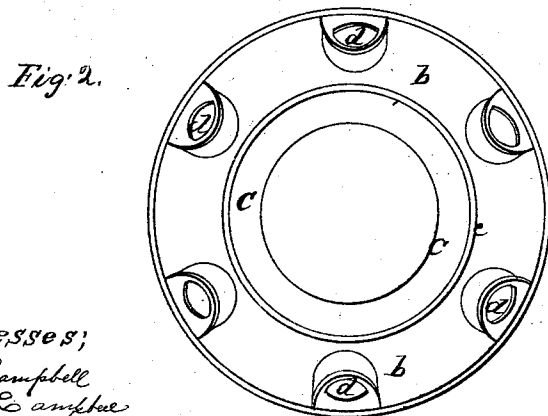
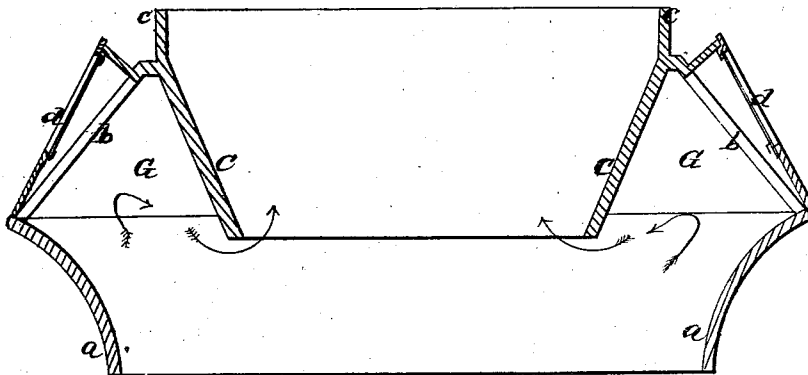
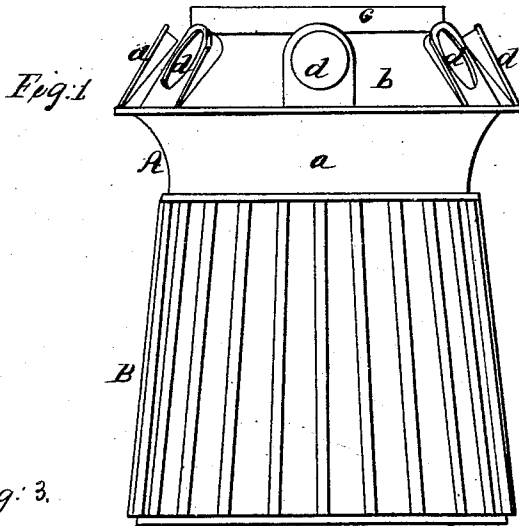


*J. H. Keyser.*

*Magazine Store.*

*No. 82,327.*

*Patented Sep. 22, 1868.*



*Witnesses;*  
*P. T. Campbell*  
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*by*  
*Mason Hewitt & Son*

# United States Patent Office.

JOHN H. KEYSER, OF NEW YORK, N. Y.

*Letters Patent No. 82,327, dated September 22, 1868.*

## IMPROVEMENT IN STOVES.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN H. KEYSER, of the city of New York, in the county 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 thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side external elevation of portions of my improved stove.

Figure 2 is a top view of the same.

Figure 3 is an enlarged diametrical section of the illuminating-section, showing my improvement.

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

This invention relates to an improvement on that class of stoves which have a direct upward draught from the fire-chamber to an escape-flue, or to a drum placed on the top of the wall surrounding the fire-chamber.

The object of my invention and improvement on this class of stoves is to provide for entrapping a portion of the heated products of combustion on their way to the escape-flue by forming an annular chamber within the combustion-chamber, and around a central opening leading to the drum or stove-cap, which chamber will retain said heated products, and greatly augment the heating capacity of the stove, without materially interfering with the draught, as will be hereinafter explained.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, I have represented two sections only of a direct-draught stove, the lower section B being made of cast iron, and adapted to serve as the fire-pot for enclosing the fire-chamber, and the upper section A being also made of cast iron, and adapted to serve as an expansion-chamber, and to receive upon it a drum, having a feed-door and escape-pipe.

The improvement which I have made is upon the section A, and is shown clearly in figs. 2 and 3. This section may be cast in one piece, or it may be made of two separate pieces. It consists of an upwardly-flaring portion, *a*, united to the base of a portion, *b*, which, in form, is the frustum of a cone.

The annular collar *c* on top of the conical portion *b* is designed for receiving and holding in place a drum, which forms the top section of the stove, and to which the feed-door and escape-pipe are applied.

Surrounding the inclined or conical portion *b*, and arranged at regular intervals apart, is a number of illuminating-windows, *d*, for the purpose of exposing to view the light of the fire within the fire-chamber.

The mica lights, forming these windows, are applied to window-frames which project from the surface of *b*, and present a very attractive and beautiful appearance.

These windows are not constructed upon all of my improved stoves, and therefore I do not confine myself to their use.

Within the section A, and united to the portion *b*, at the upper terminus thereof, is a downwardly-converging annular wall, C, which extends down into the space surrounded by the upwardly-flaring portion *a*, as shown in fig. 3. This tapering wall forms an annular chamber, G, between it and the inclined plate *b*, which chamber is designed to receive and entrap a portion of the products of combustion as they rise from the fire-chamber, and retain them long enough to obtain a large amount of heat, which would otherwise be carried quickly off through the escape-flue.

It is not intended that the tapering wall C shall materially check the draught of the stove, but only to keep back portions of the rising products of combustion, so that a large amount of heat will be radiated from the section A.

If desirable, the wall C may be perforated at or near its upper terminus, which will allow a slight upward draught from chamber G, and prevent any possibility of stagnation of air or gas in this chamber. If the wall C does not extend very far into the fire-chamber, it will not be necessary to provide escape-apertures through said wall, as there will be a circulation of the products of combustion in the chamber G, caused by the heated products impinging against the comparatively cool walls *a* *b*, and descending again into the fire-chamber, while the more highly-heated products rise from said fire-chamber and take their place.

Said chamber G will also create an eddy within the section A, which will also serve to retain the heated products of combustion within the body of the stove sufficiently long to obtain considerable heat.

Another advantage attending the tapering wall C is, that in feeding the fire with fuel through a door above the section A, the coal will strike upon said wall and be distributed evenly upon the grate.

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

1. The combination of sections A and B, the latter constituting the fire-chamber, and the former an illuminating and heat-retaining top section for B, substantially as described.
2. The construction of section A with an internal downwardly-contracted wall, C, with inclined illuminating windows d, and with a downwardly-contracted base portion, a, said parts being adapted to fit upon a fire-pot section, B, substantially as described.

JOHN H. KEYSER.

Witnesses:

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WILLIAM F. HUESTON.