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DEVICE FOR ELIMINATING CREOSOTE FROM CHIMNEYS AND ACCELERATING THE DRAFT IN CHIMNEYS

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Fig. 1.

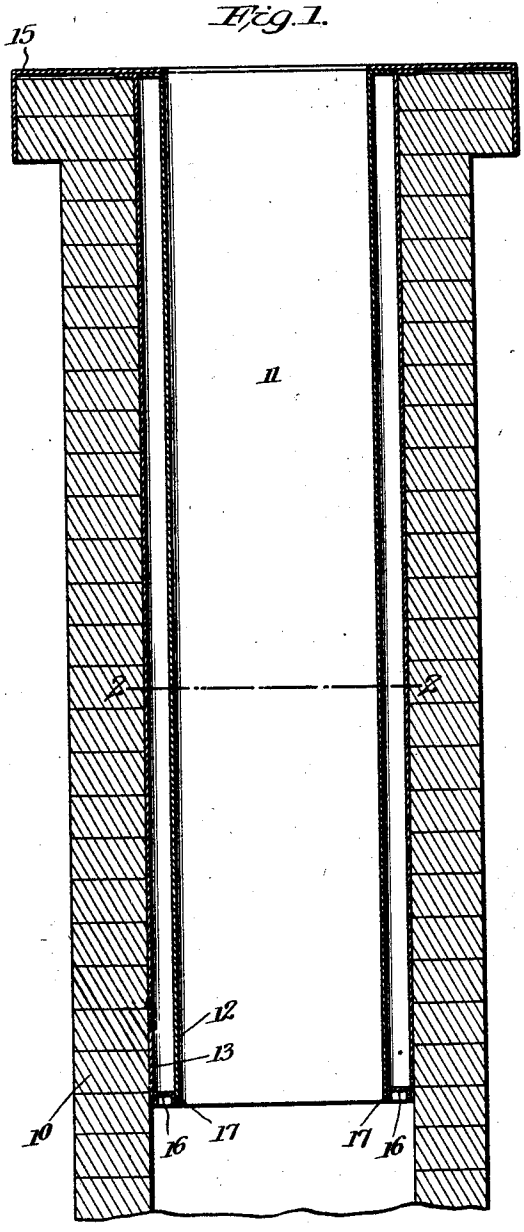
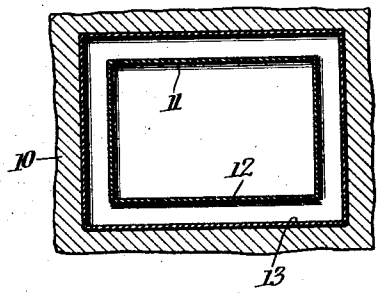


Fig. 2.



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UNITED STATES PATENT OFFICE.

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DEVICE FOR ELIMINATING CREOSOTE FROM CHIMNEYS AND ACCELERATING THE DRAFT IN CHIMNEYS.

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The present invention relates to insulating linings for chimney or smoke flues and aims to improve their operation and increase their serviceability generally. The invention further aims to provide means readily adapted to a chimney which will effectively maintain the inner walls of the chimney in a dry condition thereby to prevent the leakage of creosote through the chimney walls and also accelerate the upward draft through the chimney.

In the accompanying drawings, wherein we have illustrated for descriptive purposes one embodiment of our invention,

Fig. 1 is a sectional view of the upper portion of a chimney with our improvement in place therein, and

Fig. 2 is a horizontal sectional view taken on the line 2—2 of Fig. 1.

The embodiment of the invention illustrated in the drawings is designed to be applied to the open, upper end of a chimney 10, which may be of any conventional construction or shape but which is preferably of masonry construction. The invention comprises a lining member 11 for the upper end of the chimney 10, preferably of a length sufficient to extend within the chimney a substantial distance, say for four or five feet or more according to the distance the chimney extends above the roof of the building, and which may be of any desired cross-section to correspond with the cross-section of the chimney with which it is to be used. The lining member 11 is preferably of such size and cross-section as to fit snugly against the inner walls of the chimney, thus effectively protecting the walls adjacent the lining from the destructive action of smoke or hot gases which they would otherwise encounter.

The lining member 11 is preferably formed of spaced inner and outer wall members 12 and 13, suitably connected by flanges 14, or other means, to a cap member 15, which is adapted to seal the upper end of the chamber formed by the spaced walls and also to engage over the side edges of the chimney top thereby to support the lining member within the chimney and protect the chimney top from the weather. The chamber formed by the spaced walls 12 and 13 is sealed at the bottom by means of a closure member 16, thereby forming a closed air chamber encircling the interior of the flue and constituting an insulation against external cold for the upper portion of the chimney, and also adapted to be heated by the products of combustion passing through the chimney whereby to provide a heated area in the upper portion of the chimney. The provision of the heated air chamber in the upper portion of the chimney obviously prevents the rapid conduction of heat of the products of combustion through the walls of the chimney extending above the roof of the building, which otherwise would be of a much lower temperature, and further tends to accelerate the upward draft through the chimney.

Preferably the closure member 16 is channel shaped and is attached to the wall members in any suitable manner, as by welding. This construction presents an inner drip edge 17 on the bottom of the lining member, so that water from rain or snow may drip from the lining member clear of the chimney walls thus preserving the walls of in a dry condition.

The device is made preferably of metal, such as galvanized iron, tin or sheet steel; but it may be made of any material, preferably one that is acid and rust proof.

The advantages of our invention reside in the simplicity of the device, the ease with which it may be applied to a chimney, and its effectiveness in increasing the draft through the chimney. Furthermore, in many instances where wood is used for fuel, there may be considerable objection to ordinary forms of chimney construction because of leakage of creosote, or the like, through the chimney walls, particularly through that portion of the chimney above the roof which may be exposed to the cold. The metal lining in the top or exposed portion of the chimney, fitting snugly to the chimney walls, becomes heated by the contact with the products of combustion passing up thru the chimney. This heated member heats the air in the upper portion of the chimney and thus prevents rapid cooling of the products of combustion and the accompanying de-

positing of soot and other residue on the chimney walls. Actual tests of our invention disclose that the walls of the chimney are maintained dry and warm, and the draft is accelerated to such extent that soot and ashes can be seen passing out of the chimney.

Obviously our invention is not to be restricted to the details of construction shown and described.

We claim:

1. A device for insertion in a chimney, comprising an insulating lining for the upper portion of the chimney, said insulating lining consisting of spaced wall members sealed at the top and bottom and extending entirely around the interior of the chimney, whereby to provide a closed chamber adapted to be heated by the products of combustion passing upwardly through the chimney.

2. The combination of a chimney, a draft accelerating device positioned within the upper end thereof and comprising spaced sealed lining members, providing a closed air chamber adapted to be heated by the products of combustion passing up through the chimney whereby to maintain the interior of the chimney warm and accelerate the draft through the chimney.

3. A device for insertion in a chimney comprising an insulating lining for the upper portion of the chimney, a cap member secured to said lining and adapted to engage the top and upper side edges of the chimney thereby to support the lining within the chimney, said lining comprising spaced metallic members connected together and sealed at the top by said cap member and at the bottom by a closure member, thereby to provide a closed air chamber adapted to be heated by the products of combustion passing through the chimney.

4. A device for eliminating the leakage of creosote and accelerating the draft through a chimney, comprising a spaced double walled lining, forming as a closed chamber adapted to be heated by the products of combustion passing through the chimney thereby to provide a heated area near the top of the chimney extending entirely around the interior thereof, said lining closely fitting the interior adjacent the chimney walls thereby protecting said walls from contact with the products of combustion.

5. A device for the purpose specified comprising a cap member adapted to be positioned upon the open end of a chimney and secured thereto by engagement therewith, a lining member secured to said cap member and positioned within the chimney opening in contact with the walls thereof, and extending therein a substantial distance, said lining comprising a double walled closed compartment adapted to be heated by the passage of products of combustion through the chimney, whereby to create near the upper end of the chimney a heated area for the purpose of accelerating the draft therethrough, and of preventing the condensation of the products of combustion and the deposit of moisture and of creosote upon the walls of the chimney.

6. A device of the character described having spaced inner and outer walls providing between them an insulating chamber, said inner walls terminating at the lower end in a drip edge, and a top wall spanning the joint between the outer walls and interior of the chimney proper to prevent entrance of water, whereby the interior faces of the chimney walls are kept dry.

In testimony whereof, we have signed our names to this specification.

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