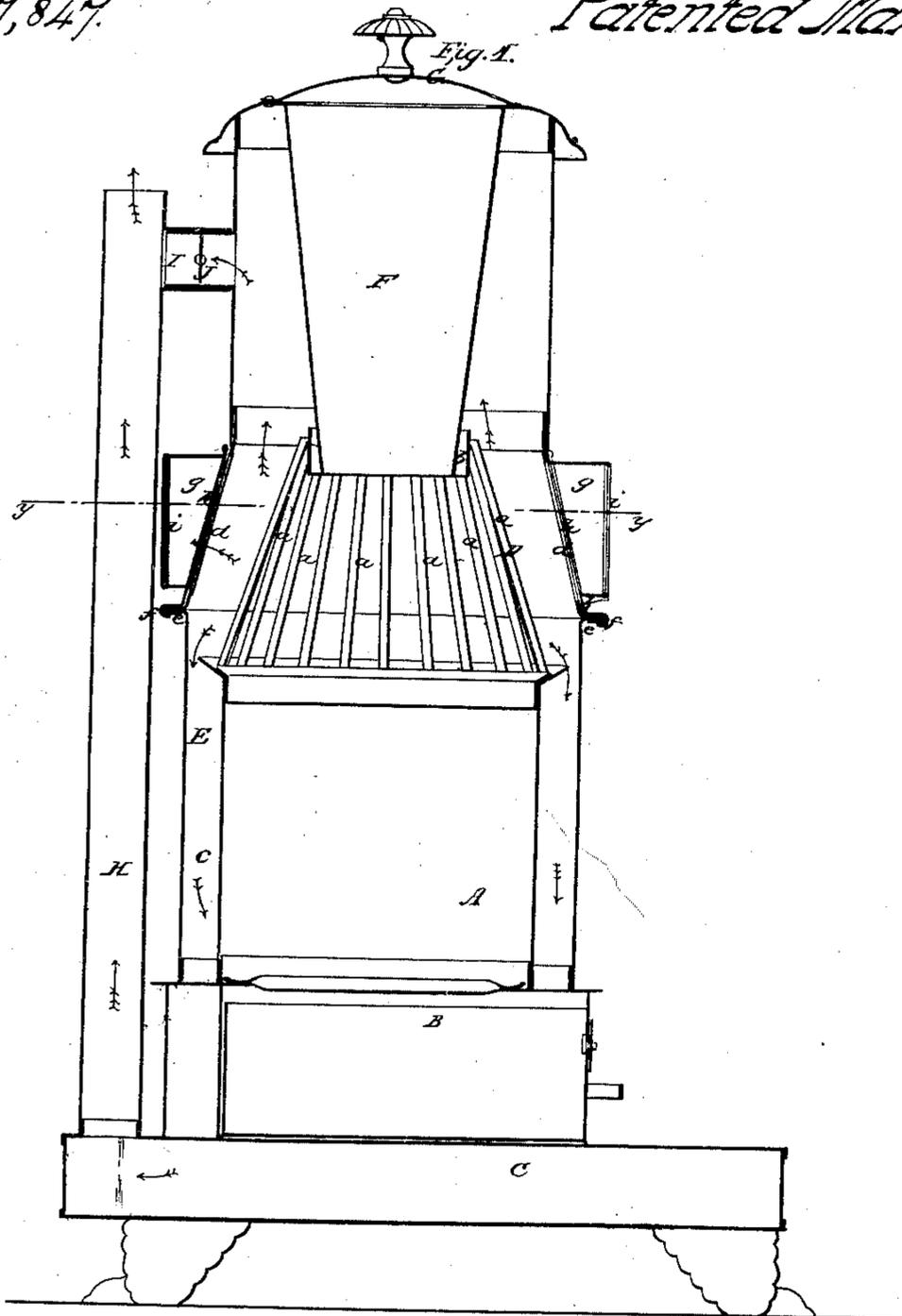


*F. Backus.*

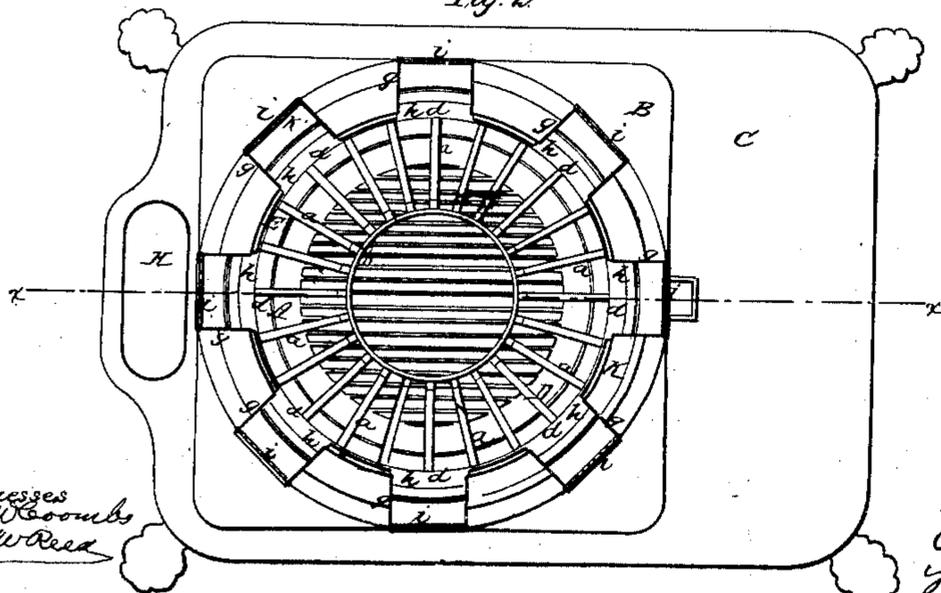
*Heating Stove.*

*N<sup>o</sup> 37,847.*

*Patented Mar. 10, 1863.*



*Fig. 1.*



*Fig. 2.*

*Witnesses  
J. W. Coombs  
J. W. Reed*

*Inventor  
Elias Backus  
per M. M. H. G.*

# UNITED STATES PATENT OFFICE.

EVENS BACKUS, OF COXSACKIE, NEW YORK.

## STOVE.

Specification of Letters Patent No. 37,847, dated March 10, 1863.

*To all whom it may concern:*

Be it known that I, EVENS BACKUS, of Coxsackie, in the county of Greene and State of New York, have invented a new and useful Improvement in Stoves; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, is a vertical central section of my invention taken in the line  $w, w$ , Fig. 2. Fig. 2, a horizontal section of the same, taken in the line  $y, y$ , Fig. 1.

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

This invention consists in a novel application of mica to a stove whereby the former is rendered capable of being adjusted so as to expose the fire when desired, and also capable of being adjusted so as to be free from the fire or not in contact with the fire chamber. The object of this arrangement is to protect the mica from the smoke in kindling fires, the former discoloring the mica and soon rendering it opaque and consequently worthless.

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

A, represents the inner cylinder of the stove which forms the fire chamber and which has an ash-box B, underneath it—the latter being fitted on a hollow base C. On the upper end of the cylinder A, there is placed a conical grate D, the upper end of the bars  $a$ , of which are attached to a ring or band  $b$ .

E, is the outer cylinder of the stove which encompasses the cylinder A, and conical grate D, and extends considerably above the latter.

F, is a tube which is fitted in the upper part of the cylinder E, and extends down sufficiently far to pass just within the ring  $b$ , at the top of the conical grate D. This tube F, is provided with a cover G. The space  $c$ , between the two cylinders A, E, communicates at its lower part with the hollow base C, and the latter communicates with the lower end of the smoke pipe H, the upper part of the space  $c$ , also communicates with the smoke pipe H, by means of a short pipe I, which is provided with a damper J, as shown clearly in Fig. 1.

The fire chamber or cylinder A, is sup-

plied with coal through the tube F, and the conical grate D, and tube F, it will be seen serves as an extension to the cylinder A, and forms a coal reservoir from which the coal is fed down to the fire chamber. When a direct draft is required, as in kindling the fire, the damper J, is opened, and when the fire is under way, or the fuel fully ignited, the damper J, may be closed so that the products of combustion will pass down the space  $c$ , into the base C, and thence into the lower part of the smoke pipe H. The black arrows show the direct and the red arrows show the circuitous draft.

In the outer cylinder E, there are a series of openings  $d$ , at equal distances apart and K, is a band or rim which is fitted on the cylinder E, in such a manner that it may turn freely thereon and be retained or held in proper position. This may be effected by having a flange  $e$ , extending all around the cylinder E, and having the lower edge of the band or rim formed with a curved flange  $f$ , to fit over the flange  $e$ , see Fig. 1. The band or rim K, is provided with hood-shaped projections  $g$ , which are around or project from the sides of openings  $h$ , in the band or rim, said openings  $h$ , being equal in area to the openings  $d$ , in the cylinder E. The spaces between the openings  $d$ , must at least be fully equal in width to the width of said openings.

In the front parts of the hoods  $g$ , there are placed pieces of mica  $i$ .

From the above description it will be seen that by turning the band or rim K, the mica  $i$ , may be made to register with the openings  $d$ , in the cylinder E, so that the fire may be exposed or seen through the mica, or the mica may be brought opposite the spaces between the openings  $d$ . When the mica is in the latter position it is perfectly protected from the products of combustion in the fire-chamber as the portion of the cylinder E, between the spaces  $d$ , cover and protect them.

By this means the mica can be kept perfectly clear or transparent for an indefinite period. In kindling fires a great quantity of smoke arises therefrom, and this discolors the mica and soon renders it opaque, or so dirty that the fire can scarcely be seen through it, but by turning the rim or band, just previous to kindling, the mica will be fully protected from the smoke and when

the fuel is fully ignited and consequently no smoke evolved, the band or rim may be turned so as to bring the mica *i*, opposite the openings *d*, in cylinder *E*, thereby exposing the fire or causing the light emitted therefrom to be transmitted through the mica.

This improvement is not necessarily confined to the precise arrangement herein described for carrying it out, for in quadrilateral or polygonal shaped stoves the mica may be fitted in a flat slide arranged to work over openings in the case.

This however would be but an equivalent

or colorable variation of the first-described arrangement. 15

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

The insertion of mica *i*, in a movable band or ring *K*, or in an equivalent slide, arranged in relation with openings *d*, in the cylinder *E*, or body of the stove for the purpose set forth. 20

EVENS BACKUS.

Witnesses:

A. J. KLONNEM,

J. B. BRONT.