

(No Model.)

W. MILLER.

EXTENSIBLE FIRE BOX FOR STOVES.

No. 250,938.

Patented Dec. 13, 1881.

FIG. 1.

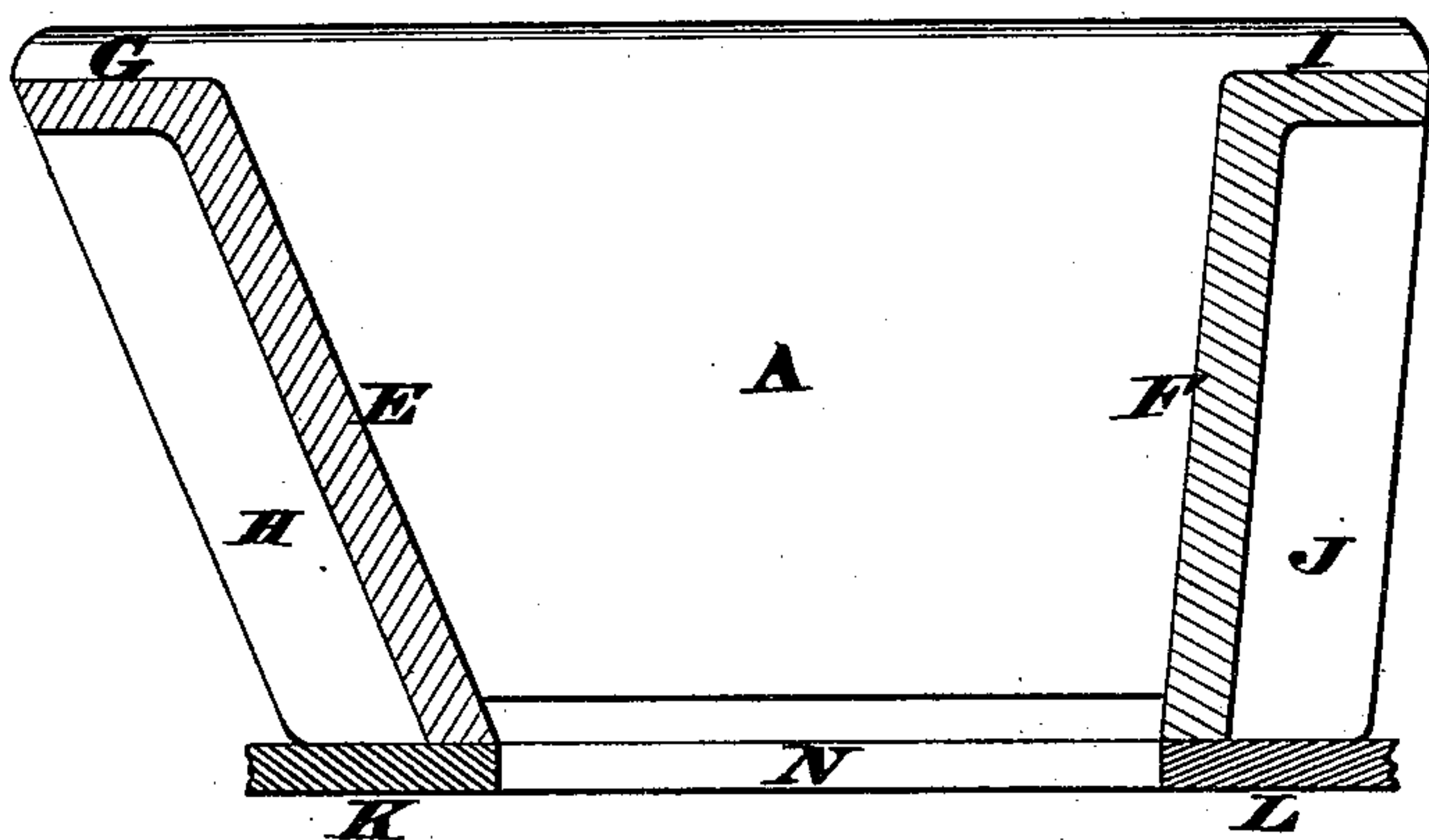


FIG. 2.

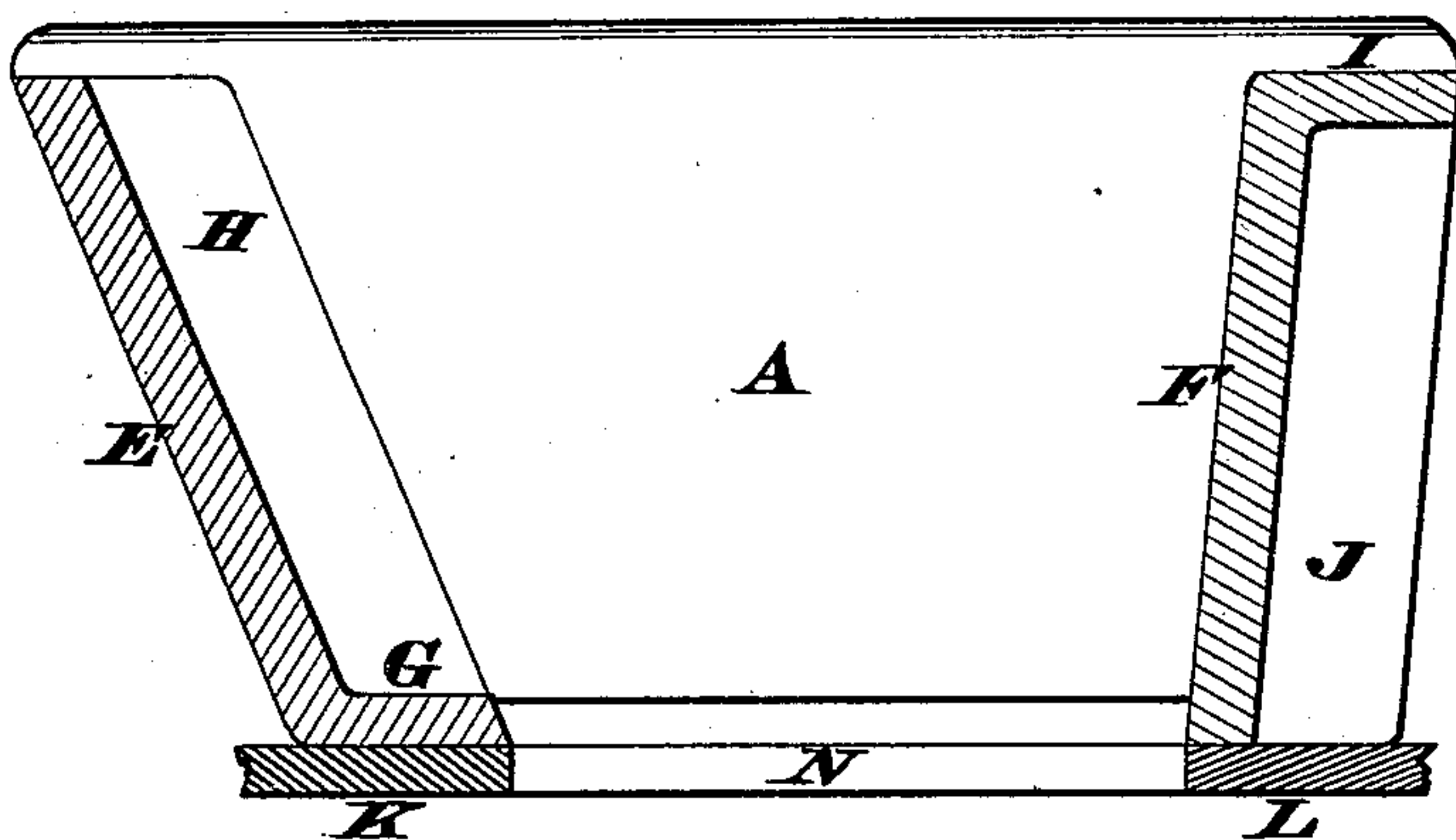


FIG. 3.

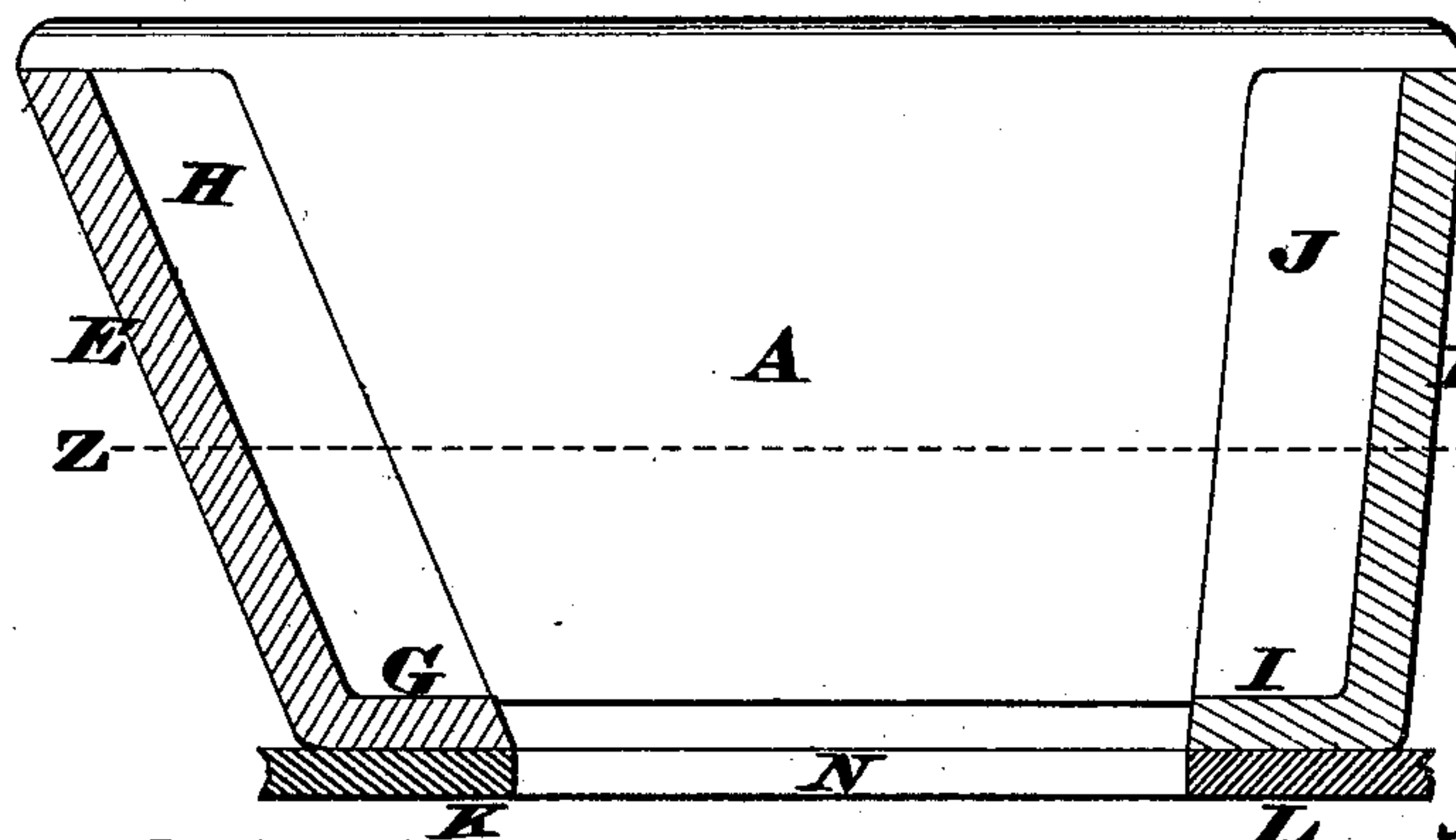


FIG. 5.

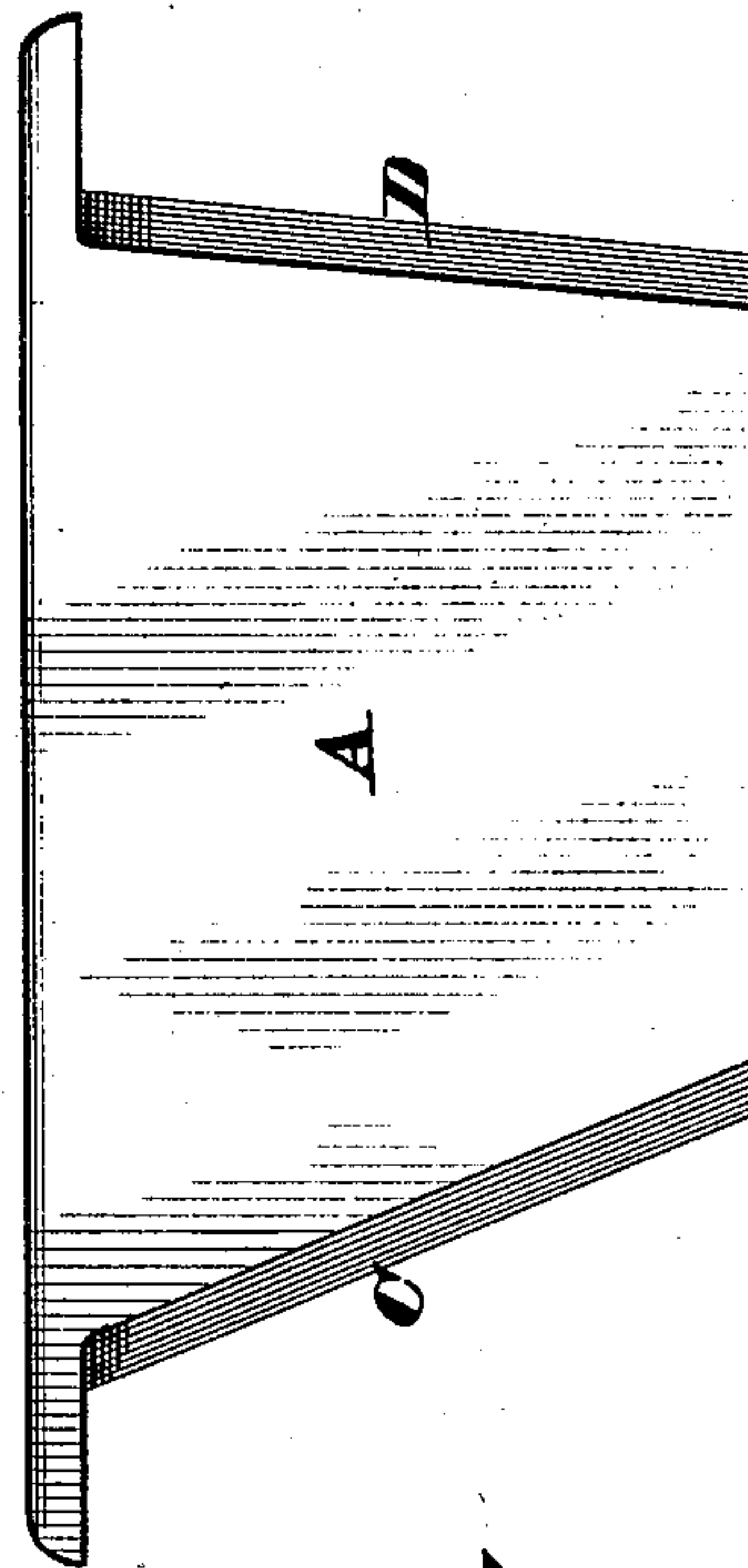
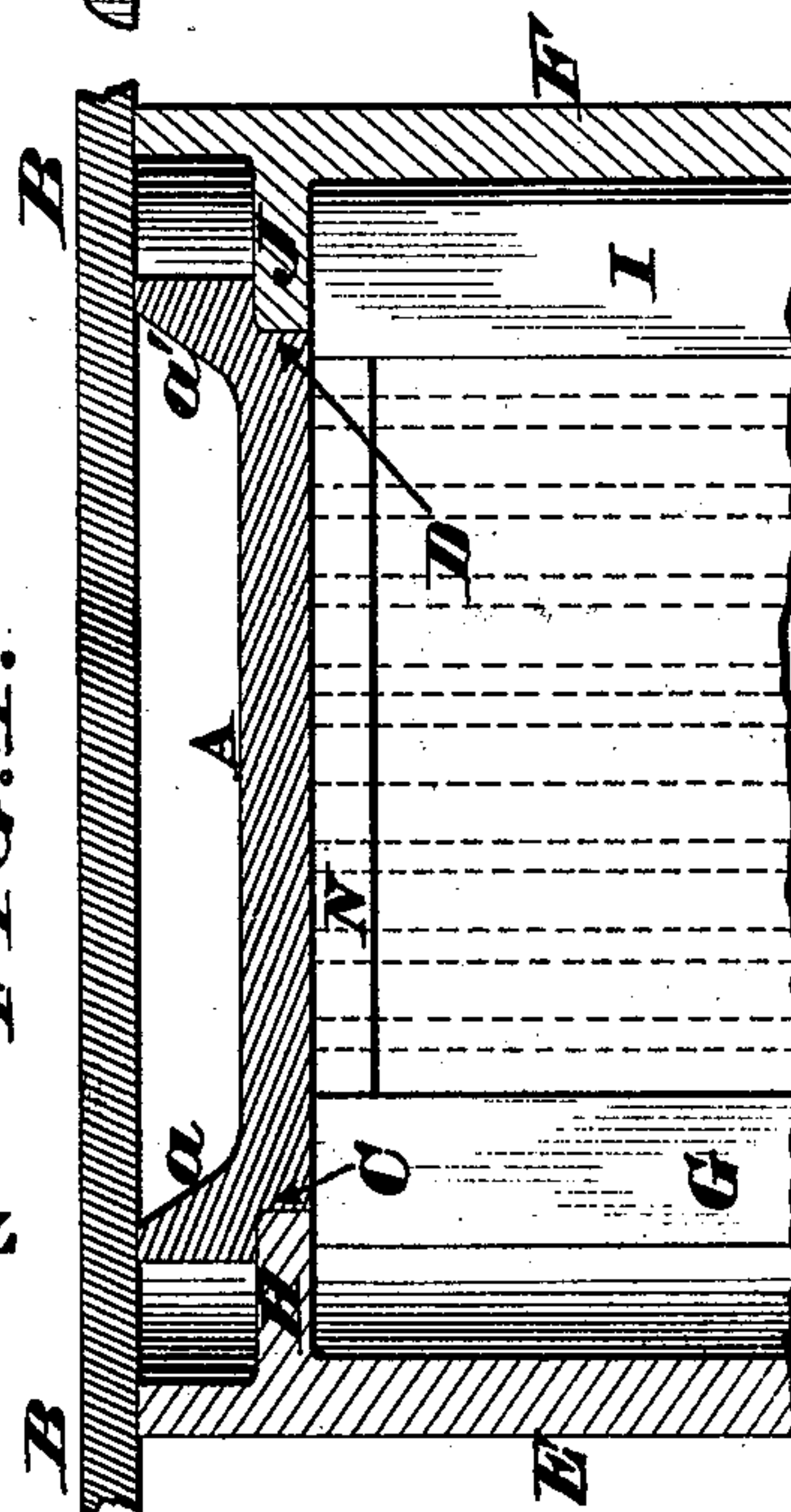


FIG. 4.



Attest.  
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# UNITED STATES PATENT OFFICE.

WILLIAM MILLER, OF CINCINNATI, OHIO.

## EXTENSIBLE FIRE-BOX FOR STOVES.

SPECIFICATION forming part of Letters Patent No. 250,938, dated December 13, 1881.

Application filed August 15, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM MILLER, of Cincinnati, Hamilton county, Ohio, have invented certain new and useful Improvements in Extensible Fire-Boxes for Stoves, Ranges, &c., of which the following is a specification.

This invention relates to those fire-boxes or furnaces the capacity of which can be increased or diminished, so as to adapt them to the special kind of fuel used; and my improvement comprises a novel construction of such furnaces, whereby the desired change of capacity can be obtained by simply inverting and reinserting either one or both of the side plates or linings of the fire-box, and securing said linings in position by simply engaging them with either of the end plates of the fuel-chamber, as hereinafter more fully described, and pointed out in the claims.

In the annexed drawings, Figure 1 is a transverse section of my extensible fire-box, the linings of the same being set so as to afford a minimum capacity. Fig. 2 is a similar section, but showing one of said linings shifted, so as to slightly increase the capacity of the furnace. Fig. 3 is another section of the fire-box, both of the linings thereof being shifted, so as to afford a maximum capacity. Fig. 4 is a horizontal section at the line Z Z of one end of the furnace, and Fig. 5 is an elevation of the rear end plate of the furnace or fire-box.

The rear end plate, A, of the furnace, fire-box, or other fuel-chamber, is provided with ribs or flanges *a a'*, (seen in Fig. 4,) for the purpose of maintaining said plate a sufficient distance from the back B of the stove or range or other heating or cooking apparatus. Furthermore, this plate is rabbeted at its edges C D to receive the side linings, E F, of which linings the one E has a horizontal flange, G, and an end flange, H, while the other lining, F, has corresponding flanges, I and J.

K L are bearing-bars for the side linings to rest on.

N is a bearer for the grate-bars, the location of the latter being indicated with dotted lines in Fig. 4. The opposite ends of these bars rest on a similar bearer, (not shown;) but at this end of the furnace is provided with the fire-door no lining is applied thereto.

When coal is to be burned, or when, from any cause, it is desired to have a limited capacity for fuel, the side linings, E and F, are arranged as seen in Fig. 1. A reference to this illustration will show that the lining E is so fitted in the rabbet C as to dispose the horizontal flange G at the top of the furnace, while the opposite lining, F, is similarly applied to the other rabbet, D; consequently these linings E F, in conjunction with the plate A and the door at the opposite end of the fire-chamber, determine the capacity of the furnace and prevent an undue charge of fuel being inserted therein.

If at any time it should be desired to slightly increase the capacity of the fire-box, it can be done in a few moments by simply inverting either of the linings E or F, after first removing the end plate, A. This medium capacity of the fire-box is seen in Fig. 2, where the lining E is inverted and the horizontal flange G supported on the bearer K, thereby causing the end flange, H, of said lining to fit into the rabbet C. To change the fire-box from its medium to its full or maximum capacity, the end plate, A, is again removed and the other lining, F, inverted, as seen in Fig. 3, which act causes its horizontal flange I to rest on the bearer L, while the end flange, J, enters the rabbet D. The capacity of the furnace is now increased to its utmost extent, and is at once adapted for burning wood.

From the above description it will be seen that any desired change of capacity is readily effected by simply removing the end plate, A, and then inverting the side linings or plates E F, and without detaching any bolts or rivets or other secure retaining devices. Therefore my furnace is especially applicable to army ranges or stoves, as it can be in a few minutes adapted to burn any fuel found on the route. Finally, it will be noticed that when the horizontal flanges G and I are disposed at the bottom of the furnace, as seen in Fig. 3, the end flanges, H and J, prevent the formation of openings at the edges of the end plate, A.

I claim as my invention—

1. The combination, with the end plate or plates of a fire-box or furnace, of one or more linings adapted, as described, to be withdrawn, inverted, reinserted, and engaged with said

end plate or plates, for the purpose of varying the capacity of the fire-box, substantially as herein set forth.

5 2. The combination, in a fire-box or furnace, of rabbeted end plate, A C D, and flanged side linings, E G H F I J, which linings are adapted, in the manner described, to be withdrawn, inverted, and reinserted, for the purpose of va-

rying the capacity of the fire-box, substantially as herein described.

In testimony whereof I affix my signature in presence of two witnesses.

WM. MILLER.

Witnesses:

JAMES H. LAYMAN,  
SAML. S. CARPENTER.