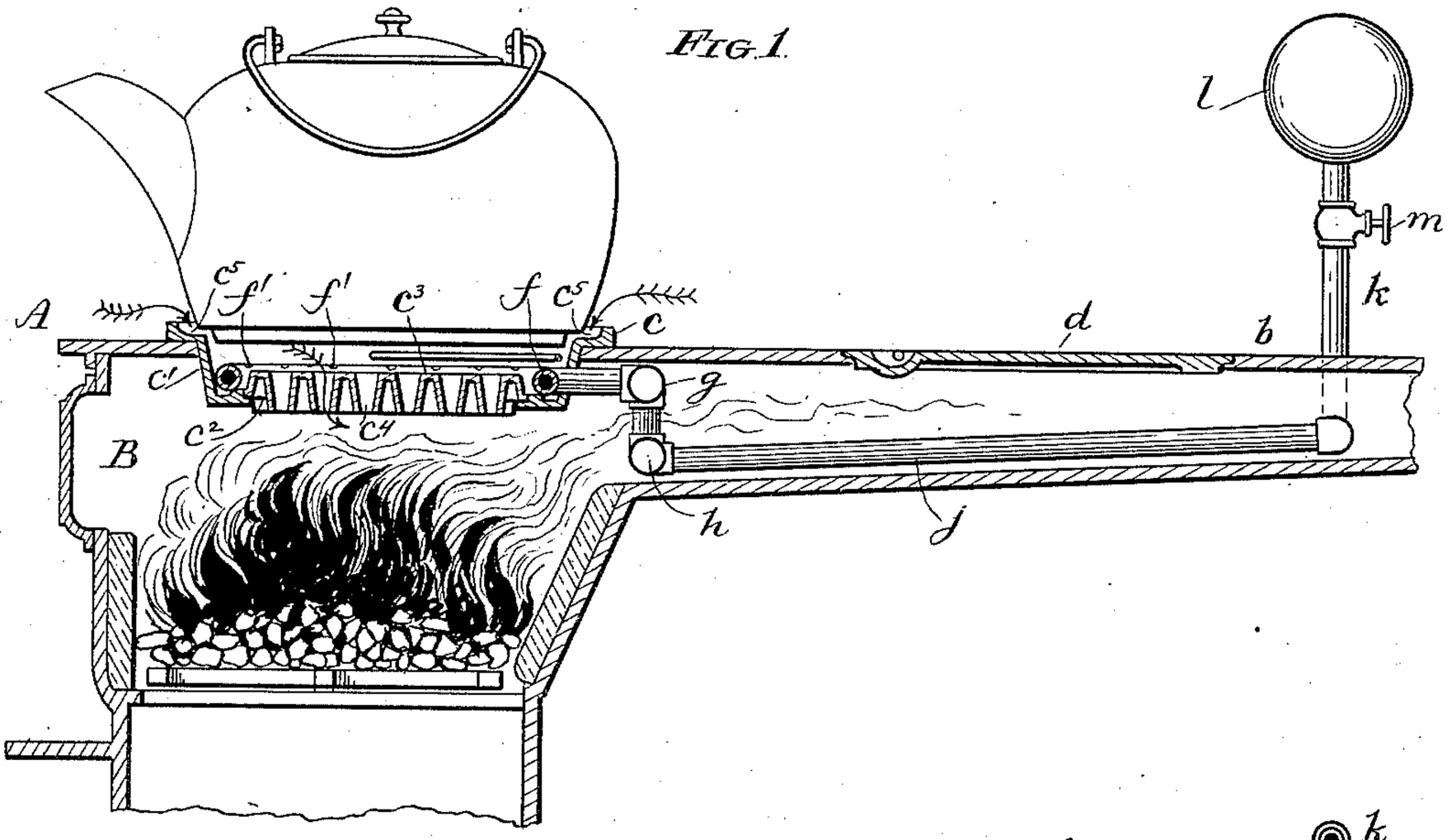
(No Model.)

G. MARLOW.

STOVE.

No. 422,026. Patented Feb. 25, 1890.

FIG. 1.



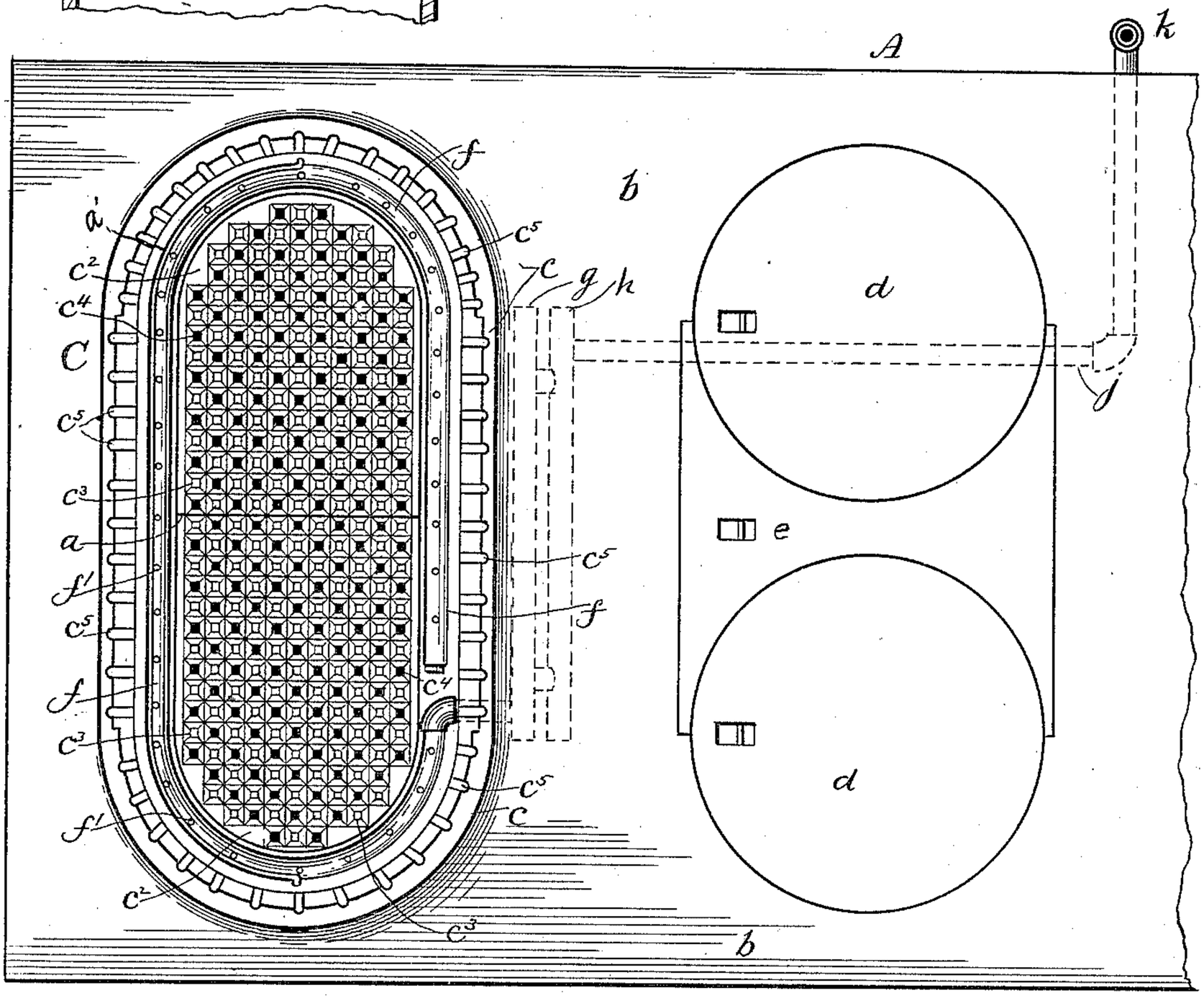


FIG. 2.

Witnesses:
J. Halpenny.
David Stevens.

Inventor:
George Marlow.
By Gridley & Fletcher
his Attys.

UNITED STATES PATENT OFFICE.

GEORGE MARLOW, OF CHICAGO, ILLINOIS, ASSIGNOR OF TWO-THIRDS TO EDWIN R. MARTIN AND ARCHIBALD M. CAMPBELL, BOTH OF SAME PLACE.

STOVE.

SPECIFICATION forming part of Letters Patent No. 422,026, dated February 25, 1890.

Application filed August 24, 1889. Serial No. 321,849. (No model.)

To all whom it may concern:

Be it known that I, GEORGE MARLOW, of Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Stoves, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of the specification, in which—

Figure 1 is a longitudinal vertical sectional view of a portion of a stove, showing my improvements applied thereto. Fig. 2 is a plan view of the same, the heating-vessels being removed.

Like letters of reference in the different figures indicate like parts.

The object of my invention is to so construct a stove or range as to not only prevent the escape of smoke therefrom upon the removal of the lid, but to increase the amount of heat from a given amount of fuel, while at the same time the formation of smoke from fatty fuel—such as bituminous coal—may be greatly reduced by so admitting air and steam at such place or places with reference to the fire as to cause it to combine with the heated gases and render combustion more perfect. Moreover, I desire to embody said invention in such form as that it may be applied to old or new stoves and to varying conditions.

To these ends my invention consists in the combination of elements hereinafter more particularly described and claimed.

Referring to the drawings, A represents an ordinary stove, of which B indicates the fire-box, and *b* the top plate, in which is formed the usual openings for cooking-vessels.

My invention consists in constructing a depressed or trough-like detachable portion C in connection with the top of a stove, which portion is provided with flanges *c*, which extend over the top of the plate *b* sufficiently to form a rest thereon. A depression or groove is formed therein, like that in the usual stove-plate, for the reception of the stove-lid *d* and cross-plate *e*.

The walls *c'* of my improved device are preferably slanted more or less and extended downwardly into the opening, as shown, so as to be in direct contact with the fire or heated gases. The bottom c^2, which is removable from the supporting walls or frame *c'*, is by preference either corrugated or provided with a series of projecting knobs c^3, which may be round, square, or of any desired shape, regular or irregular, so as to present an uneven surface either above or below, or both, and between which protuberances I provide a series of small holes c^4 for the admission of air, as clearly indicated by the arrows shown in Fig. 1.

In order to permit the admission of air from the outside atmosphere to the openings c^4 when cooking-vessels are placed upon the stove or the lids *d* are in position, as shown in Figs. 1 and 2, I provide a series of notches or grooves c^5 around the top of the flange *c*, which extend inwardly, as shown.

My improvement may be made oblong to fit the opening in the stove-plate when both lids *d d* and cross-plate *e* are removed, as shown in Fig. 2. I prefer to construct it in two parts and hinge them together, as shown at *a*. A bail *a'*, Fig. 2, may be used to lift the entire structure.

Arranged around the edge and at the bottom of my device C is a pipe *f*, having a series of perforations *f'* therein. The pipe *f* is connected with a horizontal pipe or steam-reservoir *g*, which communicates with a secondary reservoir *h*, arranged upon a lower level, (see Fig. 1,) and the latter is in turn connected by means of pipes *j k* with an elevated reservoir *l*, a valve *m* being interposed in the pipe *k* to regulate the flow of water therefrom. The water from the reservoir *l* becomes more or less heated in passing through the pipe *j* and reservoir *h*, and is converted into steam upon reaching the reservoir *g*, from whence it passes to the distributing-pipe *f* and issues from the perforations therein over the surface of the bottom plate c^2, when it mingles with the heated air passing constantly through the openings c^4, and upon decomposition the hydrogen therein burns with intense heat.

I have found in actual practice that my invention lessens the amount of smoke produced, promotes combustion, and enables any

kind of fuel to be used without soiling the cooking-vessels or causing soot to collect upon the top of the stove. A further advantage is that bread may be toasted and meats broiled upon the plate c^2 without becoming smoked or causing smoke in the room, the draft through the adjacent openings carrying it into the stove.

Having described my invention, I claim—

The combination, with a stove, of the structure C, having a depressed perforated bottom, a perforated steam-pipe therein, and a source of water or steam supply communicating with said pipe, substantially as shown and described.

In testimony whereof I have signed this specification, in the presence of two subscribing witnesses, this 5th day of August, 1889.

GEORGE MARLOW.

Witnesses:
D. HORACE FLETCHER,
J. HALPENNY.