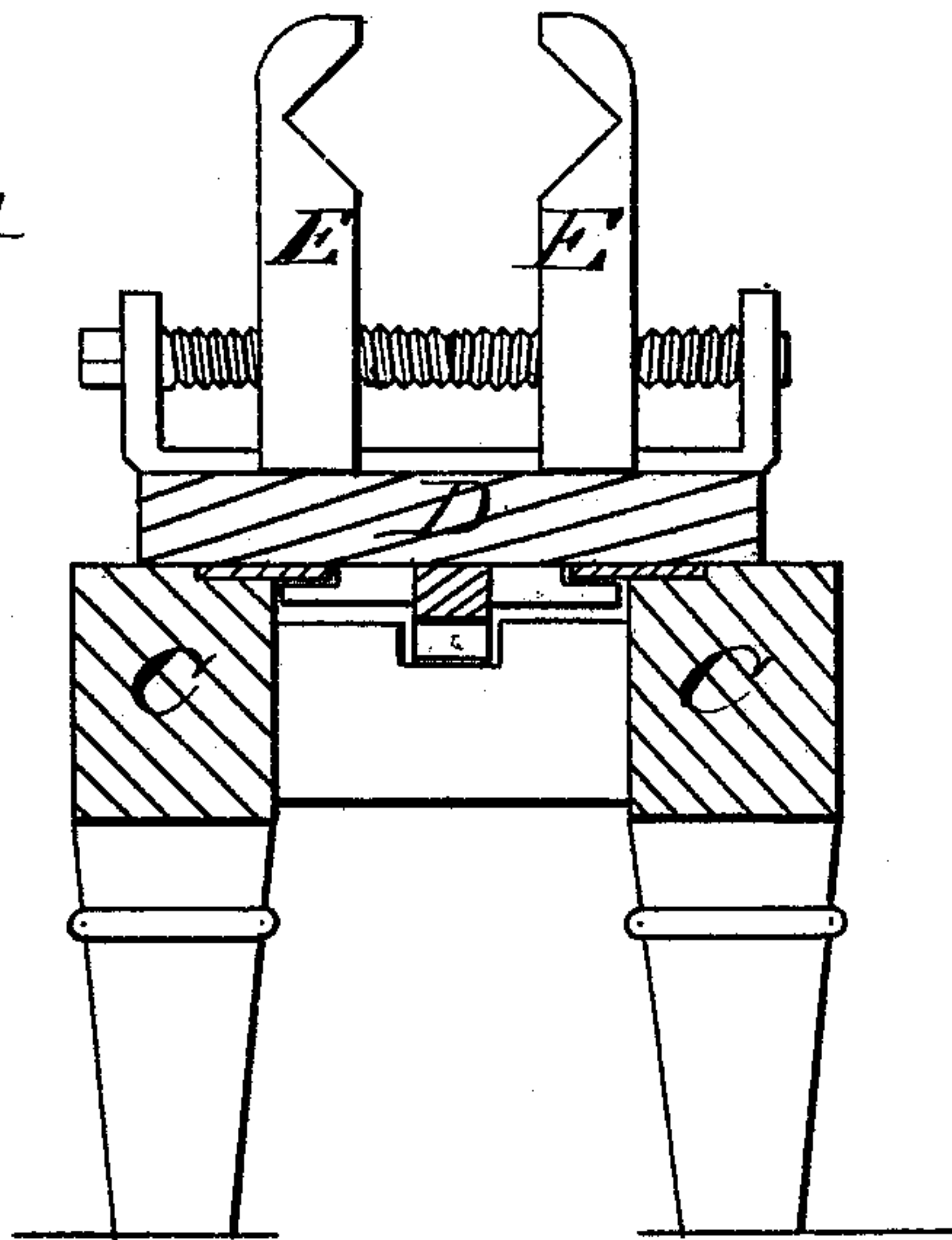
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*Fig 3*



*Fig 4*



WITNESSES

*Eng W Johnson*  
*Francis J. Chasi*

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# UNITED STATES PATENT OFFICE.

PETER H. WILMS, OF HOLLAND, MICHIGAN.

## IMPROVEMENT IN BORING-MACHINES.

Specification forming part of Letters Patent No. **180,976**, dated August 8, 1876; application filed May 28, 1875.

*To all whom it may concern:*

Be it known that I, PETER H. WILMS, of Holland, in the county of Ottawa and State of Michigan, have invented a new and valuable Improvement in 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 drawings, 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, part sectional, of my machine; and Fig. 2 is a plan view of the same. Figs. 3 and 4 are vertical transverse sectional views.

This invention has relation to improvements in augers which are especially adapted for the manufacture of wooden-pump or other tubing; and the novelty consists in the construction and arrangement of the parts, as will be hereinafter more fully set forth, and pointed out in the claims.

In the annexed drawings, A designates a tubular cylindrical auger, having its bearings in standards B B'. Standard B is permanently secured to a platform, C, while standard B' is rigidly secured to a table, D, having endwise motion to and from standard B in guides upon platform C. Table D carries a suitable number of adjustable clamps, E E, which are designed to seize upon and rigidly hold a log to be bored of any size, and it is approximated to the fixed standard B by means of a pinion, F, on a shaft, *a*, having its bearings in platform C, which pinion engages with a rack-bar, G, upon the under side of table D. When shaft *a* is caused to rotate by means of a suitable crank-arm, G, applied upon its prismatic end, table D, with its clamps E, will be approximated to or moved from the fixed standard B, in relation to which the auger is designed to be immovable, according to the direction of the rotation of shaft *a*; consequently as the log arranged in clamps E E is bored out it may be approximated to the cutting-edge *c* of the auger, so that new surfaces of the log may be presented to the said bit, and so that when the log is bored through it may be retracted from the stationary auger and removed from the clamps. The open rear end of auger A is socketed into one of the walls of a cylindrical casing, F, within which a fan-wheel, J, has its bear-

ings, which wheel is rotated by means of a pulley-wheel, *b*, applied upon its shaft through the medium of an endless belt communicating with a suitable motor. In practice this fan-wheel will be applied upon a shaft independent of auger A, but under certain circumstances I may, if I so elect, apply it upon a continuation of the said auger, extending into and through casing F, when the wheel and auger will be both actuated by means of one and the same endless belt, passing over pulley-wheel *b*. I, however, prefer to operate the auger through the medium of an endless belt communicating with a suitable motor, and passing around a pulley, C', keyed or otherwise suitably secured upon the auger, so that its actuation shall be independent of that of the fan-wheel. When this fan-wheel is caused to rotate rapidly and forcibly a strong current of air will be sucked through the tubular auger, carrying along with it the shavings or proceeds of the boring, which will be received into the casing, and be discharged from the same through an opening or chute, *f*, formed at its lower part, as shown in Fig. 3.

The shavings or cuttings being sucked out of the auger as they are cut, all danger of its bore being clogged is done away with, and the necessity of removing it for the purpose of effecting a clearance is effectually prevented; moreover, the auger, being at all times kept clear, its operation is in no way impeded, and its efficacy and rapidity of operation greatly increased.

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

1. The combination, with a cutter-bit, having a tubular exhausting-shank, A, of a suction-fan, J, and its casing F, for clearing the auger-bit of cuttings by suction, substantially as specified.

2. The combination of a cutting-bit, its tubular exhaust-shank A, a suction-fan, J, and casing F, having chute *f*, substantially as set forth.

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

PETER HINREY WILMS.

Witnesses:

GERRIT VAN SCHELVEN,  
WILLIAM H. ROGERS.