

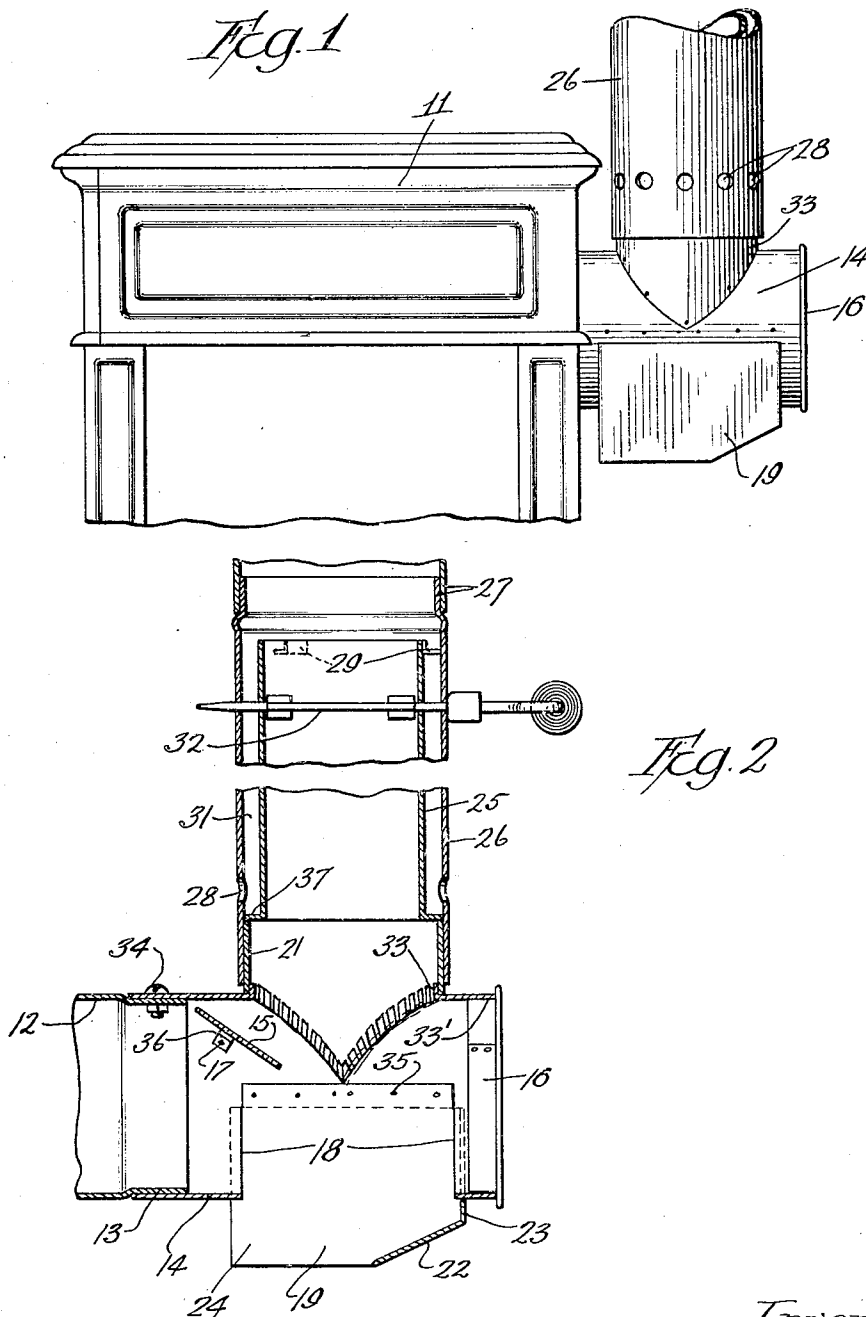
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FLUE CONSTRUCTION

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FLUE CONSTRUCTION

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This invention relates in general to flue constructions and refers more particularly to an improved flue outlet member of a flue for exhausting flue gases from a stove.

5 A primary object of the invention is to provide a flue construction for stoves with a flue outlet member which protects the outlet pipe and the finish thereon from excessive heat of the flue gases, thereby permitting the appli-
10 cation of paint or other finishes to the exterior surface of the flue outlet pipe without fear of subsequent damage to the finish due to the heat from the flue gases.

Another object of the invention is to pro-
15 vide a flue outlet member with means for protecting nearby walls and furniture from the heat of the flue gases being exhausted there-through from a stove.

Still another object of the invention is to
20 provide a flue outlet member with means for utilizing the surrounding air as an insulation between the flue gases and the flue outlet pipe and as a means for cooling the flue outlet pipe.

25 Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accom-panying drawings, discloses a preferred em-
30 bodiment thereof.

Referring to the drawings:

Figure 1 is a partial elevation of a stove and flue construction embodying the principle of the invention, and

35 Fig. 2 is a vertical section through the flue of Fig. 1, and shows a section of the outlet pipe above the broken extremity in Fig. 1.

For the purpose of describing this inven-
40 tion, a stove 11 having a usual exhaust outlet stub 12 is shown in Fig. 1. The flue outlet stub 12 is adapted to deliver the flue gases from the stove 11 to a horizontal flue inlet pipe 14 which telescopically engages the flue outlet stub 12 as shown at 13 and is suitably
45 secured thereto by means of a screw and nut assembly 34. The horizontal flue inlet pipe 14 has two delivery openings 33 and 33', one of which is in the end of the pipe remote from the stove 11 and the other of which is formed
50 through the upper portion of the pipe 14.

A flue pipe communicating with a chimney may be attached to either of the outlets 33 and 33' as convenience may render desirable, the unoccupied outlet being provided with a closure 16.

55 An opening 18 is cut in the lower portion of pipe 14 substantially below the delivery opening 33. A combination supplemental draft opening and back draft outlet member 19 partially closes the opening 18 and is
60 substantially trough-shaped. The trough-shaped member 19 is inserted in the opening 18 and is secured within the pipe 14 by means of rivets 35. This trough-shaped
65 member 19 has an open end 24 below the bottom of the pipe 14. The other end of the back draft outlet member 19 is closed below the bottom of the pipe 14 by an end closure with a vertical portion 23 and an inclined por-
70 tion 22. The inclined portion 22 of the end closure is provided to guide flue gases in the event of a back draft toward the opening 24 on the opposite end of the back draft outlet member 19.

75 A back draft baffle guide plate 15 is mounted within the flue inlet pipe 14 between the delivery opening 33 and the stove exhaust stub 12 by means of brackets 36 and rivets 17. This back draft baffle guide plate 15 is arranged substantially at 45 degrees to the
80 horizontal and inclines down toward the inclined portion 22 of the trough-shaped member 19.

The operating delivery opening 33 is pro-
85 vided with a mounting collar 21 which in the present instance extends upwardly from the horizontal pipe 14 and which telescopically engages in an end of a flue outlet pipe 26. The flue outlet pipe 26 comprises a desired
90 number of pipe sections having telescopic end relations as shown at 27, and is arranged to deliver the flue gases received from the stove 11 through the horizontal pipe 14 and the delivery opening 33 to the chimney. The
95 pipe sections in accordance with this invention are provided with a decorative coating or finish, the lower one of which, i. e. the one connected to the stove flue outlet 14, requires protection in order that the finish or coat-
100 ing may not rapidly deteriorate because this

section is subjected to the relatively higher heat at the flue outlet 14. A plurality of apertures 28 is made through the outlet pipe 26 and is arranged around the periphery of the pipe just above the upper end of the collar 21 for a purpose which will be more fully described hereinafter. The outer surface of the pipe 26 is or may be painted or otherwise suitably finished.

10 An inner pipe 25 of smaller diameter than the flue outlet pipe 26 is arranged concentrically within the outlet pipe 26. The pipe 25 has an outwardly extending flange 37 on one end which seats on the collar 21, and has a plurality of brackets 29 arranged around the outer surface of the upper end to provide a space 31 between the pipes 25 and 26. The pipe 25 separates the pipe 26 from the flue gases up to a point where the temperature of the gases has dropped below the damaging point for the finish on the outer surface of the pipe. A usual damper 32 is suitably mounted in the pipe 25 and is arranged to provide outside means for controlling the damper action.

The draft action of the chimney on the space 31 between the concentric flue outlet pipes 25 and 26, regardless of the damper 32, draws air from the room through the apertures 28 and into the space 31 from where the air is drawn through the flue outlet pipe 26 to the chimney and outside of the building. In this manner, a continuous circulation of cool air is provided between the pipes 25 and 26, thus providing heat insulation and means for cooling the flue outlet pipe at the end nearest the stove. It will be apparent that the pipe 26 is thus maintained at a comparatively low temperature and, therefore, the paint or finish thereon is adequately protected against the heat from the flue gases and at the same time the inner pipe 25, which would normally be subjected to relatively high temperatures, is cooled, so that the temperature is not excessive or damaging.

By virtue of the draft action of the chimney on the space 31 through the openings 28, it may be said that the openings 28 provide supplemental ventilation for the room and auxiliary draft openings for the chimney. It will be apparent also that the openings 28, while providing a means for the intake of cool air, also provide supplemental means of exhaust in the event of a back draft.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. The combination of a stove, having a flue outlet and a plurality of pipe sections provided with a decorative coating or finish joined together at adjacent ends, the lowermost of said pipe sections being joined to said flue outlet, and means within said lowermost pipe section for protecting its finish from the heat of the flue gases.

2. The combination of a stove, having a flue outlet and a plurality of pipe sections provided with a decorative coating or finish joined together at adjacent ends, the lowermost of said pipe sections being joined to said flue outlet, and means within said lowermost pipe section for protecting its finish from the heat of the flue gases, said means comprising a pipe arranged within said lowermost pipe section and providing an air space between itself and said pipe section.

3. The combination of a stove, having a flue outlet and a plurality of pipe sections provided with a decorative coating or finish joined together at adjacent ends, the lowermost of said pipe sections being joined to said flue outlet, and means for providing a blanket of atmospheric air within the lowermost pipe section to insulate said finish from the intense heat of the flue gases.

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