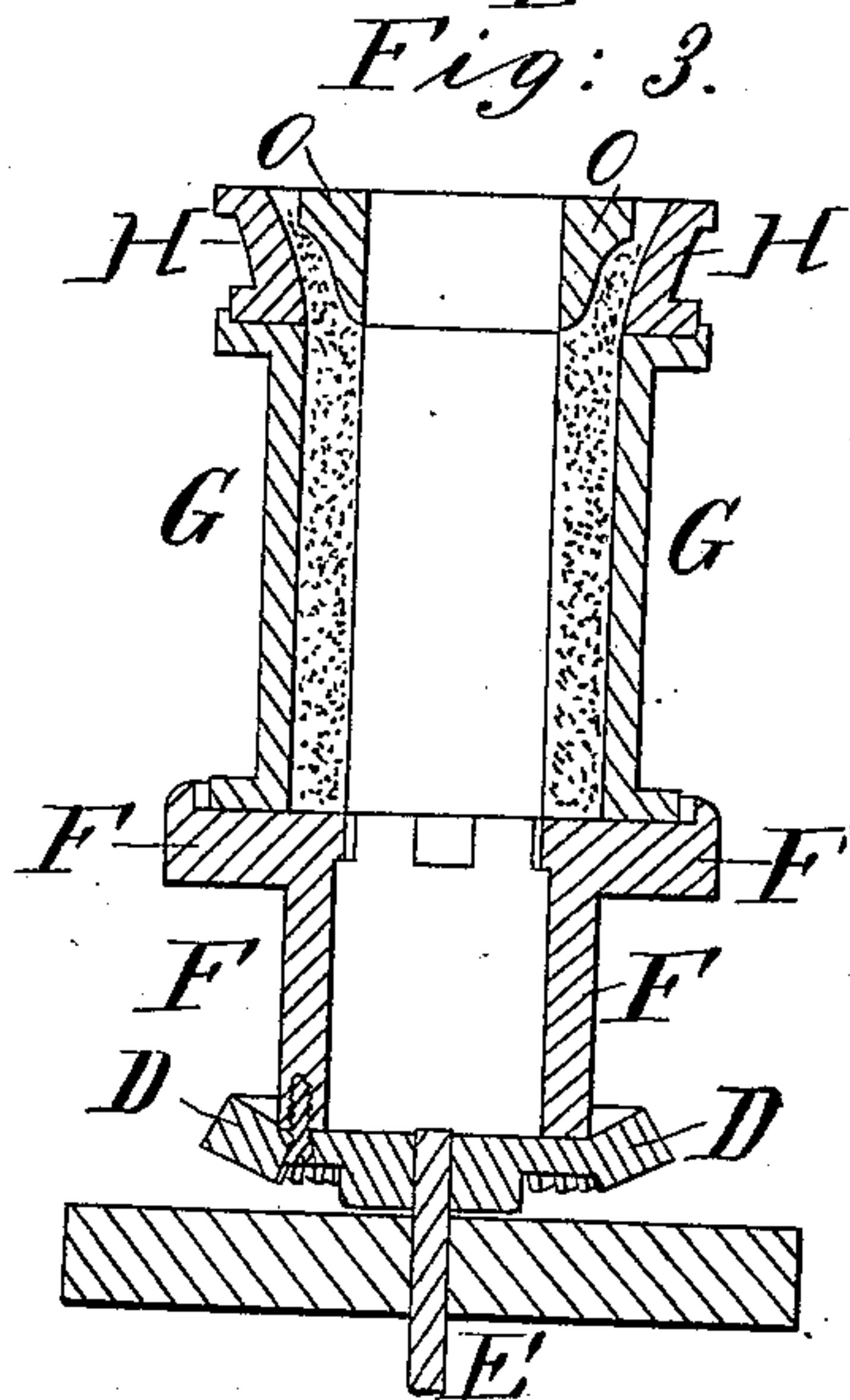
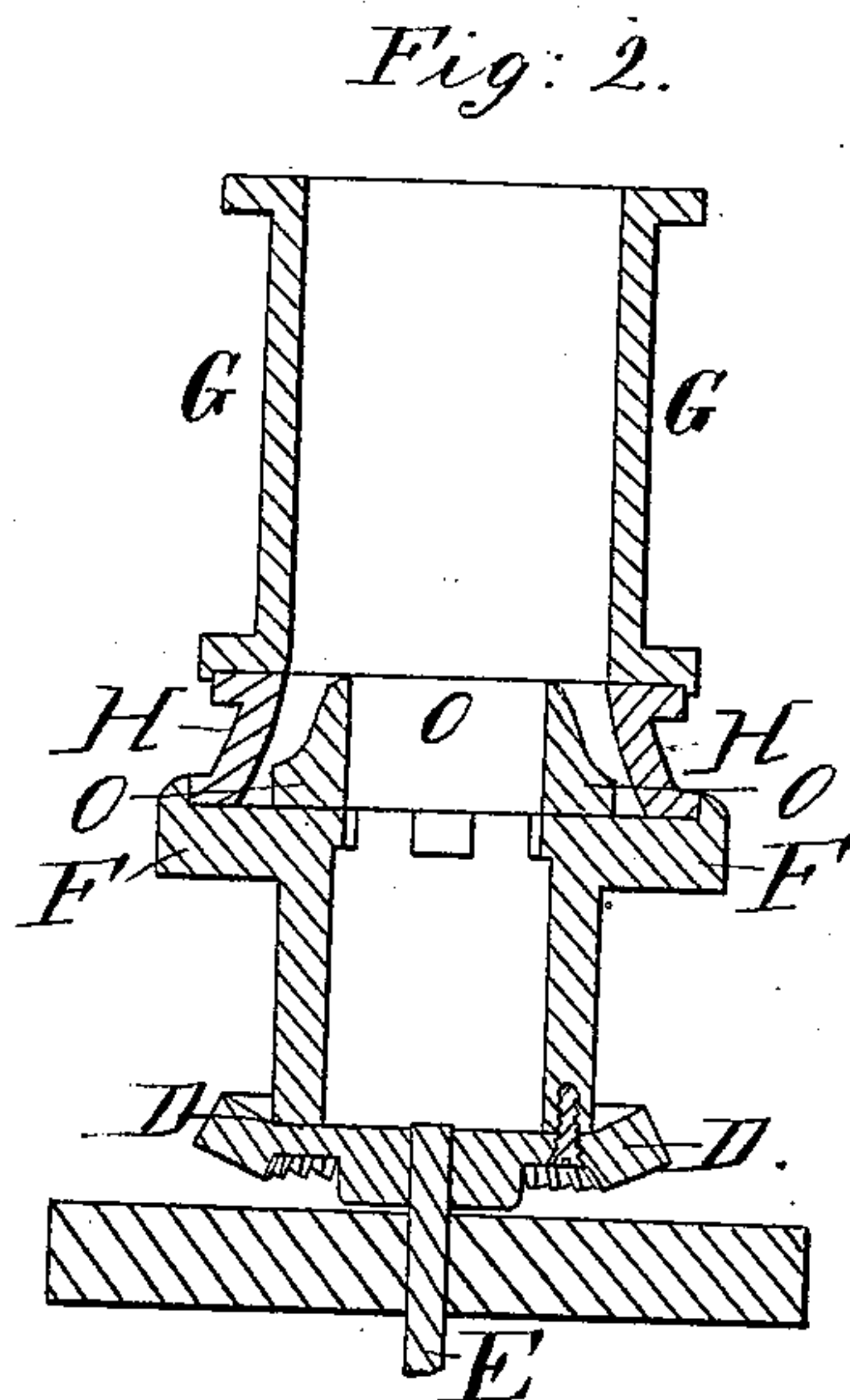
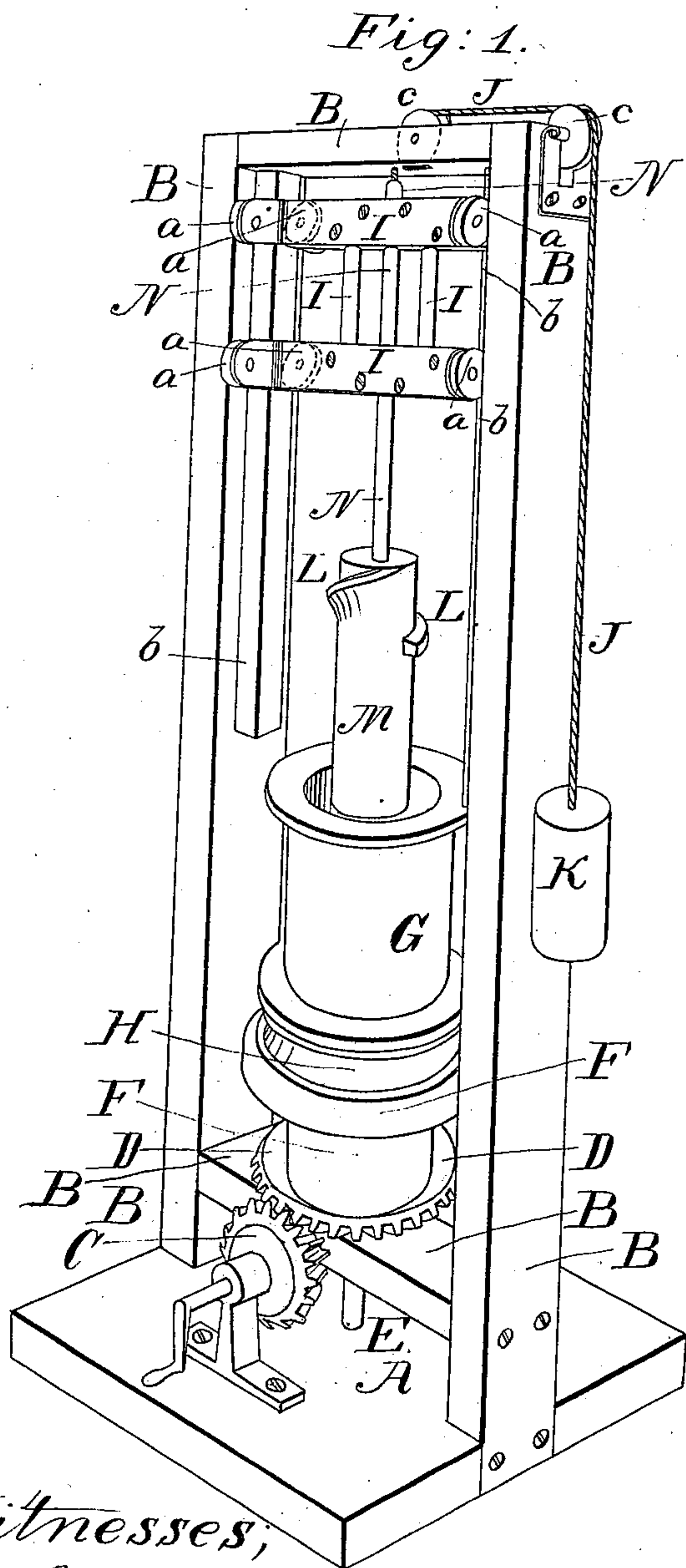


*B. S. Benson,*  
*Molding Pipe.*  
*No 83,028. Patented Oct. 13, 1868.*



*Witnesses;*  
*J. D. Allen*  
*S. M. Poole*

*Inventor;*  
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*Atty.*



# United States Patent Office.

BENJAMIN S. BENSON, OF BALTIMORE, MARYLAND.

Letters Patent No. 83,028, dated October 13, 1868.

## IMPROVEMENT IN PIPE-MOULDING MACHINE.

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, BENJAMIN S. BENSON, of Baltimore, in the county of Baltimore, and State of Maryland, have invented certain new and useful Improvements in Moulding-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a perspective view of the machine.

Figure 2 represents a vertical section through the flask, in one of its positions, as also through the turning-table, on which it is supported and revolved.

Figure 3 represents a vertical section through the same, when the flask is in another of its positions.

Similar letters of reference, where they occur in the separate figures, denote like parts of the machine in all of the drawings.

Heretofore, in moulding-machines, the flask has remained stationary, and the packing-instrument revolved or worked. In moulding heavy or large pipes, such a construction is inconvenient, and I reverse that order of operation, viz, I revolve the flask, and allow the packer to remain stationary, or rather, simply to rise as the flask becomes filled and rammed, but not revolved, which very much simplifies the machine, and facilitates the operation.

My invention consists in a moulding-machine in which the flask is revolved, and the screw-packer is not revolved, but simply rises as the flask becomes filled, packed, or rammed.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

A represents a base or bed, on which the machine stands, and

B B is a frame, for supporting the machinery used in moulding.

C is a gear-wheel, driven by a crank, belt, or otherwise, which gear, being a bevelled gear, works into and turns a large bevel-gear, D, that is on a shaft, E, said shaft having its step or support on the bed A, and turning with its gear, D.

Upon the upper side of the bevel-gear D, is arranged a turn-table, F, that revolves with said gear D, and upon this turn-table is placed the flask, of which G is the body, and H the bell.

Above the flask is a double cross-head, I, that can move up or down in the main frame B, it being guided

in its rising and falling by friction-rolls, *a a*, running in contact with guides or ways, *b b*, on the main frame, and to the cross-head is fastened a rope or chain, J, that runs over pulleys, *c c*, and has a weight or counterpoise, K, fastened to it, by which the cross-head and the packing-screw L are balanced.

The packer consists of a mandrel or shaft, M, with the screw L upon it, for working down the sand into the flask, and which rises, assisted by the weight in doing so, as the flask is filled. Said mandrel is connected to the cross-head by the rod N, which prevents the mandrel from turning.

When a pipe is to be moulded with the bell down, or at the lower end, the bell-portion of the flask H is placed upon the turn-table F, and the bell-pattern O properly placed therein. The space between the bell-pattern and the bell-portion of the flask is rammed in with sand in the usual well-known way. After it is rammed up to the top of the bell-pattern, then the body G of the flask is set on to the part O, and bolted or clamped together. The mould is then revolved, and the sand thrown into it, and the screw on the packer, as the sand comes against it, packs it down smoothly and uniformly until completed. If the bell is to be cast or moulded at the top of the flask, then the body-portion G is set upon the turn-table, and the sand run in and packed up to its top, as shown in fig. 3. The bell-portion H of the flask is then put on, and bolted or clamped to the body G, and the bell-pattern O put in place, and rammed around by hand in the usual way.

The screw L, that I propose to use, is of peculiar form and construction, but as it constitutes the subject-matter of a separate application for Letters Patent, I do not particularly describe it here.

Having thus fully described my invention,

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

In combination with a revolving flask, a non-revolving but rising and falling screw-packer, which rests upon and rises with the sand packed in the flask, and is guided in its rising, substantially as and for the purpose set forth.

BENJ. S. BENSON.

Witnesses:

A. B. STOUGHTON,

EDM. F. BROWN.