

G. W. HERRICK.
Heating-Stove.

No. 159,670.

Patented Feb. 9, 1875.

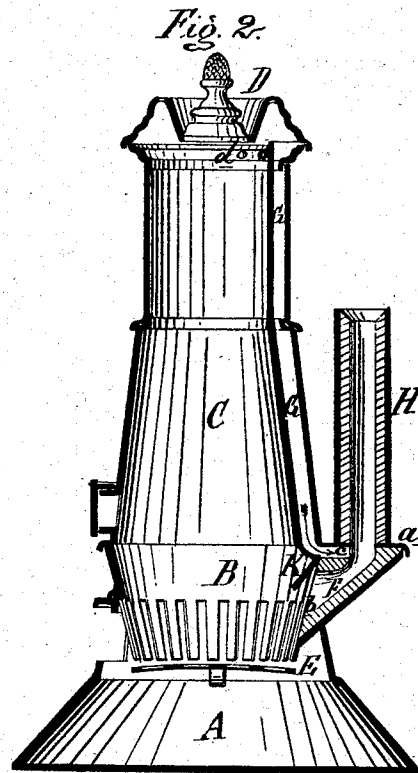
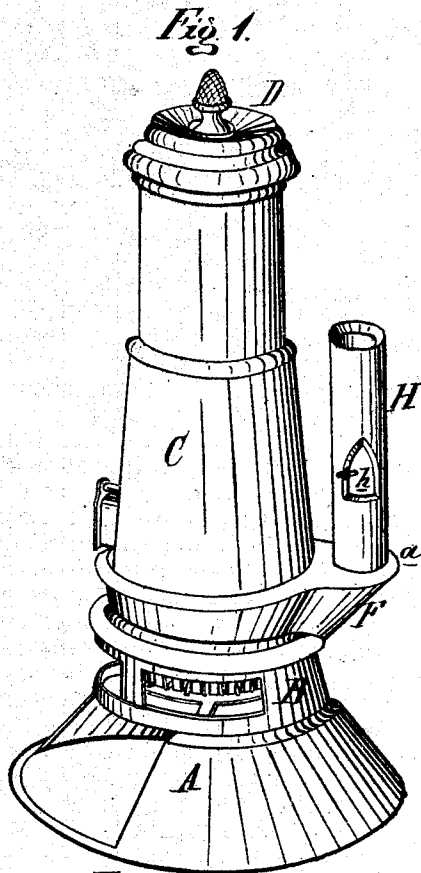


Fig. 3.

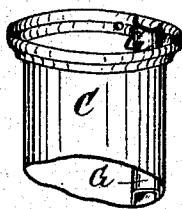
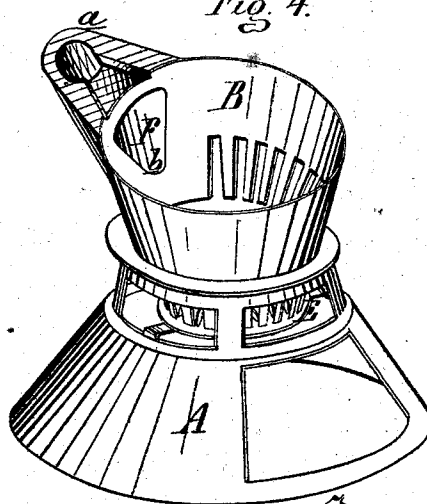


Fig. 4.



Attest:
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UNITED STATES PATENT OFFICE

GEORGE W. HERRICK, OF DETROIT, MICHIGAN, ASSIGNOR TO THE DETROIT STOVE-WORKS, OF SAME PLACE.

IMPROVEMENT IN HEATING-STOVES.

Specification forming part of Letters Patent No. **159,670**, dated February 9, 1875; application filed October 1, 1874.

To all whom it may concern:

Be it known that I, GEORGE W. HERRICK, of Detroit, in the county of Wayne and State of Michigan, have invented an Improvement in Heating-Stoves, of which the following is a specification:

The nature of this invention relates to improvements in the construction of that class of heating-stoves which are designed for the consumption of soft or bituminous coals. All such coals, in the process of combustion, throw off a large amount of smoke and gases, which tend to a great deposit of soot in the chimney and flues, unless such smoke and gases are destroyed. The object of this invention is, therefore, to so construct the stove that it will consume all, or nearly all, the smoke and gases so thrown off in the process of combustion, while at the same time the stove may be fed from the top, as other base-burning or magazine stoves.

Figure 1 is a perspective view of my improved stove. Fig. 2 is a vertical section from front to rear, and through the flue. Fig. 3 is a perspective view of the top of the magazine, with the cap or top thereof removed. Fig. 4 is a perspective view of the top of the fire-pot section.

Like letters refer to like parts in each figure.

In the accompanying drawings, A represents the base section, surmounted by the combustion-chamber or fire-pot B, above which is secured the conical magazine C, which, in turn, is surmounted by the cap or cover D. The fire-pot is provided with a grate, E, and opposite the lower end of said fire-pot are placed illuminating-windows, as shown. A flue, F, leads upward and rearward from the rear side of the fire-pot, and near its bottom, and below base or lower end of the conical magazine. This flue is lined with fire clay or brick, or other suitable material, to the point *a*, where the ordinary stove-pipe connection is made with the chimney. This flue has two openings, the one, *b*, being directly from the fire-pot, and the other one, *c*, connecting with the flue G, which is attached to the inner and rear side of the magazine. The upper end of this flue opens at the top of the magazine, and below the cap. Near the top of this flue, and through the wall of the magazine, are one or more apertures, *d*.

The operation is as follows: The fire being kindled in the fire-pot in the usual way, the magazine is filled from the top by removing the cover for that purpose. The products of combustion pass off directly through the opening *b* into the flue, which soon becomes heated to a high degree of temperature, the brick lining retaining the heat, and preventing its radiation through the iron shell of the flue. The gases, or a small part of them, rise through the coal to the top of the magazine, whence they are drawn downward through the flue G and the lateral opening *c* into the flue F, being fed with oxygen through apertures *d*. Arriving in the flue F these gases mingle with the unconsumed carbon-smoke, and having received a sufficient amount of oxygen through the apertures to make the gases and smoke combustible, are ignited by the great heat in the flue, and are entirely, or nearly so, consumed, thereby rendering the deposit of soot and the escape of all noxious gases utterly impossible. To make this combustion more perfect, the first section H of the pipe should be lined or bricked up, to assist in retaining the heat. This pipe-section is provided with an opening or illuminated window, *h*, through which the flames may be seen. In front of the flue F is placed a guard or screen, K, to prevent coal or ashes from filling the flue. Without this screen the flue would gradually become filled and choked, so that no draft could be had. As many openings or illuminating windows may be put into the pipe-section as are deemed desirable.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the conical magazine C and fire-pot B, of the gas-flue G extending downward from the top of the magazine to or near the opening *c* into the flue F, and apertures *d*, for the purpose set forth.

2. The continuous conical magazine C and fire-pot B, in combination with bricked flue F, gas-flue G, and bricked pipe-section H, substantially as and for the purpose set forth.

GEORGE W. HERRICK.

Witnesses:

H. S. SPRAGUE,
C. E. HUESTIS.