H. B. FAY.

Stove.

No. 26,756. Patented Jan'y 10, 1860.

Fig. 1.

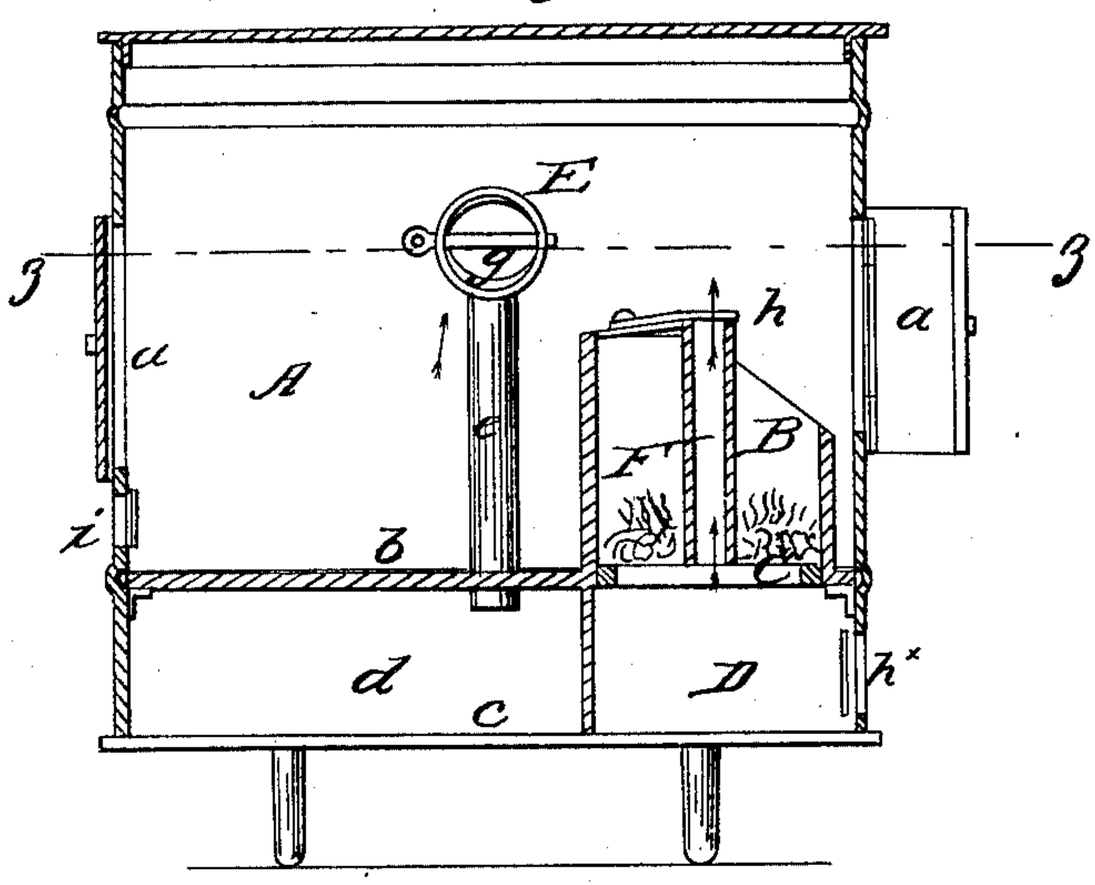


Fig. 2.

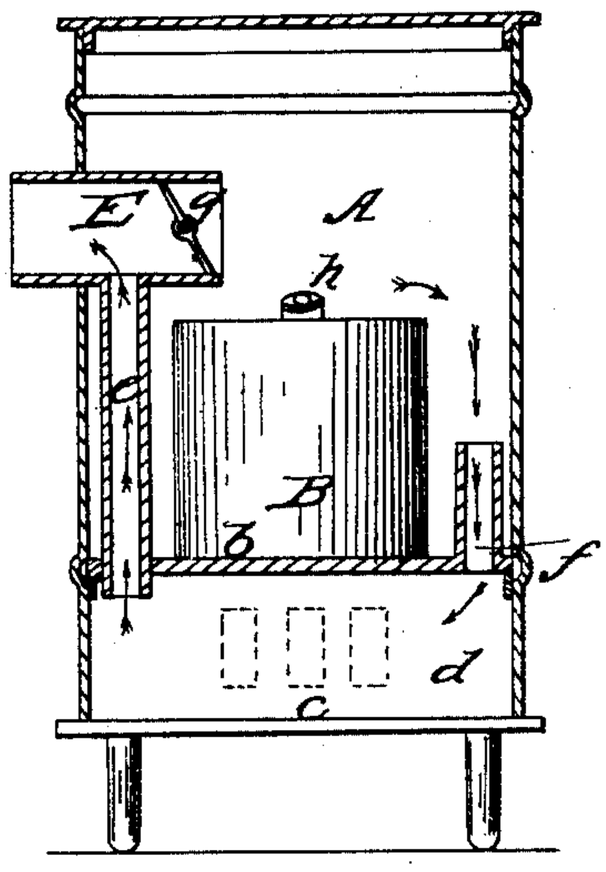
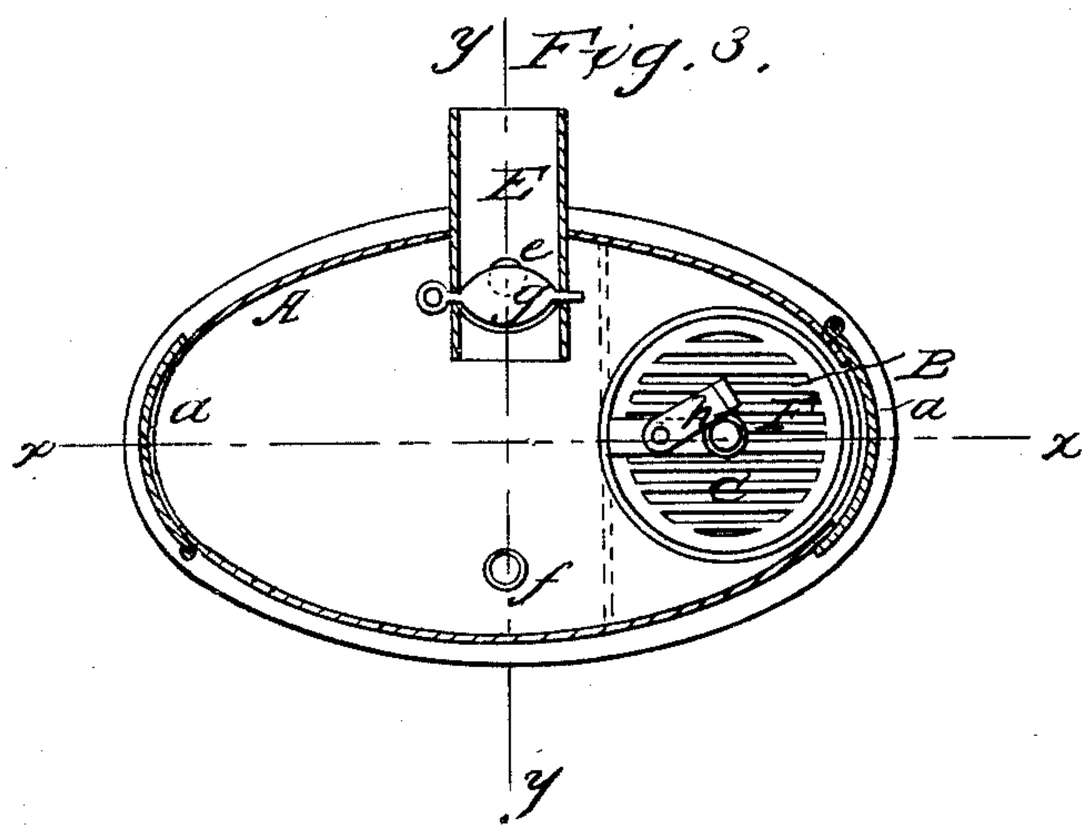


Fig. 3.



Witnesses:

A. W. Coombs.

R. S. Spencer.

Inventor

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UNITED STATES PATENT OFFICE.

H. B. FAY, OF NEW YORK, N. Y.

STOVE.

Specification of Letters Patent No. 26,756, dated January 10, 1860.

To all whom it may concern:

Be it known that I, H. B. FAY, of the city, county, and State of New York, have invented a new and Improved Stove; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a side sectional view of my invention, taken in the line *x*, *x*, Fig. 3. Fig. 2, is a transverse vertical section of ditto, taken in the line *y*, *y*, Fig. 3. Fig. 3, is a horizontal section of ditto taken in the line *z*, *z*, Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in combining a wood and coal-burning stove in such a way that either kind of fuel, (wood or coal) may be used as desired and the stove made to diffuse equally as much heat with either fuel as those stoves that are constructed especially for each.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents the body or case of the stove. This body or case may be constructed of sheet metal and transversely of elliptical form, this form would be preferable although other forms may be used. The body or case is provided with a door *a*, at each end, and within the body or case A, a fire-chamber B, is placed directly opposite one of the doors and in close proximity to it. This fire-chamber is for coal and it may be of cylindrical form and of a suitable diameter according to the size of the body or case A. The bottom of the fire-chamber is provided with a grate C, arranged in any of the usual ways and directly below the grate C, is the usual ash-chamber D.

The body or case A, is provided with a horizontal plate *b*, which forms the bottom of the wood fire-chamber. This fire-chamber comprises the whole of the interior of the case A, that is not occupied by the coal fire-chamber B. The bottom plate *b*, is some distance above the bottom *c*, of the case A, and the space between them is occupied by the ash-chamber D, of the coal fire-chamber, and a flue *d*, the latter communicating with the smoke pipe E, by a pipe *e*, within the case A, and said flue also communicating with the interior of the case by a pipe *f*, as shown clearly in Fig. 2. The smoke pipe E, is provided with a damper *g*, at its inner end. Within the coal fire-chamber B, a vertical tube F, is placed centrally. This tube communicates at its lower end with the ash-chamber D. The tube extends upward as high as the fire-chamber B, and it is provided with a cover *h*, which may be opened or closed at pleasure.

The operation is as follows: If a coal fire is desired it is built in the fire chamber B. If a wood fire is desired the same is built on the plate *b*, which, as before stated, forms the bottom of the wood fire-chamber. In kindling either fire the damper *g*, is opened in order to obtain a direct draft and when the fire is under way the damper *g*, is closed, and a circuitous draft obtained down through the pipe *f*, through the flue *d*, and up through the pipe *e*, into the smoke pipe E, as indicated by the black arrows in Fig. 1. The direct draft is indicated by the red arrows in Fig. 1. The coal fire is supplied with air through the door $h^{\times}$, of the ash-chamber, and the wood fire is supplied with air through a register *i*, below its door *a*. A current of air passes up through the tube A, and is heated by the fire either by the coal or wood fire-chamber. This heated air mingles with the inflammable gases in the upper part of the case A, and causes them to ignite. The air in passing through F, will be heated even when a wood fire is used, sufficiently so to prevent its cooling down the fire in either fire-chamber, of course it will be heated to a greater degree when a coal fire is used, but still the wood-fire heat would answer for all practical purposes. By this invention therefore not only two different kinds of fuel may be used in the same stove but the greatest amount of heat may be obtained from either kind used, as the inflammable gases generated or evolved by an imperfect combustion will be united with warm oxygen at the upper part of case A, and will be consumed without cooling the fire below.

This stove may be cheaply constructed not greatly exceeding an ordinary wood stove and the combination of a wood and coal stove is very desirable. In extreme cold weather a coal fire of course is preferable, as it does not, as with wood, require frequent replenishing. In mild weather a wood fire is preferable as its heat is more readily controlled than is the coal fire and

more readily obtained. There are many times also when the chill only requires to be taken off the room and this can be readily done by the wood fire without overheating the room.

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

The arrangement of the coal fire-chamber B, within the body or case A, the flue *d*, and the pipes *e*, *f*, communicating respectively with the smoke pipe E, and the interior of the case A, for the purpose specified.

H. B. FAY.

Witnesses:
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