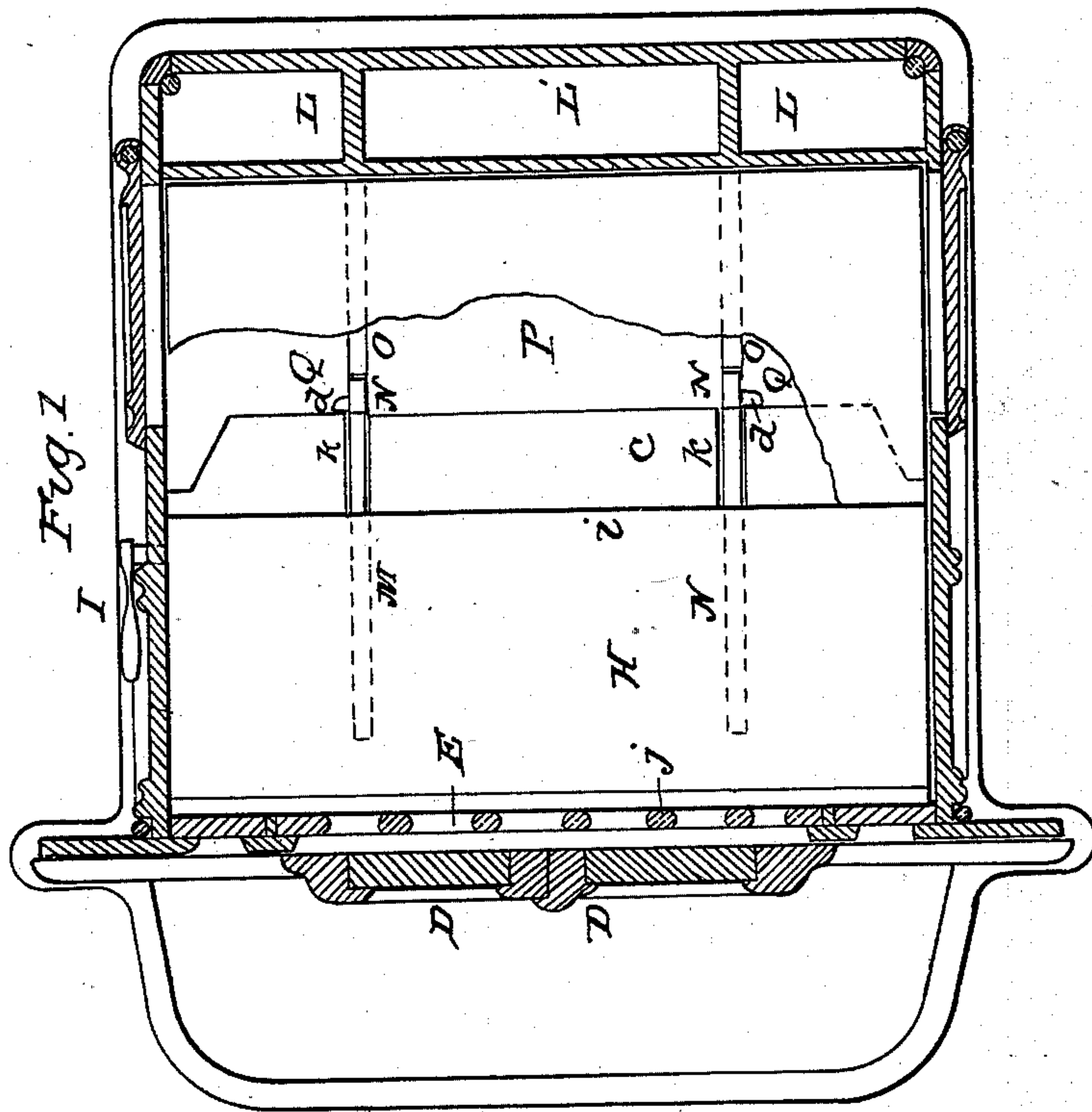


W. B. KIMBALL.
Cooking Stove.

2 Sheets—Sheet 1.

No. 49,278.

Patented Aug. 8, 1865.



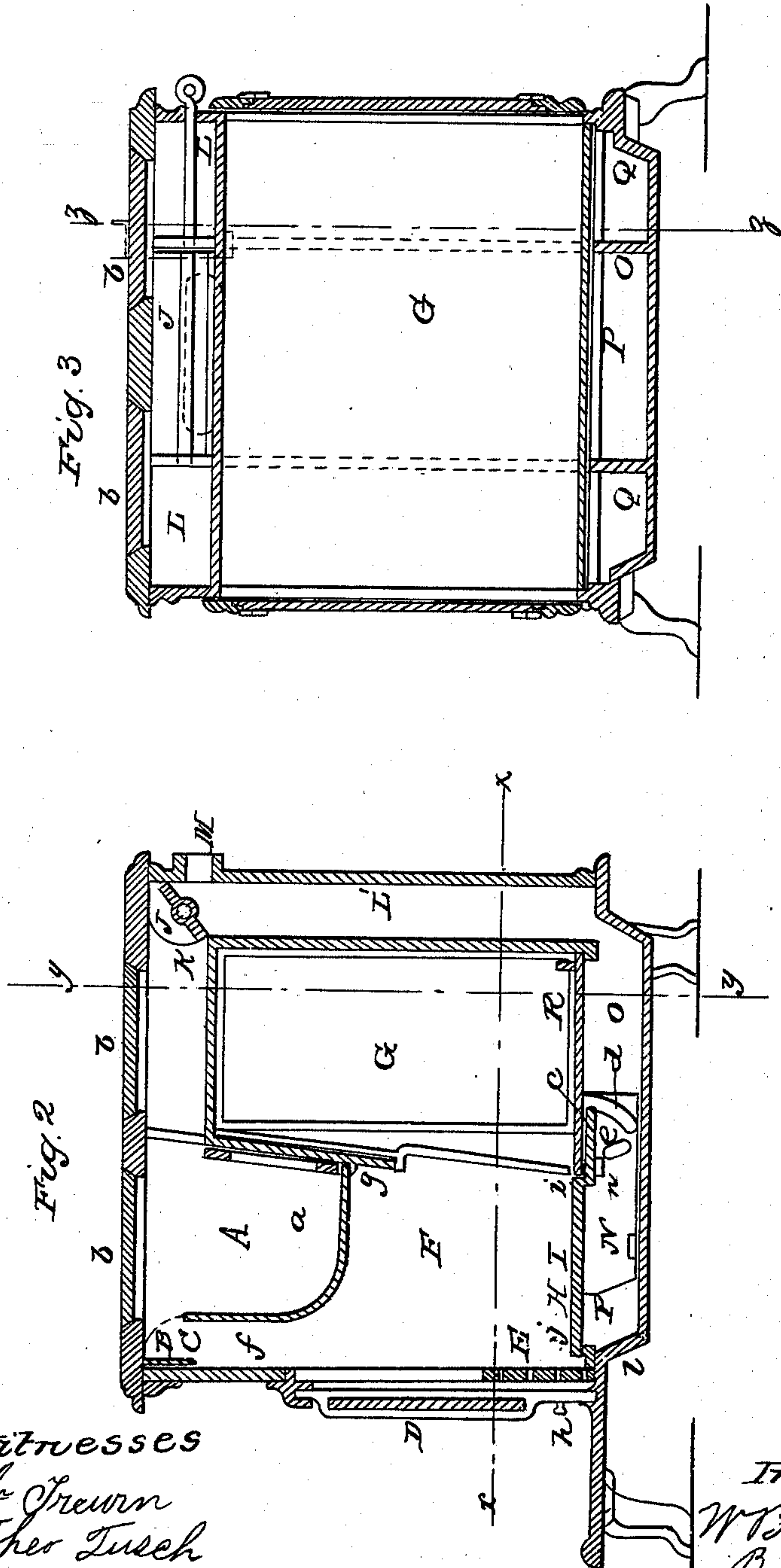
Witnesses
Wm. Brown
Jher. Tusch

Inventor
W. B. Kimball
By *Chas. H. Co.*
S. Atty

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Witnesses
Wm. Brown
Thos. Luech

Inventor
W. B. Kimball
By Munn & Co
attys

UNITED STATES PATENT OFFICE.

WM. B. KIMBALL, OF PETERBOROUGH, NEW HAMPSHIRE.

IMPROVEMENT IN COOKING-STOVES.

Specification forming part of Letters Patent No. 49,278, dated August 8, 1865.

To all whom it may concern:

Be it known that I, WILLIAM B. KIMBALL, of Peterborough, in the county of Hillsborough and State of New Hampshire, have invented a new and useful Improvement in Cooking-Stoves; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, Sheet No. 1, is a plan of a horizontal section of a stove made after my invention, the plane of section being on the line *x* of Fig. 2. Fig. 2, Sheet No. 2, is a vertical section taken on the line *z* of Fig. 3. Fig. 3, Sheet No. 2, is a vertical section taken on the line *y* of Fig. 2.

Similar letters of reference indicate like parts.

The object of this invention is to produce a cooking-stove which is capable of being changed into an open fire-place or Franklin stove, or into a stove with a closed fire-place. This end is effected by converting the front part of the oven into an open fire-place, a portion of the oven-bottom becoming the back of the fire-place, and the flue division-plates becoming the dogs of the fire-place.

The cooking-stove which I have selected whereby to illustrate my invention is made with a metallic frame filled with panels of freestone, soapstone, or other mineral substances. All the plates of the stove may be of stone, if desired; but in this application I only claim the construction and arrangement as hereinafter set forth, leaving the subject of the material of which it is made for a future application.

The stove here shown is of a square form, and has its fire-chamber A extending across one side and just under the top plate, its bottom being above the front part, F, of the oven, and its front plate, *f*, being far enough distant from the front of the stove to form a flue, C, between them. This flue extends across the stove the whole length of the fire-place, and is governed by a damper, B, whose edge, when it is closed, rests on the upper edge of the fire-chamber plate *f*.

G is the back part of the oven. It commu-

nicates with the part F through the open space left beneath the plate *g*, which separates the fire-chamber from the back oven, and whose lower edge comes a little way below the bottom of the fire-place. When the oven-space comprises the parts F and G, as shown in Fig. 2, the damper B is put down and the flue C is closed. The course of the products of combustion will then be from the fire-chamber directly over the oven G, through the fire-space K, and thence, if the damper J is in a horizontal position, into the discharge-pipe M; but if that damper is in the position shown in Fig. 2, then the course will be through the down-cast flues L, into the side bottom flues, Q Q, through which they will proceed to the end of the partitions N N, where they will be discharged into the central bottom flue, P, through which they will proceed to the upcast-flue L', which discharges into the pipe M behind the damper J. In this arrangement and adjustment of parts the doors D D compose the front side of the oven, and the oven comprises the whole of the bottom of the stove. The doors D D slide open laterally, and each has a damper, *h*, for the admission of air. The handle of one of these dampers is seen in Fig. 2.

The bottom of the oven is made of two distinct plates, each extending across the whole width of the oven, of which the plate R belongs to the division G and the plate H belongs to the division F. This plate H is made capable of rotating about a line, *i*, by means of journals on its outer edges, which are received into perforations made for them in the sides of the stove, and one of its journals projects outside far enough to enable a wrench or lever, I, to be applied thereto.

The inner edge of the bottom plate, R, meets the plate H at the line *i*, and their surfaces are in the same plane; but the plate H has an extension, *c*, which reaches a little distance beneath the plate R, as seen in Fig. 2. The width of this extension is equal to the height of the flue-space beneath the oven. The extension has slots K K cut across it to allow it to straddle the flue-partitions N.

The partitions which divide the flue-space beneath the oven are in two series. Those of

one series—to wit, the partitions marked O O—are fixed, but those belonging to the other series, N, are movable, being free to slide in the direction of their length, so as to come in contact with the inclined side *l* of the bottom plate of the stove, and thereby close the open space (seen in Fig. 2) between the side bottom flues, Q Q) and the control-flue P.

The movements of the partitions N are effected by the extension *c* of the bottom plate, H, and by projections *d e* on the sides of the said partitions, between which the said extensions move when the lever I is operated.

The projections *d d* are curved ribs, whose curves are concentric with that described by the extension C as a radius, but their place is toward the inner end of said partitions, so that the edge of the extension moves along the inner faces of said projections.

The front edge of the plate H has a flange, *j*, clear across it. When one raises the lever I the plate H is raised until its flange *j* rests against the lower edge of the division-plate *g*, and at the same time the extension *c* moves down past the concave faces of the projections *d* until they strike the projections *e*, when the partitions N are forced toward the beveled side *l*, before mentioned, and a separation is made between the inner ends of the two series of partitions. The extension *c* will now be extended across the flue-spaces Q P Q, so as to shut off communication between the front and back parts of the flue-space. Guides *m n* are made on the bottom of the stove and on the lower side of the extension *c*, between which the sliding partitions move, so that they cannot be displaced laterally. When the bottom plate, H, is up those portions of the flue-space Q P Q which are between the sliding partitions N become the bottom of a fire-place of which the plate H is now the fire-back and the partitions N N the andirons or fire-dogs.

E is a fender which is fitted between the jambs of the front doorway, between the doors D and the edge of the flange *j*, so that it can remain in the stove when the plate H is down. If, now, the damper B is thrown up, as seen in Fig.

2, the products of combustion from what is now the fire-place F will pass over the fire-place A, and thence along the same courses as above explained, except that now they will be turned into the central bottom flue, P, at the ends of the partitions O O.

It will be observed that if the doors D D be thrown open and a fire be built in the fire-place F one has an open or Franklin stove with an oven behind. When the plate H is laid down again to the position seen in Fig. 2 the edge of the extension *c* strikes against the curved pieces *d* and crowds the partitions N back to their original position, and the stove is now ready to be operated with the upper fire-place, A, the divisions F G being thrown into one oven. When the plate H is down its front flange, *j*, rests on the top of the beveled part *l* of the bottom plate of the stove.

By this invention I produce a stove which can with little trouble be changed from an open summer stove with a small oven into a close winter stove with a large oven.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In cooking and heating stoves, the bottom plate H, constructed and operating substantially as described, so that it may become at pleasure part of the bottom of an oven, or the fire-back of a supplementary fire-place.

2. Sliding the partitions N N of the lower flue-space so as to contract or extend the flues Q P Q, substantially as and for the purpose described.

3. The means above described for operating the sliding partitions—to wit, the extension *c* of the bottom plate and the projections *e d* of the partitions—substantially as shown.

4. The front flue, C, and its damper B, in combination with the space F below the fire-place A, for the purpose of making a flue when that space is formed into a fire-place, substantially as described.

WM. B. KIMBALL.

Witnesses:

ALBERT S. SCOTT,
C. V. DEARBORN.