

S. S. CASE.  
Self-Heating Iron.

No. 222,179.

Patented Dec. 2, 1879.

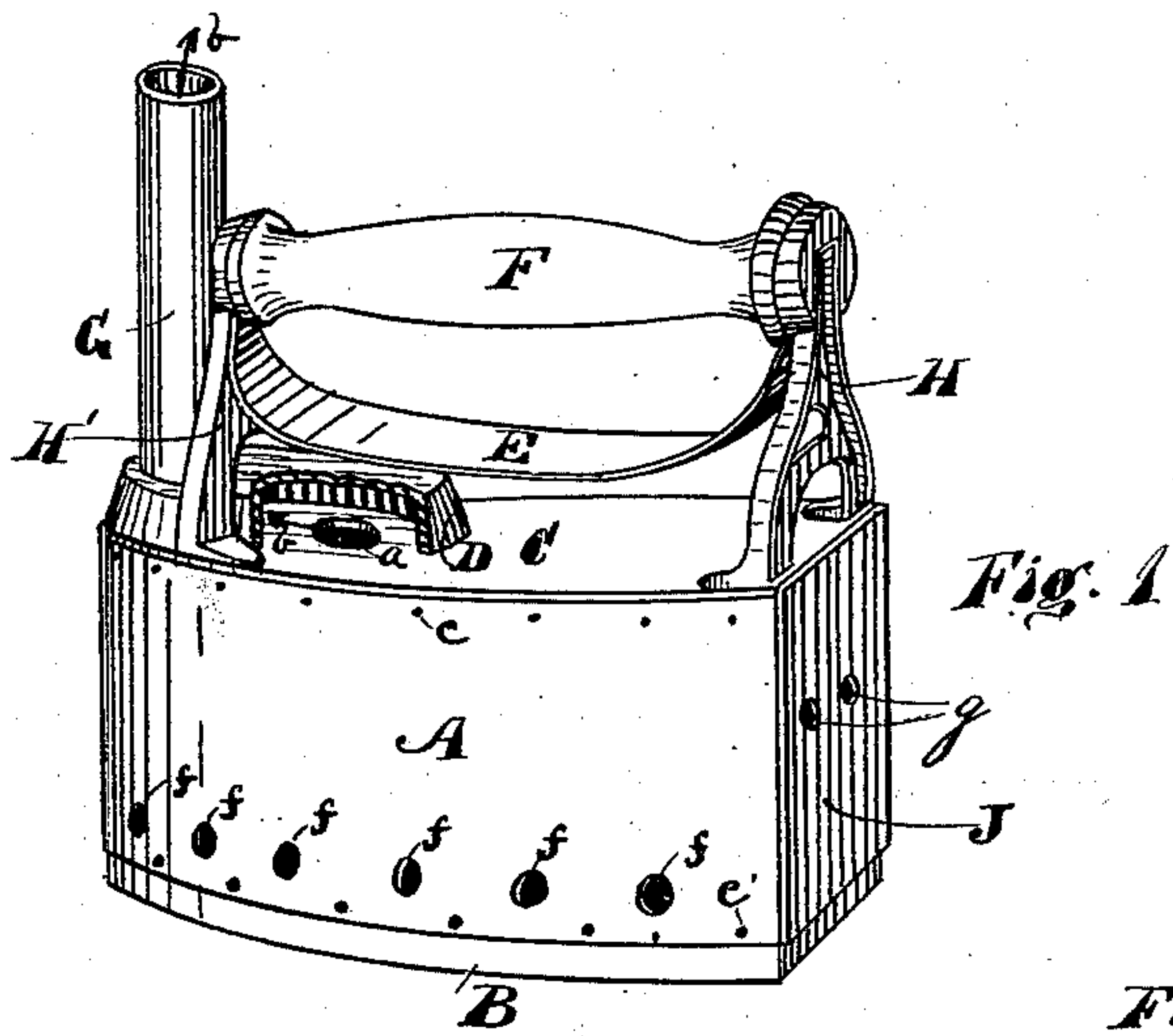


Fig. 1

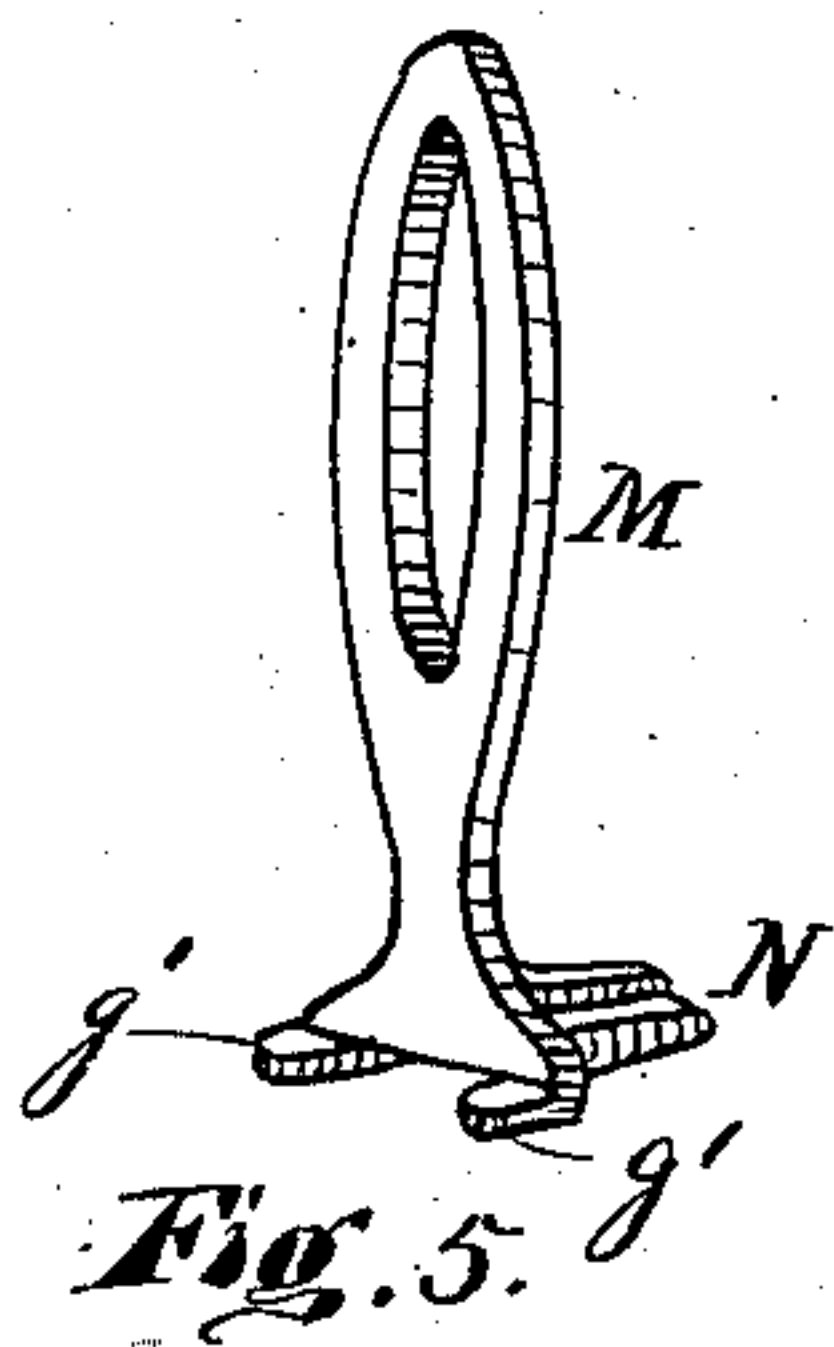


Fig. 5.

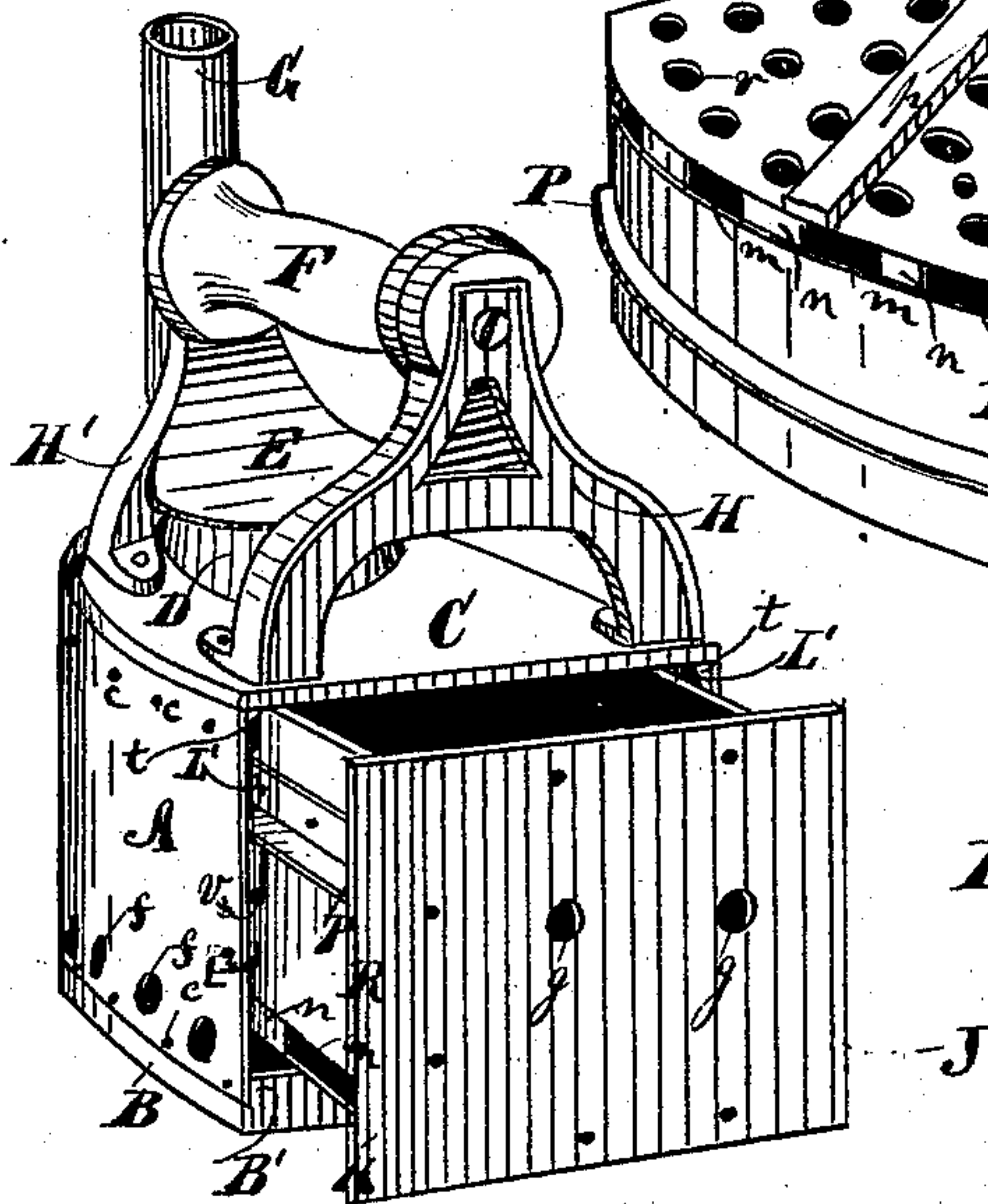


Fig. 2.

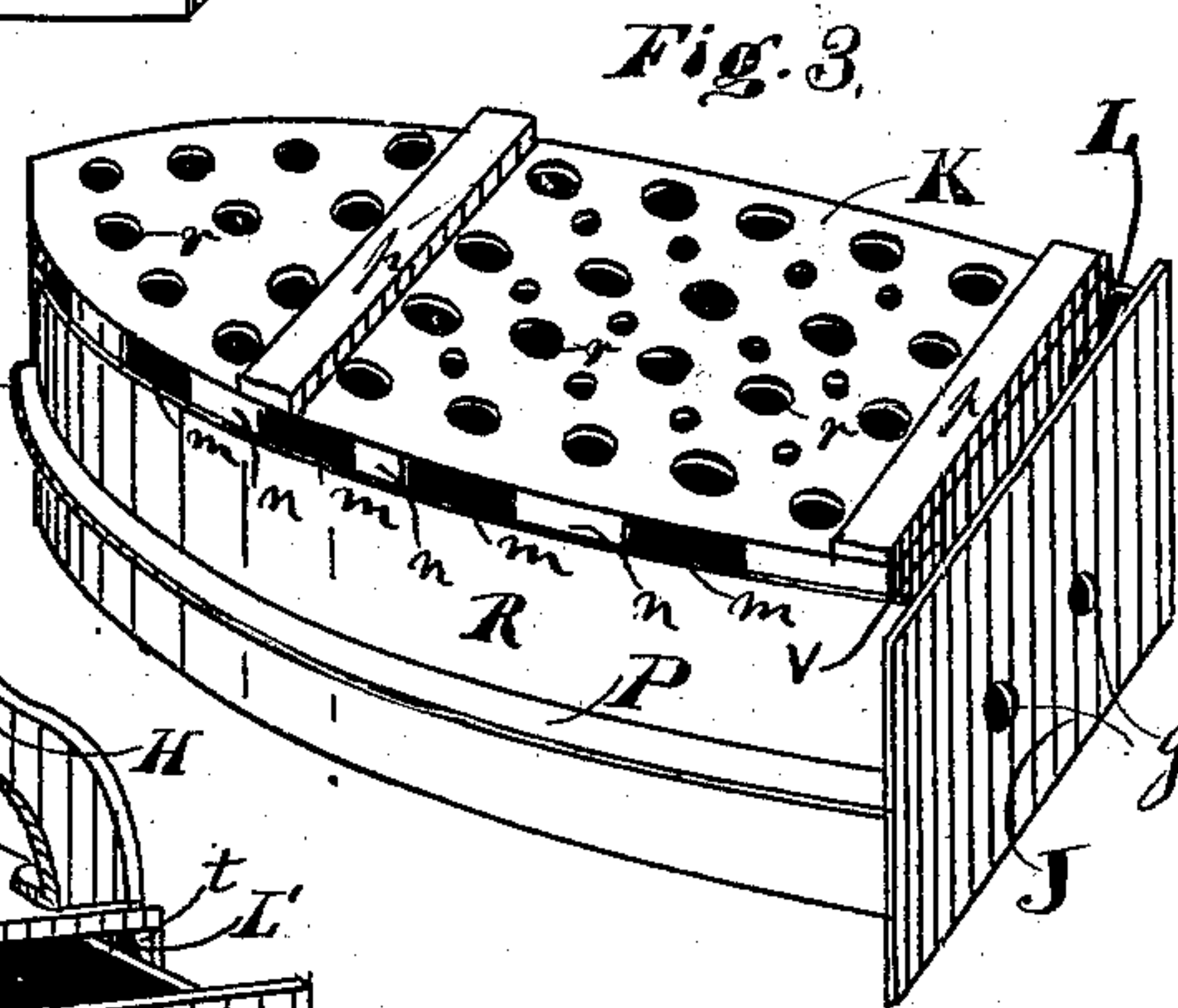


Fig. 3.

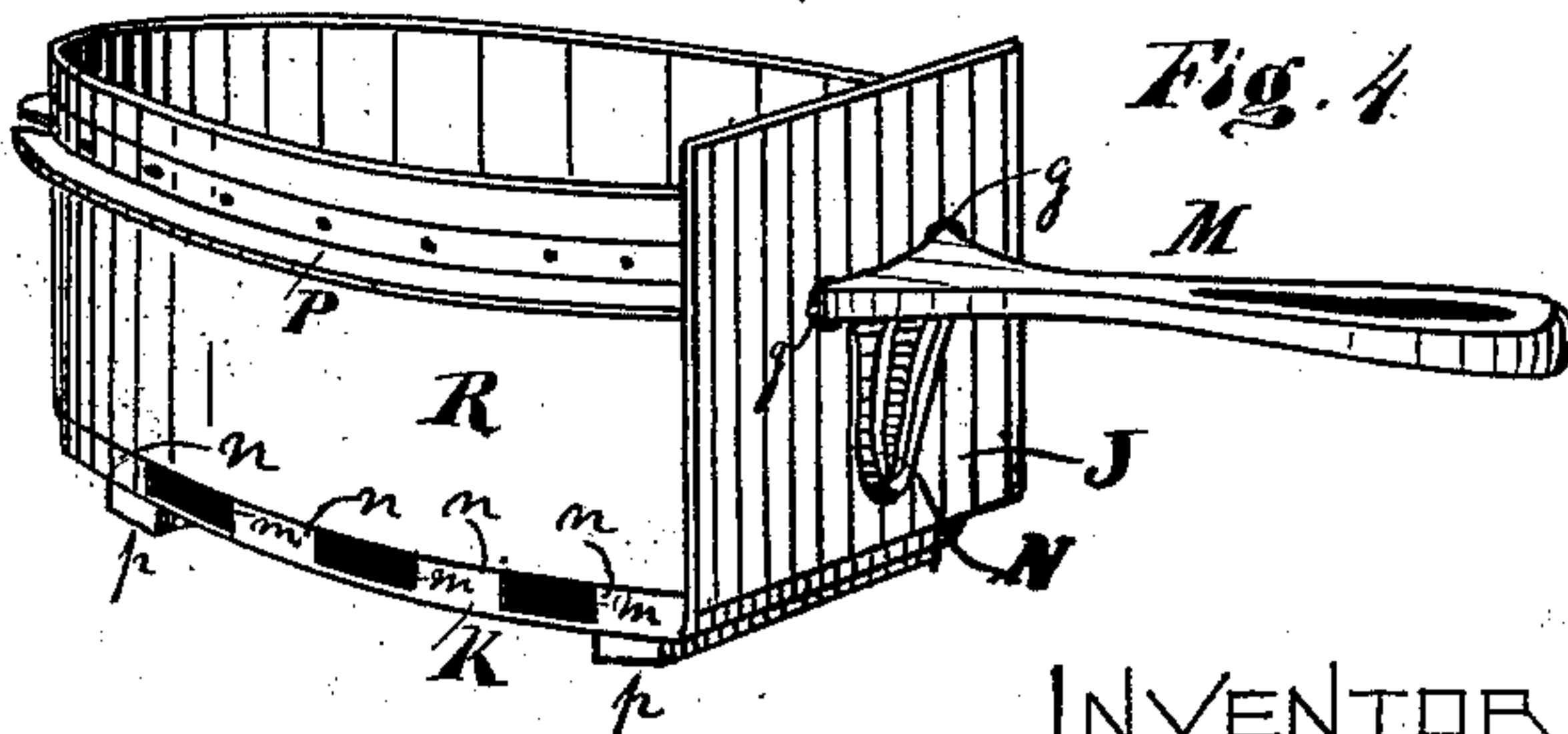


Fig. 4.

WITNESSES;  
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# UNITED STATES PATENT OFFICE

SCHUYLER S. CASE, OF INDIANAPOLIS, INDIANA.

## IMPROVEMENT IN SELF-HEATING IRONS.

Specification forming part of Letters Patent No. 222,179, dated December 2, 1879; application filed February 13, 1879.

*To all whom it may concern:*

Be it known that I, SCHUYLER S. CASE, of Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Self-Heating Sad-Irons, of which the following is a description, reference being had to the accompanying drawings.

The object of my invention is to provide a sad-iron constructed with a cast-iron bottom and top, united together by perforated sheet-iron sides, with a portable fire-box, also provided with a perforated bottom and with side flanges, and also provided with an air-chamber at the rear end, whereby said fire-box, when inserted in the outer case, is held in position and surrounded by an air-space, and a uniform draft produced from all sides alike, so that the fuel in the fire-box is not unevenly affected by the draft, and the top and sides of the iron kept comparatively cool.

My invention consists of the new construction and arrangement of parts, and in the new combination of elements in a self-heating sad-iron, as will be hereinafter fully described, and set forth in the claims.

In the accompanying drawings, in which like letters of reference in the different figures indicate like parts, Figure 1 represents a perspective view of my improved self-heating sad-iron with the fire-box closed. Fig. 2 represents a perspective view of the same, showing the fire-box partially withdrawn. Fig. 3 represents a perspective view of the fire-box inverted. Fig. 4 represents a perspective view of the fire-box and detachable handle as removed from the outer case; and Fig. 5 represents a perspective view of the detachable handle.

B represents the lower or bottom casting, provided with a flange, B', all around its upper edge. A represents the sheet-iron sides of the iron, which are united to the flanges B' of the cast bottom B, and to the flange t, that is formed around the edge of the cast-iron top C, by rivets e e, and the lower edge of the sheet-iron sides A are provided with a number of air or draft holes, f f, above the flange B' of the bottom, as shown in Fig. 2, for the purpose of producing a uniform draft from the sides.

The upper casting, C, is provided with a hole, a, at or near the middle of the iron, which is covered by the hollow flue-casting D, and said flue-casting is provided with a flanged hole at the front to receive the chimney G, as shown in Figs. 1 and 2.

The portable fire-box R is constructed of sheet-metal sides attached to the end J, and is provided with a metallic flange, P, projecting from the sides, and the perforated bottom K, with partition V between the end of the fire-box and the outer perforated plate, J, all as shown in Figs. 2, 3, and 4. The projecting flange P is riveted to the sides of the fire-box far enough up to leave an air-space below, and projects far enough therefrom to come in close contact with the inner sides of the outer case, A, to prevent the draft from passing over the top of the fire-box.

The perforated bottom K of the fire-box is provided with projecting lugs n, that are bent up and secured to the sheet-iron sides of the fire-box by rivets, leaving air-spaces m around the lower edge of said fire-box, as shown, and the perforated bottom of the fire-box is strengthened by the cross bars or ribs p p, which also form a means of supporting it when inserted in the outer case, and leave an air-space below the fire-box, so that the air that passes through the side openings, f, of the outer case can pass through the perforations m of the sides of the fire-box and perforations r of the bottom thereof, and supply oxygen to the fuel in the fire-box from all sides.

The flange P prevents the draft from going up, as before described. The rear end of the bottom K is united to the partition V, and said partition V is united to the sides R and rear end, J, leaving an air-space, L, between the partition V and end J, that is open at the bottom and closed at the top and sides.

The rear end, J, is provided with two holes, g g, to admit air below through the space V at the rear end of the iron when said fire-box is shut tightly. The holes g g also form a means of attaching the detachable handle M N when it is required to remove the fire-box from the outer case or to replace it.

The detachable handle M is provided at one end with a projecting lug, N, that forms a



bracket, and also provided with hooks  $g' g'$ , that fit in the holes  $g g$  of the plate J, as shown in Figs. 4 and 5, for the purpose before described.

The operation of my improved self-heating sad-iron is as follows: A fire is first started in the fire-box R, which is then inserted, by means of the detachable handle M N, into the outer case, A.

The air passing through the holes  $ff$  and  $g$  keeps the outer sides A A comparatively cool, and afterward, passing through the holes  $m$  and  $r$  of the fire-box, supplies the fuel with oxygen, causing the fuel to burn at the bottom, where the heat is required, and prevents the fuel from burning at the top, thus keeping the top of the iron comparatively cool.

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

1. In a sad-iron, the combination of an outer case having a cast bottom and top united together by sheet-iron sides having perforations

$ff$ , and a heater made from sheet metal with perforated bottom, and flange P, forming the air-space  $L^2$  below said flange, extending from the rear of the iron at one side around the front and back to the rear of the iron on the other side, as and for the purpose specified.

2. The sheet-metal fire-box provided with the flange P around its sides and front, and also provided with a perforated sheet-metal bottom having side projections,  $n$ , that are turned or bent up and secured to the sides of the fire-box, leaving side openings or spaces,  $m$ , and further provided with ribs or strengthening-bars  $pp$ , as and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SCHUYLER S. CASE.

Witnesses:

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D. F. SPEES.