E. C. SOULE.

VENTILATING-VESSELS.

No. 172,282. Patented Jan. 18, 1876.

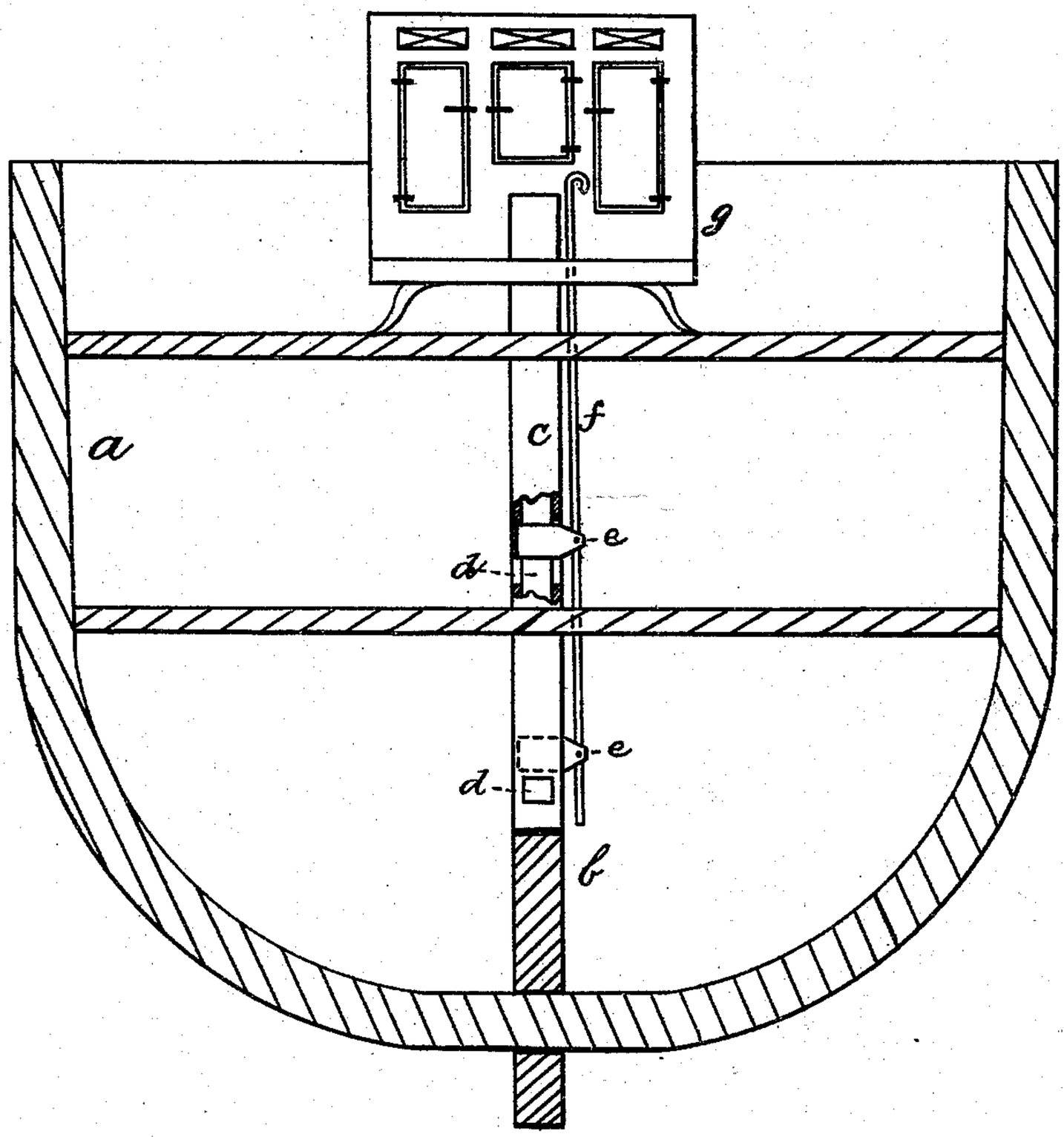
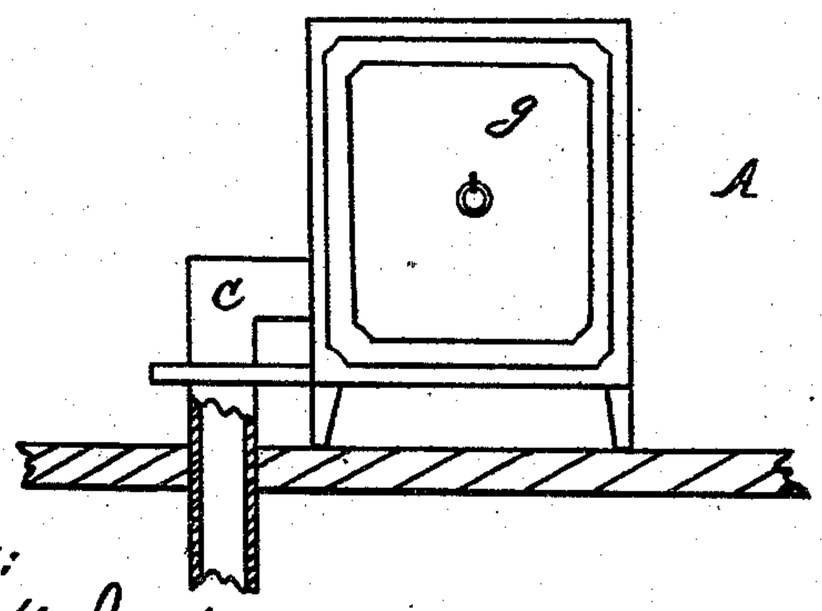


Fig. 1.



Witnesses:
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per
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atty.

UNITED STATES PATENT OFFICE.

ENOS C. SOULE, OF FREEPORT, MAINE.

IMPROVEMENT IN VENTILATING VESSELS.

Specification forming part of Letters Patent No. **172,282**, dated January 18, 1876; application filed November 27, 1875.

To all whom it may concern:

Be it known that I, ENOS C. SOULE, of Freeport, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Ventilating Vessels; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The drawing shows a cross-section of a vessel's hull with my improvement in place.

The object of my invention is to produce certain improvements in the ventilation of navigable vessels.

My invention consists in such an arrangement of an air-conductor having different openings, to open into the different parts of the ship, with the stove of the galley or cook-house, that a complete ventilation of the different parts of the ship is obtained.

My invention is simple, and may be thus described in detail.

a shows the hull of the vessel, and *b* the keelson thereof. Extending from the keel to the upper deck, and through it, is the hollow air-pipe or ventilator *c*. This pipe is bent and connected with the draft of the galley-stove, as illustrated. *d* shows air-passages, opening from the air-pipe *c* into the different apartments of the vessel. These passages are opened or closed, as desired, by means of sliding valves *e*, operated by a rod extending down the outside of the pipe *c*, as shown, and connected, in any suitable and proper manner, with the valves *e*. Thus, as the rod is pulled up or pushed down it operates to have the draft-holes *d* opened or closed by the valves *e*, as desired.

The rod *f* may run up through the hearth of the stove, and be provided with a suitable handle for operating it, as desired.

Any number of openings *d* may be made in the air-pipe *c*, and the valves can be so arranged as to close those in one hold of the vessel, and open those in the other, or they may be so arranged that all may be closed or opened together.

Pipes may be located in any part of the vessel, and lead to the stove.

It will be apparent from the foregoing description that I furnish a means of ventilation whereby the different parts of the ship are thoroughly ventilated by the before-described arrangement of the air-pipe, with its valves and openings, and its connection with the stove.

By this arrangement additional draft is furnished to the stove.

It is evident that this invention can be applied with effect to steamers, for adding draft to the furnaces.

Air-pipes can be laid along in the lower hold by the side of the keelson, and the pipe *c* connected with them. The openings *d* in the air-pipe may be covered with wire-gauze, if desired; and in case the vessel is loaded with coal or other gaseous material wire-netting can be inserted to cover the mouth of the pipe, and thus prevent all liability of the gas arising from the cargo igniting, and conveying fire down the air-pipe to the cargo.

g shows the stove. A is a detail view, showing the connection of the air-pipe with the stove.

The combination of the pipe or pipes with the stove affords a uniform draft to the fire, so that it is unaffected by violent winds. The bad air, injurious to cargoes in the hold of the vessel, is by this means drawn away.

My invention has no connection with a system of ventilation by which air is drawn from a room to a heating-chamber, and then returned to the room. Neither does it refer to any method of ventilating the rooms of houses.

The invention consists in drawing the air necessary to the draft of a galley-stove from the hold or lower parts of a vessel by means of pipes, and the heating of the air in the stove, whereby at the same time the stove is furnished with an equable draft, and the air in the lower parts of the vessel changed.

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

The combination of the pipe *c*, connected with stove *g*, and extending to the keelson *b*, and having suitable openings *d*, as described, with the valves *e* and rod *f*, substantially as and for the purposes herein set forth.

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

ENOS C. SOULE.

Witnesses:

FRANK. H. JORDAN,

EDGAR S. BROWN.