

(No Model.)

3 Sheets—Sheet 1

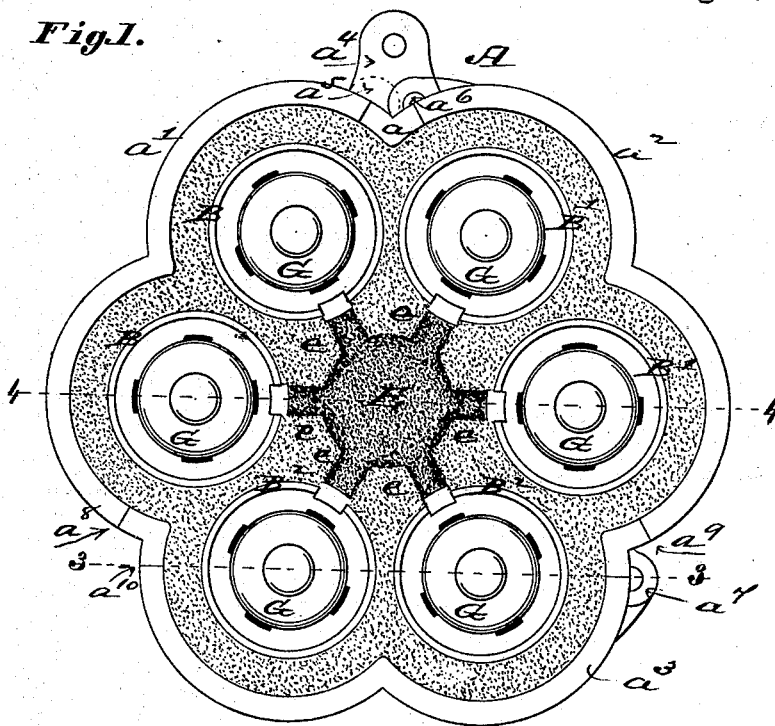
F. SHICKLE.

PIPE MOLDING APPARATUS.

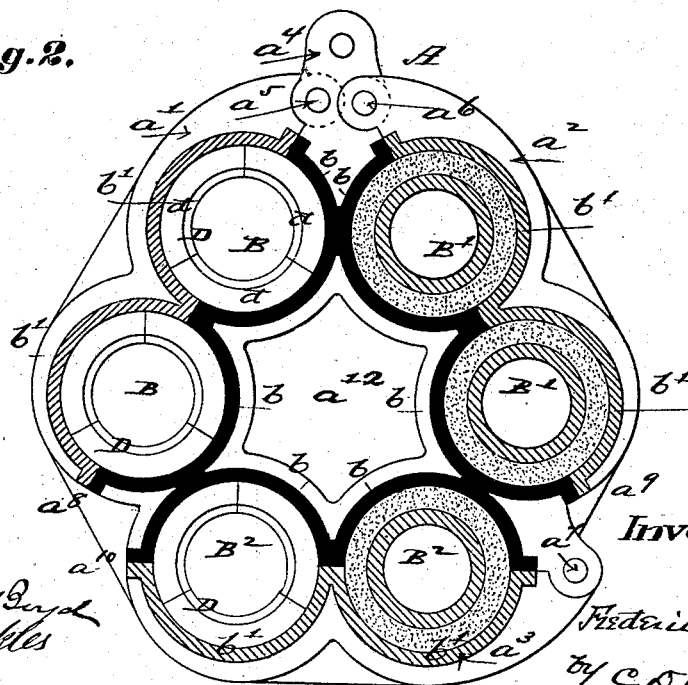
No. 261,961.

Patented Aug. 1, 1882.

*Fig. 1.*



*Fig. 2.*



*Attest:*

*Frank S. Boyd  
Charles P. Riles*

*Inventor:*

*Fredrick Shickle  
by C. S. Moody  
att'y*

(No Model.)

3 Sheets—Sheet 2.

F. SHICKLE.  
PIPE MOLDING APPARATUS.

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Fig. 3.

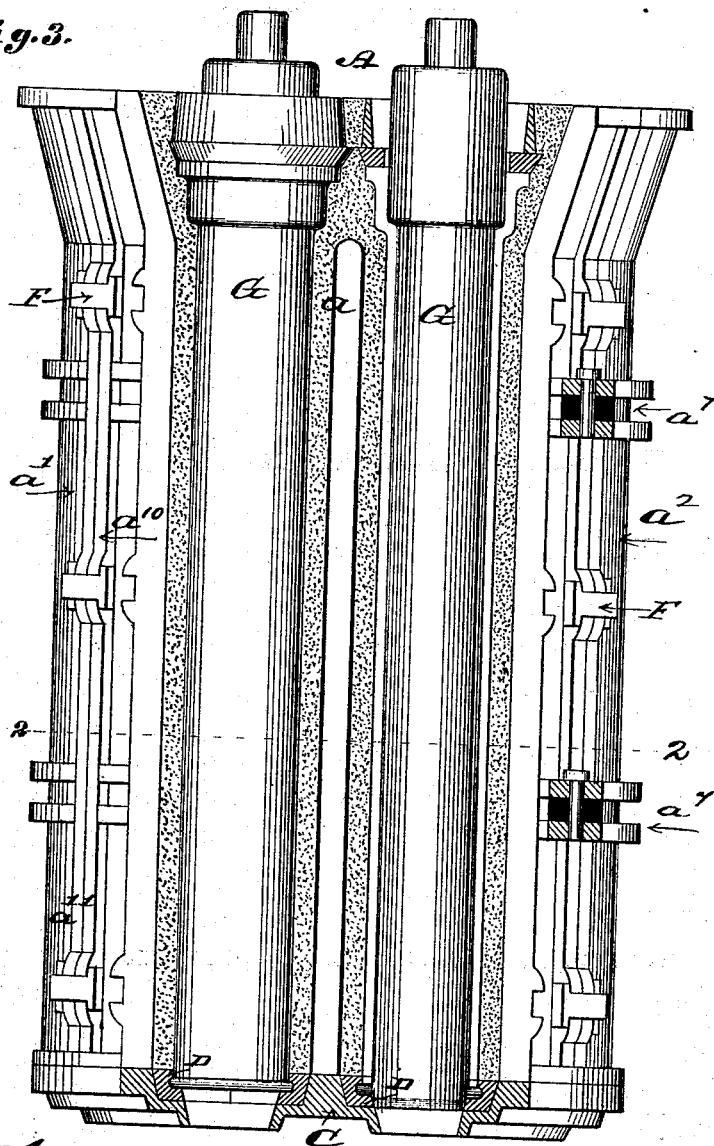
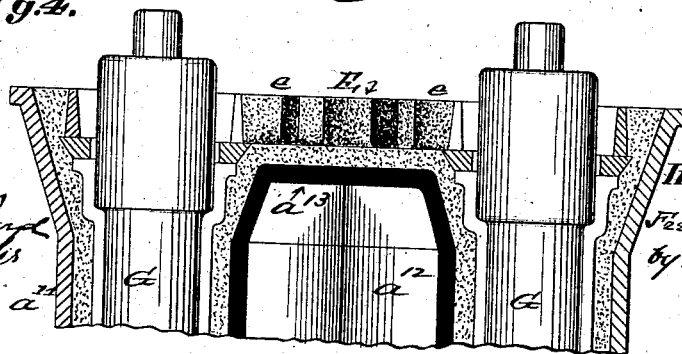


Fig. 4.



Attest:

Saml. S. Bond  
Charles Pickles

Inventor:

Fredrick Shickle  
by C. Moody  
att'y

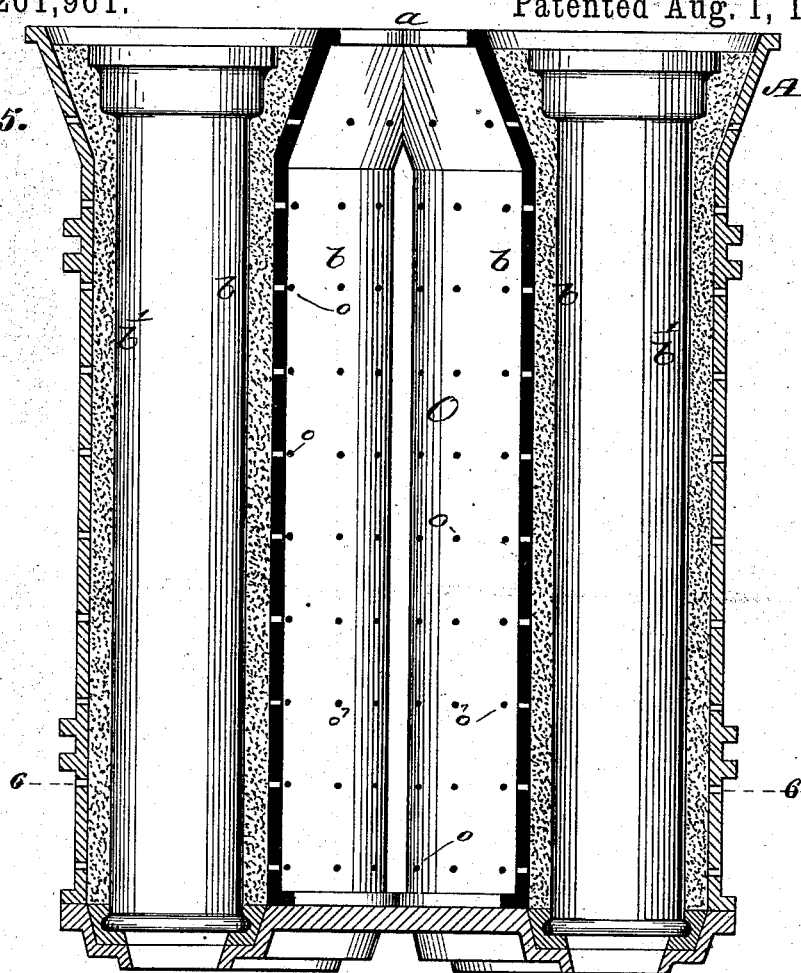
F. SHICKLE.

PIPE MOLDING APPARATUS.

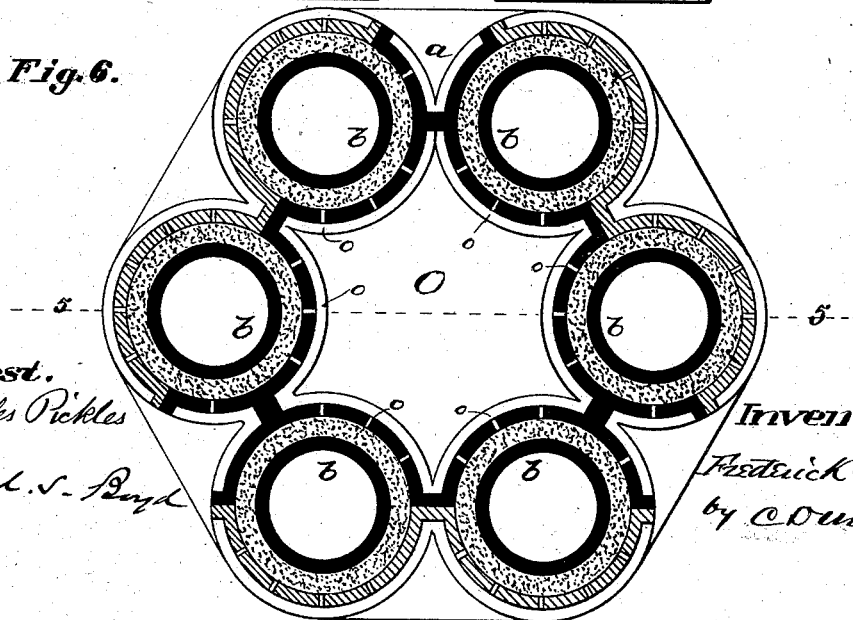
No. 261,961.

Patented Aug. 1, 1882.

*Fig. 5.*



*Fig. 6.*



*Attest.*

*Charles Pickles*

*Saml. S. Boyd*

*Inventor:*

*Fredrick Shickle*  
*by C. D. Moody*  
*atty*

# UNITED STATES PATENT OFFICE.

FREDERICK SHICKLE, OF ST. LOUIS, MISSOURI.

## PIPE-MOLDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 261,961, dated August 1, 1882.

Application filed March 30, 1882. (No model.)

*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 Apparatus for 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 plan of the improvement; Fig. 2, a horizontal section taken on the line 2 2 of Fig. 3; Fig. 3, a vertical section taken on the line 3 3 of Fig. 1; Fig. 4, a vertical section of the upper portion of the flask, taken on the line 4 4 of Fig. 1; Fig. 5, a vertical section taken on the line 5 5 of Fig. 6, and Fig. 6 a horizontal section taken on the line 6 6 of Fig. 5.

The same letters denote the same parts.

The present invention is an improved flask for casting several pipes or other long heavy castings at a single casting operation.

The improved flask consists mainly of four parts—a central one that is attached to the pit-wall and shaped to form a cluster of drags, and the other three parts being hinged to the central one and forming the copes to the drags of the central part.

A represents an approved form of the flask under consideration, having the central part, *a*, and the three outer parts, *a'* *a''* *a'''*. The central part, *a*, is furnished with suitable brackets—such as *a<sup>4</sup>*—for attaching the flask to the pit-wall, and the parts *a'* *a''* *a'''* are hinged to the central part, *a*, at *a<sup>5</sup>*, *a<sup>6</sup>*, and *a<sup>7</sup>*, respectively, and when closed against the central part are fastened thereto at *a<sup>8</sup>*, *a<sup>9</sup>*, and *a<sup>10</sup>*, respectively. Three pairs, *B B*, *B' B'*, and *B<sup>2</sup> B<sup>2</sup>*, of molding-compartments are thus associated in a cluster, the central part, *a*, containing the drags *b b b b b b*, and the outer parts, *a'* *a''* *a'''*, the copes *b' b' b' b' b' b'* of the compartments.

The pit-wall is not shown, its construction being of the usual kind, it, as well as the details of the flask, being mainly as shown in patents previously granted me—for instance, in Patent No. 209,139.

The flask-bottom *O* is preferably in a single piece, and it may be permanently connected with the central part, *a*, and when the outer parts, *a'* *a''* *a'''*, are opened away from the part *a*, the bottom, in such case, will project laterally from the central part, *a*.

*D D* represent the bead-rings, being made, as in patents heretofore granted me, in two or more sections, *d*, to enable it to be detached from the casting.

The center, *a<sup>12</sup>*, of the part *a* is preferably made hollow to lighten the construction. The top *a<sup>13</sup>*, however, may be closed, as shown, to form a floor to support a central basin, *E*, into which, in casting the pipes, the metal is poured, and thence, through the runners *e e e e e e*, distributed in the several molds.

Although but six molding-compartments are shown in the drawings, it is evident that a flask constructed upon the present plan can have more than six compartments; but in all cases a central space, *O*, should be provided for receiving the gases from the drags, for the present flask involves the use of sand or clay, and the gases therefrom in casting could not pass off unless a space such as *O* in the interior of the part *a* were formed, the gases issuing from the drags *b b* through the perforations *o o o* and passing into the space *O*, and thence to the outer air.

The flask has the usual fastenings, *F*.

*G G* represent the patterns.

I claim—

1. The combination of the part *a*, having the top *a<sup>13</sup>*, the parts *a'* *a''* *a'''*, and the bottom *O*, substantially as described.

2. The part *a*, having the top *a<sup>13</sup>*, for the purpose of supporting the basin *E*, substantially as described.

3. The combination, in a flask where sand or clay is used, of the part *a*, the parts *a'* *a''* *a'''*, and the bottom *O*, said part *a* having between the drags therein a space or spaces for venting the gases from the drags, substantially as described.

4. The combination, in a flask for molding pipes and other castings, and where sand or clay is used, of the central part, *a*, and the outer parts, *a'* *a''* *a'''*, said central part, *a*, being hollow between the drags to enable the gases to pass off from the drags.

Witness my hand this 27th day of March, 1882.

FREDERICK SHICKLE.

Witnesses:

C. D. MOODY,  
SAML. S. BOYD.