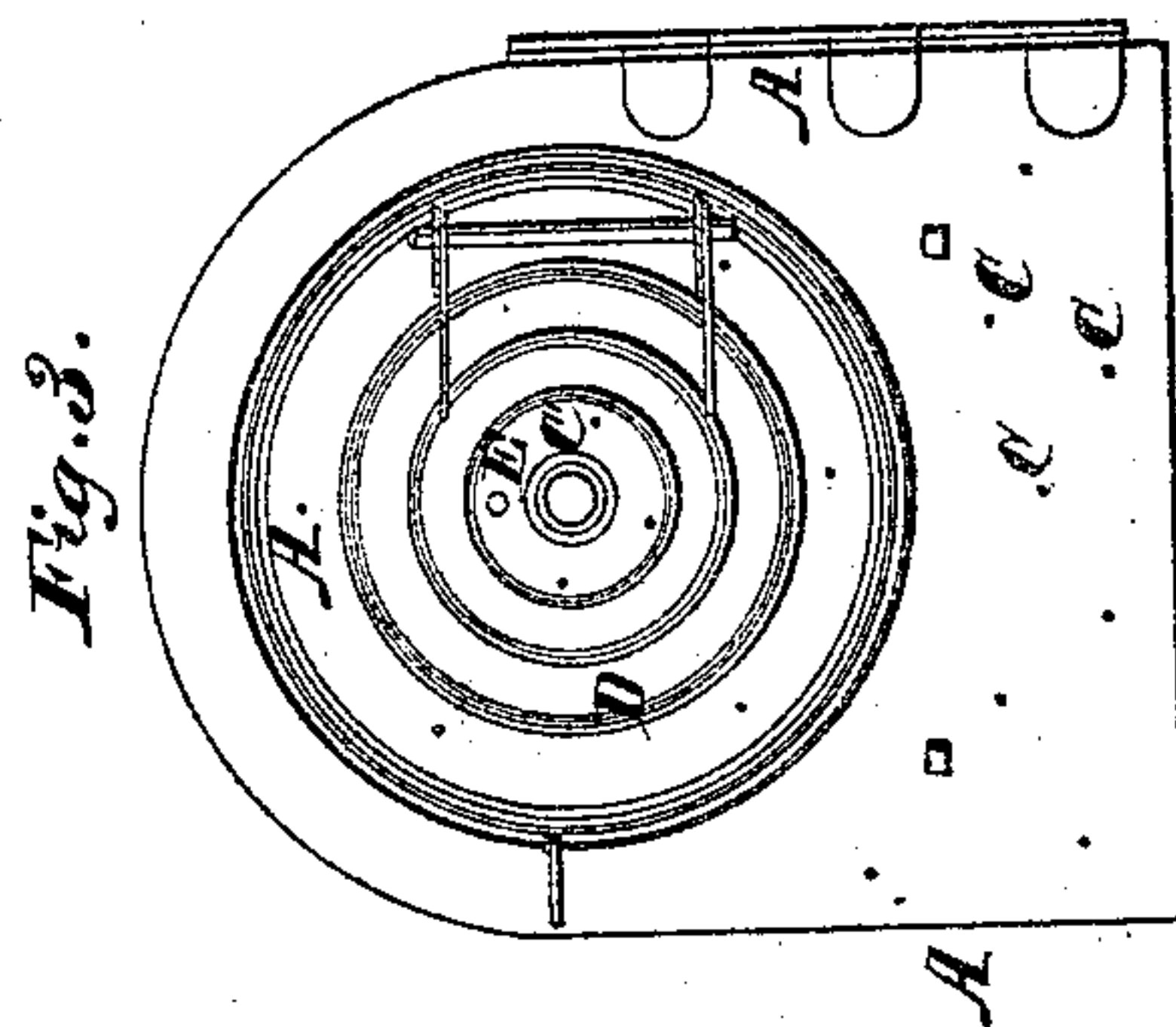
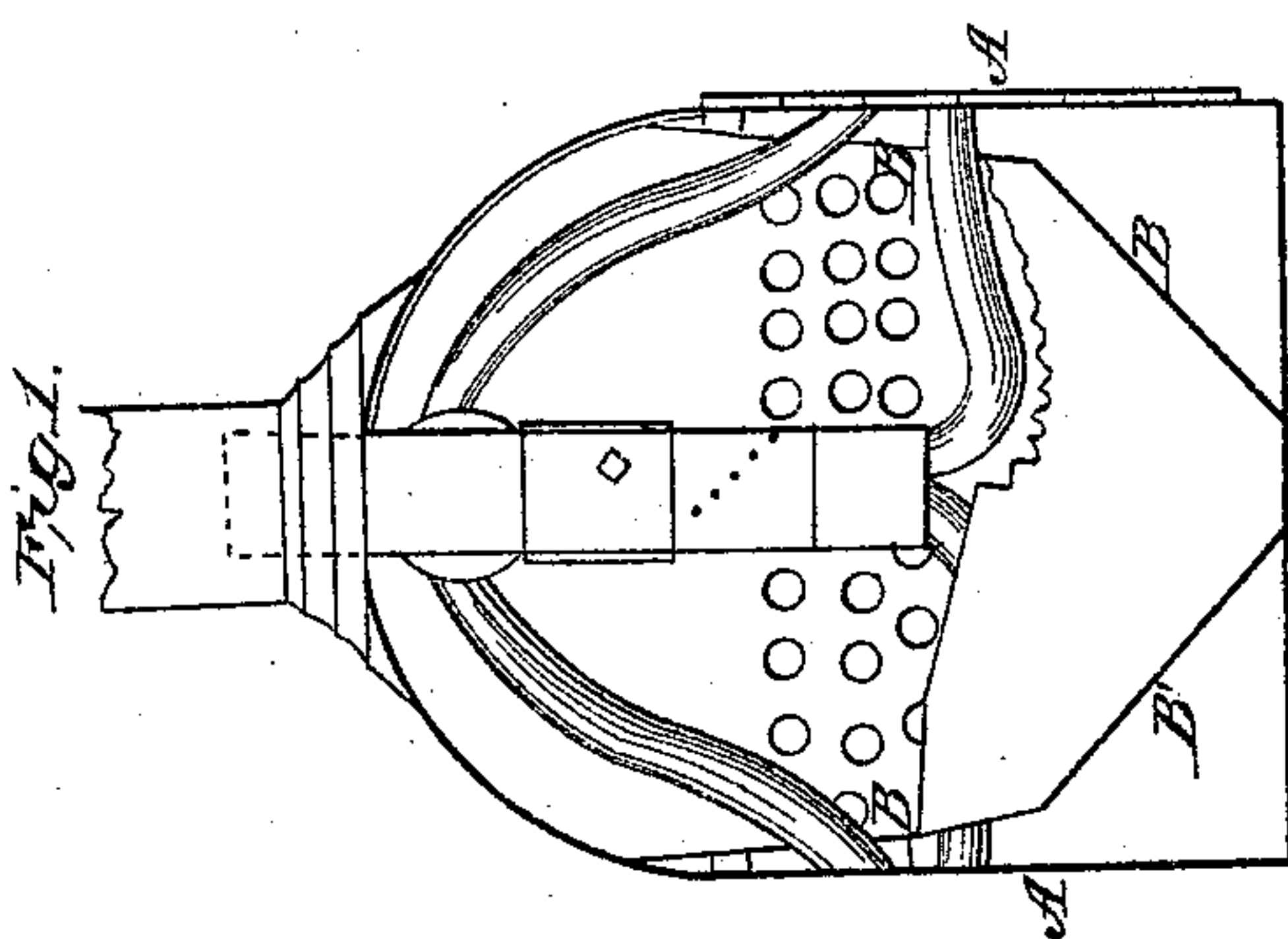
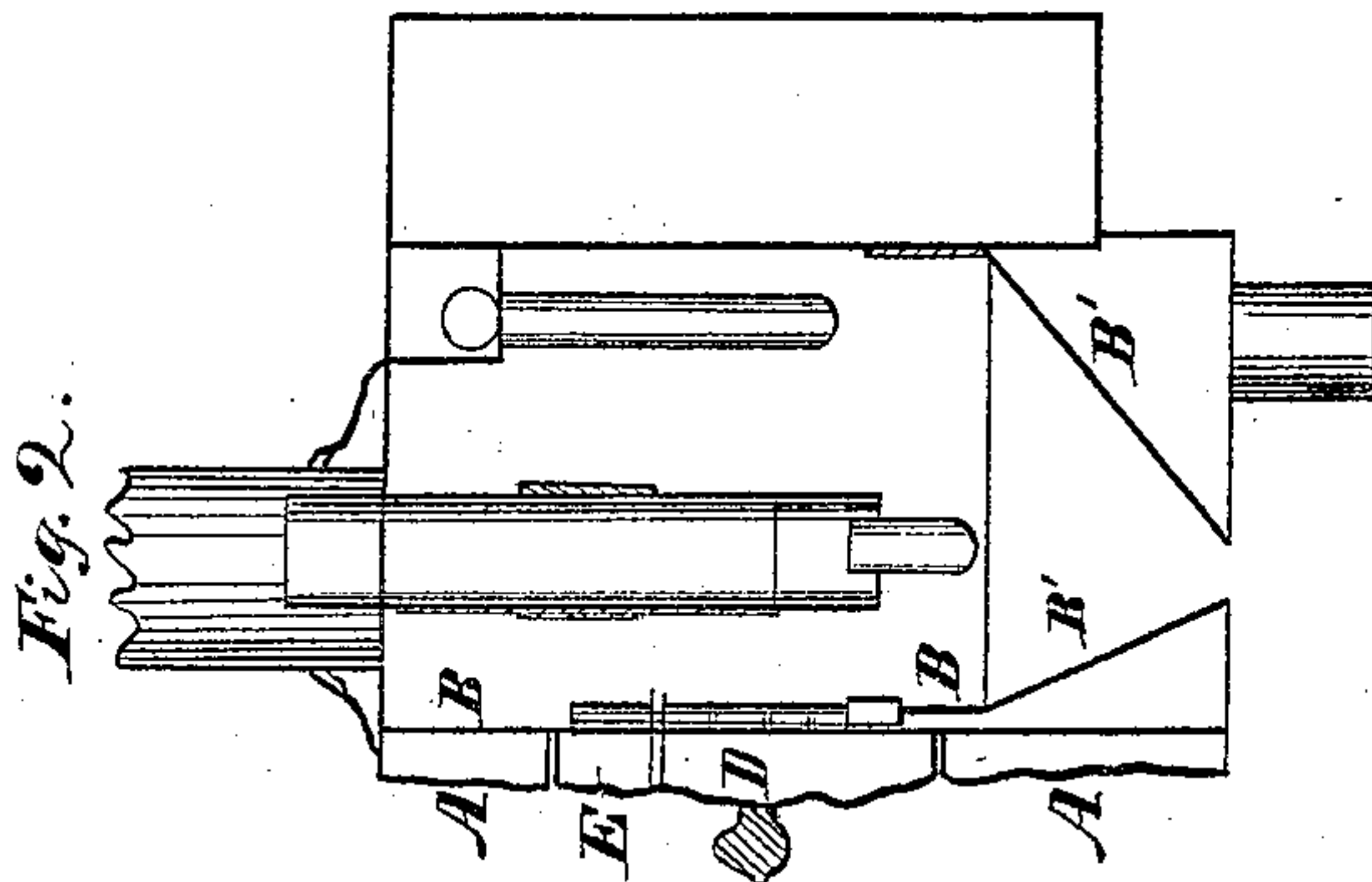


*P. H. Corlett,*

*Locomotive.*

$\pi^0 40,554.$

*Patented Nov. 10, 1863.*



Witnesses:  
J. Brainerd  
Wm R. Corbett

*Inventor:*  
*Philip H. Corbett*

# UNITED STATES PATENT OFFICE.

PHILLIP H. CORLETT, OF WEST MANCHESTER, PENNSYLVANIA.

## IMPROVEMENT IN LOCOMOTIVES.

Specification forming part of Letters Patent No. 40,554, dated November 10, 1863.

*To all whom it may concern:*

Be it known that I, PHILLIP H. CORLETT, of West Manchester, in the county of Allegheny and State of Pennsylvania, have invented new and useful Improvements in Locomotives; and I do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a front view, with part of the front plate removed, showing the interior. Fig. 2 is a vertical section, and Fig. 3 shows the front plate and door.

The nature of my invention relates to the construction of the fire-box. It is so formed, with double plates, that an air chamber or space filled with a poor conductor of heat is interposed between the inner and outer plates, for the purpose of protecting the outer plates from the action of the heat caused by the flame or heat entering the smoke-box through the flues or by the combustion of the cinders in the smoke-box.

It is a well-established fact, based upon the experience of every locomotive-engineer, that when the plates of the smoke-box, to which the steam chests and cylinders are attached, become heated, even to a low red, the plates are liable to warp, and thus derange the working of the valves and piston.

It is the object of my improvement to obviate this difficulty. In order to accomplish this object, I construct the smoke-box with double plates, the external ones being of the usual form and thickness.

In the accompanying drawings, A represents the outer plates. Upon the inside of this I secure the lining B B', which may be

made of light plate-iron, extending up the sides nearly to the top of the smoke-box, leaving a space of from two to six inches between the plates. For the lower third of the smoke-box the plates may be placed at an angle of about forty-five degrees, for the purpose of conveniently discharging the cinders, as shown at B'. The space between the outer and inner plates may be filled with fire-bricks or other poor conductor, though this is not deemed important. The inner set of plates are made as nearly air-tight as practicable. The front outer plate of the smoke-box is provided with a number of holes, C, for the purpose of admitting a circulation of cool air between the outer and inner plates. The door D, which opens into the interior of the smoke-box, is, like the other parts, constructed with two plates, the outer one being provided with air-holes C' for the purpose of the circulation of air between the door-plates. This door shuts as closely as possible, to prevent the air from entering the smoke-box. For the purpose, however, of causing a more complete combustion of the gases within the smoke-box, I introduce a small pipe, E, of an inch or less in diameter, through the door D, which can be closed at pleasure by means of a plug.

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

Making the body of the smoke-box of locomotives with double plates A B B', with an air-space between them, with perforations C C', for the purpose of protecting the outer plate from the destructive action of the heat, substantially as specified.

PHILLIP H. CORLETT.

Witnesses:

J. BRAINERD,

WM. K. CORLETT.