

(No Model.)

W. ROBINSON.
FIREPLACE.

No. 549,823.

Patented Nov. 12, 1895.

Fig. 1.

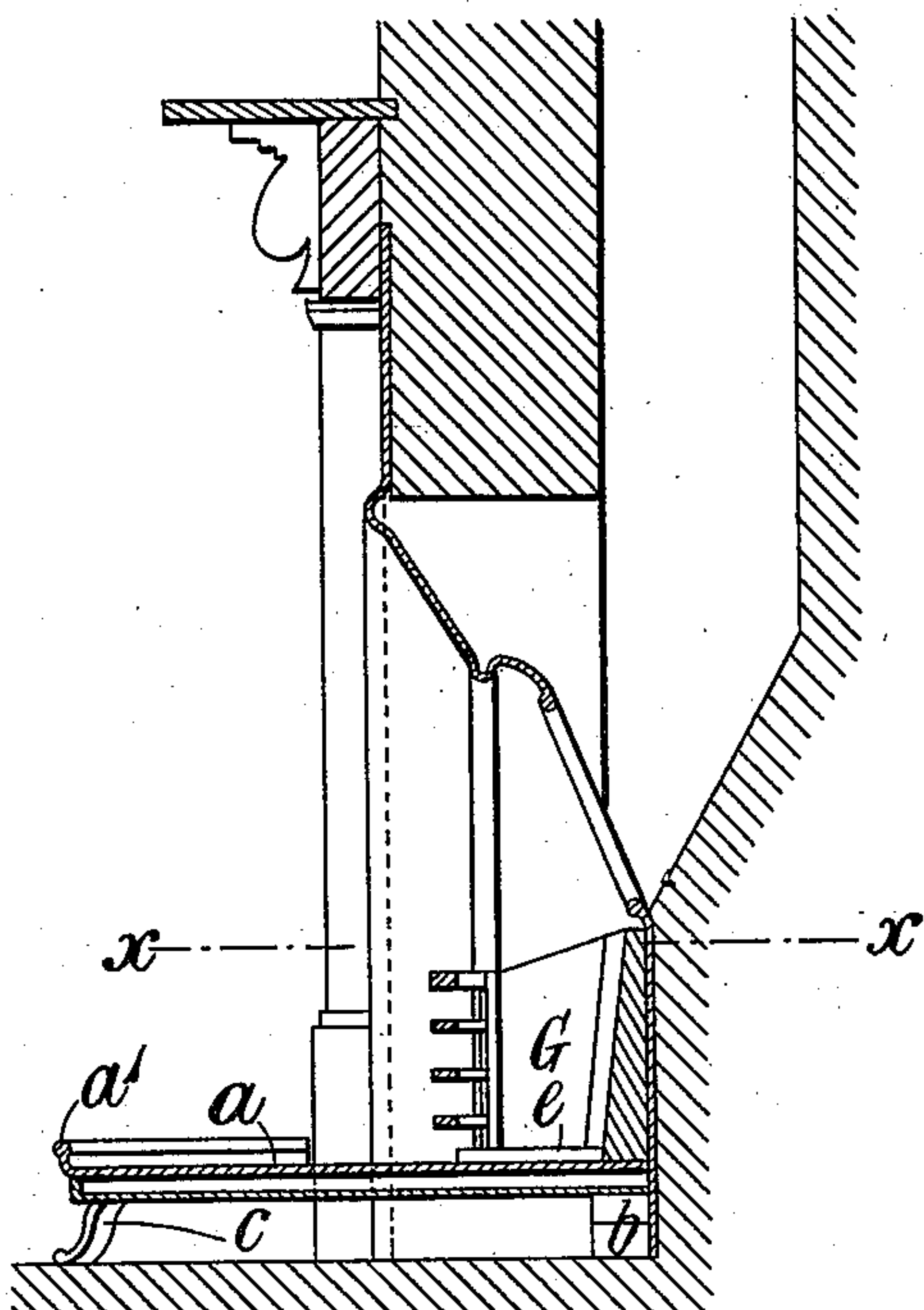


Fig. 6.

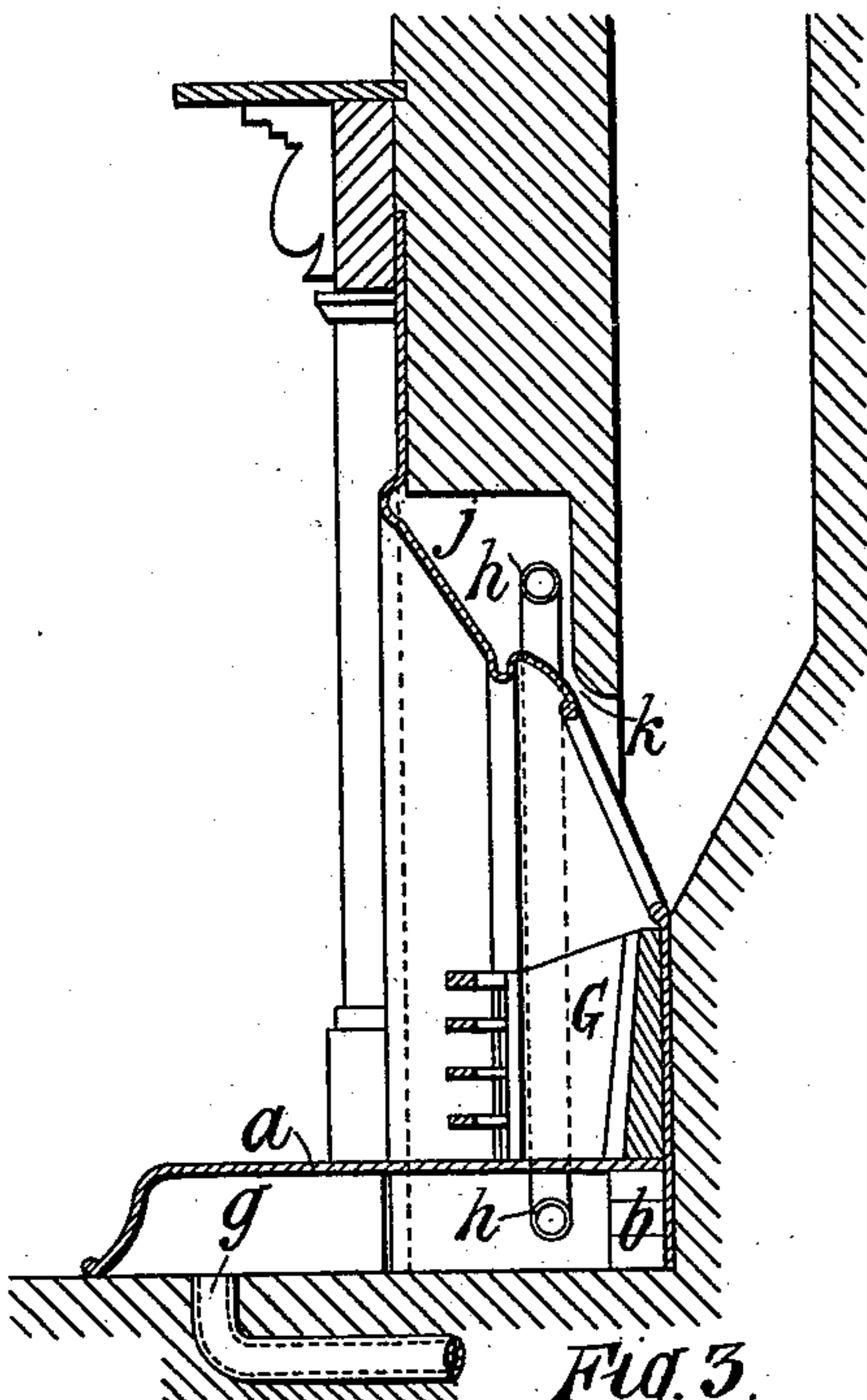


Fig. 2.

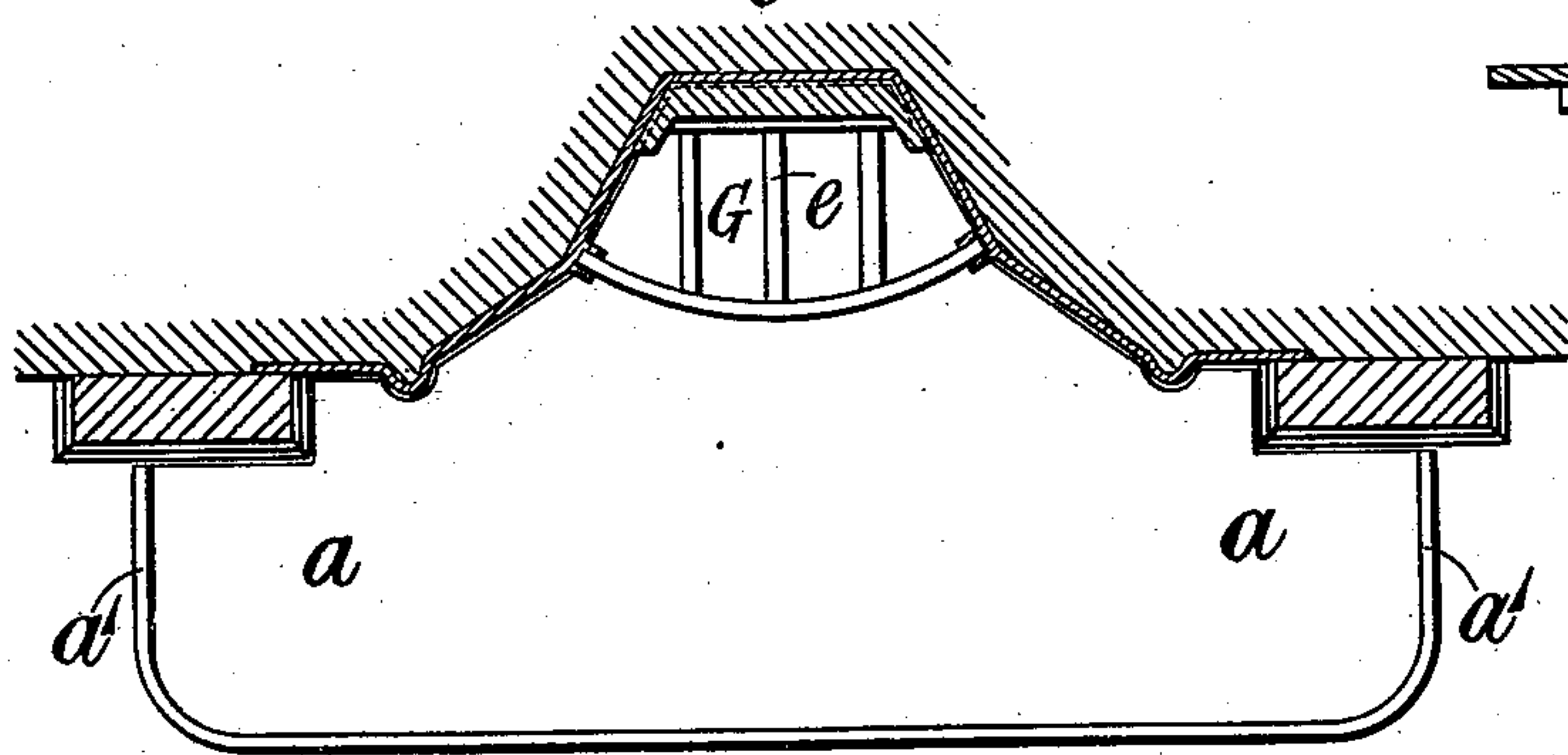


Fig. 3.

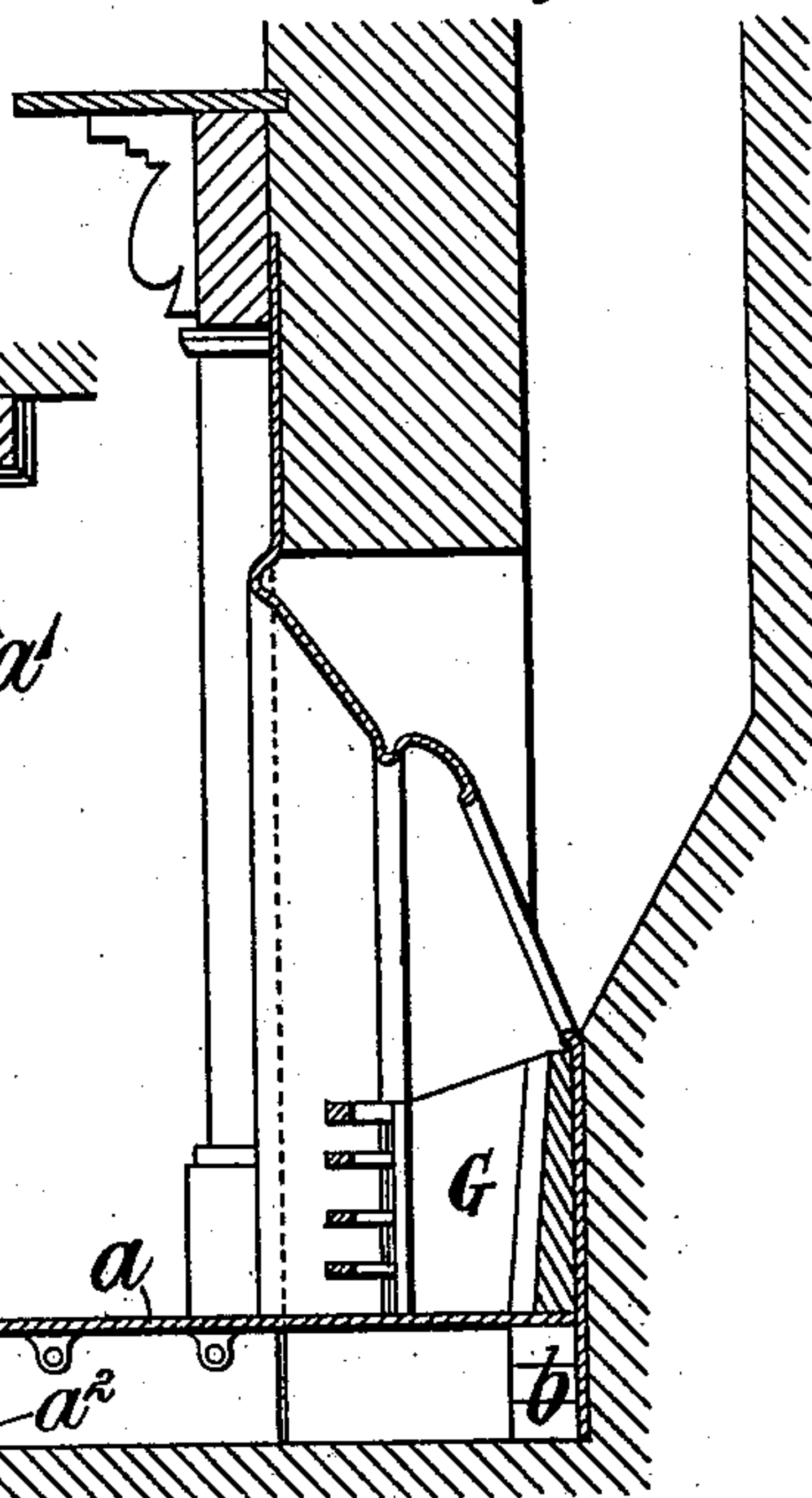


Fig. 5.

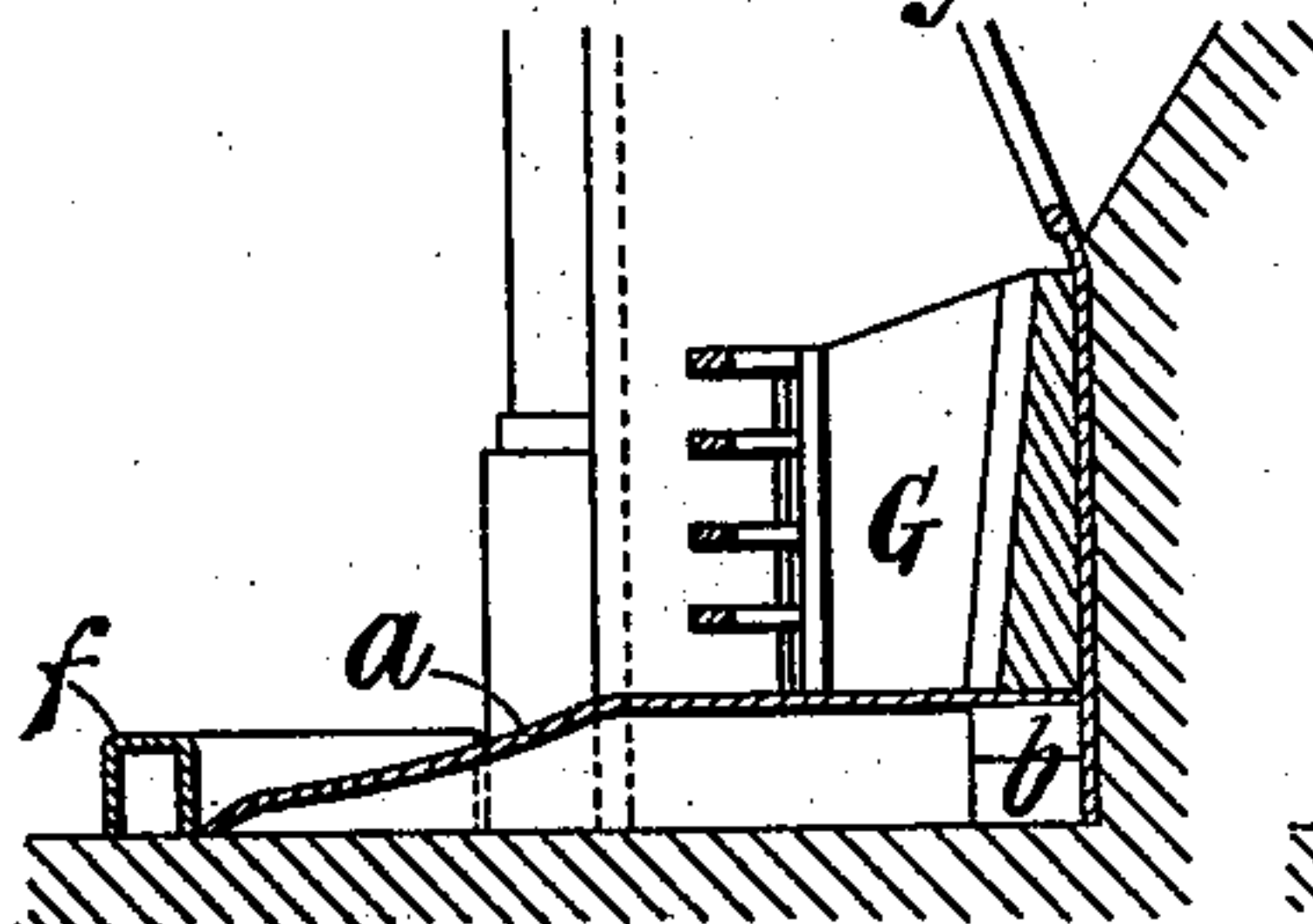
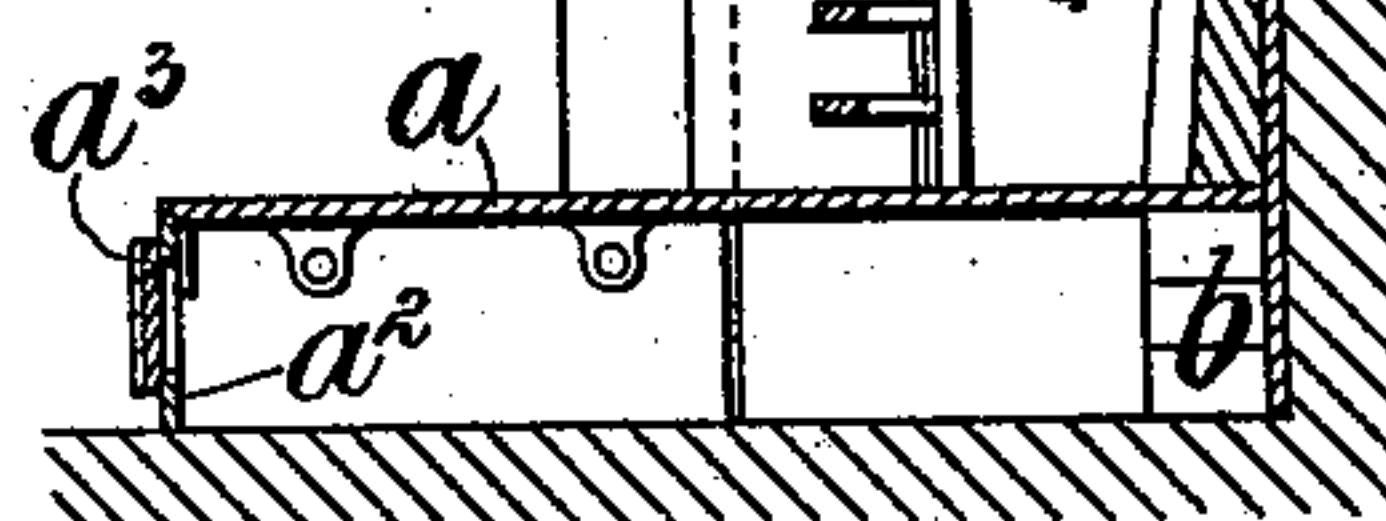
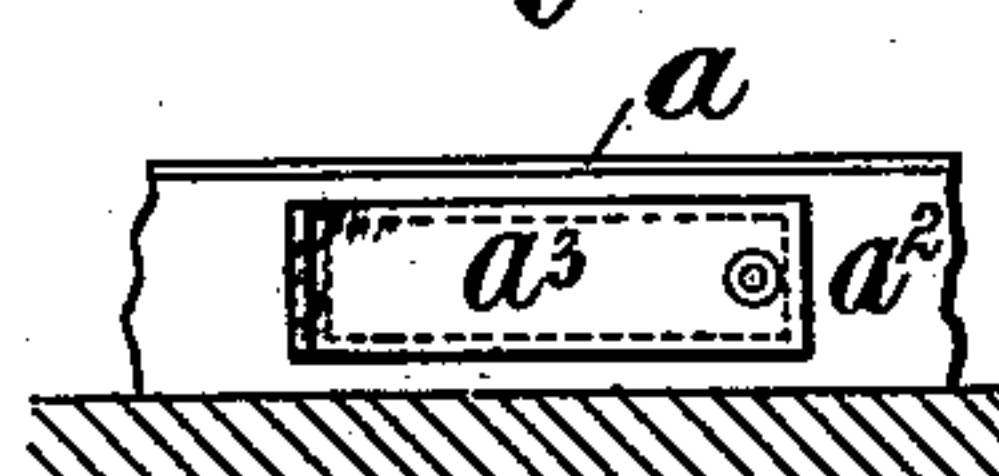


Fig. 4.



Witnesses;
Geo. W. Rea.
Thos. A. Green

Inventor:
William Robinson,
By James L. Norris.
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM ROBINSON, OF LONDON, ENGLAND.

FIREPLACE.

SPECIFICATION forming part of Letters Patent No. 549,823, dated November 12, 1895.

Application filed August 28, 1894. Serial No. 521,533. (No model.) Patented in England August 12, 1893, No. 15,353.

To all whom it may concern:

Be it known that I, WILLIAM ROBINSON, editor, a subject of the Queen of Great Britain, residing at London, England, have invented
5 certain new and useful Improvements in Fireplaces, (for which I have obtained a patent in Great Britain, No. 15,353, bearing date August 12, 1893,) of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical transverse section, and Fig. 2 a horizontal section on the line $x x$, Fig. 1, showing my hot hearth applied to a fireplace in such a manner that it forms the
15 bottom of the grate thereof. Fig. 3 is a transverse section illustrating another form or modification of my said invention. Fig. 4 is a front elevation of part of the hot hearth shown in Fig. 3. Fig. 5 is a transverse section illustrating a further modification of my invention, and Fig. 6 is a similar view showing a still further modification thereof.

Like letters indicate corresponding parts throughout the accompanying drawings.

25 The object of my invention is to provide for the better utilization of the heat from fires in fireplaces in such a manner as to effect economy in the consumption of fuel therein, while obviating the necessity for the use of a fender. I accomplish this result by providing a device which I term a "combined hot hearth and fender."

This device consists, essentially, of an inner hearth fitting into the fireplace-recess and
35 adapted to support the fuel and an outer hearth which extends to a suitable distance in front of the grate or of the chimney-piece and conveys the heat of the fire into the room, and which may also serve, if desired, in place of a fender. The said inner and outer hearths are formed of a single piece of cast metal or other suitable material, or they are made of two or more pieces fitted or joined together in any convenient manner. The outer hearth
45 is in some instances provided around its outer edge with a fender-curb of any desired section or design.

My improved device can be made of various sizes and shapes to suit any fireplace, and
50 it may have a monogram, crest, coat-of-arms, or other ornament formed on or secured to its front or outer part.

When a fire is burning in a fireplace provided with my combined hot hearth and fender, the heat transmitted to the inner hearth
55 from the fire is conducted to the outer hearth and thereby radiated into the room. Any available part of the hearth can, moreover, be used for cooking or for other heating purposes.

The hot hearth is preferably arranged at a higher level than the floor of the room to more effectually insure an adequate supply of air to the fire and to permit the utilization of the under side of and the space beneath the
65 said hot hearth for heating purposes. The air-space beneath the hot hearth is in some instances left open in the front and at the sides. In other instances it is inclosed by means of a metal plate or in any other convenient manner.

If desired, I provide a door or doors to permit access to the space thus inclosed, in which case the said space can be utilized as an oven or hot chamber for cooking or for warming or
75 keeping warm plates, dishes, or other articles.

In the arrangement shown in Figs. 1 and 2 the hot hearth a is made hollow and is supported beneath the grate G by means of brick-work b , (or by being let into the wall or in any
80 other convenient manner,) the front or outer part of the said hearth being provided with suitable legs c for supporting it. The said hearth is shown with a fender-curb a' around the edge of its front or outer part. This fender-curb may, however, be dispensed with, if desired. It will be seen that the front or outer part of the hot hearth, whether made with or without the curb, serves very efficiently in place of a fender. Moreover, not only does it
90 conduct the heat from the fire and radiate it into the room, but the air circulating around and beneath it, and also through it, if desired, becomes warmed and thus the apartment can in a short space of time be brought to the desired temperature and can be maintained at a uniform temperature more easily than heretofore and with a comparatively-small consumption of fuel. The hot hearth can also be
95 conveniently used for warming the feet, by resting the feet thereon, or for drying boots, socks, and other articles upon or in the space beneath the same. Kettles and other cooking utensils or other articles can also be placed
100

upon the hot hearth for the purpose of warming them or keeping them warm, or for cooking food or boiling water.

I sometimes form on the hot hearth *a* projections or ribs *e*, which extend upward therefrom into the grate *G* and facilitate the transmission of heat from the fire to the said hot hearth.

In the arrangement shown in Fig. 3 the space beneath the hot hearth is completely inclosed by means of a metal or other plate *a*², extending around the front and sides of the said hot hearth and secured thereto by rivets or otherwise. One or more doors *a*³, Fig. 4, may, if desired, be provided in the metal plate *a*² to permit access to the said space.

According to another modification of my invention, I construct my hot hearth as shown, for example, in Fig. 5, so that it can be used with a curb-fender *f* or a fender of any other suitable description.

According to a further modification of my said invention I provide for causing air from the exterior of the building to pass through the space beneath the hot hearth and then through a pipe or passage behind or at either or both sides of the fire into a recess or cavity in the front of the fireplace above the fire, from which recess or cavity the air previously heated in its passage beneath the hot hearth and through the aforesaid pipe is discharged in a series of jets or in the form of a thin sheet or layer—for example, through a slit or slits between the brickwork of the chimney and the metal plate supporting the same. By this means I am enabled to promote the draft and to cure smoky chimneys. For this purpose I inclose the space beneath the hot hearth and suitably connect the said space with a pipe, passage, or tunnel extending to the exterior of the house or other building and with another pipe or passage extending behind or at one side of the fire and communicating with the aforesaid recess or cavity in front of and above the fire. The heated air is drawn upward through the said passages, the cold air from the outside of the

house or other building entering the space beneath the hot hearth and getting warmed on its way. I have shown an arrangement of this kind in Fig. 6. The air is conveyed from the exterior of the building through a pipe *g* into the space inclosed by the hot hearth *a* and passes thence through a pipe or pipes *h* at the side or sides of the fire into a recess or cavity *j* in the brickwork above the fireplace. From this recess or cavity the heated air is discharged through the slit or opening *k* in such a manner that it will mix with the gaseous products of combustion rising from the fuel in the grate.

It is evident that the construction and arrangement of my combined hot hearth and fender may, if desired, be somewhat modified without departing from the nature of my said invention and that the said combined hot hearth and fender may be used in combination with fireplaces wherein gas or oil or other heating medium, such as electricity, is used instead of coal or other solid fuel.

What I claim is—

1. The combination with a fire place, of a plate of heat-conducting material arranged in said fire place and elevated above the fire place bottom to form an air space beneath the plate, said plate forming the bottom of a grate and extending to a suitable distance in front of the fire place, and a fire-grate superimposed upon the rear upper portion of said plate, substantially as described.

2. The combination with a fire place, of a plate of heat conducting material arranged in said place and elevated above the fire place bottom to form an air space beneath the plate, said plate forming the bottom of a grate and extending to a suitable distance in front of the fire place, a wall or casing around the front and sides of said space, and a fire grate superimposed upon the rear upper portion of said plate, substantially as described.

WILLIAM ROBINSON.

Witnesses:

C. T. FREAR,
M. BRUSH.