

M. C. SADLER.

Cooking Stove.

No. 9,371.

Patented Nov. 2, 1852.

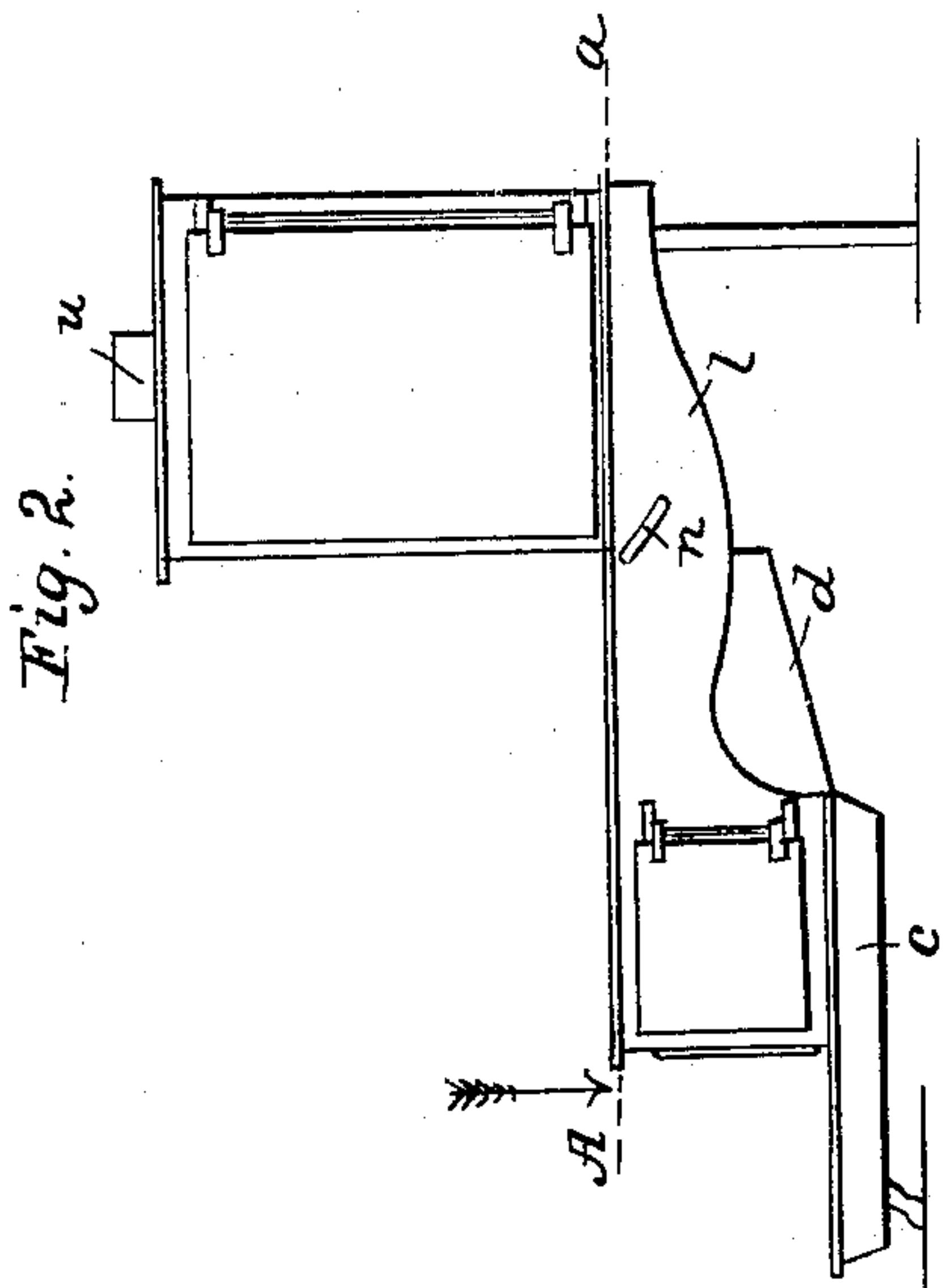


Fig. 2.

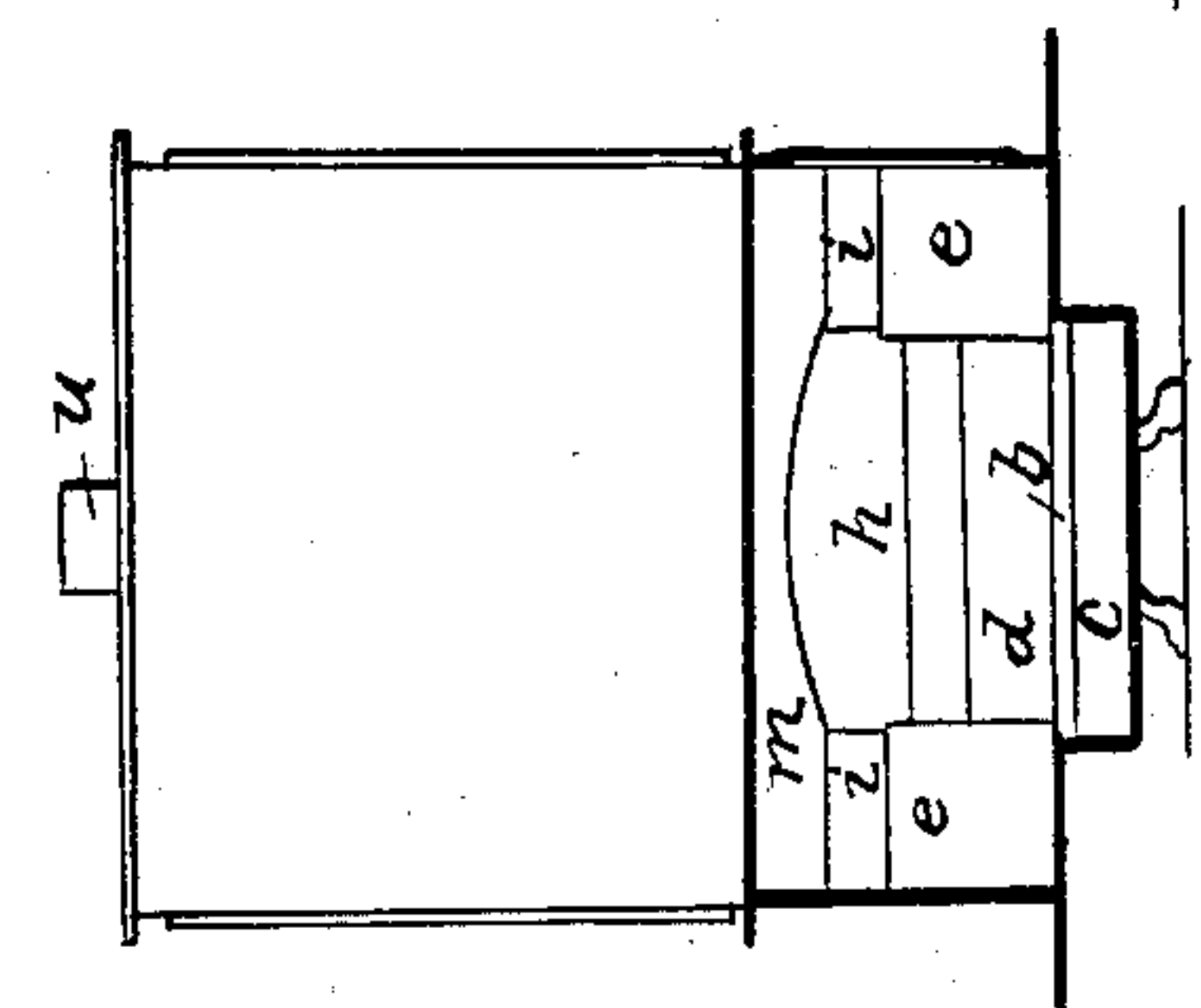


Fig. 5.

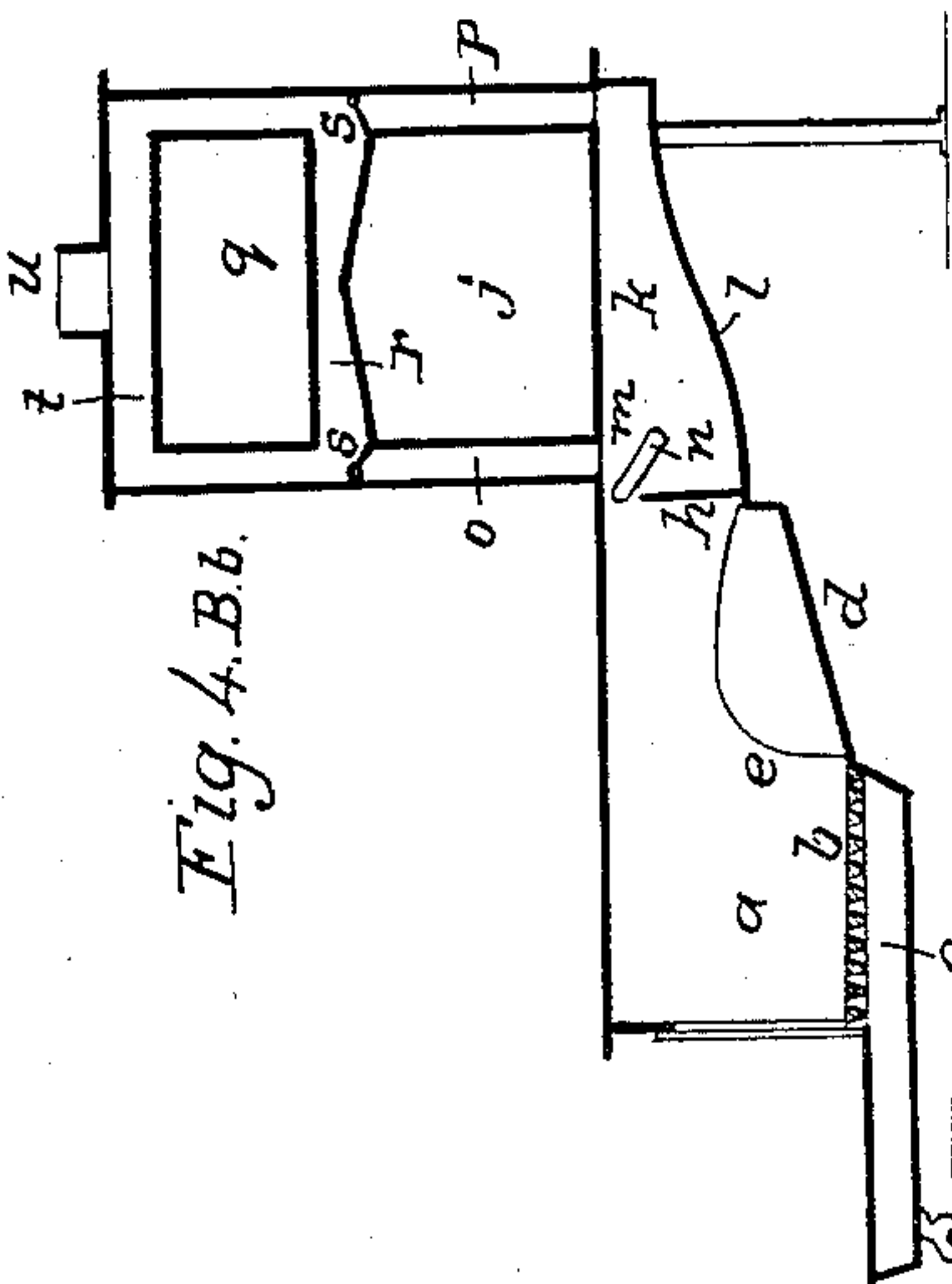


Fig. 4.

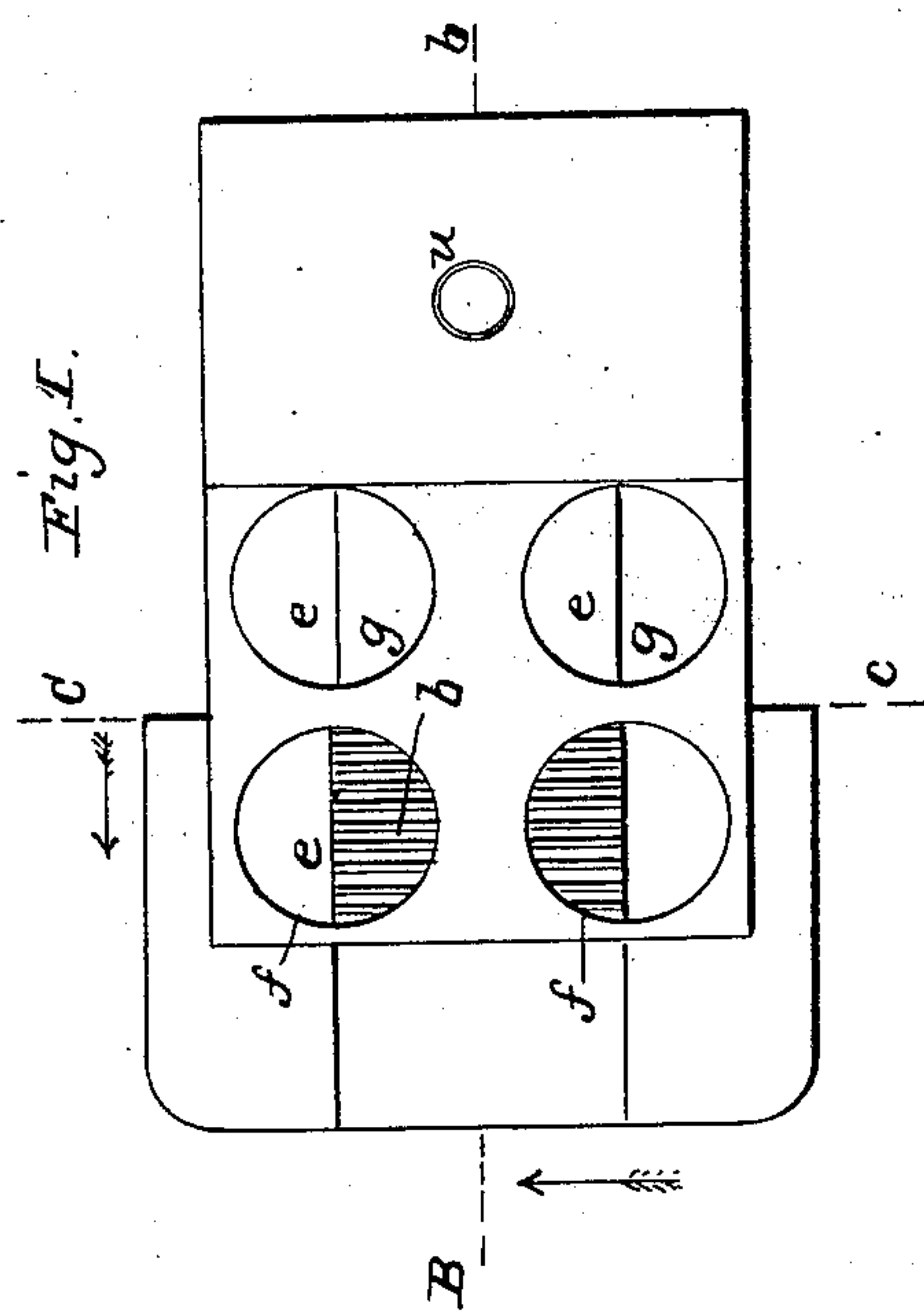


Fig. 1.

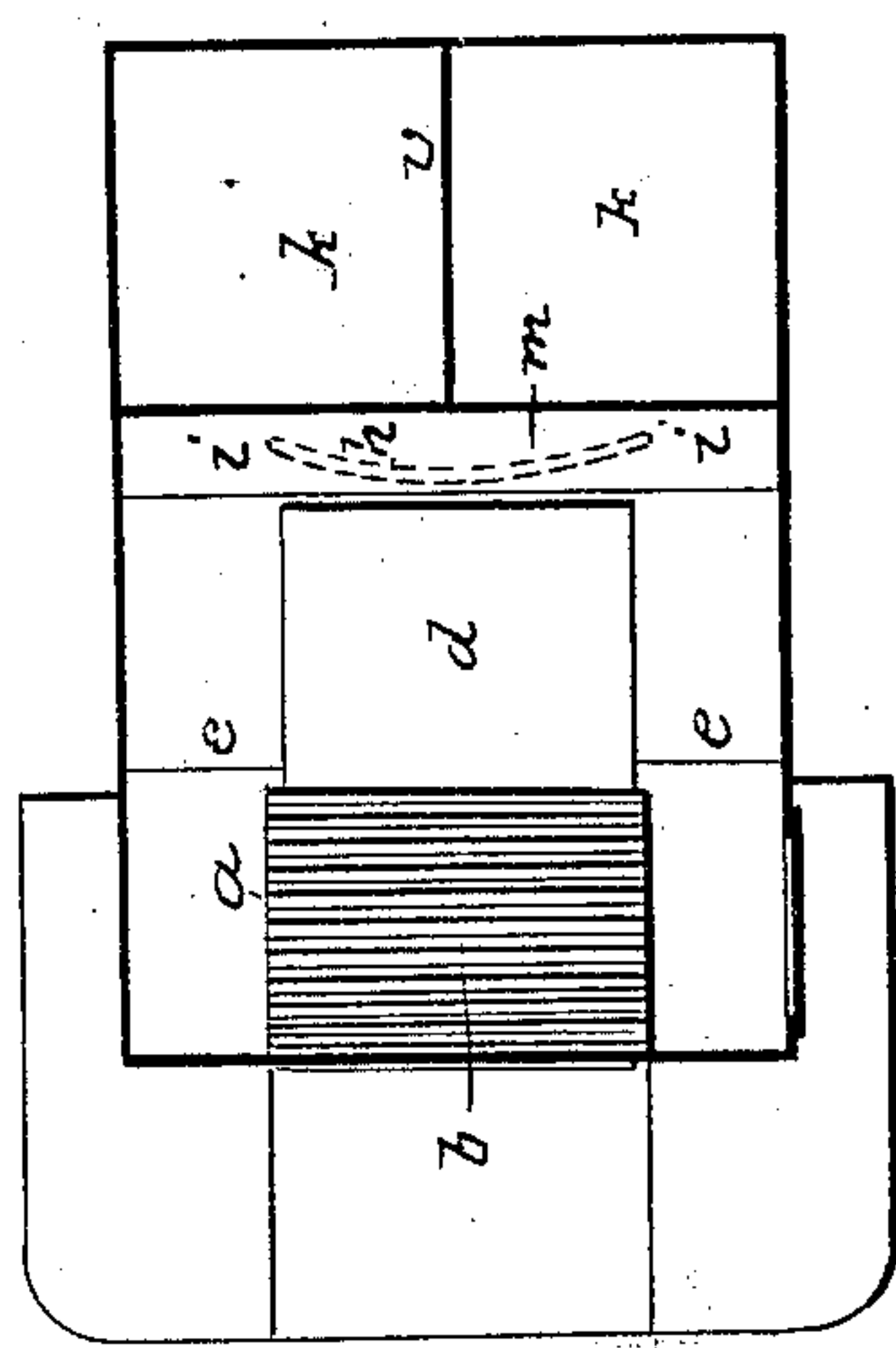


Fig. 3.

UNITED STATES PATENT OFFICE.

MANLY C. SADLER, OF BROCKPORT, NEW YORK.

COOKING-STOVE.

Specification of Letters Patent No. 9,371, dated November 2, 1852.

To all whom it may concern:

Be it known that I, MANLY C. SADLER, of Brockport, Monroe county, New York, have invented a certain new and useful Improvement in the Elevated-Oven Cooking-Stove, and that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1, is a plan: Fig. 2, a side elevation: Fig. 3, a horizontal section taken at the line A, *a*, of Fig. 2; and Figs. 4 and 5 vertical sections taken at the lines B, *b*, and C, *c* of Fig. 1.

The same letters indicate like parts in all the figures.

In that class of stoves in which the oven is elevated above the boiler plate much difficulty has been experienced in heating the oven equally when the stove is provided with four boiler holes for the reason that the oven is too far removed from the fire chamber. This difficulty was in part removed by an improvement which was secured to me by Letters Patent bearing date the 10th day April 1841 which improvement consisted in carrying what is termed a guard plate under the oven and in the bottom flue so as to direct the products to the middle of the bottom plate of the oven that the draft might then separate and rise equally in front and back; but although this improvement did much toward equalizing the temperature of the oven yet it did not cure the defect due to the great distance of the oven from the fire chamber when four boiler holes are employed. An attempt was made to remedy this defect by making a second fire chamber back of and parallel with the first, and in length extending across the width of the stove, the entrance to the said second fire place for fuel and air being at the side. The defect of this in practice is that the fire burns more briskly at the feeding end of the fire place and hence gives an unequal heat to the boilers and to the oven.

The object of my invention is to remedy the defects above pointed out, and to this end the nature of my invention consists in combining with the guard plate which carries the products of combustion under the oven that the draft may divide and rise in front and back of the oven to the exit pipe above, a fire place made with a recess at the back and in the middle of the width so that it shall present sufficient depth to receive the

wood in the direction of the depth of the stove, as well as across, and thus carry a portion of the fire and the flame nearer to the oven, the fire chamber thus constructed being further combined with a deflection plate which closes up that part of the flue just back of the recess in the back of the fire chamber, so that the flame and other products of combustion shall be divided and thrown on both sides toward the ends of the oven to insure the heating of the ends of the oven, notwithstanding the draft in passing around the oven is finally drawn to the center where the exit pipe is placed.

In the accompanying drawings *a*, represents the fire chamber which extends entirely across the front part of the stove. It is provided with a grate *b* for the discharge of the ashes into the ash pan *c*. From the back edge of the grate *b*, there is a plate *d*, which runs back on an inclined plane to a distance equal to about the depth of the main fire chamber *a*. On each side of this plate there are vertical plates connected with the fire backs *e*, *e*, on each side thus forming a recess which constitutes a rear continuation of the fire chamber that will receive wood of about the length suited to fit the main fire chamber.

The fire is built in the usual way and a few sticks can be placed in the direction of the length of the stove and lying on the inclined plate *d*, so as to carry a part of the fire to a rear part of this recess and therefore near to the oven, the ashes running down on this inclined plate and being discharged into the ash pan. Two ranges of boiler holes *f*, *f*, and *g*, *g*, are made in the top plate of the stove.

Just back of the inclined plate *d*, there is a curved deflection plate *h*, which is placed there for the purpose of deflecting the products of combustion to each, there being a flue space *i*, *i*, on each side of the deflection plate and leading into the flue under the oven *j*, which is placed back and above the top boiler plate of the stove. The flue *k* under the oven is formed by the bottom plate of the oven and another plate *l*, below. And from the back edge of the boiler plate there is a plate *m*, termed the guard plate which is curved down and extends some distance under the bottom plate of the oven. This plate is made hollow and open at each end as at *n*, for the circulation of air through it to prevent over heating.

The oven is formed with flues in front and back as at *o*, and *p*, and if there be two ovens *j* and *q*, there should be a space *r*, between the top of one and the bottom of the other, which space is heated by the passage of the heated products of combustion through. For that purpose there are two dampers *s*, *s*, one in each flue space, so that when thrown up the draft passes directly up to the top flue *t*, above the top oven to the discharge or exit pipe *u*, but when thrown down as represented in the drawings, the products of combustion pass around the edges of these dampers into the space between the two ovens and then up to the top flue and out through the exit pipe.

The flue space under the oven is provided with a middle partition plate *v*, to prevent the two currents from uniting until after they begin to pass up the front and back flues and there they will be gradually drawn together by reason of the discharge pipe being in the middle at the top.

From the foregoing it will be seen that the two front boilers *f*, *f*, will be heated directly from the fire in the main part or the fire place, and as the fire extends into the middle recess in the rear of the fire chamber the draft would be directly in through this recess, but meeting with the deflection plate at the back the current is divided, the curved form of this plate facilitating this division, and will be thrown in two currents one on each side, and thus will carry the heated gases and flame under the two rear boilers *g*, *g*, and toward the end of the oven. The guard

plate directs these two currents under the oven, a part will continue back to and up the rear flue behind the oven and a part will pass around the edge of the guard plate and over it to the vertical flue in front of the oven. And if the two dampers be thrown down these two currents will be carried into the space between the two ovens, and thence around these dampers to the top flue and so to the discharge pipe. In this way I am enabled to heat the four boilers and carry the flame so near the oven as effectually to heat it, while at the same time by means of the deflection plate the heat is carried to the ends of the oven and by the guard plate under the oven so that without obstruction the draft is divided into two columns one in front, and the other back.

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

The guard plate for carrying the products of combustion under the oven, that part thereof may pass around and over it to the front, and the rest continue to and up the back flue substantially as specified, in combination with the recess in the rear of the fire chamber for extending a portion of the fire near to the oven, and the deflection plate for dividing the draft and carrying it toward each end of the oven, substantially as and for the purpose specified.

MANLY C. SADLER.

Witnesses:

JOSIAH HANSON,
EDWIN H. SWEAT.