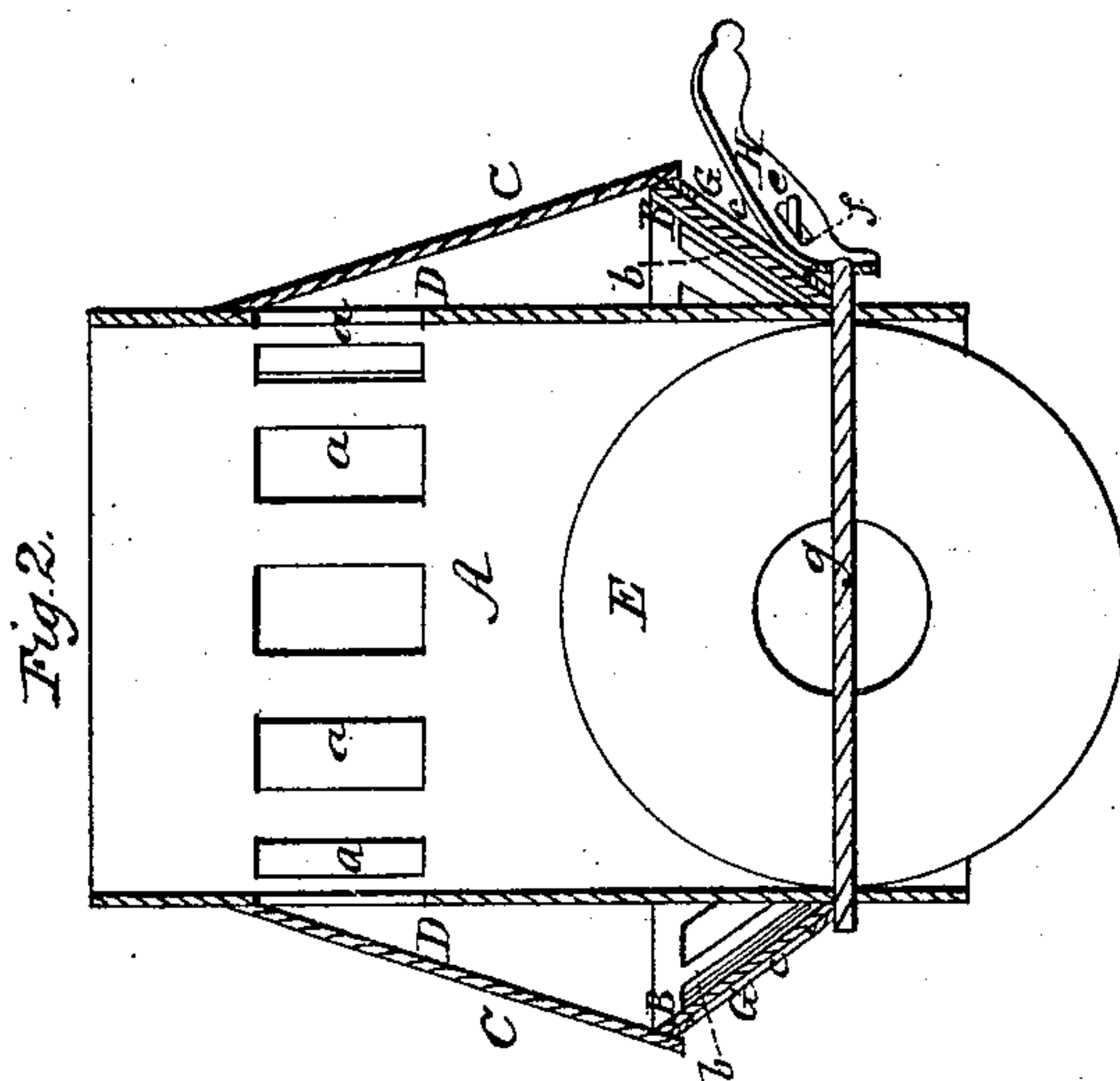
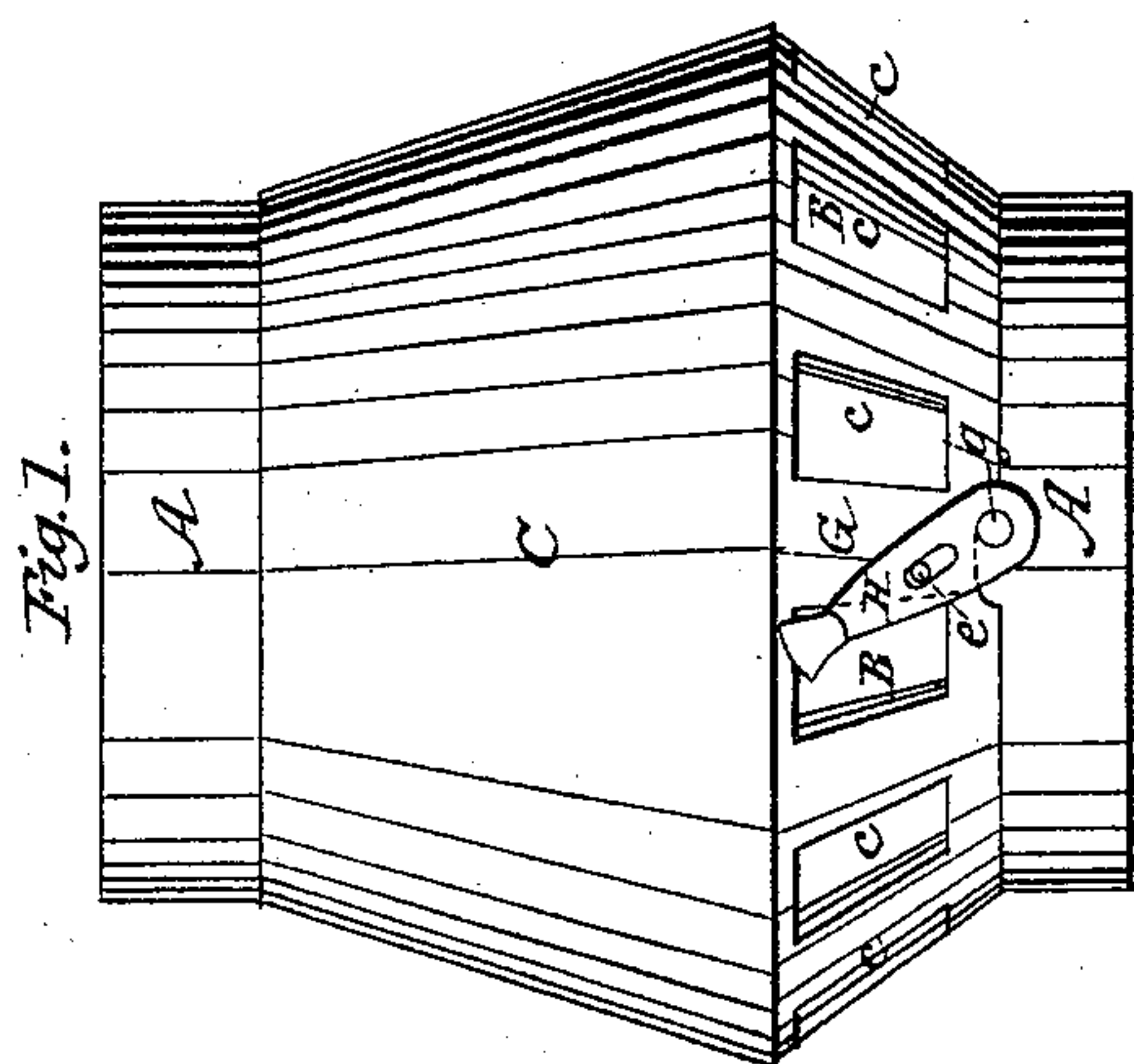
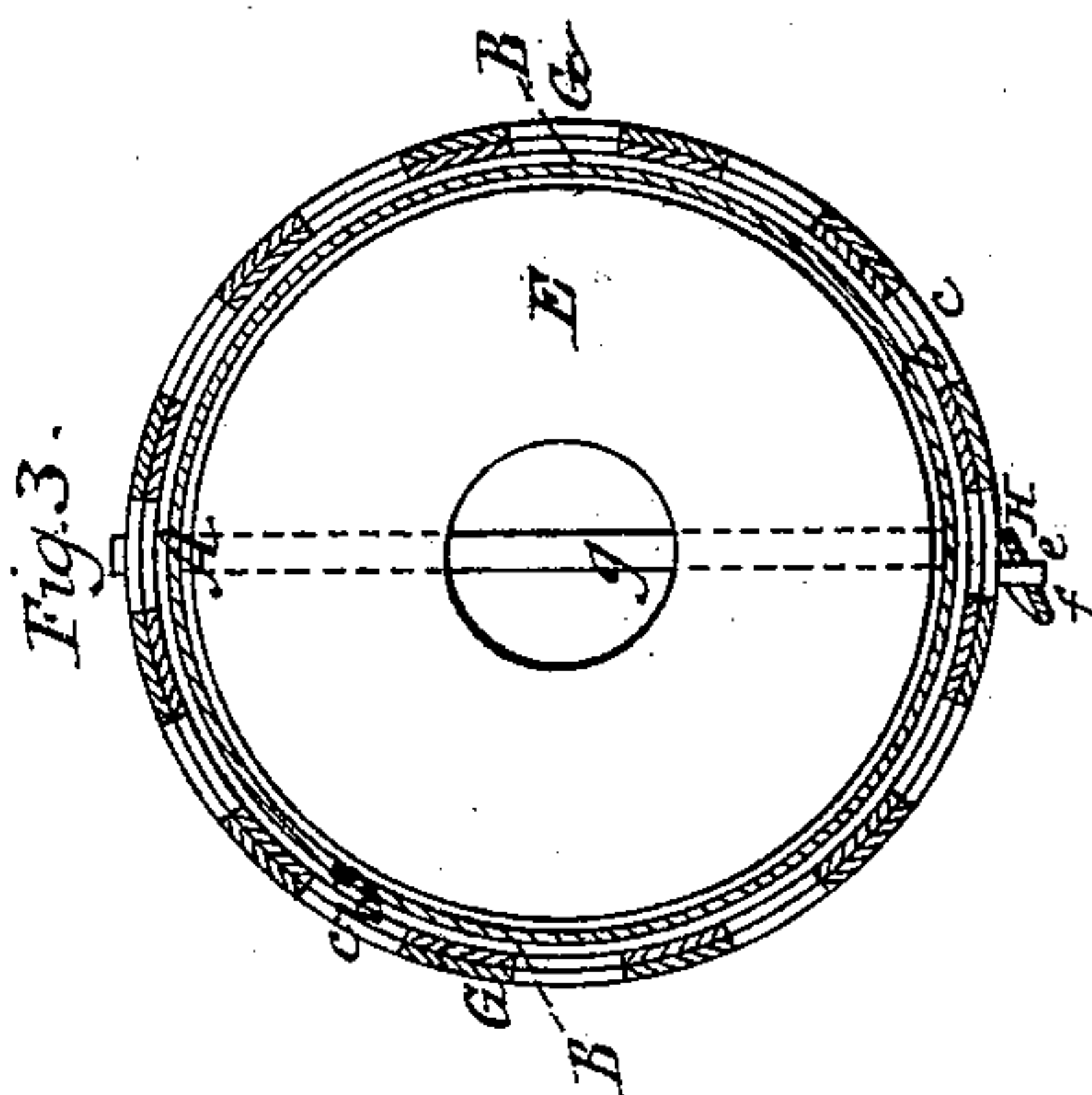
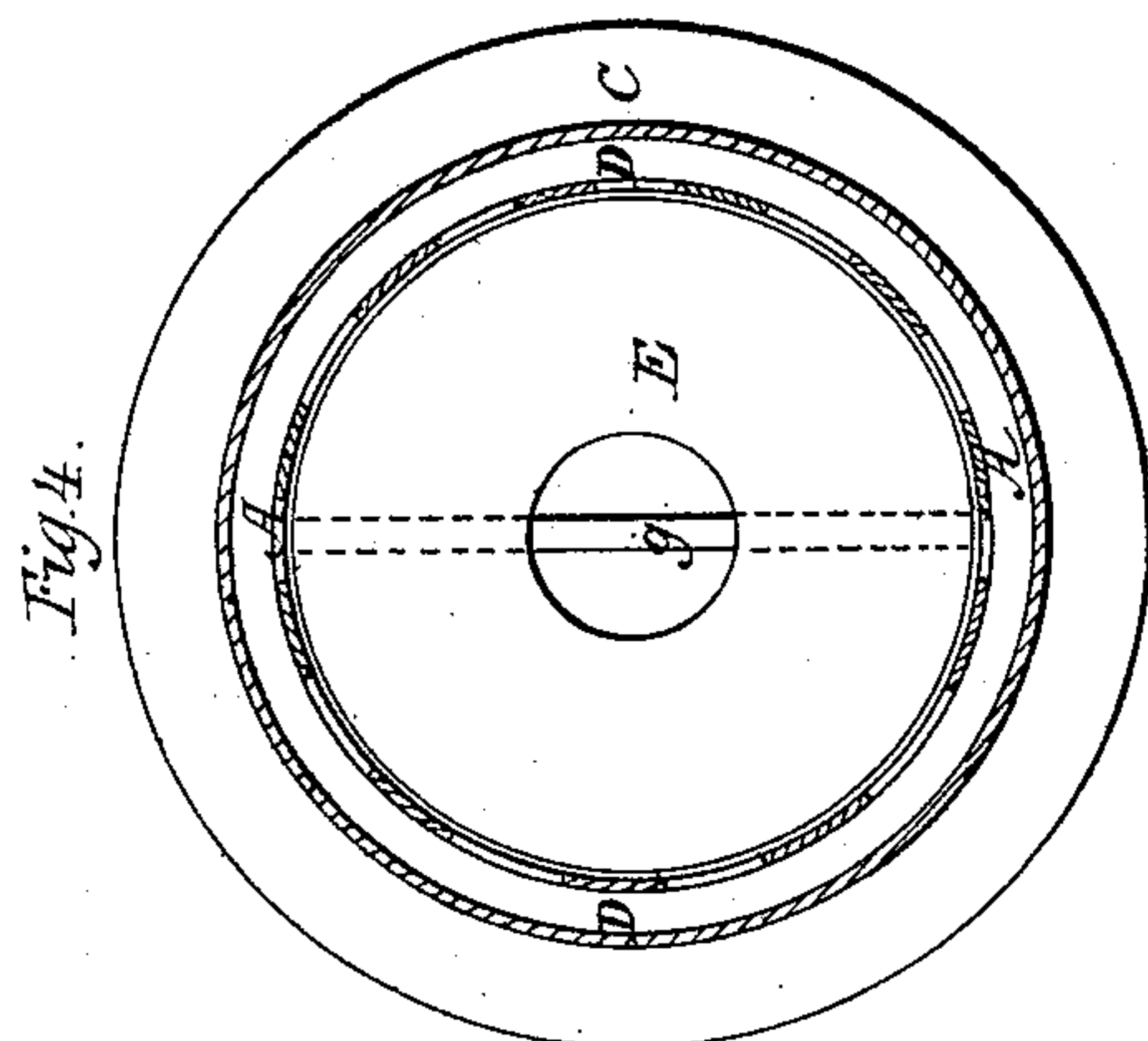


G. CHILSON.
Draft Regulator and Ventilator.

No. 43,897.

Patented Aug. 23, 1864.



Witnesses.
R. H. Edsby
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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN DRAFT-REGULATORS AND VENTILATORS.

Specification forming part of Letters Patent No. 43,897, dated August 23, 1864.

To all whom it may concern:

Be it known that I, GARDNER CHILSON, a citizen of the United States of America, and now or late a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Draft-Regulator and Ventilator, or, in other words, an improvement in the application of an air-register to a smoke-pipe; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a side elevation of a smoke-pipe provided with an air-register in accordance with my invention. Fig. 2 is a vertical section of the two. Fig. 3 is a horizontal section taken through the register. Fig. 4 is a horizontal section taken through the air passages of the smoke-pipe.

My present invention is an improvement on that on which Letters Patent dated April 29, 1862, were granted to me, and which required in its construction a division of the smoke-pipe into two parts, having the air-register and a current-guard between them.

In carrying out or constructing my present invention or improved apparatus I make the smoke-flue, or that part of it surrounded by the air-register and its air chamber case, in one continuous pipe, A, (which may extend both above and below the conical frusta B C, to be hereinafter described,) and I provide it at the upper part of the air chamber or space D, (formed around it by the frusta B C,) with a series of air holes or passages, *a a a*, opening into the air-chamber D. The said air-chamber D, I construct by means of two hollow conic frusta, B C, united at their superior bases, and circumscribing the pipe A, and fitting to it at their inferior bases, as shown in Fig. 2. The lower frustum, B, is the seat or stationary part of an annular air-register and is circumscribed by a similar conic frustum, G, each frustum being perforated with a series of air-holes, *b b b c c c*. The air-holes of each frustum are at equal distances apart and of equal sizes. Each two next adjacent holes of each frustum is to be arranged at a distance apart equal to or greater than the width of either hole, the same being so that by turning the outer frustum, G, around on the inner frustum, B, sufficiently the spaces between the air-holes of the outer frustum,

G, may be made to entirely cover the holes of the inner frustum, B. By this construction of the frusta B G they become what is usually termed an "air-register," composed of an annular conical valve, G, and its annular conical seat B. A circular damper, E, may be arranged within the pipe A and below the air-register, and be connected with the air-register valve G by means of a stud, *e*, extending from the latter into a slot, *f*, made in an arm, H, projecting from the shaft *g* of the damper. By such means by moving the arm H the damper and the air-register valve will be moved simultaneously, so as to regulate the passage of air through the openings of the seat B, as well as the passage of smoke through the pipe A. The more the damper is opened the more will the air-passages be closed, and vice versa.

In this construction of the apparatus that part of the pipe A which is encompassed by the two frusta B C operates as a guard to the openings of the register-seat G, as well as to aerial currents when flowing through them—that is to say, the said portion of the pipe A not only operates to prevent the smoke from being driven outward through the air-register, but also to prevent the soot, ashes, or dirt, which may fall through the pipe A from dropping upon and clogging the air-register.

The advantage of my present improvement is that it enables the annular air-register to be applied to any ordinary cylindrical stove-pipe, and does not require a division of the pipe, such as would be necessary to the application of my former patented invention thereto. Furthermore, it can be made and applied at less expense, and is simpler and less liable to get out of order. It also has other advantages.

I do not claim the invention set forth and described in my said patent; but

What I herein claim is—

My improved draft-regulator as made with a continuous pipe, A, perforated with a series of air-holes, *a a a*, the air-register B and the chamber D being arranged with such pipe and holes, substantially as specified.

GARDNER CHILSON.

Witnesses:

R. H. EDDY,
F. P. HALE, Jr.