

(No Model.)

T. C. JOY.

SECTIONAL STEAM GENERATOR.

No. 317,370.

Patented May 5, 1885.

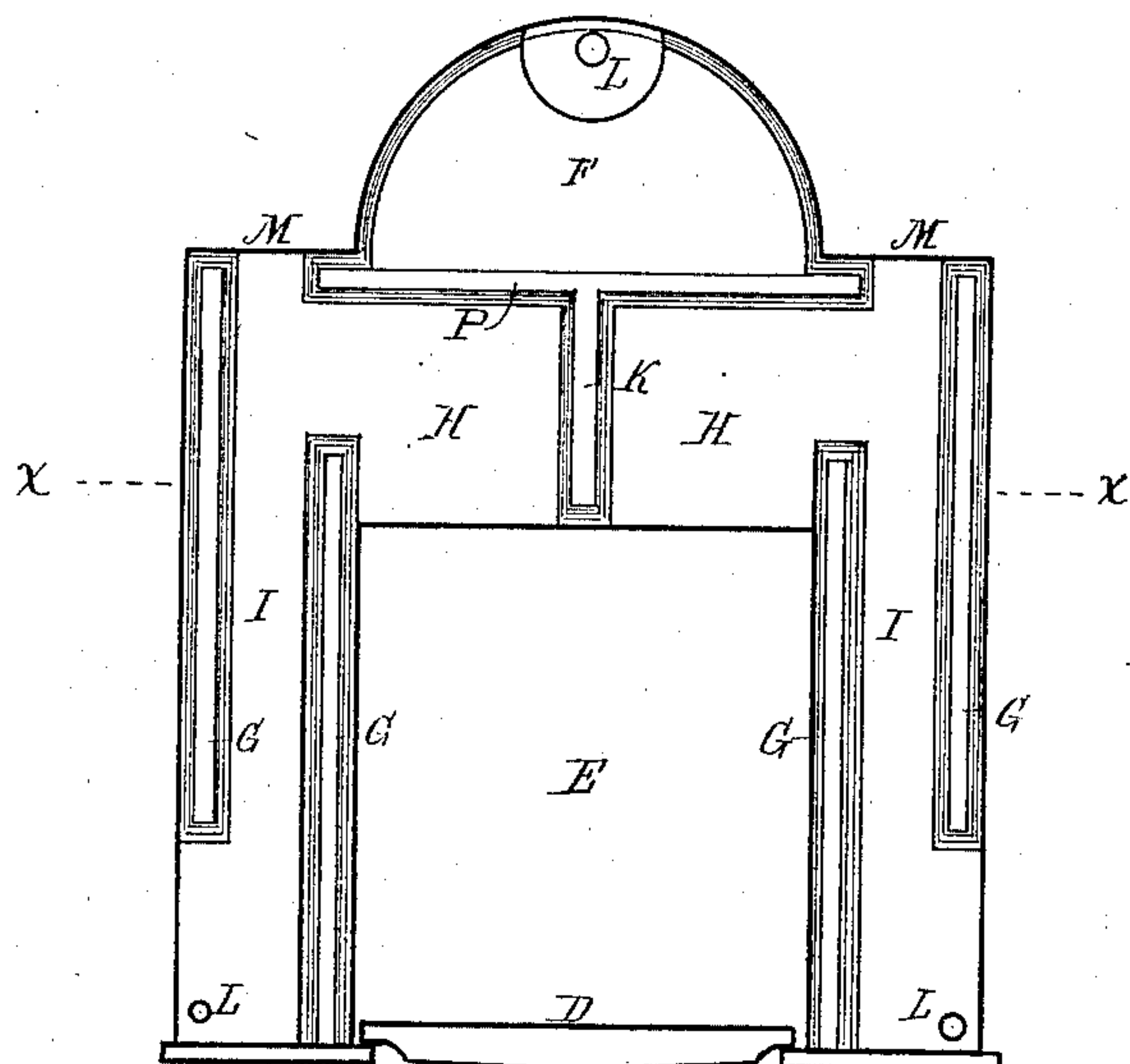


Fig. 1.

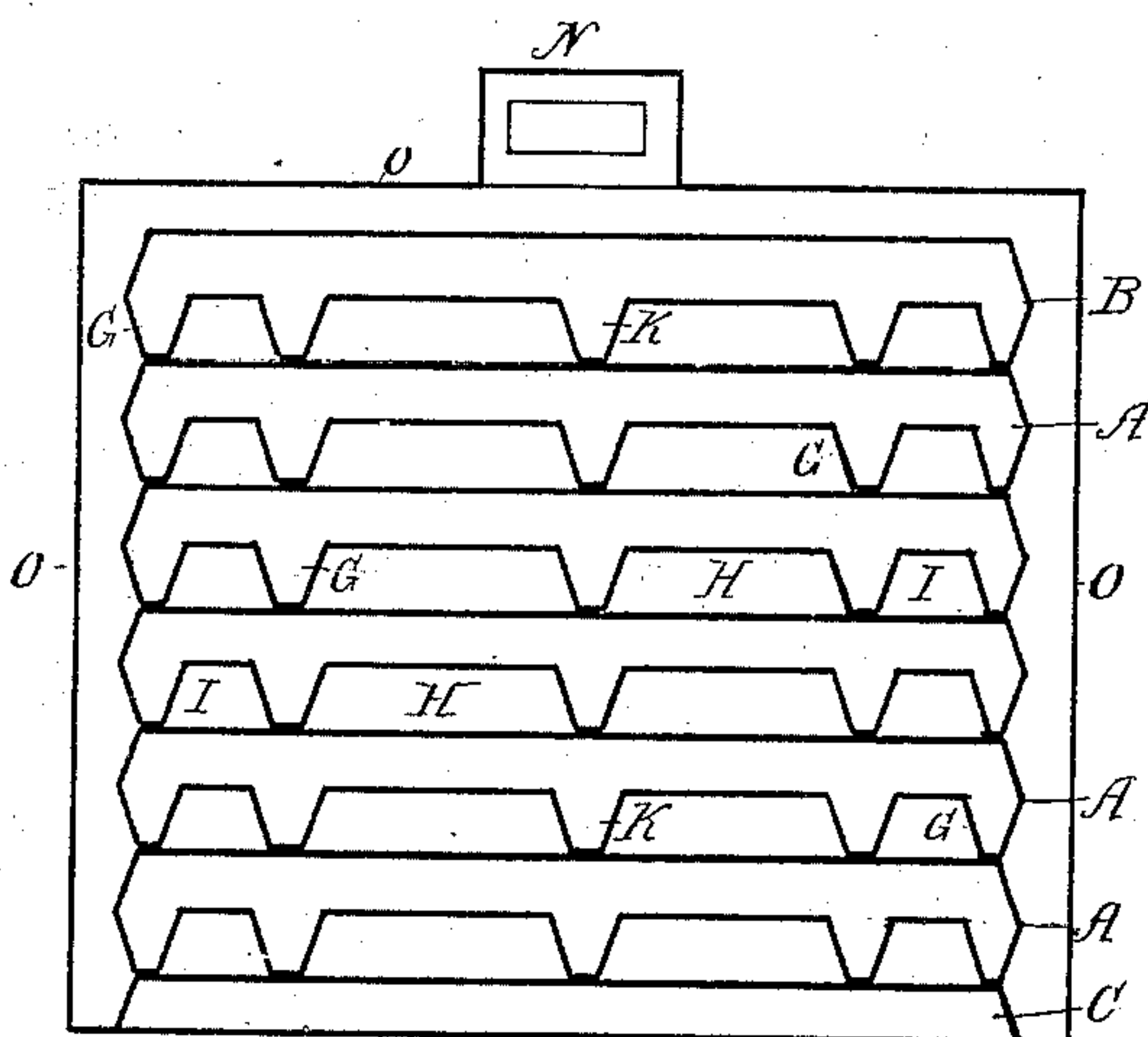


Fig. 2.

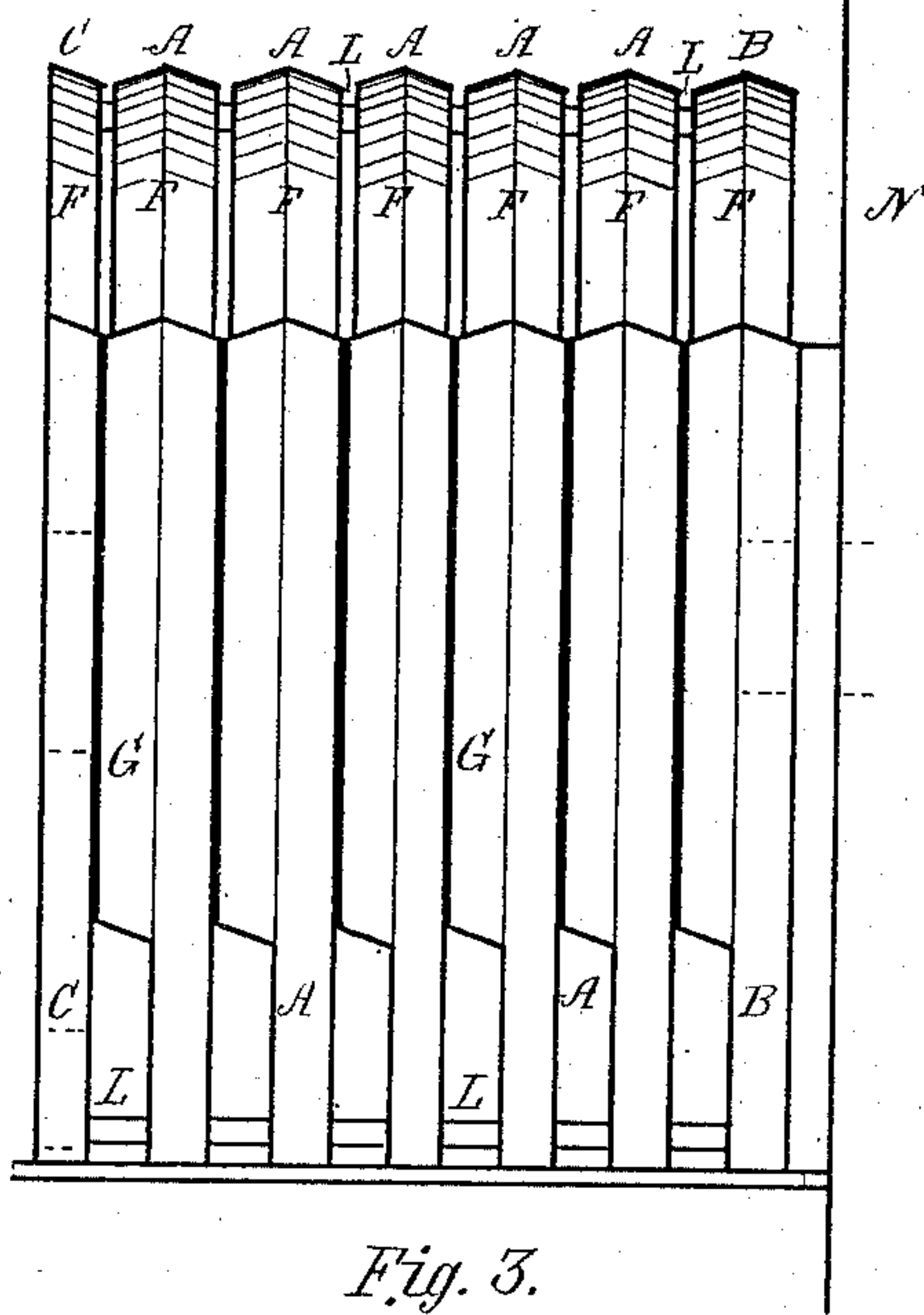


Fig. 3.

J. A. Shutt
T. C. Joy. } Witnesses.

Thaddeus C. Joy
By Joseph Smith } Inventor.
Attorney.

UNITED STATES PATENT OFFICE.

THADDEUS C. JOY, OF TITUSVILLE, PENNSYLVANIA.

SECTIONAL STEAM-GENERATOR.

SPECIFICATION forming part of Letters Patent No. 317,370, dated May 5, 1885.

Application filed May 19, 1884. (No model.)

To all whom it may concern:

Be it known that I, THADDEUS C. JOY, a citizen of the United States, residing at Titusville, in the county of Crawford and State of Pennsylvania, have invented a new and useful Improvement in Sectional Steam-Generators, of which the following is a specification.

My invention relates to and is an improvement on the form of sectional boilers invented by me and secured by Letters Patent No. 269,582, dated December 26, 1882, my object being to change the form of the sections, so that they shall be more simple and cheap in construction and the generator more effective in operation. I attain this in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a side view of one of the interior sections; Fig. 2, a sectional view of one of my boilers composed of five sections and the two end sections or water-tanks on line *x x*, Fig. 1; and Fig. 3, a side elevation of the boiler as set up with the outer covering or jacket removed.

Similar letters refer to similar parts.

A indicates the interior sections; B, the rear section or water-tank; C, the front section or water-tank; D, the grate; E, fire-chamber; F, steam-dome or steam-drum.

The sections A are made similar to the sections as described in my former patent and illustrated in the drawings attached to the same in Figs. 6 and 7, except in the following points: The main body of the section is a thin water-chamber, entirely flat upon the one side. Upon the opposite side are the raised hollow ribs G, G, K, and P, which being hollow add to the heating-surface, and which, when the sections are placed together, meet with the back or flat side of the next section.

The spaces between the raised ribs form the direct-flues H H and return-flues in the same manner that they were formed by the "guttered sides" of the sections, as described in my former patent. The central rib, K, besides strengthening the casting, divides the products of combustion, directing them to the right and left. The horizontal rib P forms the base of the steam-dome or steam-drum, and may be more or less beveled, as desired,

and against which the heat and flame directly impinge, but cannot pass upward, the sides of the dome being vertical and very nearly covering the entire thickness of the section and rib.

M M are openings for access to the flues H and I. These are closed when not in use. The rear section, B, has ribs upon the one side, similar to the interior sections, the front section being plain upon both sides. It will be seen that in this mode of construction the sections are flat upon one side, while all the raised work is upon the other. The advantage gained is that the casting of the sections is simplified and made much more certain, and consequently more cheaply; also, by having the steam-drum raised above the fire-surface, the heat striking only the bottom, the steam on entering the pipes is more dry, preventing priming.

The sections are shown in the drawings as connected at the bottom on each side and at the top of the dome by the nipples L L L. Either this device may be used or the connection may be made with planed and packed joints; also, the inner ribs, G, are shown as extended above the top of the fire-chamber, that the heat may be carried more directly against the bottom of the steam-dome. The plain sides of the thin water-chamber below the rib P, being directly over the fire, are a very valuable heating-surface. All the ribs and fire-surface being vertical, no soot or ashes collect to impair the efficiency of the boiler.

I claim as my invention—

In a sectional steam-generator, the sections standing vertically and constructed flat upon the one side and having on the opposite side raised hollow projections or ribs so constructed and placed that when the generator is set up the ribs of the one section meet with the flat surface of the adjoining section, the spaces between the ribs forming the vertical direct and return flues, the entrance to the vertical flues directly overhanging the fire-chamber, substantially as shown and described.

THADDEUS C. JOY.

Witnesses:

LEWIS B. SILLIMAN,
E. T. ROBERTS.