

No. 656,836.

Patented Aug. 28, 1900.

E. R. BRYER.
STOVE.

(Application filed July 19, 1899.)

(No Model.)

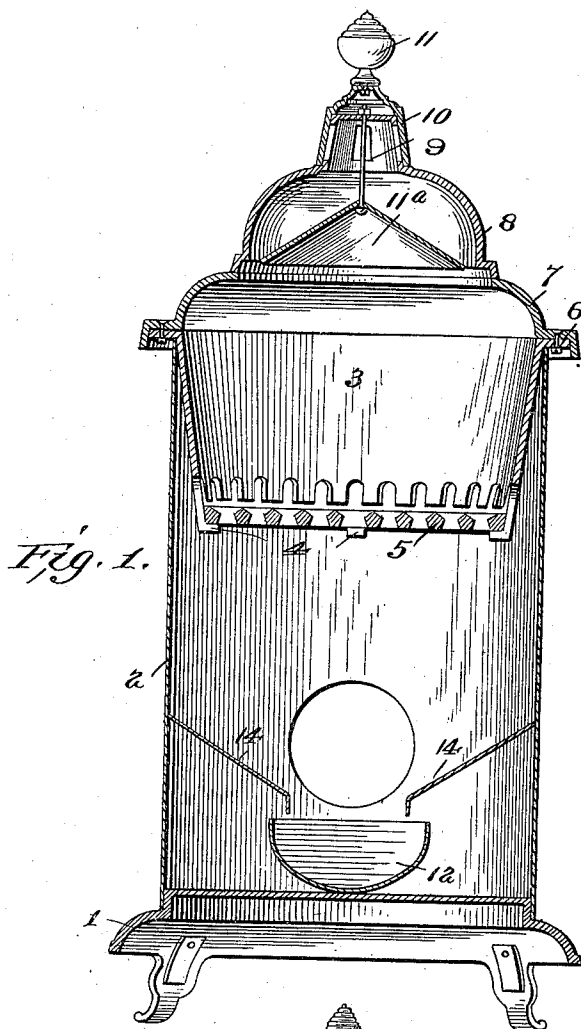
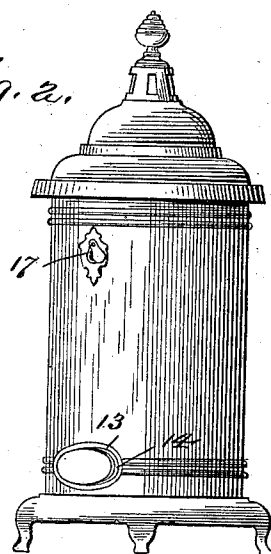


Fig. 2.



Attest
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UNITED STATES PATENT OFFICE.

EDWARD R. BRYER, OF ROANOKE, VIRGINIA.

STOVE.

SPECIFICATION forming part of Letters Patent No. 656,836, dated August 28, 1900.

Application filed July 19, 1899. Serial No. 724,386. (No model.)

To all whom it may concern:

Be it known that I, EDWARD R. BRYER, a citizen of the United States, residing at Roanoke, county of Roanoke, Virginia, have invented certain new and useful Improvements in Stoves, of which the following is a specification.

My invention relates to heating-stoves of that class adapted to burn the cheaper grades of soft coal, wherein for practical purposes a complete combustion must be obtained to prevent the escape of large quantities of gas and soot usually attendant upon the use of this fuel.

The invention includes the details of construction hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which illustrate the invention, Figure 1 is a transverse vertical sectional view, and Fig. 2 an elevation of the stove on a smaller scale.

Upon the base of the stove 1, which is in the form of a casting and provided with suitable supporting-legs, the vertical drum portion 2 is mounted. The fire-box 3 is secured to the upper edge of the drum portion and depends within the same, being provided near its lower edge with lugs 4 to support the grate 5. To the annular flange 6 of the fire-box, beneath which the upper edge of the drum fits, is bolted a casting 7, forming the lower portion of the top of the stove, this casting having a flange overhanging the joint of the drum and fire-box to give a finished appearance to the stove.

Upon the upper edge of the casting 7 the top proper, 8, of the stove is supported, it having a swinging connection with said casting to permit of its being moved to one side to allow the fire-box to be supplied with fuel. The top 8 terminates in a perforated conical cap 9, over which an inverted cup 10, correspondingly perforated and forming the bottom of the ornamental urn 11, fits, so that it may be turned. The cup 10 controls the passage of air through the cap to the fire-box. A conical diaphragm 11^a is secured to the top 8 and a superheating-chamber for the air coming in through the openings in the top of the stove. The air reaches the fire-box after

passing over the diaphragm and around the edge of the same.

The ash-pan 12 is made in the form of a trough, the front end being completely closed, and this pan slides through the opening 13 in the drum and the outwardly-projecting collar 14 surrounding the same. The fit between the end of this trough and the collar must be snug to prevent passage of air. The ash-pan extends when in place from front to rear of the drum, being of less width than the fire-pot, and in order to catch all the ashes falling from the latter deflector-plates 14 are located above said trough, with their inner edges overhanging the same. The smoke-pipe hole is located in the rear of the stove, just above the ash-pan. The grate-bars are preferably arranged parallel to the longitudinal axis thereof, so that the flames projecting through said bars will have their edges presented to said opening and will therefore only be affected to a minimum degree by the draft.

A hole 17 for the insertion of a poker to remove the ashes is provided in the front wall of the drum, and this hole is normally closed by a suitable drop-shutter.

In the operation of the stove the flame projects through between the grate-bars, and the fuel is gradually consumed from the bottom up. The air being superheated materially aids in the complete combustion of the gases, the soot also being completely or to a great extent consumed.

I claim as my invention—

1. A heating-stove having a downdraft, comprising a base, a drum, a fire-pot carried thereby, a smoke-outlet below said pot, a removable top, air-inlets therein and a diaphragm carried by said top located below said openings forming an air-superheating chamber, said diaphragm being removable with said top to completely expose said grate, substantially as described.

2. A heating-stove having a downdraft, comprising a base, a drum, a fire-pot resting upon the upper edge thereof and depending within the same, a casting forming a part of the top bolted to said pot, a removable top supported by said casting and a diaphragm carried by the removable top having an air-

space between the same and the top and an air-passage between its edge and said top, said top having inlet-openings therein above said diaphragm, substantially as described.

5 3. In combination in a stove, a drum, a fire-pot supported in the upper part thereof, an ash-pan in the bottom part of the same extending across the drum, synclinal deflecting-plates fitting the drum and having their inner edges arranged parallel with and over-

hanging the edges of the ash-pan, and a smoke-outlet in the drum just above the edge of the ash-pan between the deflecting-plates.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD R. BRYER.

Witnesses:

JOS. A. SMITH,
JACOB COOKE.