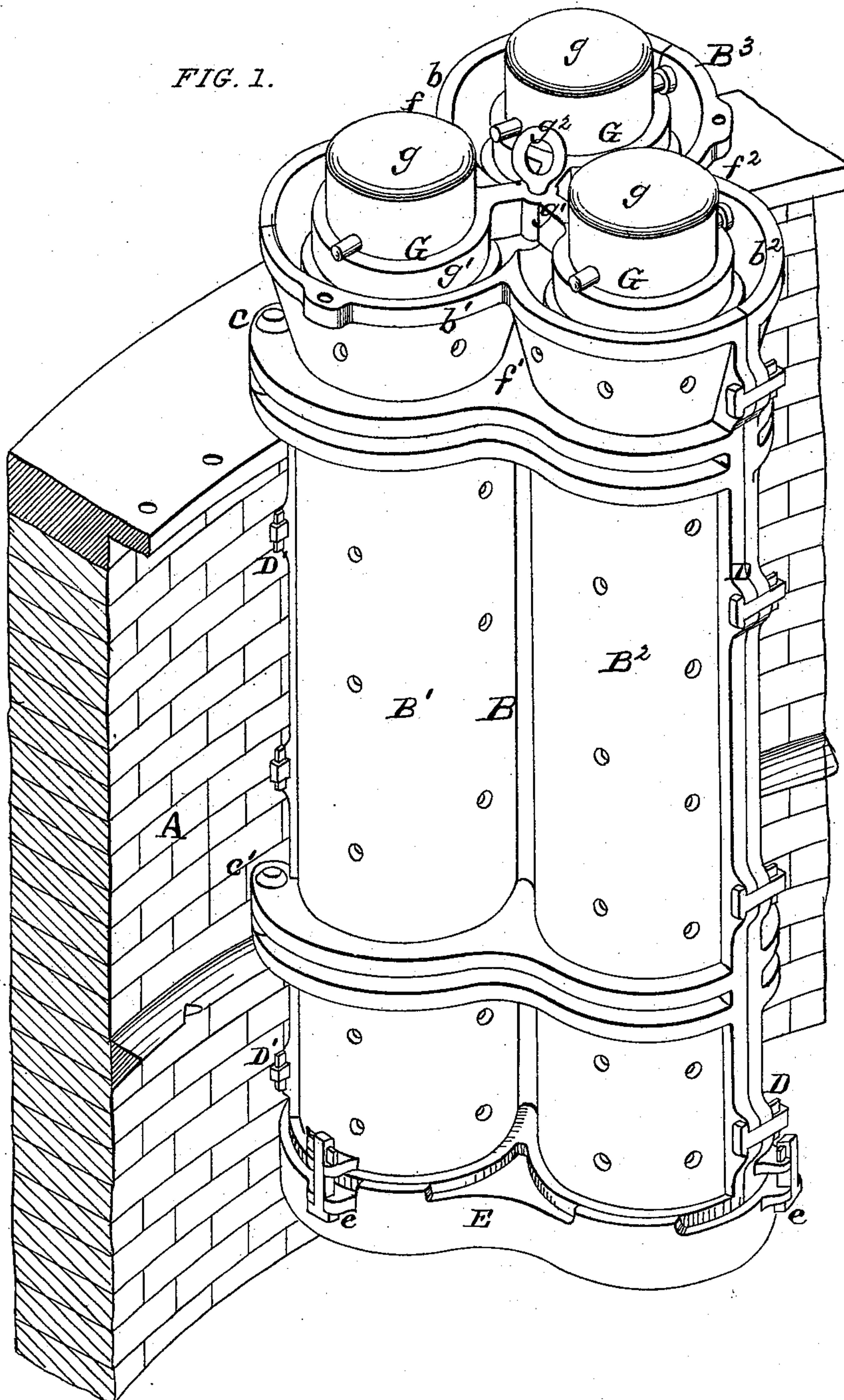


F. SHICKLE.
Pipe-Molding Machine.

No. 209,139.

Patented Oct. 22, 1878.



ATTEST:

Robert Burns.
Paul Bakerwell

INVENTOR:

Frederick Shickle.
By Chas. S. Moody, atty.

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FIG. 2.

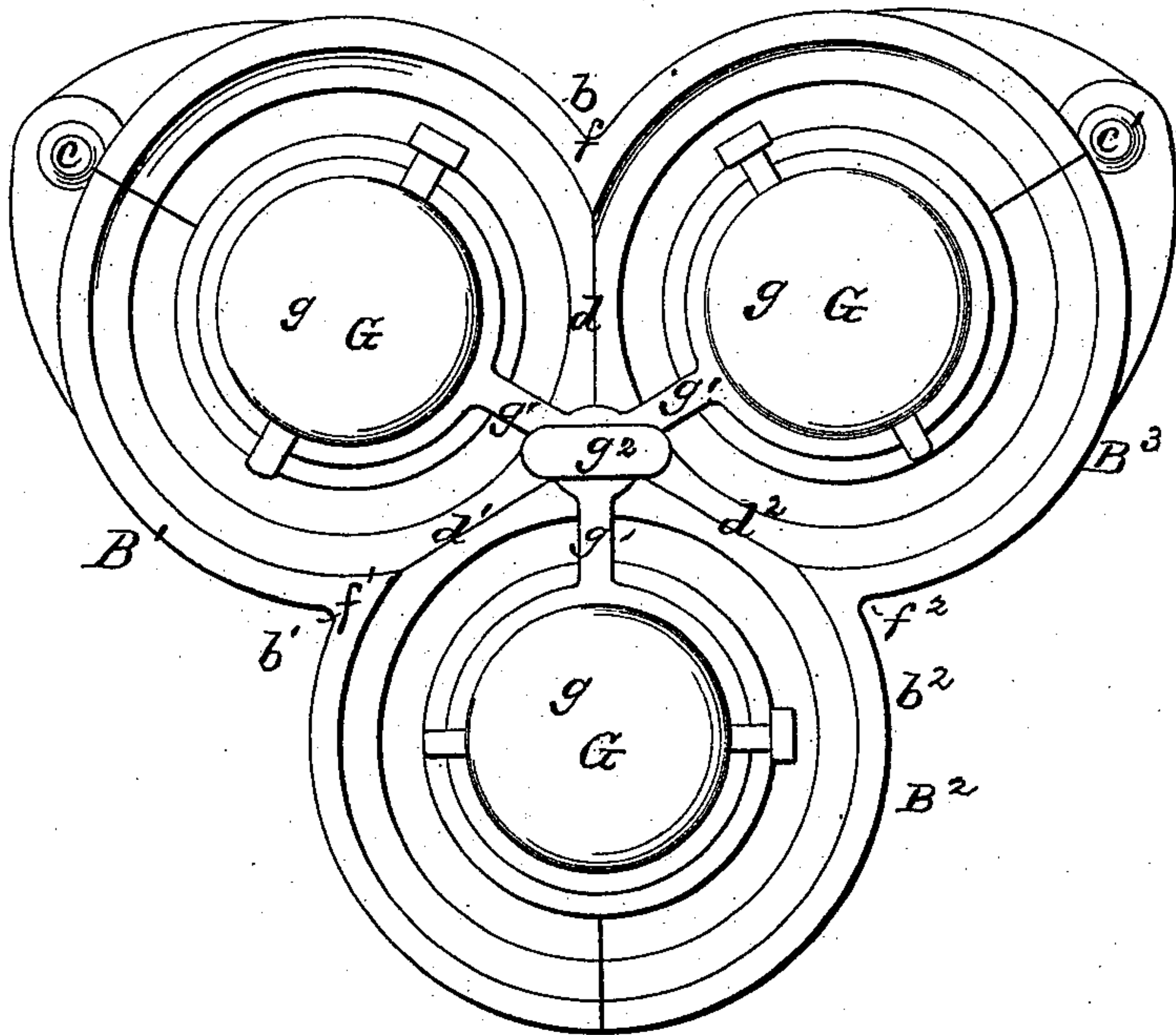
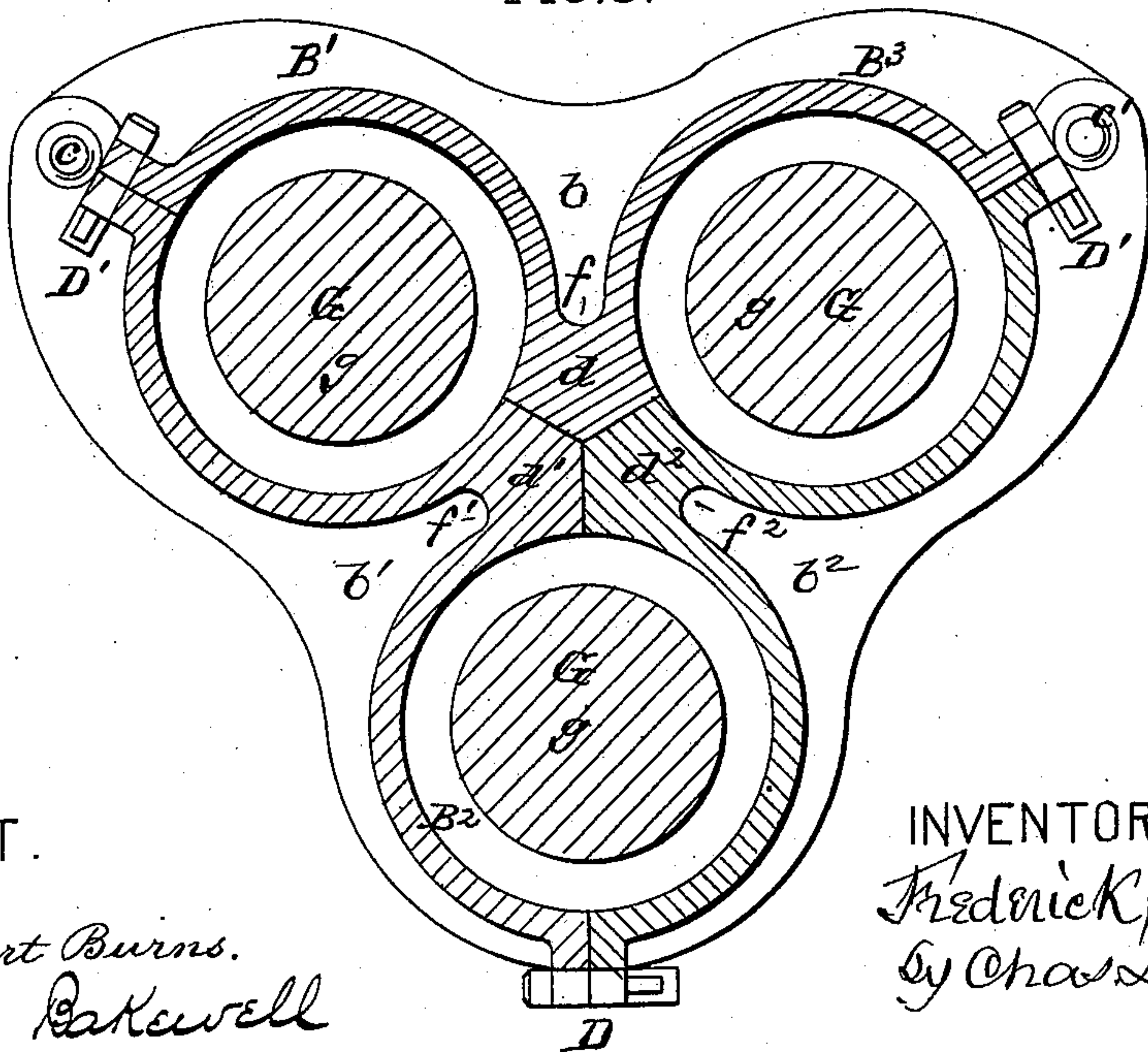


FIG. 3.



ATTEST.

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UNITED STATES PATENT OFFICE.

FREDERICK SHICKLE, OF ST. LOUIS, MO., ASSIGNOR TO THOMAS HOWARD
AND JOHN W. HARRISON, OF SAME PLACE—ONE-THIRD TO EACH.

IMPROVEMENT IN PIPE-MOLDING MACHINES.

Specification forming part of Letters Patent No. 209,139, dated October 22, 1878; application filed
August 28, 1878.

To all whom it may concern:

Be it known that I, FREDERICK SHICKLE, of St. Louis, Missouri, have made a new and useful Improvement in Molding Pipes and other Long Heavy Castings, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a view, in perspective, of the improvement, showing also a portion of the pit-wall, to which it is attached; Fig. 2, a plan, and Fig. 3 a horizontal section.

Similar letters refer to similar parts.

I have heretofore made certain improvements in molding pipes, described partly in Letters Patent No. 148,094 and partly in an application for Letters Patent recently filed. In the construction last referred to two pipes can be molded and cast at one operation.

The present improvement is a construction especially designed for casting three pipes at a single casting. It has reference particularly to the manner of grouping the compartments in the flask and the construction of the shell of the flask.

Referring to the drawings, A represents a portion of the wall of the pit in which the pipes are cast. B represents the flask, suspended upon the wall, as in the constructions above referred to. The flask has three compartments, B¹ B² B³, arranged in a cluster, as shown, and forming a construction which, in horizontal cross-section, is shaped like a trefoil. The flask is made in three parts, *b b¹ b²*, the parts *b¹* and *b²* being preferably hinged to the part *b* at *c c* and *c' c'*, respectively. The parts *b b¹ b²*, when the flask is closed, are clamped at D, and also at D' D'. The compartments are separated from each other by vertical partitions *d d¹ d²*, which, when the flask is closed, abut against each other at the center of the structure. E represents the bottom of the flask, and made to be attached thereto by means of the clamps *e e*. The flask is made with re-entering angles *f f¹ f²*, which are, respectively, opposite the par-

titions *d d¹ d²*, and as the latter, in practice, are preferably made in one piece with, or are fastened to, the parts *b b¹ b²*, respectively, the partitions become ribs upon the parts. This feature of the construction greatly strengthens it, and, taken in connection with the external shape of the parts *b b¹ b²*, enables the latter to be made very rigid in proportion to their weight. The shape of the parts *b b¹ b²*, however, is such as to render them very strong independently of the ribs *d d¹ d²*.

In operation, the flask is suspended upon the wall, and preferably by means of the pins forming part of the hinges *c c'*. A three-part pattern, G, is used, the parts *g g g* being connected by means of the yoke *g¹*, having an eye, *g²*. One lowering and hoisting operation thus suffices for inserting the patterns in and withdrawing them from the three compartments B¹ B² B³ of the flask.

As the patterns are long and heavy, requiring steam machinery in handling them, it is seen that this mode of making the patterns enables the operation of molding the pipes to be materially shortened. An especial advantage, however, is derived from the construction of the parts *b b¹ b²* of the flask. By reason of their form outwardly, and of the partitions *d d¹ d²*, they are rendered sufficiently rigid to withstand the hydrostatic pressure of the metal in casting, and the parts, in consequence, need to be clamped together at their edges only, and as shown at D D'.

If desired, the hinges *c c c' c'* can take the place of the clamps D' D'.

I claim—

In a flask for molding pipes and similar castings, the parts *b b¹ b²*, attached to each other at D and D' D', and provided, respectively, with the partitions *d d¹ d²*, substantially as described.

FREDERICK SHICKLE.

Witnesses:

CHAS. D. MOODY,
THOMAS HOWARD.