S. HEATH.

CHIMNEY.

APPLICATION FILED FEB. 1, 1912.

1,047,630.

Patented Dec. 17, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

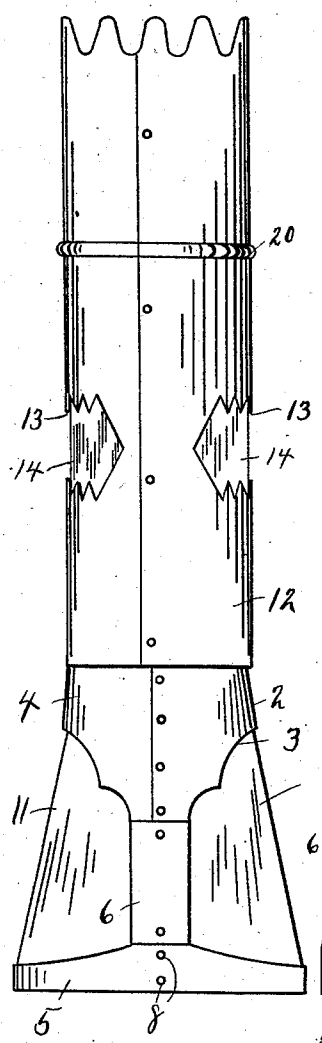


Fig. 2.

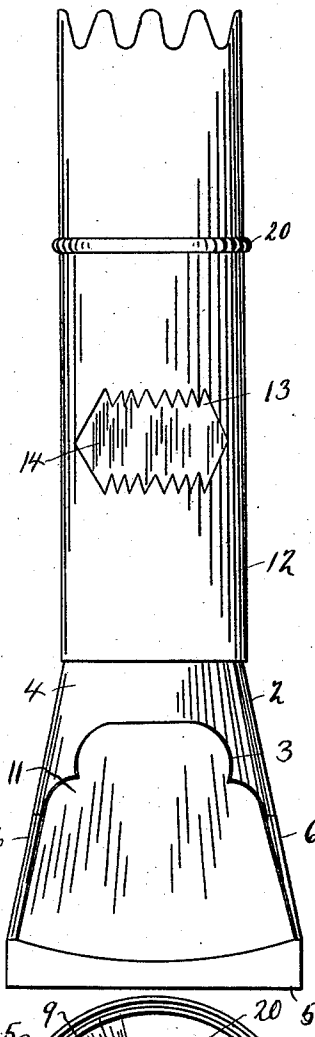


Fig. 3.

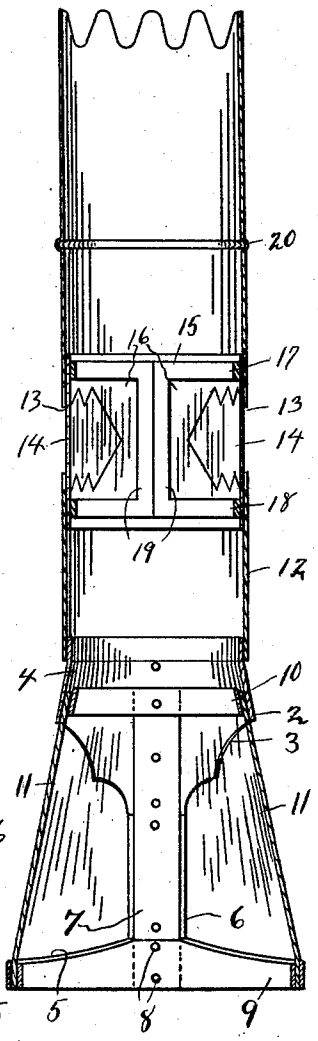
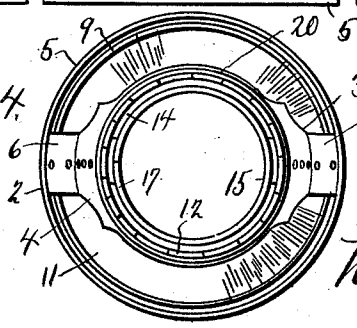


Fig. 4.



WITNESSES

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2 SHEETS—SHEET 2.

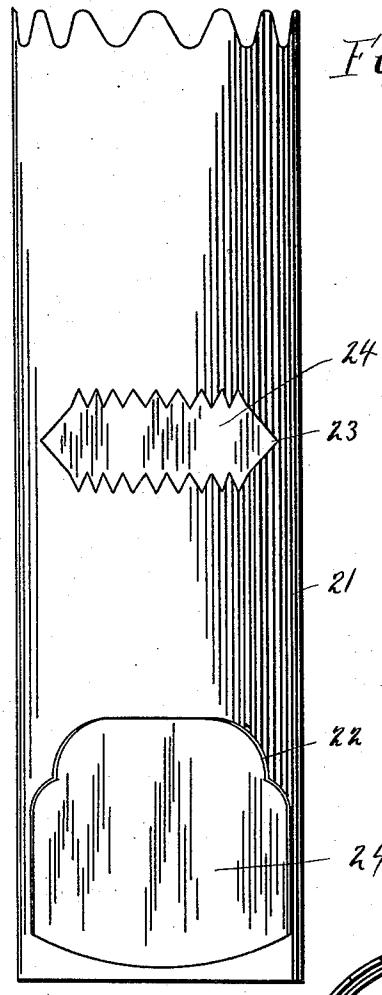


Fig. 5.

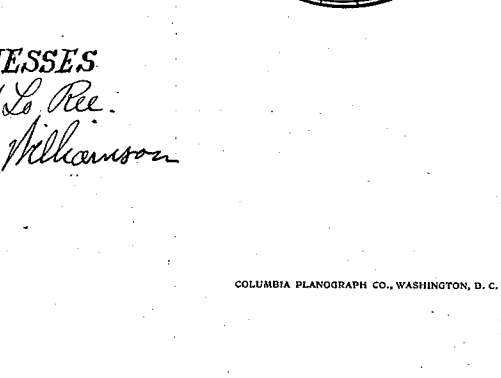


Fig. 6.

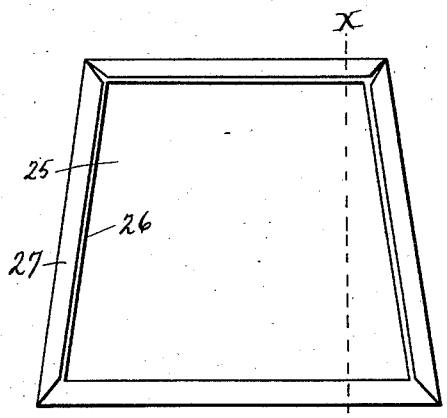


Fig. 7.



Fig. 8.

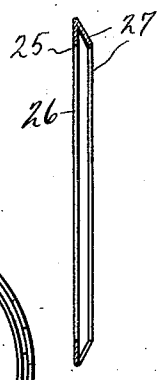


Fig. 9.

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UNITED STATES PATENT OFFICE.

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CHIMNEY.

1,047,630. Specification of Letters Patent. Patented Dec. 17, 1912.

Application filed February 1, 1912. Serial No. 674,813.

To all whom it may concern:

Be it known that I, SAMUEL HEATH, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented new and useful Improvements in Chimneys, of which the following is a specification.

My invention relates to new and useful improvements in chimneys adapted to be used with heating or illuminating burners, burning oil, gas or gaseous fuels.

The objects of the invention are, to provide an unbreakable chimney to take the place of the ordinary glass chimney which may be used on the ordinary house lamp, burning either gas or oil, on automobile lamps, pilot or head lights of locomotives, mast head lights on ships, signal lights in light houses, or on railroad towers, and on all stationary lanterns.

A further object of the invention is to produce a lamp chimney which will confine the heat causing the carbons and gases thrown off from the flame to be consumed, thereby eliminating all smoke, soot and odors.

Another object of the invention is to produce a chimney of metal and mica which when used with an illuminating burner throws off an intensely bright, white, light and when used with a heating burner, it confines and guides the heat to the most advantageous point.

A still further object is to produce a chimney of the character described in which the casing or the metallic portion of the chimney is of one piece, either straight or conical in shape, or to form said chimney in two separable parts so that they may be readily taken apart to clean or to renew the mica.

Further objects of the invention are to provide means for holding the mica, to provide means for securing the mica to the chimney casing, to produce a flange, rib or other means to support a lamp shade so that the light may be thrown downward.

With these ends in view, this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, I will describe its construction in detail referring by numeral to the accompanying drawing forming a part of this specification, in which—

Figure 1, is a side elevation of a chimney made in accordance with my improvement. Fig. 2, a similar view at right angles to Fig. 1. Fig. 3, a longitudinal sectional view thereof. Fig. 4, a plan view thereof. Fig. 5, a side elevation of a slightly modified form of chimney. Fig. 6, a plan view thereof. Fig. 7, a face view of the frame for holding the mica sheets. Fig. 8, an edge view thereof, and Fig. 9, a section at the line *x x* of Fig. 7.

In carrying out my invention as shown in Figs. 1 to 4 inclusive, I provide a base member 2, of any suitable metal having a plurality of openings 3 therein being preferably two in number and oppositely disposed, thus producing a collar 4, a ring 5, and connecting posts 6. These can be formed from a single piece of metal, but the waste which is cut therefrom to form the openings 3 is so great that I prefer to form each of these separately as shown and fastening them together by an interior metal strip 7, having rivets 8, or their equivalent passing through the parts.

Inside of the base member is secured a suitable holding means for the mica to be hereinafter described which consists of a lower interior ring 9, and an upper interior ring 10, one of which is mounted above and below the openings 3. These rings are of smaller diameter than the base member at the point where they are mounted and are spaced from the side walls of said base member at the strips 7 leaving room for the mica.

11 denotes the mica which covers the openings 3, the edges thereof being held in place between the rings 5 and 9, the collar 4, and the ring 10. The mica sheets are cut to the desired shape and size and are then forced between the base member and the rings 9 and 10 so that they snugly fit in place to hold them securely but may be readily removed for renewal.

On top of the base member is mounted the body of the chimney 12 which consists of a metallic cylindrical tube, the lower end being of sufficient size to fit over the upper

end of the base member. In this body portion are formed a number of openings 13, preferably two in number and oppositely disposed. Over-lying these openings to cover them, are sheets of mica 14 held in place by a suitable fastening means 15 which as here shown consists of a sheet of metal having a central portion cut out as shown at 16 to form a frame which is bent circular longitudinally forming two oppositely disposed split rings 17 and 18 both being joined together by integral uprights, said uprights contacting with each other when the holding means is in place. The rings 17 and 18 engage the mica sheets and firmly press them against the inner face of the body.

Above the openings 13 is pressed from the body, an outwardly extending flange or rib 20 which acts as a holding means for a lamp shade.

In the form of invention as shown in Figs. 5 and 6, I produce a chimney, the side walls of which run in perpendicular straight lines and these I prefer to make in one piece although it can be made similar to the one shown in Figs. 1 to 4 inclusive the base of which would be a small cylinder instead of a cone. In this form of a cylinder, the diameter of which is sufficient to fit upon the burner of the lamp with which it is to be used and from the side walls are cut the lower openings 22 and the upper openings 23 which being covered by sheets of mica 24 in the same manner as described from my preferred form. To place the mica sheets in position in the chimney, it is necessary that they be bent to the proper shape while placing them in the chimney and as mica is very brittle, it is very difficult for the inexperienced person to place them in properly without breaking and in order to provide for this difficulty, I have produced a frame into which the mica may be readily placed and these frames placed in the chimney, the frames being made for the chimney on which they are used, exactly fit that chimney and they may be readily and quickly removed and the mica placed therein by any one. This frame I have shown in Figs. 7 to 9 inclusive and preferably consisting of a sheet of metal body having the central portion cut out as at 25 producing a relatively wide rim, the sides and top of which are wider than the bottom and these sides and top are bent back upon themselves thus forming two walls 26 and 27, but the bottom having but one portion 26 is left open to permit the insertion of the mica between the walls 26 and 27 and when said mica is in position, the walls are pressed together thereby firmly holding said mica. The frame is plainly shown as formed in the proper shape to fit the chimney so that it may be readily inserted.

In practice, the chimney is placed upon a lamp, the same as the ordinary glass chimney. The rays of light passing through the mica are broken up and certain colors subdued thus causing those rays which pass to the outside to have the appearance of pure white and these are very bright making an excellent light for reading and in actual tests, it has been found that a person may look directly at the light and then turn his head aside without any ill effect upon the eyes, being able to see just as plainly as before. Where the chimney is used upon a heating or cooking burner, it has been found that the heat is greatly intensified, and said heat is delivered to the proper point where the best results are obtained.

Of course I do not wish to be limited to the exact details of construction as here shown as these may be varied within the limits of the appended claims without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful is,—

1. A chimney comprising a conical base having openings therein, mica for covering said openings, means for holding said mica in position, a body having openings therein slidably mounted upon the base member, mica covering said openings, and means for holding said mica in position.

2. A chimney comprising a conical base having openings therein, mica for covering said openings, means for holding said mica in position, a body having openings therein slidably mounted upon the base member, mica covering said openings, means for holding said mica in position and an outwardly projecting rib pressed from the body.

3. In combination, a metallic body having openings therein, mica disposed across said openings a frame bent to fit within the body portion and adapted to exert spring pressure upon the mica sheets for holding them in place against the inner face of the body portion, a base member slidably mounted within one end of the body portion, said base having openings therein, sheets of mica disposed across said openings and means for holding said sheets of mica in position.

4. A chimney comprising a conical base member having oppositely disposed openings therein, sheets of mica disposed across said openings, an upper interior ring, a lower interior ring, strips secured to said rings for spacing the latter from the walls of the base member, said rings holding the mica sheets in place, a metallic body portion having oppositely disposed openings therein, slidably mounted upon the base member, mica sheets disposed across the openings in the body portion and means for holding said mica sheets in place.

5. A chimney of metal having a plurality of oppositely disposed openings, frames coacting with the walls of said chimney said

frames each comprising sides and top and bottom, said sides and top bent upon themselves to form 2 walls and a sheet of mica inserted in each of said frames and held between the walls thereof, said frames adapted to surround the openings for holding the mica across said openings.

In testimony whereof, I have hereunto affixed my signature in the presence of two subscribing witnesses.

SAMUEL HEATH.

Witnesses:
MARY E. HAMER,
M. H. LO REE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."