

(No Model.)

F. E. BROWN & G. P. FRAIN.

VAPOR BURNING APPARATUS FOR COOK STOVES.

No. 338,386.

Patented Mar. 23, 1886.

Fig. 3

Fig. 4

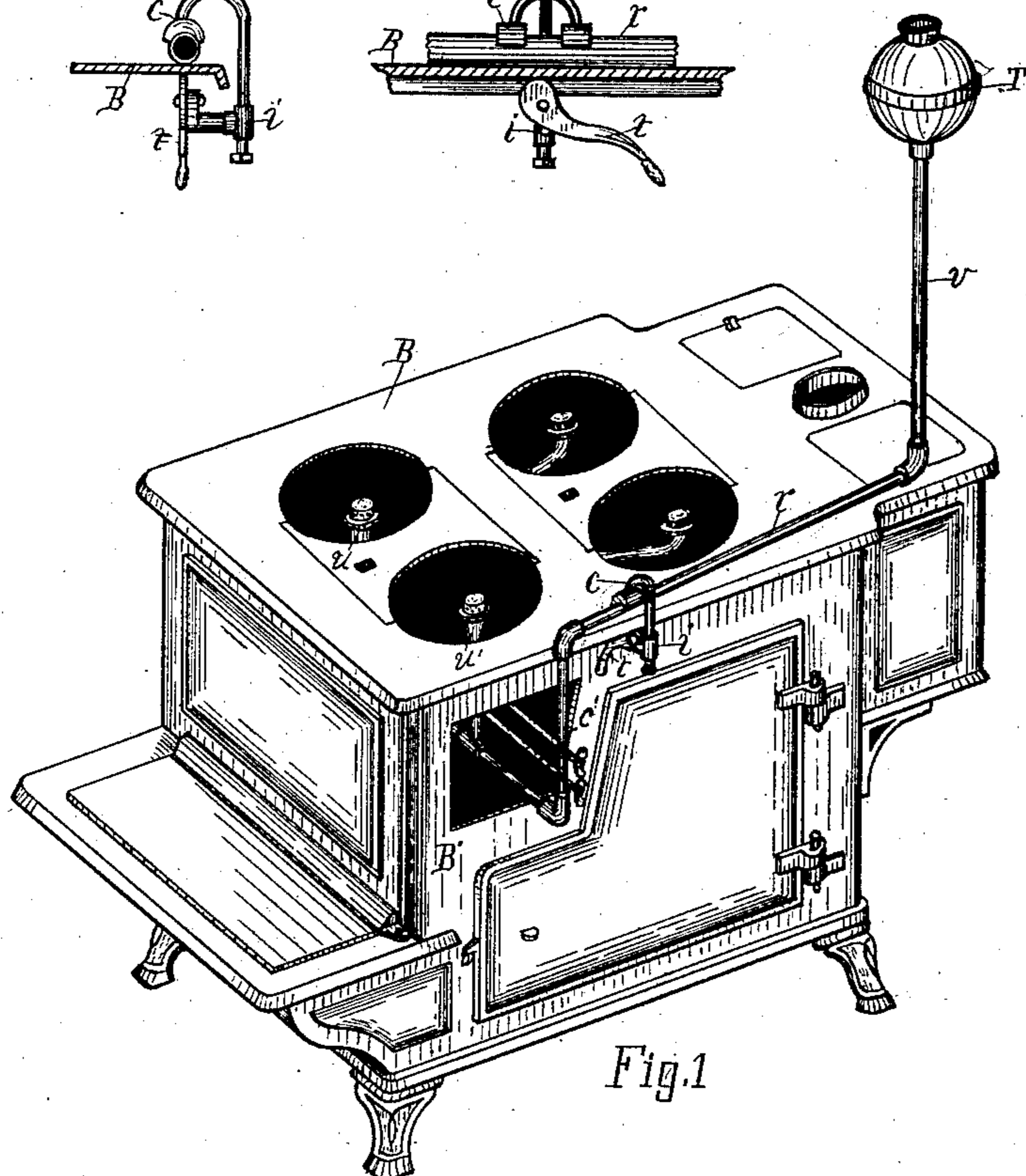
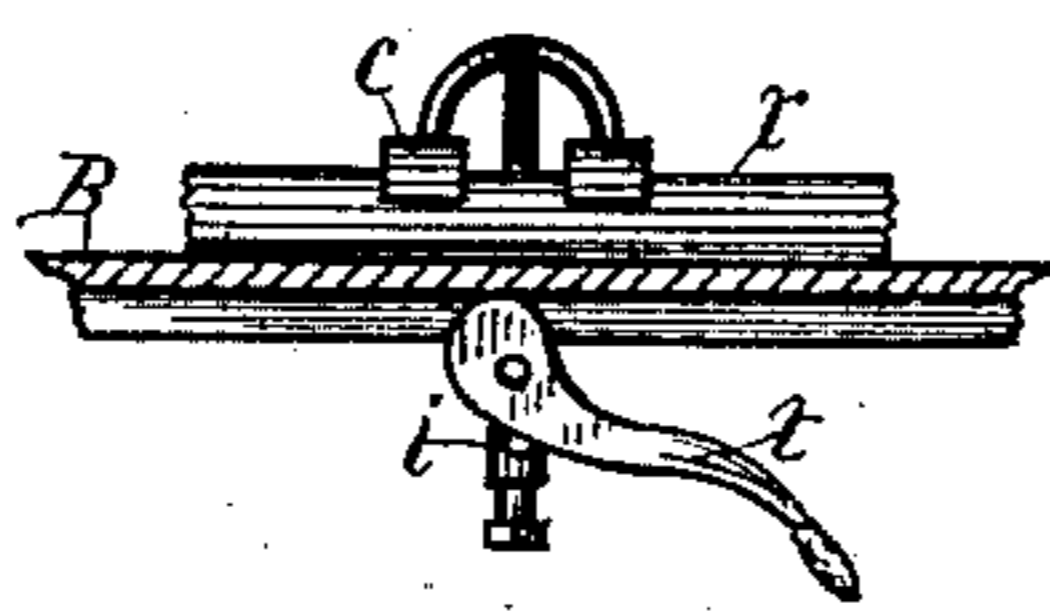
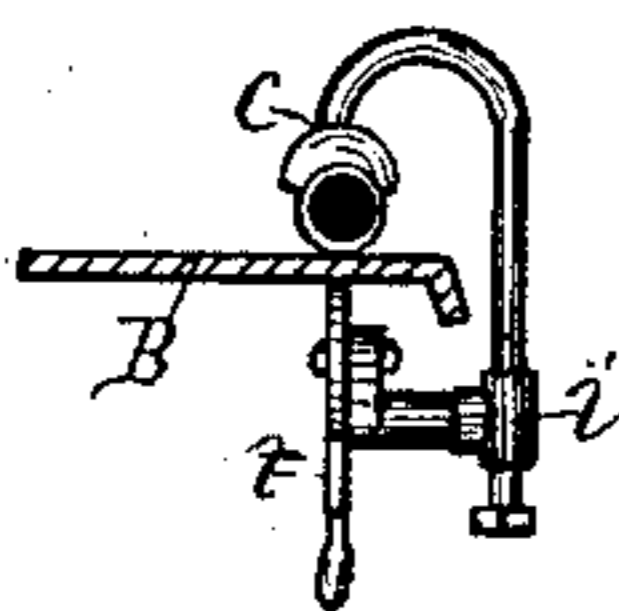


Fig.1

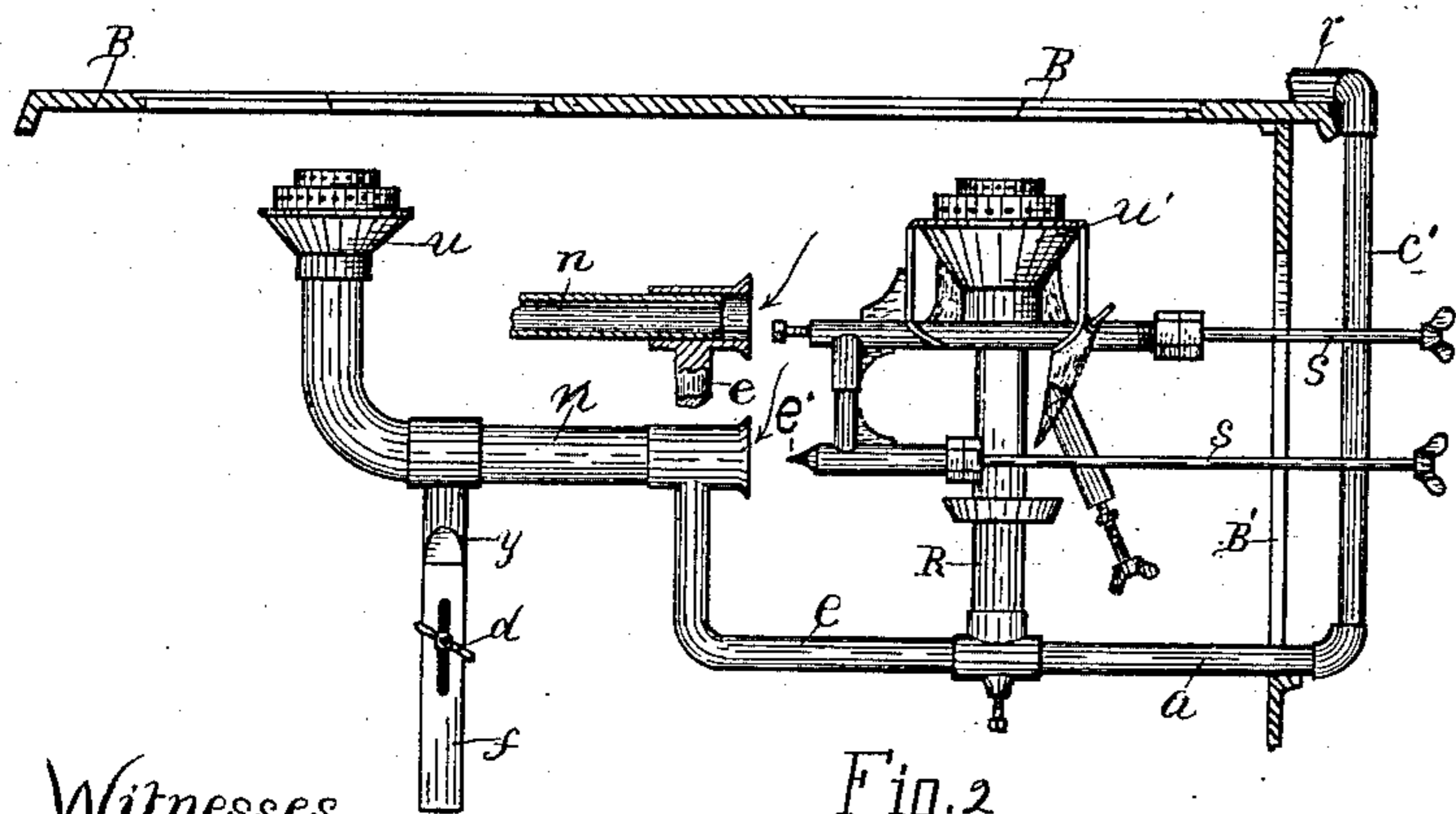


Fig. 2

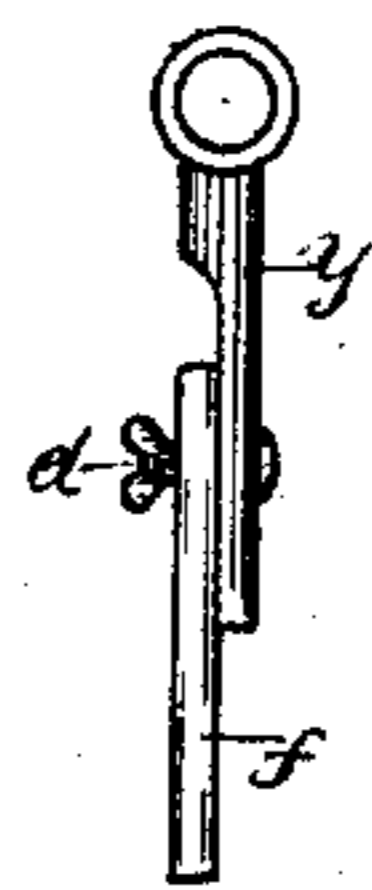


Fig. 5

Witnesses.

John C Perkins
Ralph Litter

Inventor:

Frank E Brown & Geo P Frain

By Lucius C. West

Att-y-

UNITED STATES PATENT OFFICE.

FRANK E. BROWN AND GEORGE P. FRAIN, OF THREE RIVERS, MICHIGAN.

VAPOR-BURNING APPARATUS FOR COOK-STOVES.

SPECIFICATION forming part of Letters Patent No. 338,386, dated March 23, 1886.

Application filed June 23, 1885. Serial No. 169,554. (No model.)

To all whom it may concern:

Be it known that we, FRANK E. BROWN and GEORGE P. FRAIN, citizens of the United States, residing at Three Rivers, county of St. Joseph, State of Michigan, have invented a new and useful Vapor-Burning Apparatus for Cook-Stoves, of which the following is a specification.

The object of this invention is to construct a vapor-burning apparatus adapted for insertion in an ordinary fuel-stove in a detachable manner, the burners and the frame which supports the burners being, when in use, in the fire-place of the stove with the burners located beneath the kettle-holes of the stove, substantially as below described and claimed.

To this end we have perfected and combined with an ordinary cook-stove a construction, hereinafter described, embodying our invention, and which is illustrated in the accompanying drawings, forming a part of this specification.

In said drawings, Figure 1 is a perspective view of a stove with burners attached; Fig. 2, a side elevation of the burners and their supporting-frame enlarged, a portion of the stove in this figure being in cross-section intercepting the stove-holes and end door; Fig. 3, an enlarged front view of the clamp in Fig. 1, the feeder-pipe and a portion of the stove-top being in cross-section; Fig. 4, a view looking from a point at the left of Fig. 3, a portion of the stove-top being in longitudinal section, these details in Figs. 3 and 4 being pointed out by like letters; and Fig. 5 is a view of parts in Fig. 2, looking from the right hand.

The main features of the invention are any suitable vapor-burners supported by a suitable frame to admit of detachably placing the apparatus in the interior of the stove through one of the doors, Fig. 1, so that the burners shall be beneath the stove-holes sufficiently far to admit of setting a kettle in the hole over the burner, so that the burning vapor will come in contact with the bottom of the kettle, in a manner similar to the fire in an ordinary wood or coal cook-stove. In Fig. 2 the relative positions of the burners u u' with the holes in the stove-top B are shown. Other peculiarities, which are important in manufacturing the apparatus for use with various

styles and sizes of stoves, are that the supporting-frame be made vertically and longitudinally adjustable.

Just the details to be adopted in carrying out these features are matters of choice, the details herein shown being designed to illustrate them in an operative manner. The feeder-pipe connects the lower end of the hollow stock R of the burner u' , the part a extending horizontally and laterally a sufficient distance to come outside the stove through the open door, thence extending upward in the part c' , and thence obliquely rearward over the top of the stove, as at r , and from thence upward, as at v , to the tank T for holding the gasoline, or whatever material may be used for producing the vapor. Thus the feeder-pipe forms part of the frame which supports the burners, and which also supports the apparatus within the stove in a proper upright position.

The stove in cold weather is used for burning other fuel by detaching the apparatus and storing it away for next season's use. At e is shown a bar for supporting another burner for the other front stove-hole. In this construction the burner u' generates vapor for the burner u , which passes out of the open point at c' , thence through the hollow stock n of the burner u , in the well-known manner of generating vapor from one burner to another; but these details have no part in our invention, as any other style of burner may be employed. Burners may be placed beneath the back holes in the stove, Fig. 1, which burn generated vapor, the same as the burner u from the burner u' or otherwise, the illustration merely showing their internal position in relation to the stove-holes. The end of the stock n adjustably fits in the thimble at the top of bar e , so that it may be slid in and out to govern the distance between the burners u' u in accordance with the size of the stove and the distance between the stove-holes. An end support, y f , connects the stock n , and is vertically-adjustable, the parts y f being slotted, lapped, and held by a thumb-screw, d . Thus this end has a support of a height corresponding to the position of the pipe a , resting on the threshold of the stove-door, in different stoves having different depths and styles of fire-boxes and ash-trays. The racks s connect with the regulating-cocks of the

burners, and are provided with handles and extend out through the end door of the stove, where they are easily accessible to shut off or turn on the vapor.

5 A suitable clamp is employed to detachably secure the feeder-pipe to some portion of the stove, the idea being clearly shown in Figs. 1, 3, and 4. A concave portion, *c*, of the clamp fits on the pipe *r*, and the eccentric cam-lever
10 *t* engages the flange of the stove-top, the part *i*, to which the lever is pivoted, being vertically adjustable on the frame-bar of the clamp. In many cases a clamp will not be needed.

It will appear obvious that this invention in
15 no way pertains to the old-style apparatus having grated burner-supports setting on the stove-holes, and merely employing the stove for a support or stand.

Having thus described our invention, what
20 we claim as new, and desire to secure by Letters Patent, is—

1. The combination, with an ordinary fuel-stove, of the vapor-burning apparatus de-

tachable within the fire-box, as shown, and having its feeder-pipe leading outward and
25 upward onto the flange of the stove-top, and a clamp having the fixed jaw and the vertically-movable jaw clamping the feeder-pipe and flange of the stove-top, substantially as set forth. 30

2. The combination, with an ordinary fuel-stove, of a vapor-burning apparatus for detachable insertion within the stove, consisting of a supporting-frame vertically and longitudinally adjustable, a burner or burners sup-
35 ported by said frame beneath the kettle-holes of the stove top, and a supply-tank and feeder-pipe, substantially as set forth.

In testimony of the foregoing we have here-
unto subscribed our names in presence of two
40 witnesses.

FRANK E. BROWN.
GEORGE P. FRAIN.

Witnesses:

RALPH LITTLER,
ED. FRENHWAY.