

J. DENSMORE, Sr.

Exhaust Mechanism for Locomotive Engines.

No. 85,571.

Patented Jan. 5, 1869.

Fig. 1.

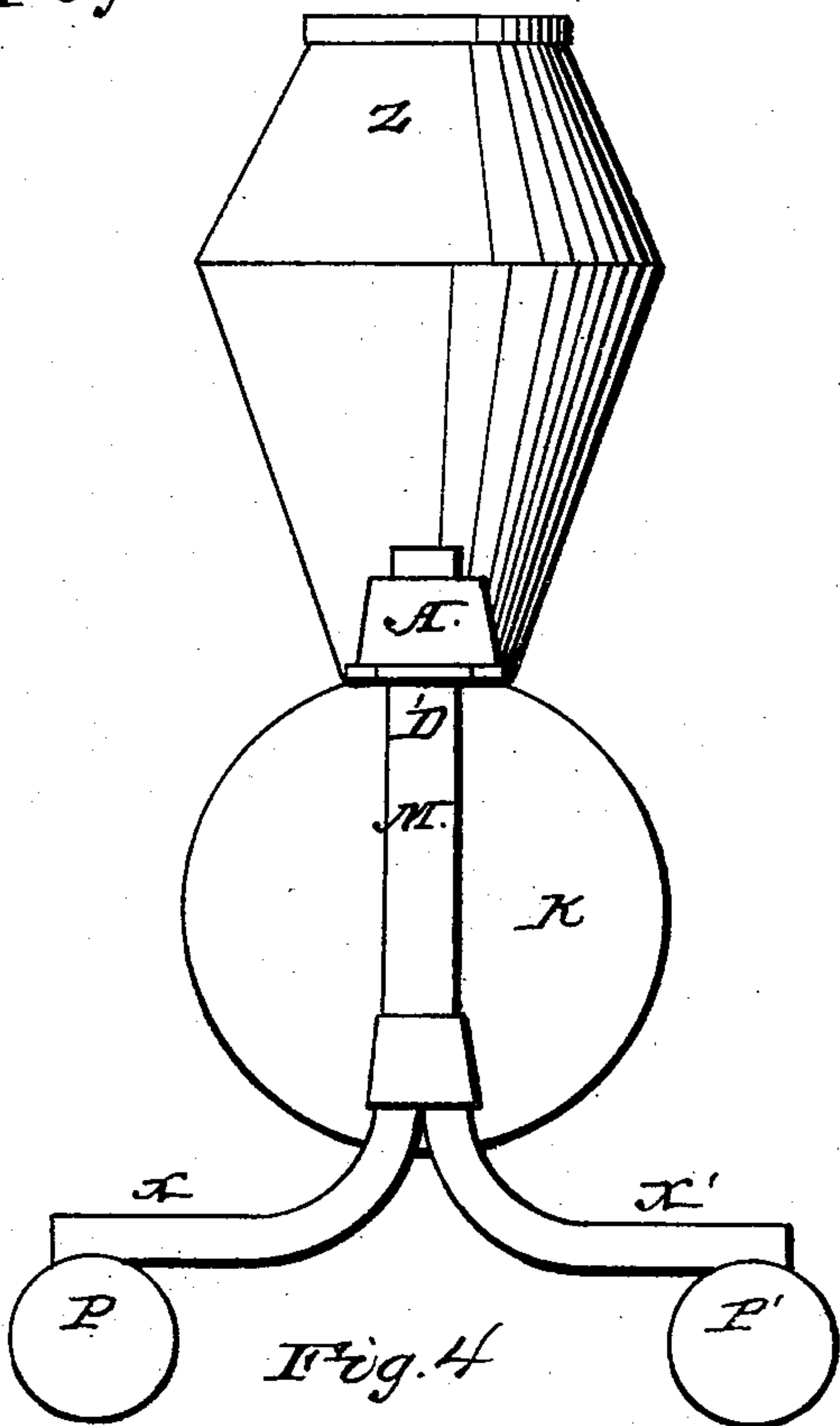


Fig. 2.

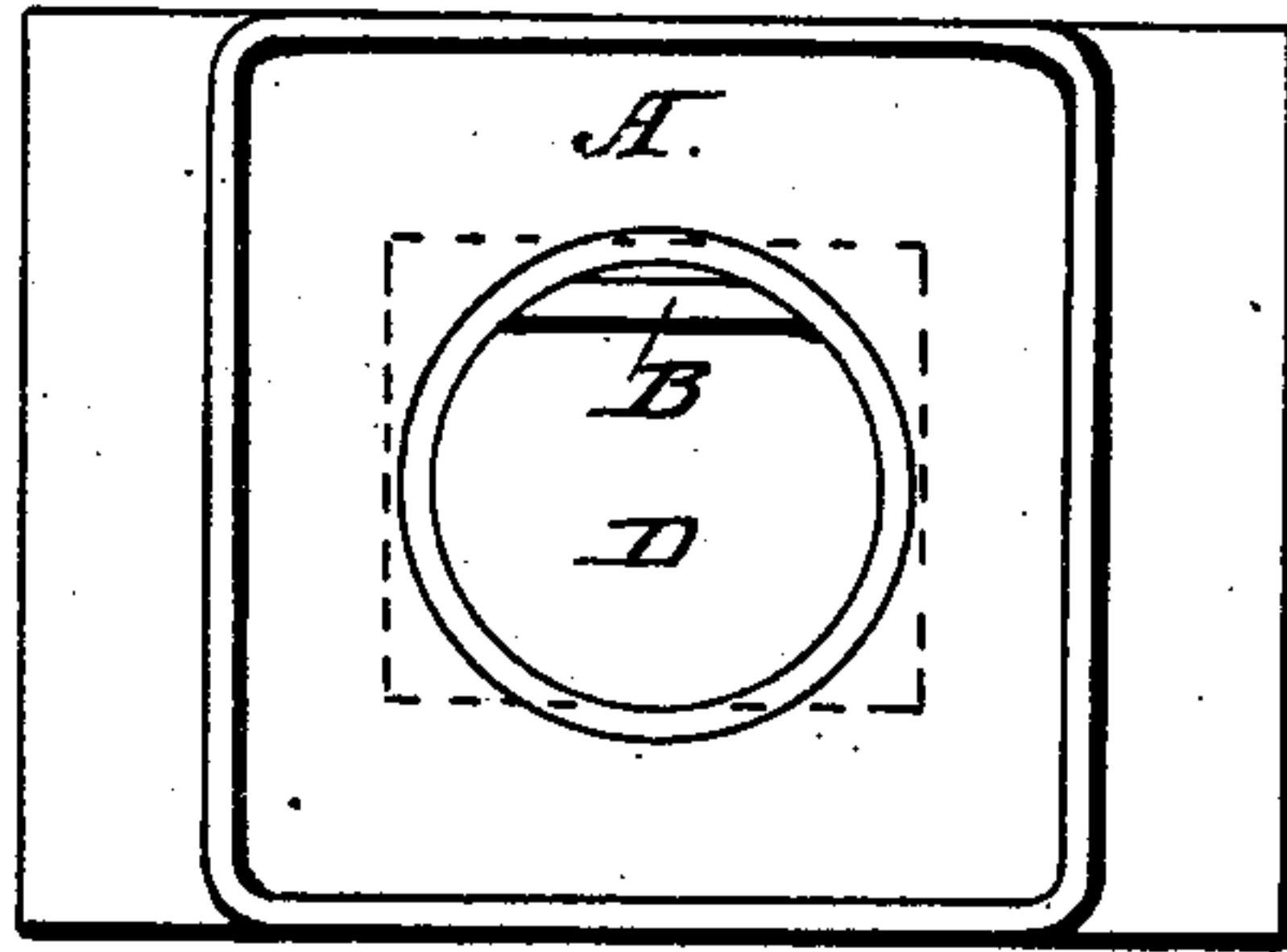


Fig. 3.

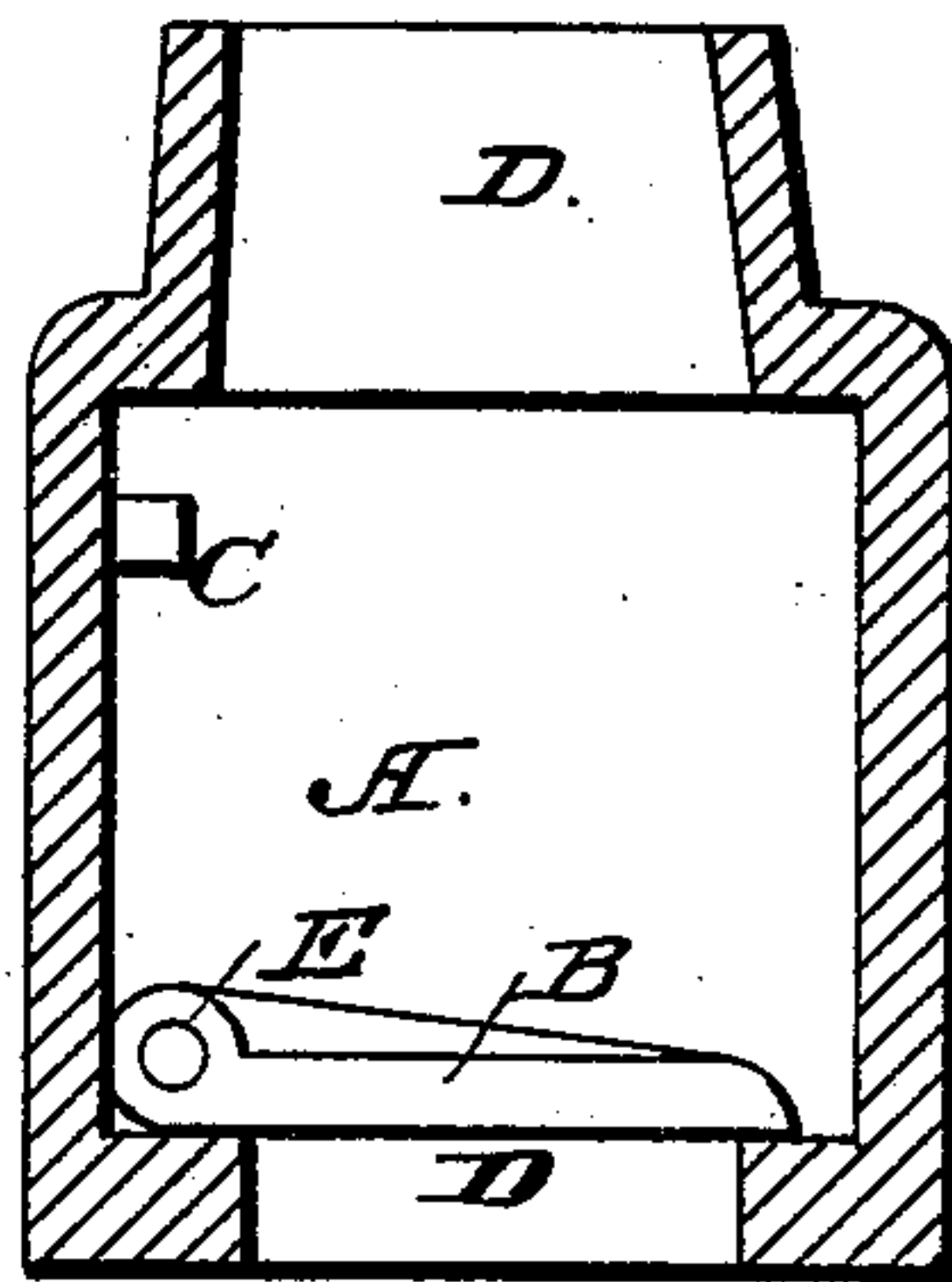
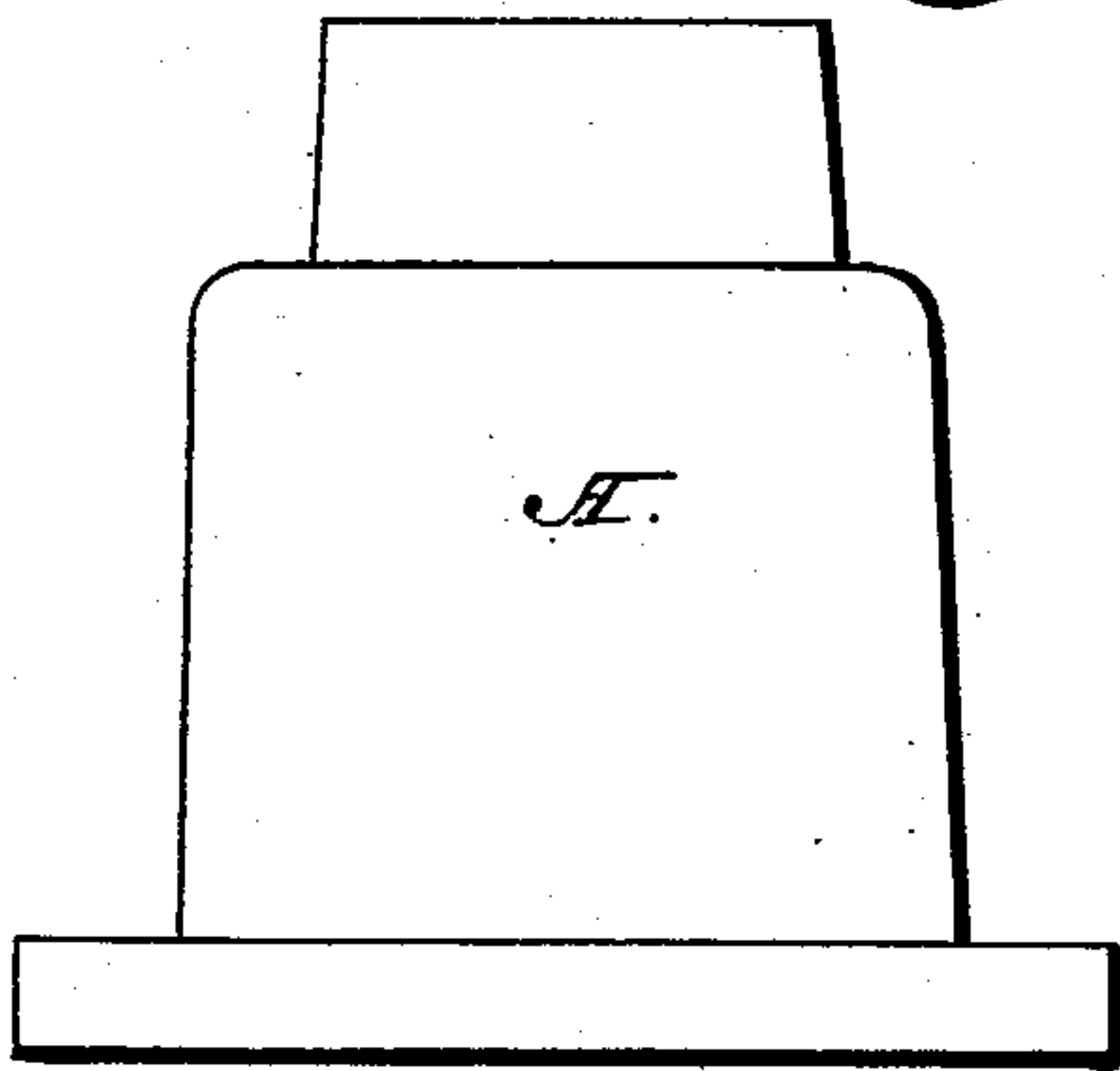
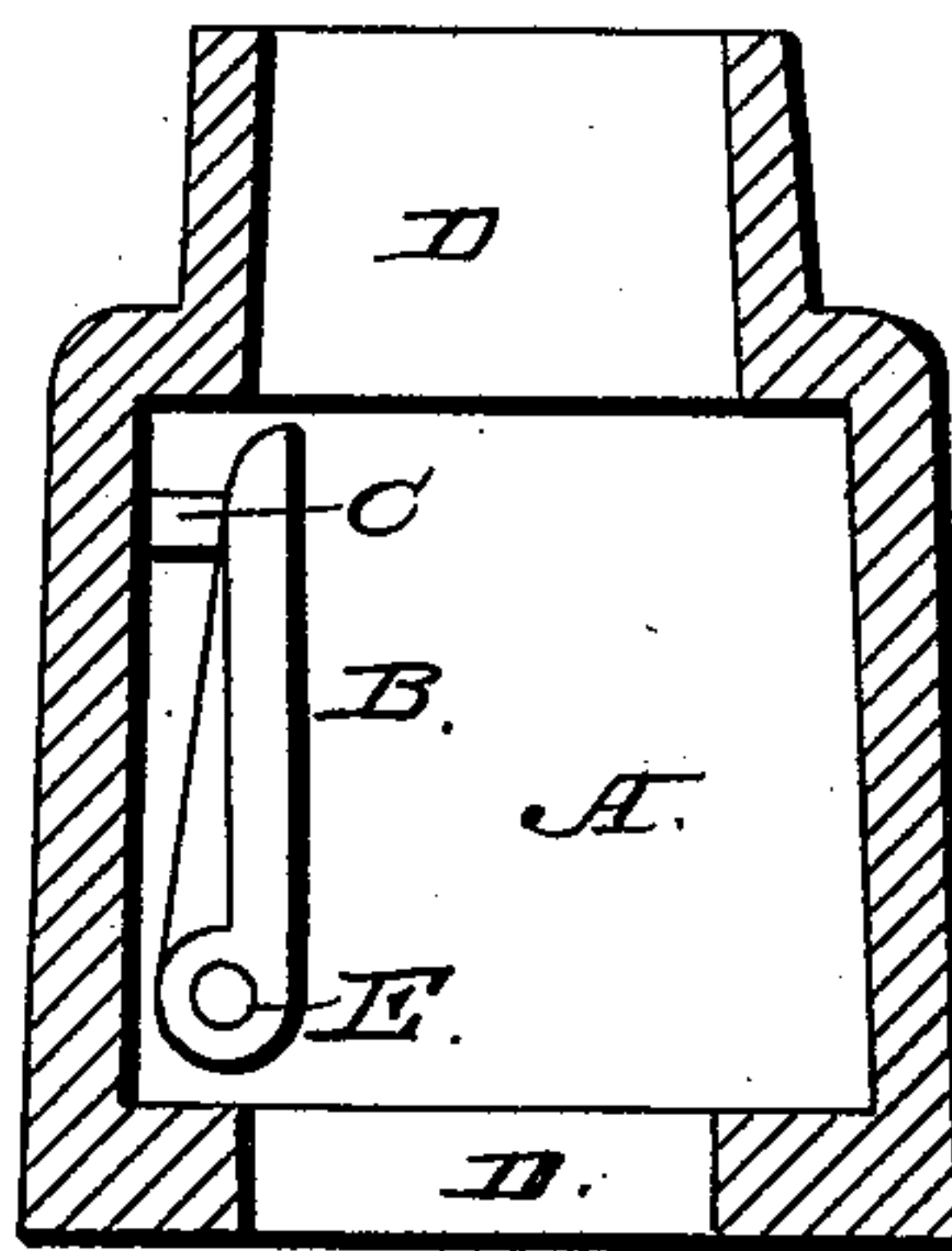


Fig. 5.



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JOEL DENSMORE, SEN., OF ERIE, PENNSYLVANIA.

Letters Patent No. 85,571, dated January 5, 1869.

IMPROVED EXHAUST-DEVICE FOR LOCOMOTIVE-ENGINES.

The Schedule referred to in these Letters Patent and making part of the same.

To whom it may concern:

I, JOEL DENSMORE, Sen., of the city and county of Erie, and State of Pennsylvania, have invented a new and useful way of preventing impediments getting into the cylinders of locomotive-engines, when the engines are reversed, while running.

The nature of the invention is in the arrangement of check-valves with the steam-escape pipes of locomotive-engines, so as to permit steam to escape freely while the engine is running, but to close, the instant of reversing, and prevent anything getting through the escape-pipes into the cylinders.

As illustrating the invention, I refer to the accompanying drawings, and following description, and the specifying-letters of each.

P and P' represent the cylinders of a common locomotive-engine;

X and X', the escape-pipes thereof;

M, a common pipe, into which the escape-pipes vent; and

Z, a smoke-pipe, through which the steam is thrown off.

The other letters will be explained in the course of the description.

As a convenient instrument for applying the check-valve to the escape-pipes of steam locomotive-engines, make a box, A, to receive, hold, and operate the valve, as seen in all the figures, and of a size commensurate with the volume of steam to be used.

Through the bottom and top of the box A, make an aperture, D, and into the aperture D, in the bottom of the box A, fit and attach the common pipe M, as seen in figure.

At the bottom of the box A, inside, hang a valve, B, large enough to cover the aperture D, as seen in Figures 2, 3, and 5, on the hinge E, as seen in figs. 3 and 5, so that, when down, it will close tightly the aperture D, as seen in Figures 1, 3, and 5, and, when up, will rest against the stop C, as seen in figs. 3 and 5, in such a position that, when the pressure of escaping steam is withdrawn, it will, of its own weight, instantly fall across and close the aperture D.

The box A is not an essential feature of the invention, for the check-valve B can be fitted to and hung, in a similar manner, in the pipe M, or in either of the pipes P or P', with the same result.

Thus applied, the check-valve B opposes but slight resistance to escaping steam, and, when the engine is reversed, will instantly close the aperture D, and prevent anything from the smoke-pipe Z getting through the escape-pipe X or X' into the cylinder P or P'.

And I claim the combination and arrangement of the box A with the valve D and pipe M, substantially as described.

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Witnesses:

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