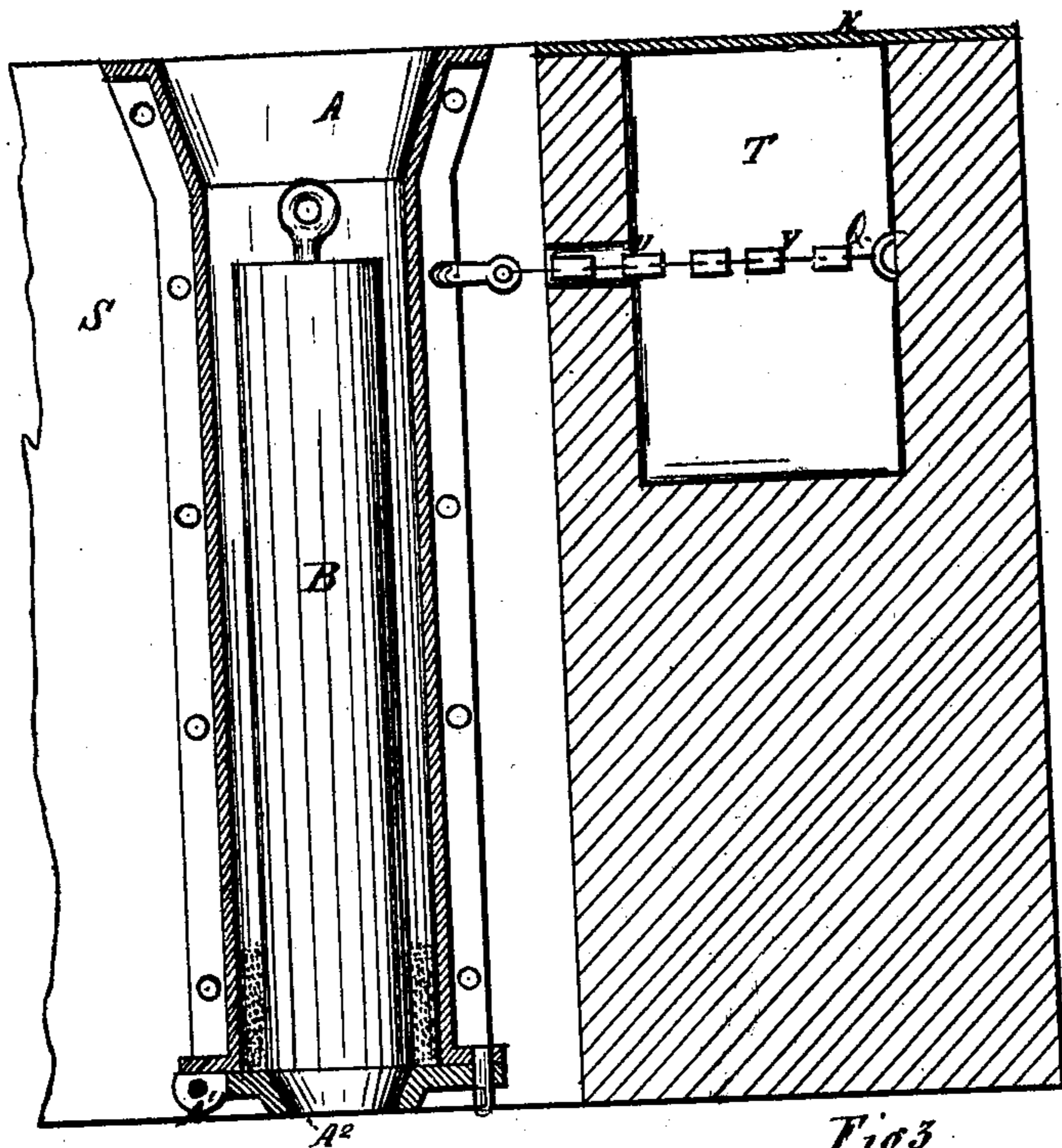


*W. Smith,*  
*Molding Pipe.*

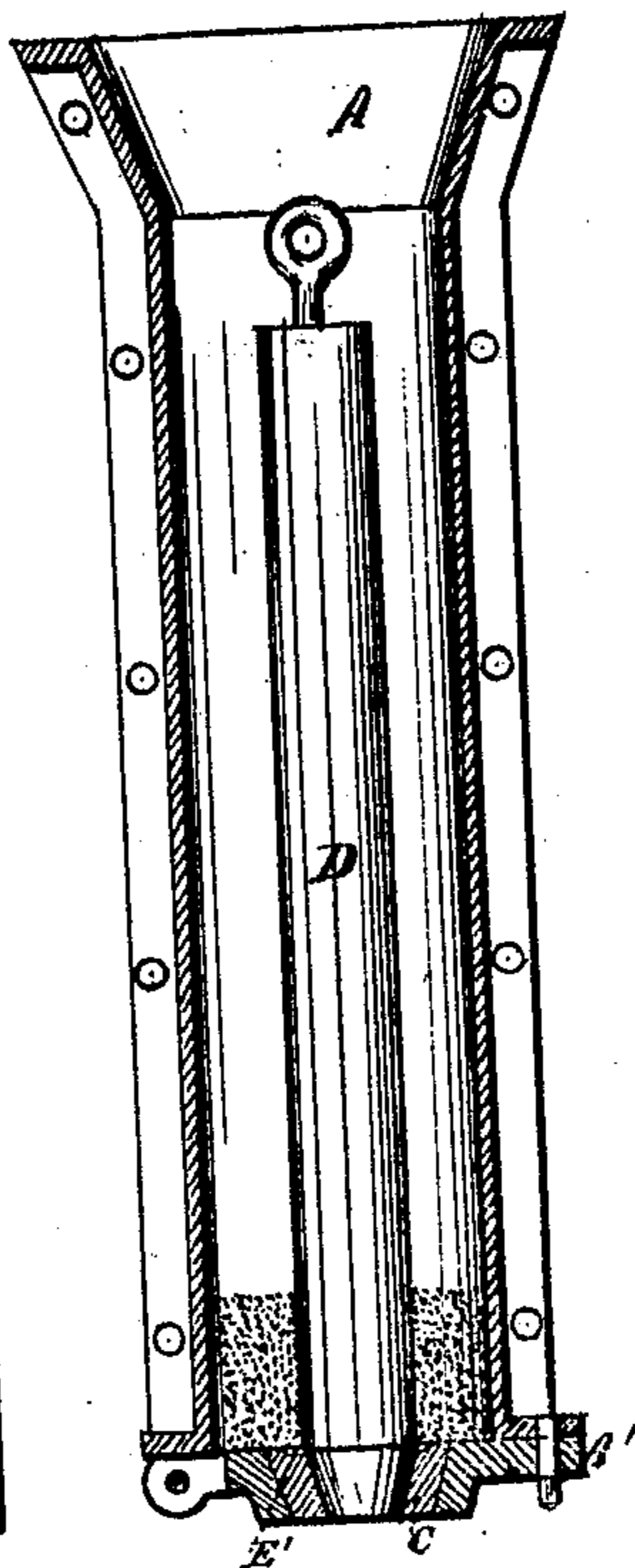
*No. 108647.*

*Patented Oct. 25. 1870.*

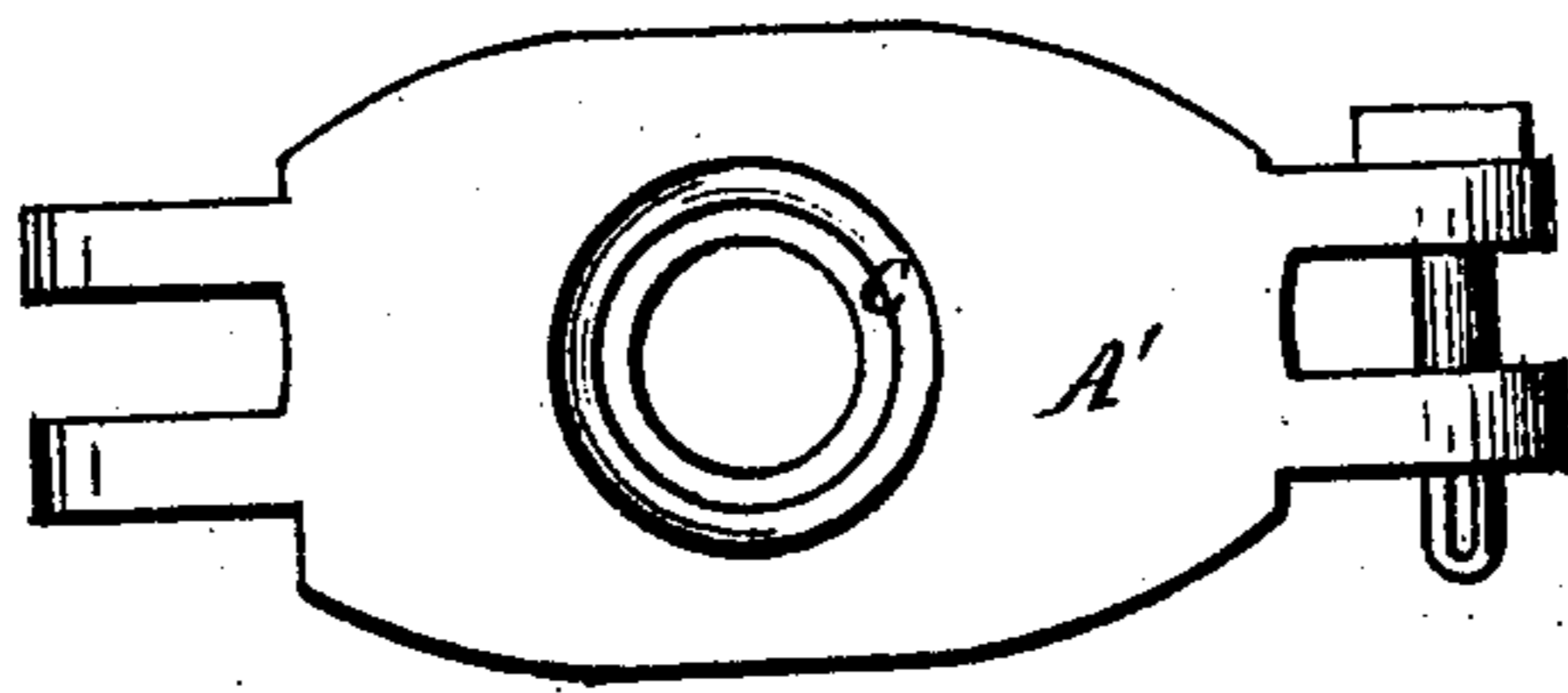
*Fig 1*



*Fig 2*



*Fig 3*



**WITNESS**  
*B. Fallows*  
*Perceval Beckett*

**INVENTOR.**  
*Wm Smith*

# United States Patent Office.

WILLIAM SMITH, OF PITTSBURG, PENNSYLVANIA.

Letters Patent No. 108,647, dated October 25, 1870.

## IMPROVEMENT IN MOLDING PIPES.

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, WILLIAM SMITH, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Molding Pipes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to the manufacture of cast-iron pipes, and especially to that style of molding by which molds are made vertically in flasks, by means of a sliding cylindrical pattern.

Heretofore flasks of different diameters have been required for various sizes of pipes, entailing thereby considerable cost in providing the requisite flasks.

By the use of my hereinafter-described invention one flask may be made suitable for the molding of various sizes of pipes.

My invention also relates to a simple device whereby such flasks may be adjusted and held in any required position.

In the accompanying drawing—

Figure 1 is a section of an ordinary pipe-molding pit having one part of my invention attached, also showing an ordinary pipe-molding flask.

Figure 2, a section of an ordinary pipe-molding flask, with my invention attached.

Figure 3, a plan of my invention.

Letters of reference denote parts.

Parallel with the side of an ordinary pipe-molding pit, S, I make a recess or passage, T, of sufficient depth and size as will admit the entry of a man.

Said passage T is perforated at the side next to the pit S with holes, U, of such size as will admit the passage of an ordinary chain or rod, V, or any such device.

Staples or hooks, Q, or any such appliances, are attached to the outer wall of the said passage T so that they will be opposite the said holes U, (which lie opposite to the ordinary flask A,) so that a chain or any such device being attached to the said staples Q or their equivalents, will pass through the said holes U, and can be attached in any suitable manner to the flask A, so that, by tightening the said chain V or its equivalent, or releasing the tension thereof, the said flask A can be retained in any required position.

The ordinary pipe-flask A is provided at its base with the ordinary hinged door A<sup>1</sup>, which has a conical perforation, A<sup>2</sup>, through the center thereof, so arranged that the conical end of the ordinary pattern B,

when lowered thereto by means of the ordinary crane or other such like mechanism, will penetrate the same, holding the said pattern B in a vertical position.

Sand is then distributed in the flask A and around the said pattern B, and being rammed to the required solidity, the pattern B is then withdrawn in any suitable manner and the ordinary core inserted, the operation of casting being performed as ordinarily.

Flasks constructed as described only serve, however, for one diameter of pipe, since the perforation A<sup>2</sup> serves but for one pattern.

To obviate this I introduce an annular conical thimble, C, of suitable material, the outside diameter of which is equal to the diameter of the perforation A<sup>2</sup>, into which it fits, the inner diameter being conical, and of a diameter equaling the conical end of a smaller pattern, D, and so arranged that the said end of the pattern D will fit into the same, retaining it in a vertical position.

The said thimble C is also furnished, at its upper face, with the ordinary groove E, for forming the ordinary bead at the end of the pipe; the operation of molding and casting being the same as before described.

Some pipe-flasks, however, are not provided with hinged doors, but have various styles of stands, upon which the flask rests; but said stands (commonly termed "ramming-up stools") are all provided with conical perforations suitable for the reception of the ordinary pattern. My invention is applicable as readily to such stands as to the described hinged door A<sup>1</sup>.

Apart from the saving of great expense in thus needing but one size of flask to suit various sizes of pipes, much labor and trouble is avoided, since some flasks have to be removed for the placing of other flasks of larger or smaller diameter, (as the case may be,) which act causes a stoppage in the operation of molding. Since, however, my invention can be attached in a moment to the flask, they do not require to be moved, labor and time being saved thereby.

The advantage arising from the construction of a passage, T, around pipe-molding pits is, that the whole of the flasks may be adjusted from the outside of the pit, saving thereby the use of scaffolding or ladders, and also dispensing with the use of the ordinary appliances, such as wedges, heretofore used, saving time and also expense.

Having thus described my invention,

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

1. The pipe-molding pits, constructed with a passage around and below the level of the tops thereof, said passage having perforations in the side, substantially as described and set forth.

2. The conical annular thimble O, as described, in combination with the hinged door A<sup>1</sup>, substantially as and for the purpose described and set forth.

In testimony that I claim the foregoing as my own, I affix my signature in presence of two witnesses.

WILLIAM SMITH.

Witnesses:

JAMES M. TAYLOR,  
PERCEVAL BECKETT.