E. STOMBAUGH.

DEFLECTOR FOR STOVES.

APPLICATION FILED AUG. 6, 1908.

921,481.

Patented May 11, 1909.

Fig. 1.

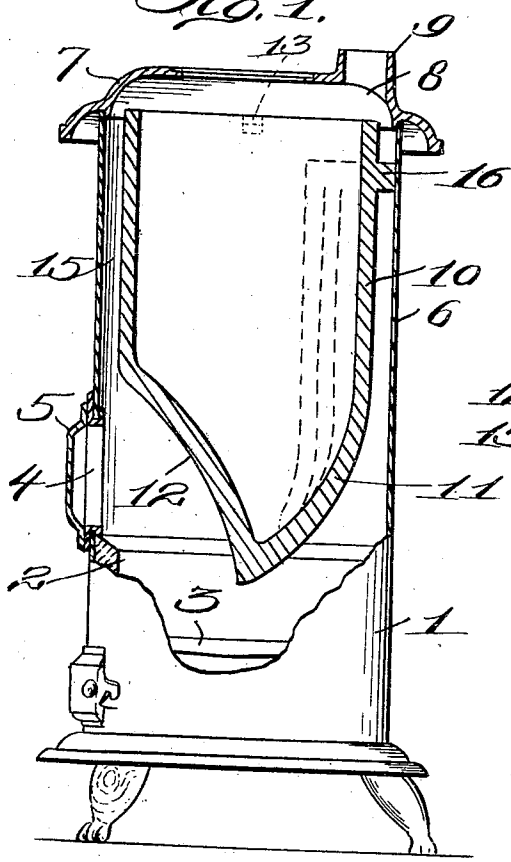


Fig. 2.

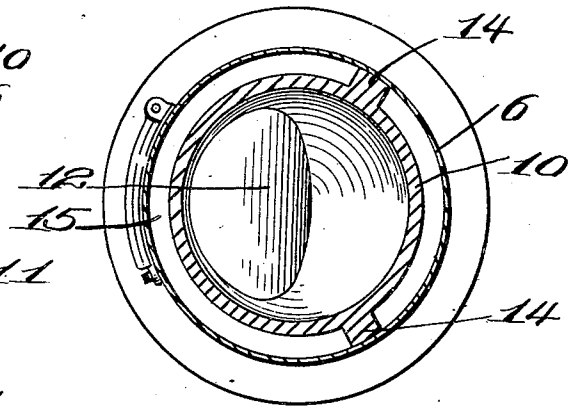


Fig. 3.

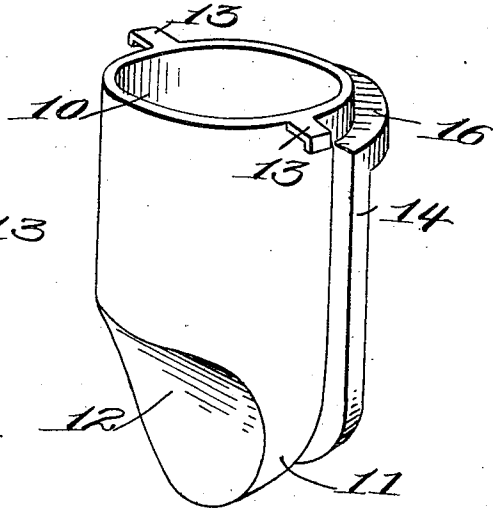
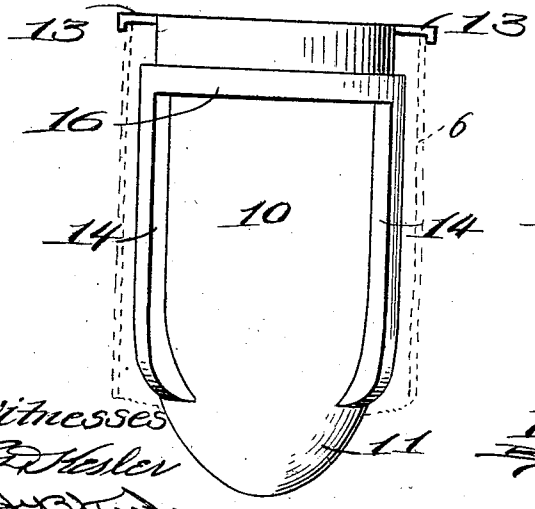


Fig. 4.



Witnesses

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DEFLECTOR FOR STOVES.

No. 921,481. Specification of Letters Patent. Patented May 11, 1909.

Application filed August 6, 1908. Serial No. 447,299.

To all whom it may concern:

Be it known that I, EMANUEL STOMBAUGH, a citizen of the United States, residing at Lima, in the county of Allen and State of Ohio, have invented new and useful Improvements in Deflectors for Stoves, of which the following is a specification.

This invention relates to stoves and particularly to a deflector which may be operatively disposed in any stove body and advantageously serve as a heat multiplier and fuel saver.

The deflector embodying the features of the invention may be used in stoves generally, but it is preferable that it be arranged in all classes of heating stoves except anthracite coal base burner stoves.

The main advantage in the use of the deflector is that it forces the heat currents outwardly against the interior of the stove body or inclosure and encourages radiation and, further, prevents the passage of the heat currents to a large extent into the smoke flue with the products of combustion and thus economize in the use of fuel.

A further advantage is that the deflector by its construction throws the heat currents toward the front and side portions of the stove body or inclosure and maintains the back portion of the stove body at a comparatively lower temperature so that the said back portion of the stove may be set close to a wall or partition without liability of scorching or injuring the said wall or partition.

In the drawing: Figure 1 is a sectional elevation of a stove showing the improved deflector therein and also shown in section. Fig. 2 is a horizontal section through the stove body and deflector. Fig. 3 is a detail perspective view of the deflector. Fig. 4 is a detail rear elevation of the deflector and showing the manner of suspending the same in the stove body, a part of the latter being illustrated in dotted lines.

Similar characters of reference are employed to indicate corresponding parts in the several views.

The numeral 1 designates a stove of any preferred type, but preferably that type in which soft coal is burned and provided with a fire pot 2 having a grate 3 and a feed opening 4 adjacent to the fire pot controlled by a suitable door 5. The body 6 of the stove projects upwardly above the fire pot any suitable distance and has a cover or top 7 thereon provided with an escape opening 8 surrounded by a collar 9 adapted to receive a smoke flue or pipe.

The construction of the stove as just specified is not essential as the invention resides in an attachment which is structurally independent of the stove and adapted to be inserted in any stove body to which it may be applicable.

The deflector consists of a hollow body 10 of suitable metal closed at the bottom and sides and fully open at the top, as shown by Figs. 1 and 3. The body 10 is preferably cylindrical in contour and converges at its lower extremity as at 11 where it depends into the fire pot. At the front portion of the lower extremity of the body 10 a concavity or clearance recess 12 is formed which is arranged opposite the fuel opening 4 of the stove to permit unrestricted introduction of fuel into the fire pot 2 over the grate 3. The deflector is suspended in the stove body by outwardly projecting shouldered lugs 13 at the top thereof which take over the upper edge of the stove body 6, the said lugs being positioned at diametrically opposite points and about centrally with relation to the longitudinal diameter of the deflector. The body 10 is also provided at its rear portion with exterior ribs 14 which serve as partitions and prevent the heat currents from passing around between the rear portion of the stove body and of the deflector by closely contacting with the inner surface of the stove body, as shown by Fig. 2.

The deflector is of less maximum diameter than the inner diameter of the stove body and by this means a flue 15 is formed between the outer surface of the deflector and the stove body through which the heat currents are forced to pass in close contact with the stove body and thus increase the radiation of the latter and obstruct a rapid movement of the heat currents toward and escape through the opening 8 and smoke pipe or conduit connected to the collar 9. The ribs 14 do not extend fully to the upper edge or top of the body 10 so as to permit unretarded passage of the products of combustion over and around the top of the body to the smoke flue. The upper terminals of the ribs 14 are connected by a horizontal rib 16 conforming in curvature to the back of the stove body against which it bears to form with the ribs 14 a rear inclosure to prevent passage of the products of combustion over the back of the

body 10 and keep the back of the stove at a lower temperature. The upward movement of the heat currents and products of combustion takes place at the front and side portions of the deflector or through the flue formed in advance of the ribs 14 and none of the heat currents pass upwardly between the rear portion of the deflector and the back of the stove body and consequently the rear portion of the stove body is maintained at a comparatively low temperature and may be placed close to a wall or partition without injury to the said wall or partition. By forcing the heat currents outwardly in close contact with the side portions and front of the wall of the stove body the deflector serves to increase the heating capacity of the stove proportionately to a given amount of fuel and thus a material saving results in the use of fuel by reason of the increased radiation set up with relation to the stove body.

The deflector is simple and effective in its construction and may be cheaply manufactured.

Having thus described the invention, what is claimed as new, is:

1. A stove having a hollow deflector suspended therein and forming with the wall of the body of the stove a flue through which the heat currents are forced to pass upwardly in close contact with the stove body, the said flue being fully open at the upper portion of the body around the front and side portions of the deflector, the deflector being provided with means at the rear to engage the stove body and forming a closure to prevent the movement of the heat currents upwardly over the rear portion of the deflector.

2. A stove having a hollow deflector suspended in the body thereof and provided with partition ribs extending longitudinally of the rear portion and engaging the stove body.

3. A stove having a deflector suspended therein, the deflector being formed with a clearance recess at the front portion of its lower extremity and with longitudinal ribs at the rear portion to engage the stove body.

4. A stove having a deflector suspended within the body thereof and provided with longitudinal ribs at the rear portion connected by an upper horizontal rib curved to conform to the back of the stove.

5. As an improved article of manufacture, a deflector for introduction in a stove body consisting of a hollow cylindrical body having a lower reduced extremity with a clearance recess at the front and longitudinal ribs at the rear portion.

6. As an improved article of manufacture, a deflector for introduction in a stove body consisting of a cylindrical body having a lower reduced extremity with a clearance recess at the front and longitudinal ribs at the rear portion connected at their upper terminals by a horizontal curved rib.

7. As an improved article of manufacture, a deflector for introduction in a stove body consisting of a cylindrical body having longitudinal ribs at the rear portion connected by a horizontal curved rib at their upper extremities.

8. As an improved article of manufacture, a deflector for introduction in a stove body consisting of a cylindrical body having longitudinal ribs at the rear portion thereof.

9. As an improved article of manufacture, a deflector for introduction in a stove body consisting of a cylindrical body having a rear portion confined by intersecting ribs.

10. As an improved article of manufacture, a deflector for introduction in a stove body consisting of a body member having longitudinal and horizontal intersecting ribs at the rear portion thereof to prevent passage of products of combustion over said rear portion.

11. As an improved article of manufacture, a deflector for introduction in a stove body consisting of a body member having outwardly projecting suspending means at its upper portion and intersecting ribs at the rear portion.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

EMANUEL STOMBAUGH.

Witnesses:
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