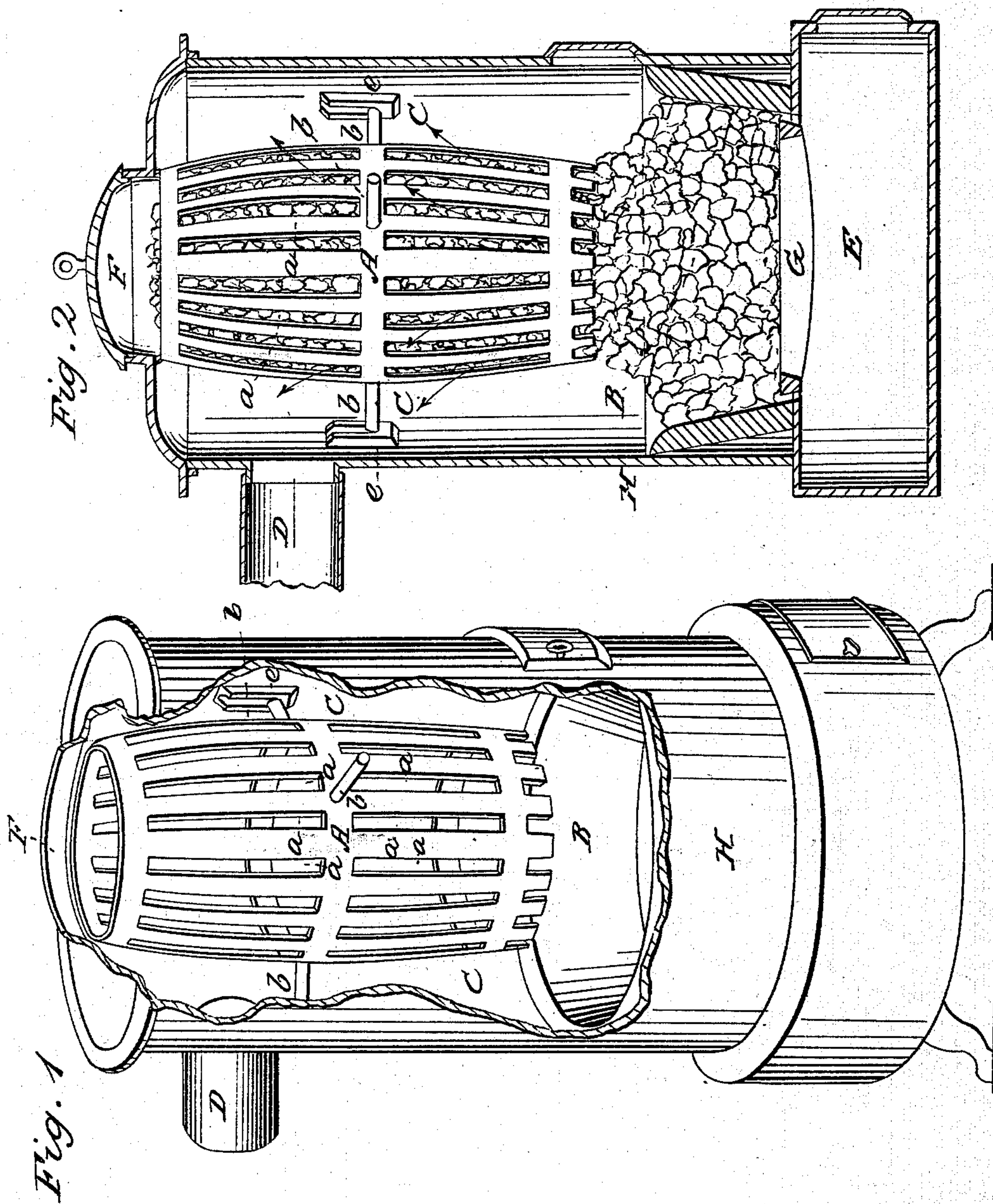


A. BROWN.  
Magazine Stove.

No 61,922.

Patented Feb. 12, 1867.



Witnesses:  
J. L. Barney  
J. J. Savage

Inventor:  
Albert. Brown



# United States Patent Office.

ALBERT BROWN, OF TROY, NEW YORK.

*Letters Patent No. 61,922, dated February 12, 1867.*

## IMPROVEMENT IN COAL 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, ALBERT BROWN, of Troy, in the county of Rensselaer, and State of New York, have invented new and useful Improvements in Constructing Reservoirs or Magazines for containing fuel for "base-burning" or "reservoir" stoves; and I do hereby declare that the following is a full and exact description thereof, reference being had to the annexed drawings, and to the letters of reference marked thereon, and forming a part of this specification, in which—

Figure 1 is a perspective view, showing the said improved reservoir; and

Figure 2 is a vertical section of a stove with said improved reservoir, and showing the operation of the same—

The same letters referring to like parts in each of the said figures.

That the object of my said invention and improvements may with more distinctness appear, the defects and difficulties in the operation of reservoirs or magazines, as now ordinarily employed in "base-burning" stoves, are first mentioned. These defects consist in the collection within or filling of said reservoirs with the evolved combustible gases and heated products of combustion, generated below and at the base or throat of the reservoir, and in consequence thereof these gases escape more or less from said reservoir into the room; and at times the vaporish products of combustion collected within said reservoir do more or less condense into a tarry liquid that oozes through the joints and upon the outer surfaces of the stove. And, furthermore, the gases so filling or collected within said reservoir do sometimes explode, or they may, and do frequently, cause ignition of the coal within and throughout the same, the ignition proceeding from its base up to its top, until the whole supply within the reservoir becomes a burning mass of coals. These defects in their operation are caused mainly by the manner of construction of said fuel reservoirs or magazines. In form they are close cylinders, open at their bases or throats, and closed tightly at their tops or upper parts by close-fitting covers or doors. Hence the evolved gases and heated products of combustion generated by the fire below, rise into and fill said reservoirs, and there being no adequate means provided for their free escape therefrom, the difficulties and inconveniences, as before stated, do now naturally follow.

To remedy or obviate the defects and difficulties as aforesaid, in the operation of reservoirs or magazines in stoves, is the object of my invention and improvements; and the nature of the same consists in the construction of a fuel magazine or reservoir, with lateral apertures or vents, in such a manner that all combustible and heated gases that may rise or be generated therein are permitted free escape through said vents into a circumjacent combustion-chamber to be there consumed, said vented fuel magazine or reservoir being constructed and arranged to operate in combination with the fire-box and combustion-chamber of stoves, in manner substantially as hereinafter fully described.

To enable others skilled in the art to make and use my invention, I will now proceed to fully describe its construction and operation.

My improved magazine or reservoir is made or cast in vertical sections or separate parts, for the purpose of readily forming vents or apertures in the same, and also for securing more convenience and greater economy in manufacturing. These respective parts or sections are then bolted, riveted, or otherwise secured together, in manner to form a fuel magazine or reservoir, A, for stoves, substantially as shown in the annexed drawings, and one having a series of apertures or vents, *a a a*, made in and through its vertical sides, from its base to its top parts, or nearly so, in manner substantially as shown in said drawings; these apertures or vents being in number more or less, varying according to their sizes and according to the size of coal used in said magazines. The main object being, when proportioning the size of the vents, to get sufficient area of vents in the aggregate to accomplish the object of readily freeing the rising gases from the magazine or supply-chamber A. Said vents may be of a slot, circular, or other suitable form, and they are arranged in groups or rows on and through the vertical sides of the magazine, either in vertical, horizontal, or diagonal positions to the same; but in practice I prefer the vertical arrangement of them, substantially as shown in the annexed drawings. Said improved magazine A is arranged within the combustion-chamber C of a stove, and at a proper distance above the fire-pot B of the same, to suitably supply it with fuel, and it is held in such adjusted position by its projecting arms, *b b b*, the outer ends of which rest in sockets, *e e e*, cast or riveted to the outer walls or plates of the stove, substantially as shown in annexed drawings.



To operate a stove having this improved reservoir or magazine, start a fire in the fire-pot B in the usual manner, and when well going and a sufficient bed of live coal is formed, remove the cover at the top of the stove, and fill the magazine A with coal, which then will feed the fire in the usual known manner. But the peculiarity or novelty in the operation of my improved magazine consists in its freedom from those defects and inconveniences in operation, as hereinbefore mentioned, and inherent, more or less, in the magazines as now in common use; and its freedom from such defects I ascribe to its being provided with vents or apertures, as hereinbefore set forth, for the free escape of gases from within it as soon as they rise into or are generated therein. Hence there can be no collection of gases within my said improved magazine, and, in consequence, there is no escape or leakage of gases from it into the room, nor can there be any condensation of gases or of vapors within the magazine, nor any explosions of gases therein. Nor is there that liability of the whole supply of coal within the magazine becoming ignited or "burning up" into the same, until the whole contained supply is a burning mass of coals, and for this reason the gases generated in the lower part of the magazine, by the heat of the fire below and at its base, naturally find their easiest way of escape therefrom, and are drawn from the magazine through the vents or apertures aforesaid into the combustion-chamber by the natural draught of the stove, and are therein consumed. This is the reason why combustion does not follow up into my vented or improved magazine, for such a concentration of gases and heat that collects within unvented magazines or reservoirs, and which is the cause of the contained coal igniting and "burning up" through the magazine, cannot occur in my improved or vented fuel magazine or reservoir. My invention also simplifies the construction of "base-burning" or "reservoir" stoves, making them as safely and easily managed as an ordinary stove.

Having thus fully described my invention in stoves, what I claim, and desire to secure by Letters Patent, is—

In combination with a fire-box and combustion-chamber of stoves, I claim a fuel magazine or reservoir, A, as provided with lateral vents or apertures, *a a a*, substantially in manner as herein described and for the purposes set forth.

Witnesses:

I. L. BARNEY,  
J. J. SAVAGE.

ALBERT BROWN.