Sept. 2, 1930. E. W. N. BOOSEY 1,774,631

SHEET METAL VENT PIPE CONNECTION

Filed Dec. 15, 1928

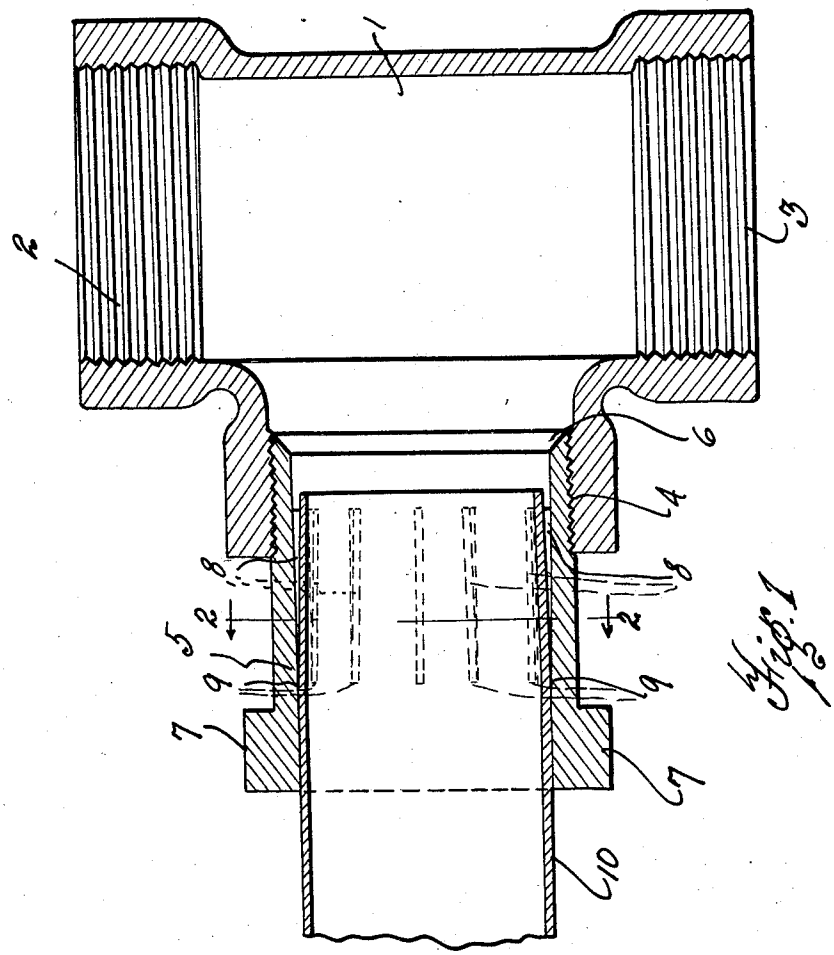



Fig. 1

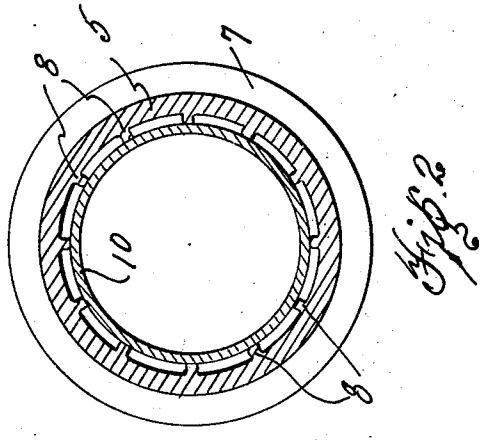



Fig. 2

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# UNITED STATES PATENT OFFICE

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## SHEET-METAL VENT-PIPE CONNECTION

Application filed December 15, 1928. Serial No. 326,214.

This invention relates to sheet metal vent pipe connections and the object of the invention is to provide a connection into which the flue pipe from a cooking stove vent hood, gas heater or the like is adapted to be inserted to discharge the steam and gases arising from the cooking stove or other device into a stack, the device being arranged to prevent any condensation in the stack from passing back into the stove flue pipe.

Another object of the invention is to provide a fitting of the ordinary type used in plumbing, which is connected in a stack and the connection for the flue pipe is threaded into the fitting at the side and arranged to prevent the products of condensation from passing out of the stack between the said flue pipe and the fitting.

A further object of the invention is to provide a connecting member threaded into the fitting and arranged to hold the inserted end of the flue pipe out of contact with the connecting member.

These objects and the several novel features of the invention are hereinafter more fully described and claimed and the preferred form of construction by which these objects are attained is shown in the accompanying drawings in which—

Fig. 1 is a vertical section through a vent pipe connection embodying my invention.

Fig. 2 is a section taken on line 2—2 of Fig. 1.

The device is connected to a fitting 1 of the usual type used in plumbing and may be an elbow or a T provided with threaded openings 2 and 3 into which a pipe stack may be threaded and a threaded opening 4 is provided at the side of the fitting into which a tubular member 5 is threaded as shown. This member 5 is of greater diameter at the inner end within the threaded opening 4 than at the outer end so that when the fitting is set in a level position it is impossible for the products of condensation to flow out through the member 5 as the liquid produced by condensation would have to flow upwardly. The inner end of the member 5 is beveled at 6 to allow liquid to flow into the fitting and the outer end is provided with a flange 7 as shown. As shown in Figs. 1 and 2 the member 5 on the interior is provided with a series of wedge shaped lugs 8 which are flush with the inner wall of the member 5 at the point 9 and at the opposite end the diametrical distance between the lugs is less than at the point 9, so that when the stove flue pipe 10 is forced into the member 5 the lugs 8 compress the end of the pipe flue slightly and hold it out of contact with the inner wall of the member 5. This flue pipe 10 carries the gases and steam from a cooking stove vent hood gas heater or the like into the stack fitting 1 from which it passes outwardly and upwardly through the stack connected to the said fitting.

The pipe 10 may also be connected to a steam hood in a restaurant, in fact, anywhere where it is necessary to carry off steam or gases in which there is sufficient dampness to cause condensation. The stack and fitting 1 are usually embedded in a wall and the object of this invention is to prevent the products of condensation from passing inwardly along the flue pipe and down the face of a wall and discoloring the wall. In this device the products of condensation collecting in the fitting or stack cannot pass outwardly through the member 5 due to the fact that the liquid would have to flow upwardly and consequently the inclined inner wall of the member 5 tends to feed the liquid inwardly and down the beveled face 6 of the member 5 into the stack. The lugs 8 support the flue pipe in spaced relation with the inner wall of the member 5 so that the liquid produced by condensation cannot flow into the flue pipe, and thus the flue pipe will not carry the condensation liquid back to the stove or other device where the steam and gas originates.

From the foregoing description it becomes evident that the device is very simple and efficient in operation, will not get out of order, may be easily assembled and provides a device which accomplishes the objects described.

Having thus fully described my invention, its utility and mode of operation, what I claim and desire to secure by Letters Patent of the United States is—

1. In a sheet metal vent pipe connection for use with a vertical stack having a threaded

opening at the side, a tubular member threaded into the said opening, the said member being of greater inside diameter at the inner end than at the outer end, a series of lugs formed integrally with said tubular member and arranged in spaced relation about the interior circumference of the said member and extending longitudinally thereof, the said lugs being wedge shaped in form and being of greater height toward the inner end of the said member than toward the outer end thereof, the diametrical distance between the inner ends of the said lugs being less than the diametrical distance between the outer ends thereof, the said lugs being adapted to support the end of a flue pipe in spaced relation with the inner wall of the tubular member.

2. In a sheet metal vent pipe connection for use with a vertical stack having a threaded opening at the side, a tubular member threaded into the said opening, the said member being of greater inside diameter at the inner end than at the outer end, a series of lugs arranged in spaced relation about the interior circumference of the said member and extending longitudinally thereof, the distance between the diametrically opposite lugs toward the inner end of the said member being less than the distance between the diametrically opposite lugs toward the outer end of the said member.

3. In a sheet metal vent pipe connection for use with a vertical stack having a threaded opening at the side, a tubular member threaded into the said opening, the said member being of greater inside diameter at the inner end than at the outer end, a series of lugs arranged in spaced relation about the interior circumference of the said member, the said lugs being wedge shaped and being of least height toward the outer end of the said member and of greatest height toward the inner end of the said member.

4. In a sheet metal vent pipe connection for use with a vertical stack having a threaded opening at the side, a member threaded into the said opening, the said member being of greater inside diameter at the inner end than at the outer end, the said member being adapted to receive a flue pipe, a series of lugs on the interior of the said member against which the flue pipe is adapted to seat, the said lugs tending to reduce the diameter of the flue pipe as it is forced inwardly.

5. In a sheet metal vent pipe connection for use with a vertical stack having a threaded opening at the side, a member threaded into the opening of greater inside diameter at the inner end than at the outer end, and a series of lugs formed on the interior of the said member, the said member being adapted to receive a flue pipe and the lugs being arranged to support the end of the flue pipe in spaced relation with the inside wall of said member.

6. In a sheet metal vent pipe connection for use with a vertical stack having an opening at the side, the axis of which is practically horizontal, a tubular member adapted to be secured therein having a greater inside diameter at the inner end than at the outer end, the said outer end being of a diameter to fit the vent pipe, a series of lugs on the interior of the said member and extending longitudinally thereof and terminating short of the outer end of the said member, said lugs being of a form whereby the end of the vent pipe on insertion thereinto is supported in spaced relation with the inside wall of the member.

In testimony whereof I sign this specification.

EDWARD W. N. BOOSEY.