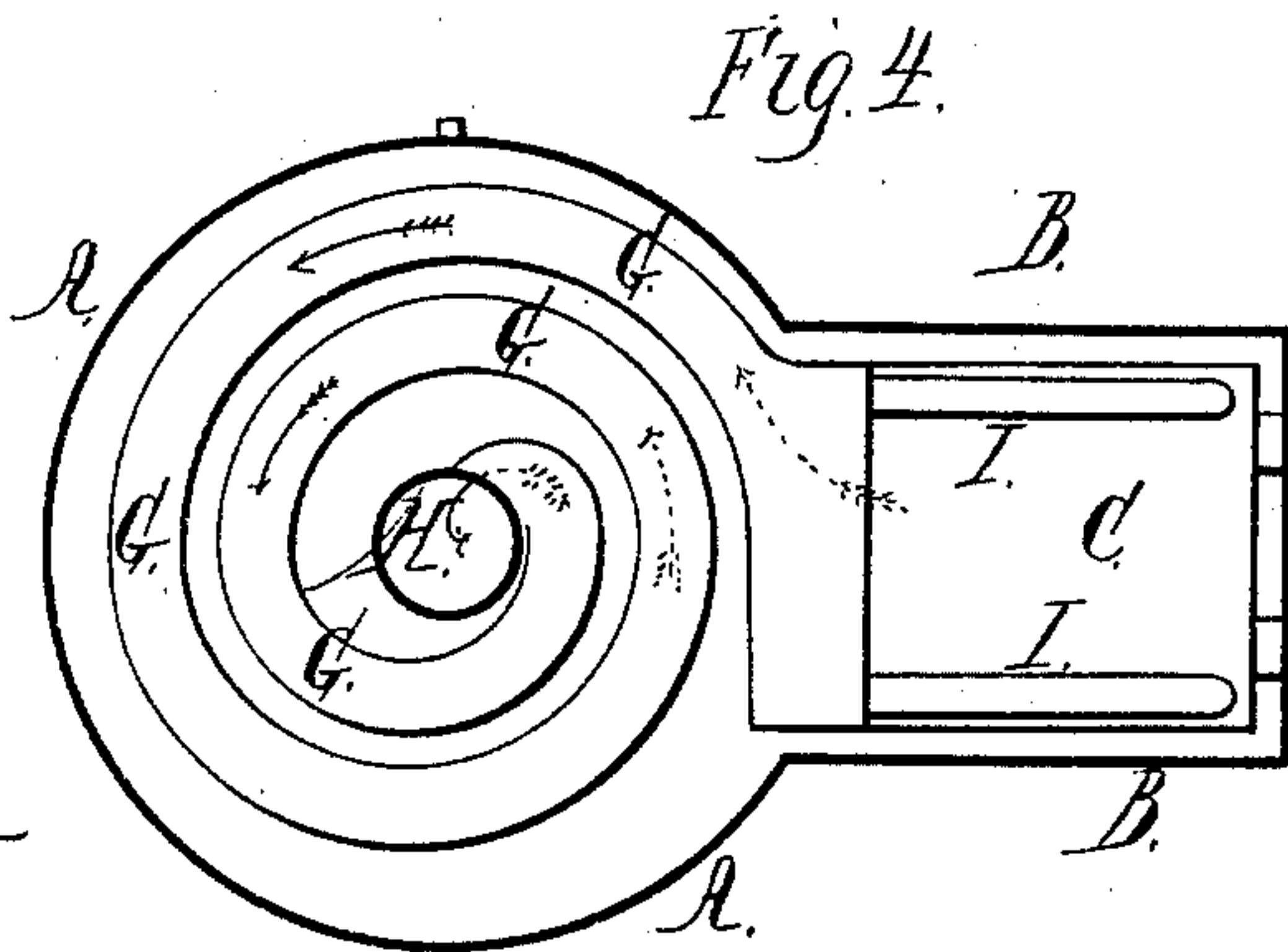
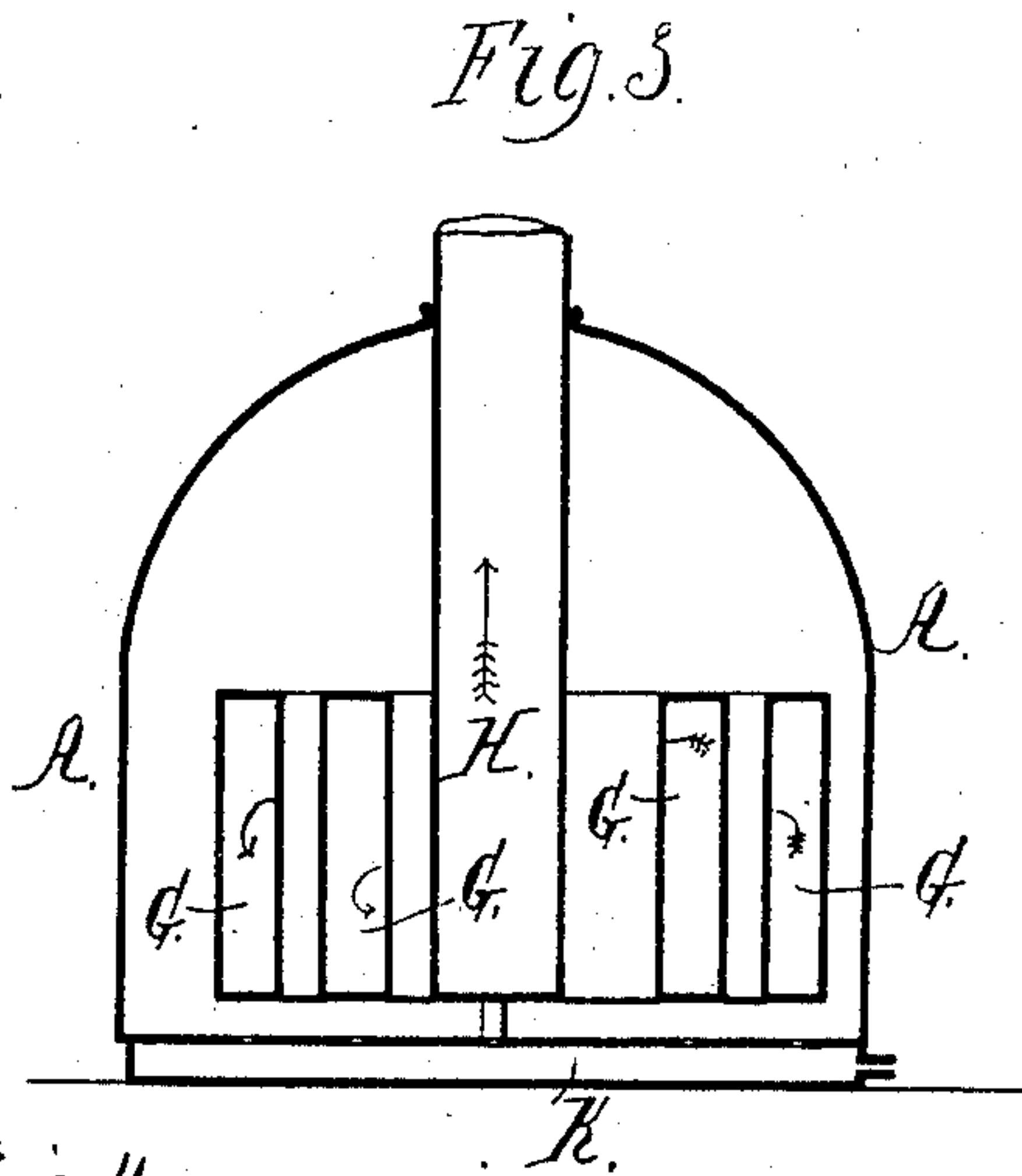
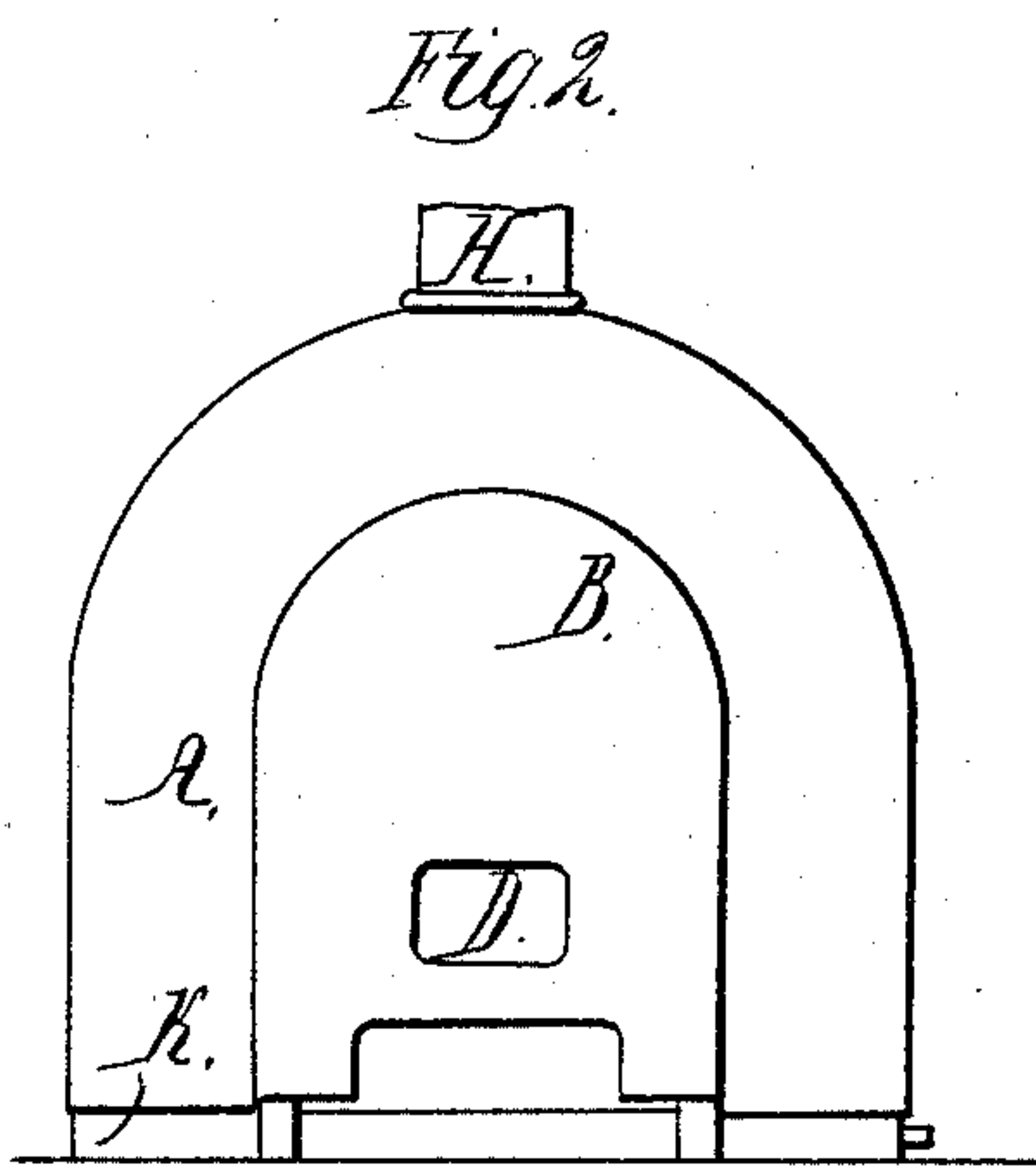
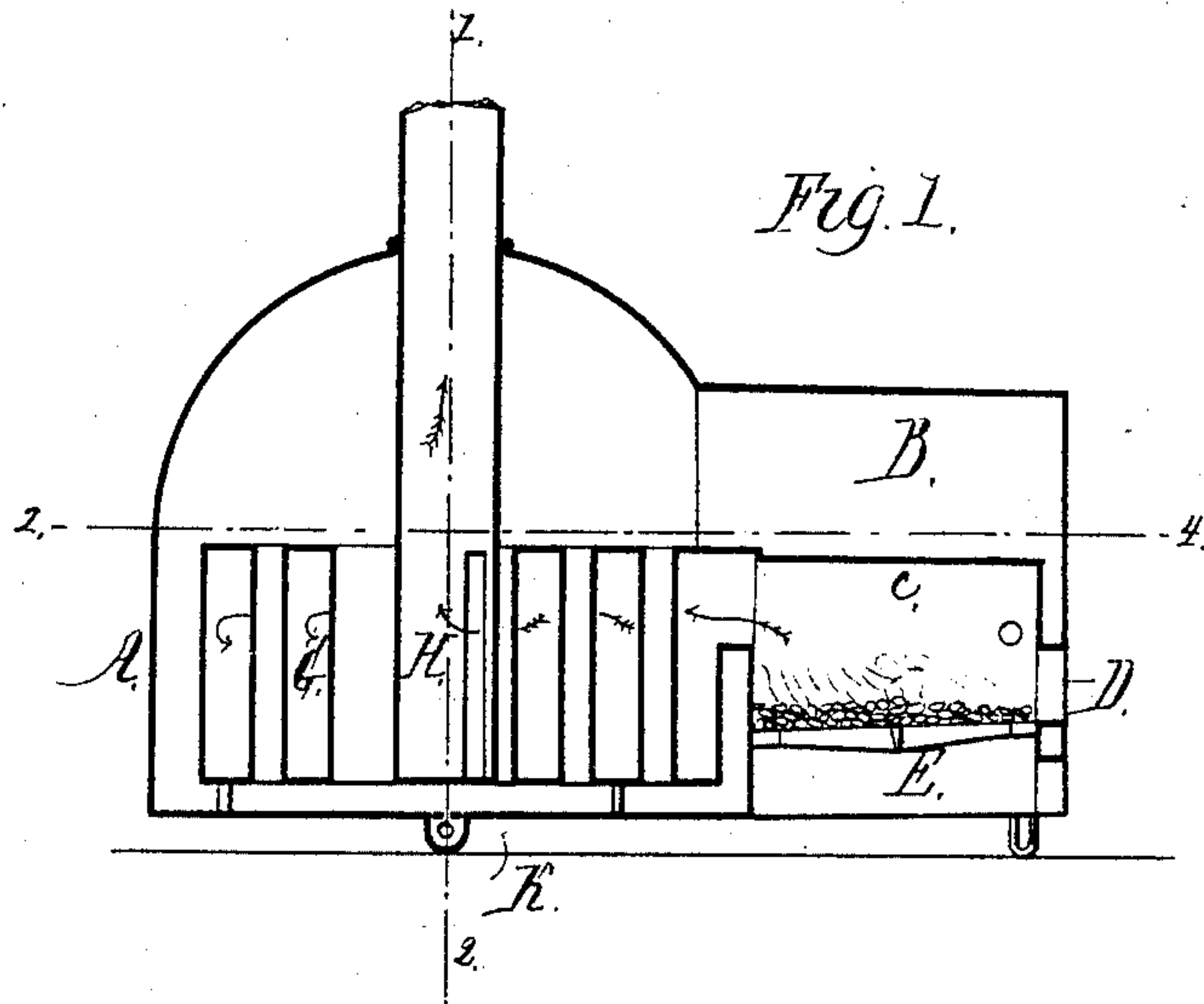


W. Schaubel,

Steam-Boiler Water-Tube.

N<sup>o</sup> 26,788.

Patented Jan. 10, 1860.



Witnesses;  
Henry Howden  
Horace See

Inventor;  
William Schaubel

# UNITED STATES PATENT OFFICE.

WILLIAM SCHAUBEL, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN STEAM-BOILERS.

Specification forming part of Letters Patent No. 26,788, dated January 10, 1860.

*To all whom it may concern:*

Be it known that I, WILLIAM SCHAUBEL, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Steam-Boilers; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists of a coiled flue and a chimney arranged within an outer casing in respect to the inner and outer casing of a fire-chamber and certain tubes connected with the latter in the manner described hereinafter, so as to form a steam-boiler which presents an extensive heating-surface in a small compass, and this at less expense as regards construction than the same heating-surface can be obtained by any of the ordinary systems of flues and tubes.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a vertical section of my improved steam-boiler; Fig. 2, an end view; Fig. 3, a transverse section on the line 1 2, Fig. 1, and Fig. 4 a sectional plan on the line 3 4, Fig. 1.

Similar letters refer to similar parts throughout the several views.

The outer casing A of the boiler is of a circular form with a dome-shaped top.

B is the outer casing of the fire-chamber, projecting from and forming a part of the outer casing A.

C is the inner casing of the fire-chamber, D the fire-door, and E the grate.

The fire-chamber communicates with the coiled flue G, which terminates at and com-

municates with the chimney H, situated in the center of the body of the boiler and passing through its dome-shaped top. On the outside and on each side of the inner casing of the fire-box is a pipe I, each pipe communicating with the fire-chamber at a point near the front of the same and at the opposite end with the coiled flue G.

K is a tube situated underneath the boiler and communicating through orifices with the interior of the same, a cock being attached to the end of the tube outside this boiler, so that the water in the latter can be blown off at pleasure.

The coiled flue having both sides, top, and bottom exposed to the water in the boiler, presents an extensive heating-surface in a small compass, and this at much less expense as regards construction than the same heating-surface can be obtained by any of the ordinary systems of flues and tubes.

The object of the tubes I I is in order that a portion of the products of combustion may pass upward from the fuel through these tubes into the coiled flue, thereby tending to maintain the entire fuel in the grate at a uniform heat and preventing the accumulation of partially-consumed fuel at the front corners of the fire-chamber.

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

The arrangement of the casing A, with its coiled flue G, chimney H, and the outer casing B and inner casing C, and tubes I I, of the fire-box.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

WILLIAM SCHAUBEL.

Witnesses:

HENRY HOWSON,

CHAS. E. FOSTER.