# E. A. C. FOX.

## MAGAZINE HEATING AND COOKING STOVE.

No. 192,864. Patented July 10, 1877.

Fig. 2.

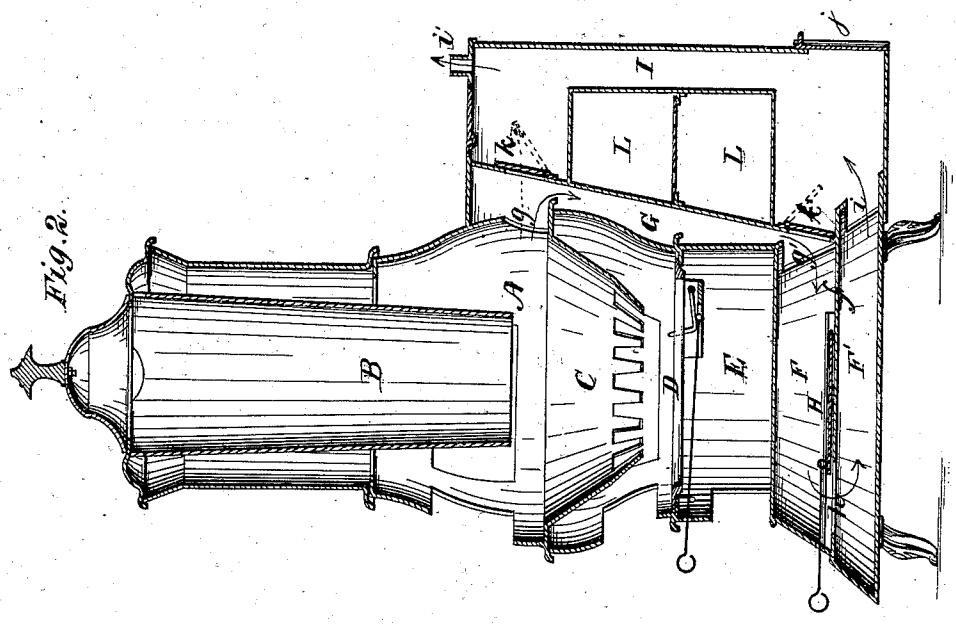
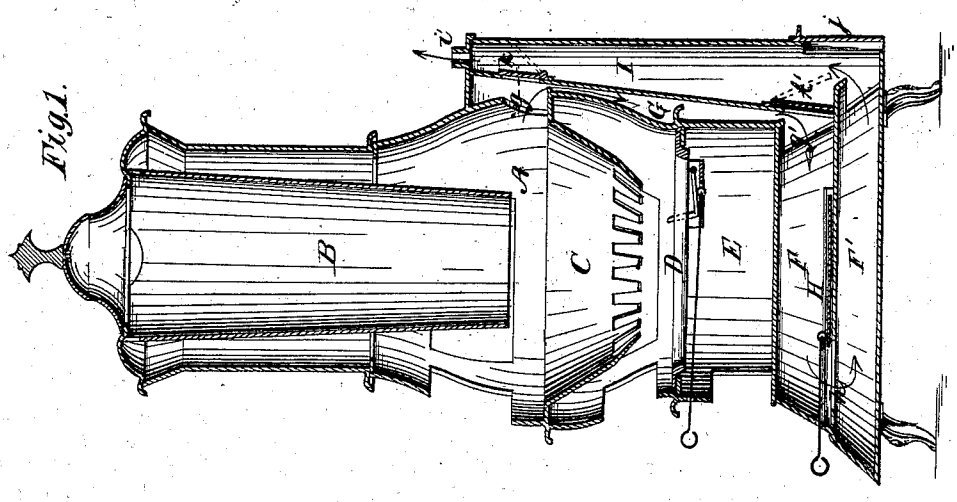



Fig. 1.




WITNESSES

M. Lynch

T. McKenny

INVENTOR

Ernst A. C. Fox.

By Hill Ellsworth

His ATTORNEYS.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

ERNST A. C. FOX, OF FREDERICK, MARYLAND.

## IMPROVEMENT IN MAGAZINE HEATING AND COOKING STOVES.

Specification forming part of Letters Patent No. **192,864**, dated July 10, 1877; application filed May 17, 1877.

*To all whom it may concern:*

Be it known that I, ERNST A. C. FOX, of Frederick, in the county of Frederick and State of Maryland, have invented certain new and useful Improvements in Outstanding-Stoves; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical section of a stove showing my improvements, and Fig. 2 is a similar view of a modification thereof.

Similar letters of reference in the accompanying drawings denote the same parts.

My invention has for its object to secure a more thorough radiation of heat from the lower and rear part of the stove, to enable such radiation to be perfectly controlled and adjusted, and to combine with the ordinary outstanding heating-stove an efficient and convenient heating and cooking attachment for use when occasion may require. To these ends the invention consists in a new and improved construction of the escape flues and passages whereby the smoke and volatile products of combustion pass off through the chimney for the purpose of utilizing the entire base of the stove for heating purposes, and combining with such construction a rear extension or attachment, in which may be arranged ovens or heating-chambers, for the purposes above indicated.

In the drawings, A represents the combustion-chamber, B the fuel-magazine, C the fire-pot, D the gate, and E the ash-chamber, of an ordinary outstanding magazine-stove. All the parts above mentioned are constructed in the usual and well-known manner, except the combined grate and clearing attachment, which form the subject of a separate application for Letters Patent, now pending in my behalf in the Patent Office.

The base of the stove is made somewhat deeper than usual, and is divided by a horizontal partition, *f*, into two compartments, F F′. At the rear side of the stove is a vertical flue, G, extending from the partition *f* to the middle or upper portion of the combustion-chamber, said flue communicating with the combustion-chamber through an opening, *g*, and with the upper base-chamber F through an opening, *g′*. In the front part of the partition *f* there is an opening, *h*, capable of being closed in whole or in part by a damper, H. At the rear of the flue G is a vertical chamber, I, extending from the top of said flue to the bottom of the stove, and communicating with the base-chamber F′ through an opening, *i*, and with the chimney through a pipe or collar, *i′*. An opening, provided with a damper, *k*, is provided in the partition that separates the flues G I, and directly in rear of the opening *g*, and a similar opening and damper, *k′*, are arranged in the lower end of said partition, in rear of the opening *g′*. Heating-chambers L, provided with suitable shelves and doors, may be arranged within the flue or chamber I, and an ash-slide, *j*, may be placed at the lower rear edge of said flue.

The operation of this improved stove is as follows: In making the fire the dampers H *k′* are closed, and the damper *k* opened, which gives a direct draft from the combustion-chamber to the chimney. While the dampers are thus arranged there will be little or no radiation of heat from base of the stove, and the ovens L can be used only for warming purposes. When, for any reason, the direct draft is no longer desirable, the damper *k* is to be closed, whereupon the smoke and heated gases will be caused to dive through the flue G, either into the base of the stove through the passages *g h*, and thence to the chimney through the flue I, or else from the flue G directly into the flue I by way of the passage *k′*, accordingly as it may be desirable to make a greater or less heat in the ovens or in the base of the stove. Thus, it will be observed that when the damper H is closed and *k′* opened the heat will be directed mainly upon the ovens, while if the damper *k′* is closed and H opened the heat will first radiate, to a considerable extent, from the entire base of the stove, and then the partially-cooled currents will pass to the flue I, where their action upon the ovens will be less powerful. The dampers may, of course, be partially opened, more or less, so that the radiation of the heat from the base and rear of the stove and into the chambers L can be perfectly controlled and adjusted at will.

I have shown a magazine base-burning stove in connection with my improvements, but, as they do not relate to the supply of the fuel, it is obvious that they may be employed with any other form of stove without departing from the principle of my invention, which consists, as

I claim—

1. In a stove, the combination of the chambers F F′, arranged one above the other in the base of the stove beneath the ash-chamber, so as to occupy the entire horizontal and vertical area of the base, and communicating with each other by a front dampered opening, *h*, the upper chamber communicating with a revertible flue, G, and the lower chamber with the flue leading to the chimney, substantially as described.

2. The combination of the enlarged flue I and heating-chambers L L with the chambers F F′, the revertible flue G, and the damper-connections, substantially as described.

3. In a stove, the combination, with the flue I and heating-chambers L L, of a chamber, F′, occupying the entire bottom area of the stove, and through which the volatile products of combustion can be directed to the flue I for the purpose of radiating from the base of stove, or from which said products of combustion can be entirely excluded without otherwise affecting the draft of the stove when it may be desirable to prevent the radiation of heat from the bottom, substantially as described.

ERNST A. C. FOX.

Witnesses:
F. F. TREICH,
T. HARTMAN.