March 8, 1927. 1,620,266

J. A. McCARTHY

MEANS FOR EXTRACTING SOOT AND GREASE FROM FLUE GASES

Filed March 3, 1925

FIG. 1.

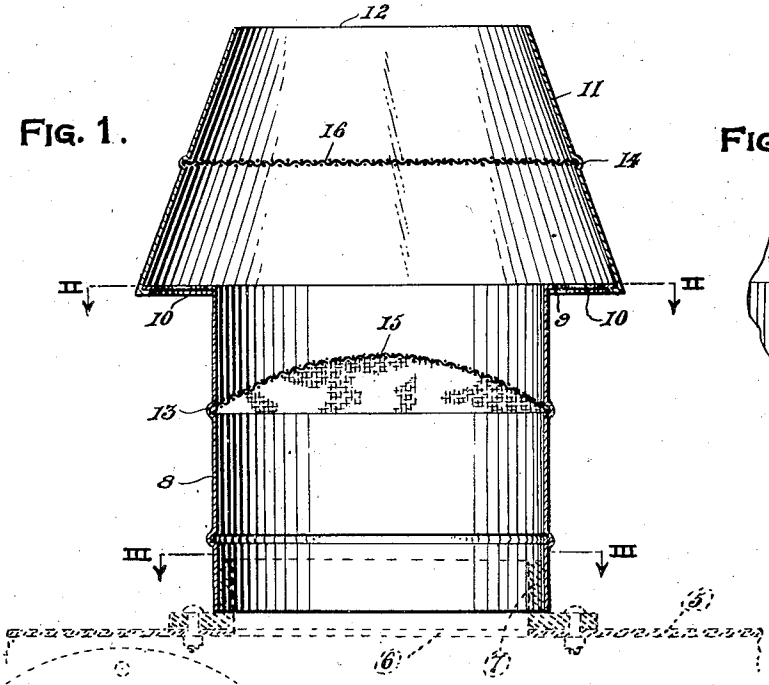


FIG. 5.

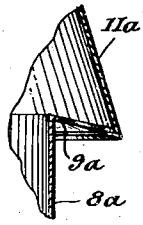


FIG. 3.

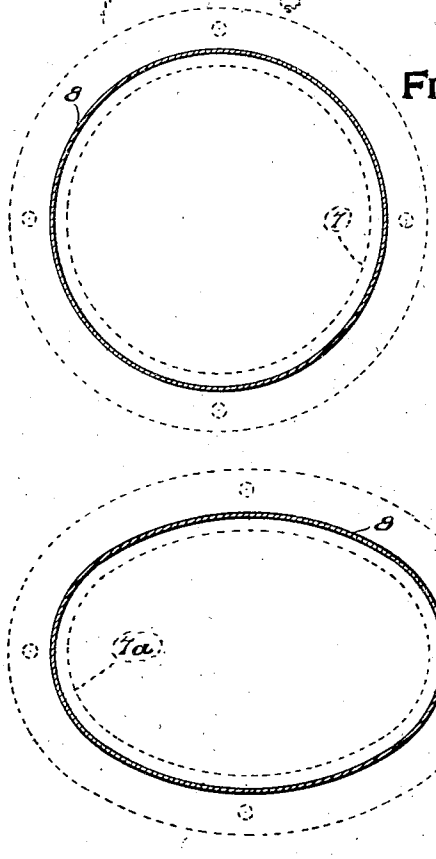


FIG. 2.

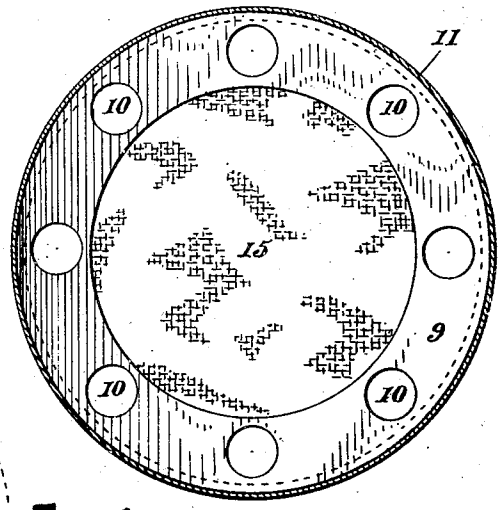


FIG. 4.

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UNITED STATES PATENT OFFICE.

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MEANS FOR EXTRACTING SOOT AND GREASE FROM FLUE GASES.

Application filed March 3, 1925. Serial No. 12,987.

This invention relates to means for extracting soot and grease from flue gases emitted by a gas stove.

The primary object of the invention is to provide means for extracting soot and grease from flue gases arising from gas stoves, or the like, for preventing the scorching and staining of the surrounding walls and woodwork.

I am familiar with the attempts made to extract and consume the soot and grease from heated gases arising from gas stoves, more particularly the oven portions of the same, by locating a body or bodies of metal wool in the flues through which said gases pass. I have discovered, however, that small particles of the wool disintegrate and fall back into the chamber from whence the gases came. If this chamber is the oven of a stove, the small metallic particles are apt to lodge in the food being baked, with the result that the latter may be poisoned.

According to this invention, I have discovered that by contacting such gases with a closely meshed metal gauze body or bodies for a brief interval during its passage through a flue, the soot and grease present in the gases will be extracted and the purified gases will be permitted to pass on.

A further object of the invention is to provide a flue cap for supporting the metal gauze bodies, which flue cap is formed of a pliable sheet stock, such as sheet aluminum, capable of being readily bent to permit its universal use on round, oval, or elongated gas stoves or outlet flanges.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawing forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a longitudinal sectional view through the soot and grease extracting means embodying this invention,

Figure 2 is a transverse sectional view taken upon line II—II of Fig. 1,

Figure 3 is a transversely sectional view taken upon line III—III of Fig. 1,

Figure 4 is a transverse sectional view taken at a similar line to Fig. 3, but illustrates the flue pipe after it has been bent to accommodate an oval-shaped gas stove outlet flange, and

Figure 5 is a fragmentary portion of a device similar to that shown in Fig. 1, but illustrating a slightly modified construction.

In the drawing, wherein for the purpose of illustration is shown a preferred embodiment of this invention, the numeral 5 designates a portion of a gas stove having a flue opening 6 formed therein and provided with a conventional type of outlet flange 7.

Suitably mounted upon this flange 7 is a short section of flue pipe 8 having a laterally projecting flange 9 at its upper end which may be perforated, as at 10 in Fig. 2 or the perforations may be omitted. Suitably connected to the peripheral edge of this flange 9 is a conical hood 11 having its smaller end open at 12. The short section of pipe 8 is provided with an annular outwardly directed groove 13 while the conical hood 11 is provided with a similar groove 14.

Adapted for being positioned within the bore of the section of flue pipe 8 is a metal gauze body 15 formed of very fine mesh and having the convexo-concave outline as illustrated in Fig. 1, it being understood, however, that this metal gauze body 15 may be flat if desired. A second metal gauze body 16 traverses the bore of the conical hood 11 and has its periphery seated within the annular groove 14 formed in this hood.

In Fig. 5 the flue pipe section 8^a is illustrated as having a flange 9^a bent downwardly from the plane of the end of the pipe section 8^a. A hood 11^a is suitably connected to the periphery of this flange 9^a.

It is intended that the flue pipe section 8 and conical hood 11 be formed of sheet aluminum, or the like, which may be shaped, as illustrated in Figs. 3 and 4 for causing the device to be universally adapted for use with circular outlet flanges, as designated by the numeral 7 in Figs. 1 and 3 or oval-shaped outlet flanges as designated by the numeral 7^a in Fig. 4.

It is to be understood that the forms of this invention herewith shown and described are to be taken as preferred examples of the same, and that various changes in the shape, size, and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described the invention, I claim:—

1. A device for extracting soot and grease from the flue gases emitted by a cooking stove, comprising a flue pipe adapted to be

fitted at its lower end over the flue outlet flange of the stove and having an outturned continuous flange at its upper end provided with air inlet openings, a foraminous partition in the flue pipe below said inlet openings, a hood attached at its lower end to the outer edge of said flange and open at its upper end, and a foraminous partition for the hood above said inlet openings.

2. A flue cap for gas ranges and the like, comprising a collar to cooperate with the open vent of a combustion chamber, said collar having an outwardly extending integral flange, a hood to interlock with said flange, and a foraminated plate supported above said flange.

3. A flue cap for gas ranges and the like, comprising a collar to cooperate with the open vent of a combustion chamber, said collar having an outwardly extending integral flange, a hood to interlock with said flange, and a filtering material supported above said flange.

In testimony whereof I affix my signature.

JOSEPH A. McCARTHY.