

(No Model.)

2 Sheets—Sheet 1.

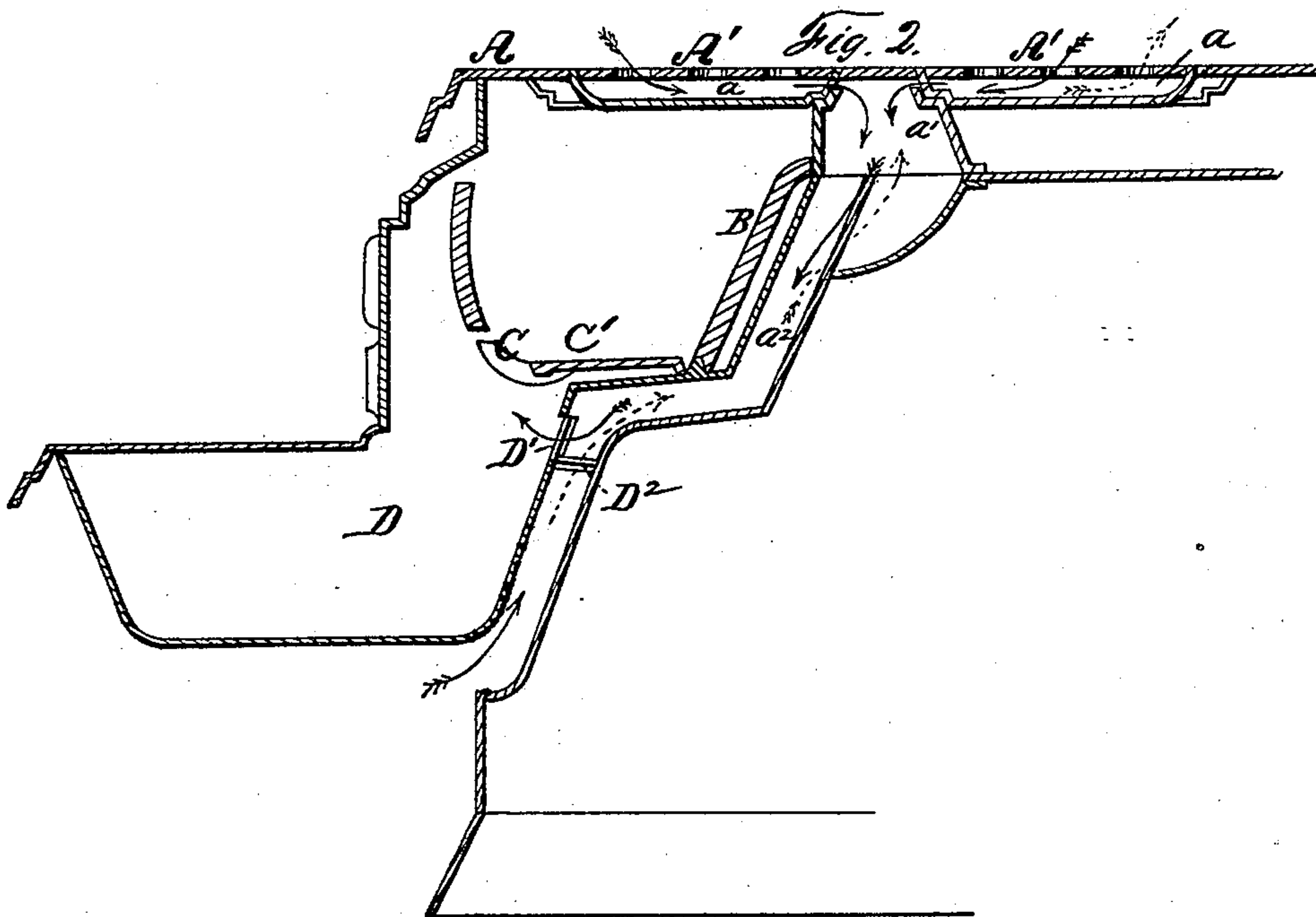
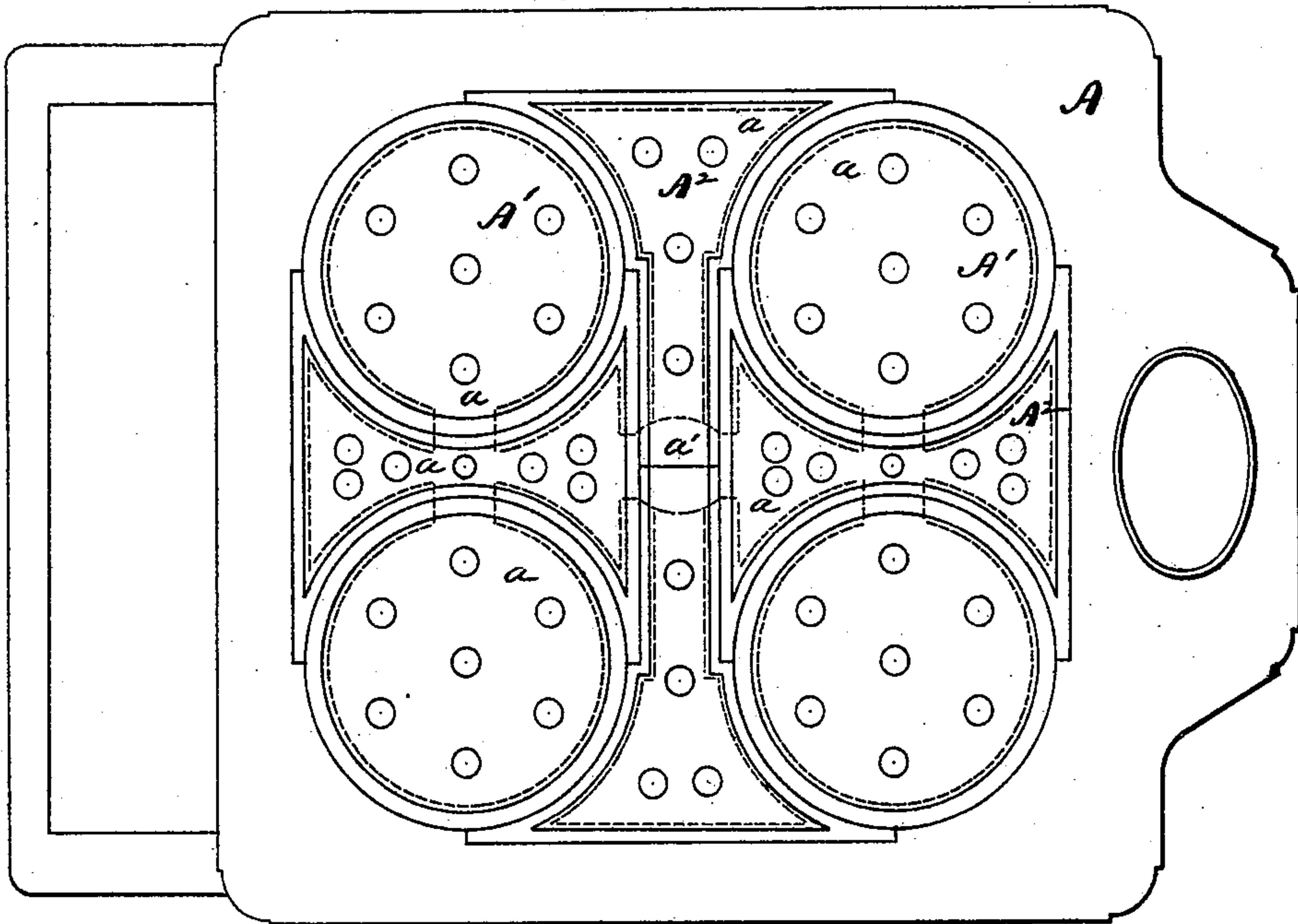
R. HATCHMAN.

COOKING STOVE.

No. 245,630.

Patented Aug. 16, 1881.

Fig. 1.



WITNESSES.

S. C. Thomas.
Henry P. Tueloh

Robert Hatchman INVENTOR.

W. W. Leggett.

ATTORNEY.

(No Model.)

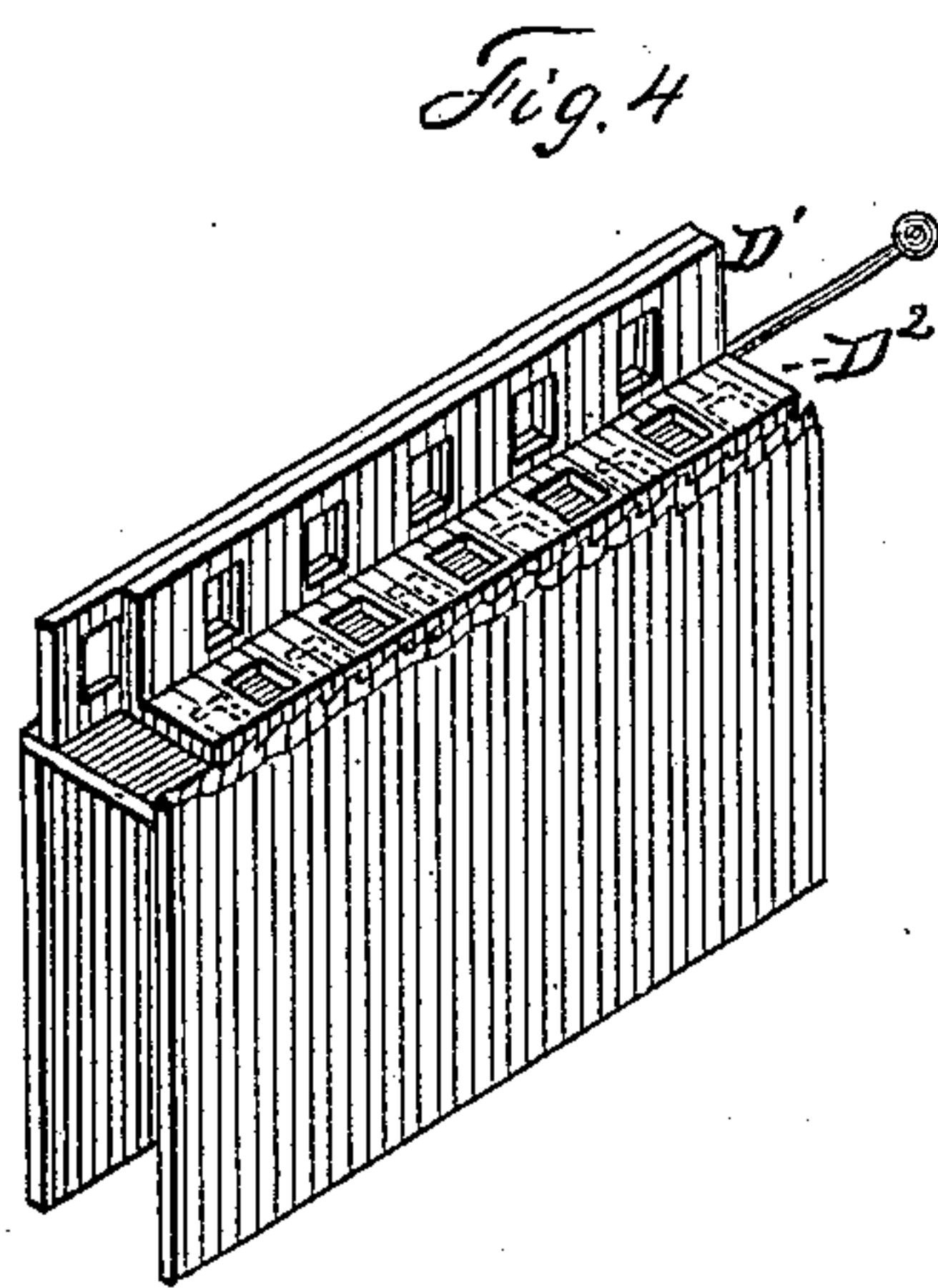
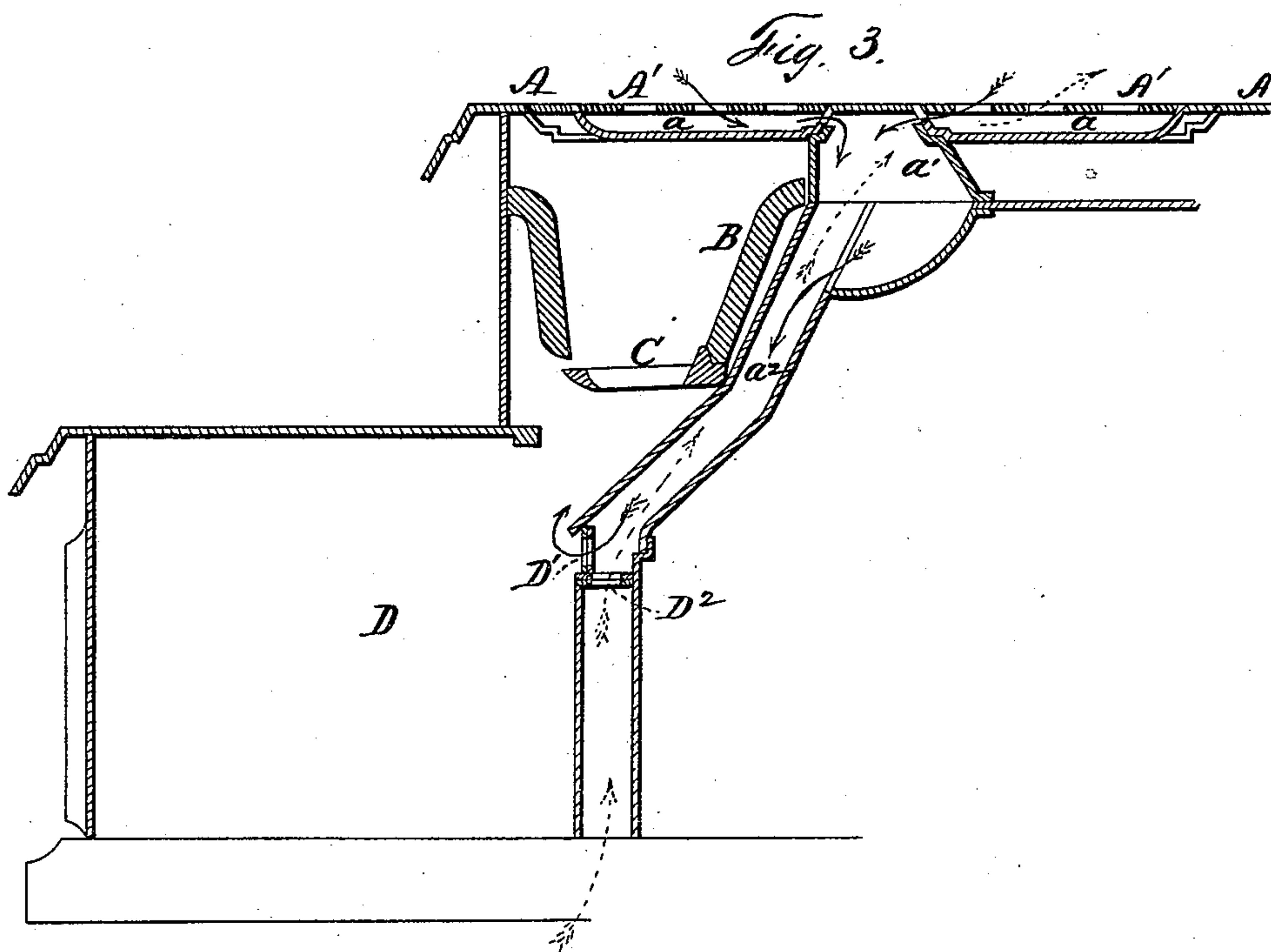
2 Sheets—Sheet 2.

R. HATCHMAN.

COOKING STOVE.

No. 245,630.

Patented Aug. 16, 1881.



WITNESSES.

Samuel C. Thomas.
Henry S. Duval

INVENTOR.

Robert Hatchman
By W. W. Leggett

ATTORNEY.

UNITED STATES PATENT OFFICE.

ROBERT HATCHMAN, OF DETROIT, MICHIGAN, ASSIGNOR TO THE DETROIT STOVE WORKS, OF SAME PLACE.

COOKING-STOVE.

SPECIFICATION forming part of Letters Patent No. 245,630, dated August 16, 1881.

Application filed April 16, 1881. (No model.)

To all whom it may concern:

Be it known that I, ROBERT HATCHMAN, of Detroit, county of Wayne, State of Michigan, have invented a new and useful Improvement in Cooking-Stoves; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to means for relieving the stove-lids from excessive heat, and for providing a hot-air draft downward from the lids to the grate or fire-place, or upward from the base of the stove to its top, as desired.

In the drawings, Figure 1 is a plan view of a stove embodying my improvement. Fig. 2 is a longitudinal section of the same as adapted for wood-stoves. Fig. 3 is a longitudinal section illustrating a variation in which the improvement is adapted to a coal-stove. Fig. 4 illustrates the two registers connected, and so arranged that the act of opening one closes the other.

A is a stove-top, with lids A' and center pieces A². B is the fire-back; C, the grate or fuel-bed, and D the ash-pit.

Great difficulty has been experienced owing to the warping of the lids and center pieces, the burning out of the fire-backs, and useless loss of heat due to the employment of a cold-air draft.

It is the object of these improvements to overcome these difficulties. To this end I make the lids and center pieces hollow, or in the form of an upper and lower plate fastened together so as to leave an air-space, *a*, between them open only through the top. The air-spaces *a* communicate with each other, as shown by the dotted lines in Fig. 1, and they all terminate in a descending flue, *a'*, whose walls serve the double purpose of supporting the middle portion of the stove-top and connecting with the air-space *a*² between the fire-back and the oven-plate, causing the said space to become a part of the air-flue. Suitable confining-walls continue the flue to the point D', where I provide a suitable register.

The operation of this part of the device is as follows: The fuel may or may not be started by a direct draft, as usual, from the front of

the stove; but when under way all that draft is shut off and the register D' is opened. This will cause a current of air to pass down through the lids and their connecting-flues *a* *a'* *a*², and discharge beneath the fuel through the register D', and this air will become thoroughly heated on the way down, so as to constitute a hot-air draft. The air also serves to prevent the covers and center pieces from getting too hot and warping, and assists in preserving the fire-back.

I provide an air-register, D², at or near the bottom of the stove, whereby, when the register D' is closed, a current of cold air may be admitted at the bottom, passing thence upward through the lids and center plates. This register D² may be independent, or it may be connected with the register D', as shown in Fig. 4, or in other suitable manner, so that as the latter is closed the register D² will open, and vice versa. This arrangement provides a draft in one direction or the other at all times through the lids and fire-back.

It is not essential that the flues shall be arranged precisely as shown; for they may be considerably varied and yet accomplish the essential objects—viz., a hot draft down from the top of the stove, and a reverse current when the hot draft is not in use.

In Fig. 2 the device is adapted for a wood-stove, there being simply a fuel-bed, C', and a grated front, C, and the air can be delivered as shown; but when the device is applied to a coal-stove, as in Fig. 3, the grate C extends well back, as usual, and space is left below to clean it of ashes. In this case I prefer, as shown, to deliver the air into the ash-pit.

In employing the term "lids" in the claims I would have it understood as embracing any of the top pieces which it is desired thus to protect against warping, and the flues may be located in the covers alone, or in the center pieces, or both.

I am aware that it is not new to combine in a stove the lids provided with air-flues, a descending air-flue communicating therewith and forming a flat air-space between the fire-back and oven-plate, and a register at the base communicating from said flue with the air-space under the grate, whereby air entering through the lids is caused to pass down, is heated and discharged as a hot-air draft to the fuel through

the grate, and I do not claim such construction, broadly.

What I claim is—

1. The combination, in a stove, of lids provided with air-flues, a descending air-flue communicating therewith, a register at the base communicating with the grate, and another register opening to the outer air at or near the base of the stove, whereby provision is made
10 for a hot-air draft at the grate, or an upward cold-air current from the base of the stove, substantially as described.

2. The combination, with the lid-flues and

descending flue, of a register at the base communicating with the grate, and an external air- 15 register at or near the base of the stove, the two registers connected so that one shall open as the other is closed, substantially as described.

In testimony whereof I sign this specification 20 in the presence of two witnesses.

ROBERT HATCHMAN.

Witnesses:

WM. M. PORTER,

HENRY F. QUELCH.