

A. J. FULLAM.
DRILLING APPARATUS.

No. 67,284.

Patented July 30, 1867.

Fig 1

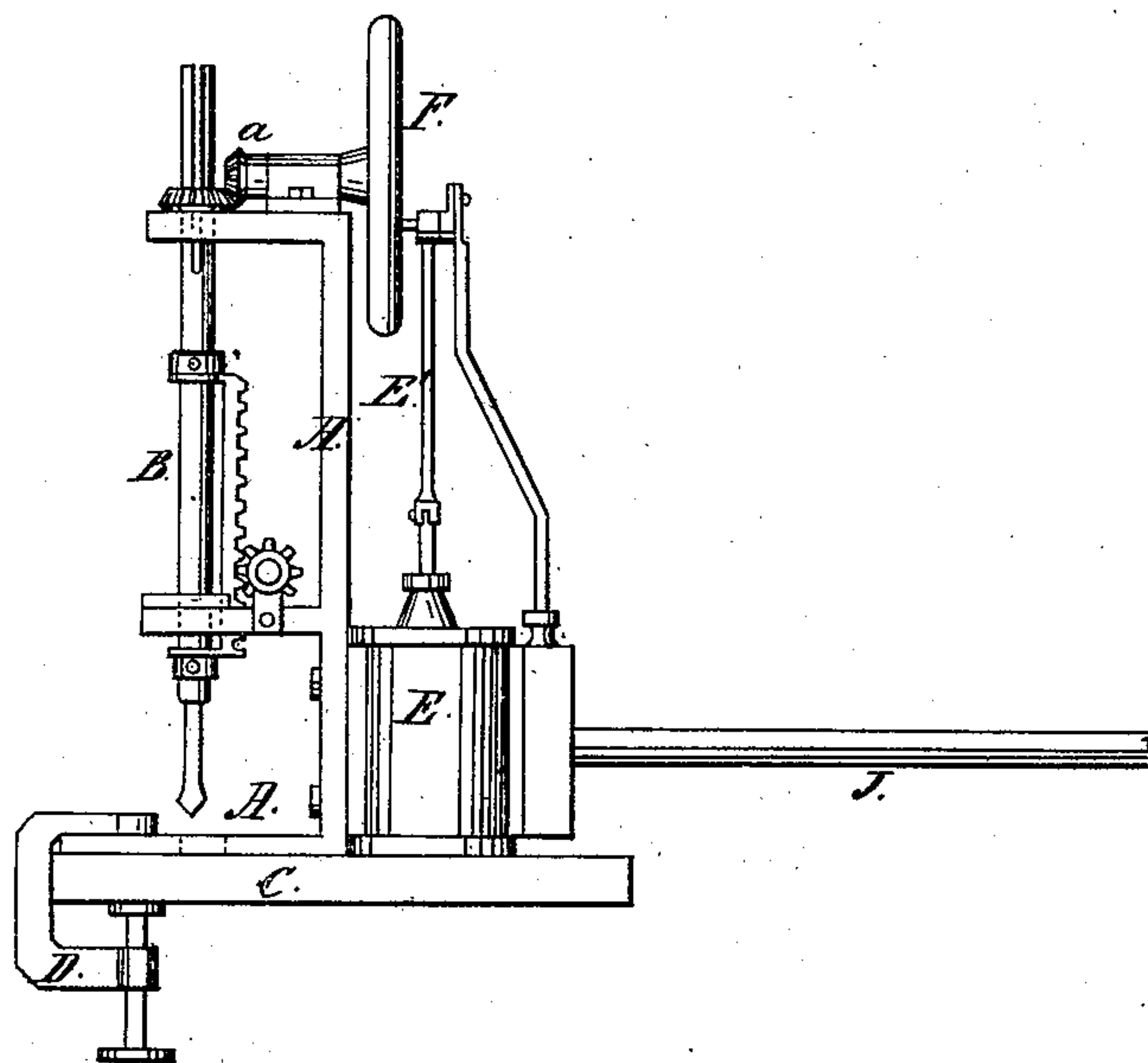
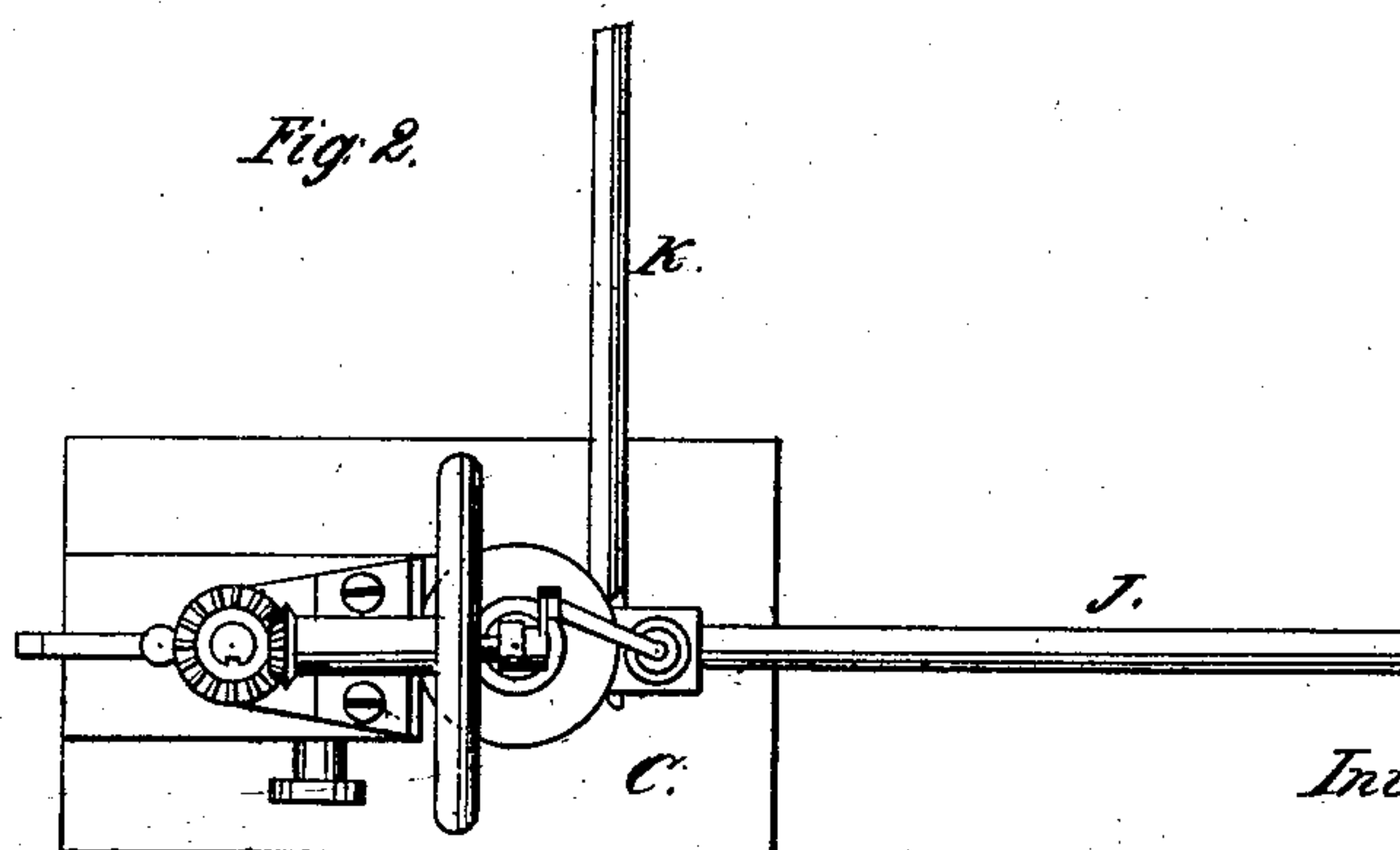


Fig 2.



Witnesses:

Theo Tusche
J. A. Service

Inventor.

A. J. Fullam
Per Munn & Co
Attorneys

United States Patent Office.

A. J. FULLAM, OF SPRINGFIELD, VERMONT.

Letters Patent No. 67,284, dated July 30, 1867.

IMPROVED DRILLING APPARATUS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, A. J. FULLAM, of Springfield, in the county of Windsor, and State of Vermont, have invented a new and useful Improvement in Application of Steam-Power; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention consists in adapting steam-power to operations which have hitherto been performed by hand, such, for instance, as drilling holes in the sides of ships, or in heavy machinery, of either wood or iron, or in repairing locomotives, in all of which cases (and many more which might be mentioned) such work is done with the common hand-ratchet drill or other hand tools, which is well known to be a tedious and laborious operation. Referring to the drawing—

Figure 1 represents a portable drilling machine, of a construction similar to machines of the same kind used in machine shops for drilling or boring purposes.

Figure 2 is a top or plan view of the same.

Similar letters of reference indicate like parts.

A represents the drill-stand, to which the drill-mandrel is attached in the usual manner. B is the mandrel. C represents an iron plate, to which the drill is fastened by the clamp D, which is intended to illustrate the manner in which the drill is applied. E represents a small steam engine, securely attached to the back of the drill-stand, the pitman of which, E', is attached to a wrist-pin on the fly-wheel F. Upon the shaft of the fly-wheel is the pinion *a* which drives the drill.

The engine is, of course, built of suitable size and proportion for the work to be performed, which, for all ordinary purposes, would allow of its being light enough to be easily handled and attached to any piece of machinery and set in any position to drill holes of any angle or inclination. To allow of this freedom of adjustment I connect the engine with the steam-boiler by a flexible tube, marked J in the drawing. Rigid steam pipes with flexible joints may answer the same purpose, and, where the drill can remain stationary for a length of time, entirely rigid metallic connections would, of course, answer the purpose. The exhaust pipe K may be either rigid or flexible, for all or nearly all purposes.

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

The arrangement of the drill-stand A, engine E securely attached thereto, pitman E', fly-wheel F, pinion *a*, drill B, and pipe J, substantially as described for the purpose specified.

A. J. FULLAM.

Witnesses:

FRED'G W. PORTER,
CLARENCE W. LOCKE.