No. 787,267. PATENTED APR. 11, 1905.

J. M. BRAGG.

CHIMNEY AND LINING THEREFOR.

APPLICATION FILED DEC. 12, 1904.

Fig. 1.

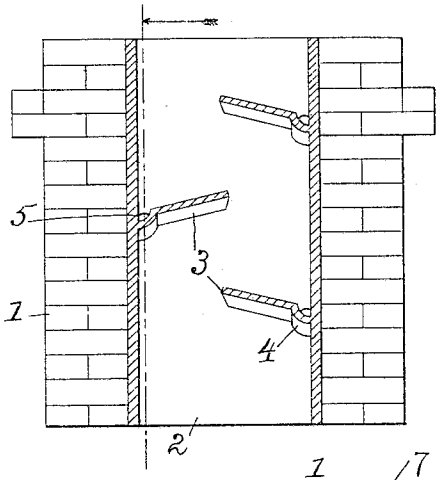
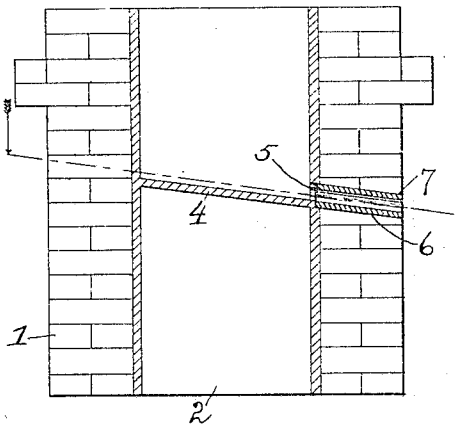


Fig. 2.



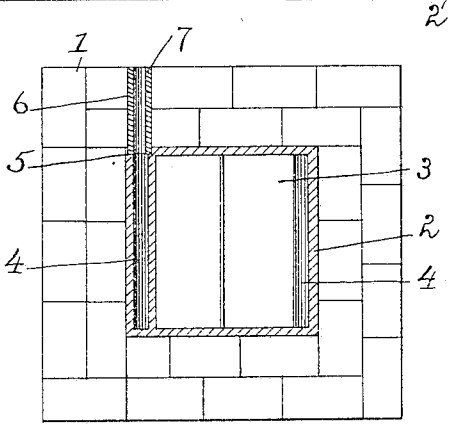
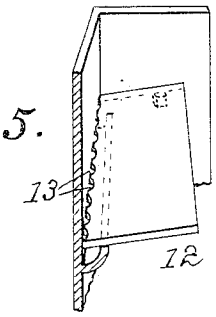


Fig. 3.

Fig. 5.



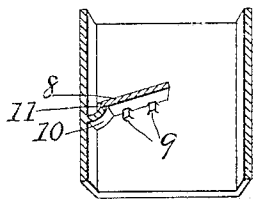


Fig. 4.

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UNITED STATES PATENT OFFICE.

JAMES M. BRAGG, OF EAST HARTFORD, CONNECTICUT.

CHIMNEY AND LINING THEREFOR.

SPECIFICATION forming part of Letters Patent No. 787,267, dated April 11, 1905.

Application filed December 12, 1904. Serial No. 236,479.

To all whom it may concern:

Be it known that I, JAMES MERRICK BRAGG, a citizen of the United States, and a resident of East Hartford, in the county of Hartford and State of Connecticut, have invented a new and Improved Chimney and Lining Therefor, of which the following is a specification.

My invention relates to the class of devices used for creating a draft for a furnace, stove, or the like and for conducting the products of combustion therefrom; and the object of my invention is to provide a device of this class in which the movement of the currents of air from the furnace, stove, or the like shall be facilitated, and a further object is to provide a device of this class having means for preserving the dryness of the interior of the chimney and prevent the access of water, snow, or the like, and a further object is to provide a special construction of lining forming a part of the chimney and having the objects above set out. A form of device in the use of which these objects may be attained is illustrated in the accompanying drawings, in which—

Figure 1 is a view in central longitudinal section through the top of a chimney embodying my invention. Fig. 2 is a view in longitudinal section through the chimney on the dotted line shown in Fig. 1. Fig. 3 is a view in transverse section through the chimney on the dotted line shown in Fig. 2. Fig. 4 is a view in central longitudinal section through a chimney-lining, showing a modification of my invention. Fig. 5 is a detail view showing another modification.

In the construction of a chimney it is desirable for many reasons that the top or mouth of the chimney shall be left open and unobstructed; but in such a structure prior to my invention defects have presented themselves from the fact that moisture in the form of snow or rain has been allowed to gain access to the chimney. The dampness thus formed in the chimney prevents free movement of the air-currents, and thus forms an imperfect draft to the chimney. To overcome these defects, in many instances a cap is placed over the mouth of the chimney, raised to a certain degree from the edge thereof; but by my improved construction I have provided means whereby this cap may be dispensed with, the mouth of the chimney left free and unobstructed, and means are provided for preventing access of dampness through the mouth of the chimney.

In many instances, in the construction of dwelling-houses more especially, the chimney extends vertically for a distance from the top and then extends in a diagonal direction for some distance. In such instances the moisture gaining access through the mouth of the chimney accumulates on the slanting portion thereof and finds its way through the wall of the chimney to the outer surface and within the building, this being especially noticeable in cases where a soft brick enters into the construction of the chimney.

While my invention is illustrated and described in connection with a chimney for conducting the products of combustion from a furnace, stove, and the like, it will be understood that it will find ready application in other instances, and I therefore do not confine my invention to the specific manner of use herein shown and described.

In the accompanying drawings the numeral 1 denotes the masonry, usually constructed of brick and in any desired form and of suitable size. The flue is composed of a lining 2, usually constructed in the form of a tube composed of sections of considerable length. This lining is usually of a size and shape to fit and conform to the interior of the masonry and is inserted at different stages in the construction of the latter. In the embodiment of my invention one of these sections, preferably the upper or outer section, is provided with a shelf or shelves 3, extending across the flue from side to side in one direction and partially across the flue in a transverse direction. These shelves are inclined downward toward the lower edge of the shelf, as shown in Fig. 1 of the drawings, where they terminate in a trough 4. The shelves are also slightly inclined downward from side to side of the chimney, as shown in Fig. 2 of the drawings, to a point where an opening 5 is formed

through the wall of the lining. An opening 6 is formed through the masonry, in which a tube or conductor 7 is located. This tube or conductor is preferably of circular form, as to the inner surface at least, and is inserted in the masonry in the process of construction of the latter. Each of the shelves preferably extend widthwise of the shelf to a distance at least one-half that across the lining, and it will thus be seen that by employing two or more shelves the entire distance across the lining widthwise of the shelves is covered, so that any rain or snow entering the mouth of the chimney is caught by the shelves and conducted to the lower edge thereof and thence along the troughs to the outside of the chimney. I have also found that by this arrangement of the shelves the upward or outward movement of the air-current is greatly facilitated, thus improving the draft of the chimney.

In the structure above described the shelves, including the troughs, are made integral with the lining; but in the modified form of the invention, as shown in Fig. 4 of the drawings, the shelves 8 may be formed of a separate piece extending across the lining or flue and supported by lugs 9, which may be made integral with the lining or otherwise formed to properly support the shelves, as may be desired. In this construction of the device the troughs 10 are formed separately from the shelves and preferably integral with the lining, the troughs inclining downward to one side of the chimney and terminating in an opening 11 through the lining, from which a tube may lead through the masonry, as shown in Fig. 2 of the drawings.

While I have shown and described the preferred form of my invention as embodying a lining having the shelves and the troughs for conducting moisture from the chimney and for improving the draft therein, it will be understood that the lining is not absolutely essential to my invention and that other forms of construction having the results and advantages above described may be employed without departing from the invention.

It will be seen that by constructing the shelves in the manner herein shown and described downward drafts through the chimney are entirely prevented, and in the construction of a chimney located near the outer wall of a building care need not be taken to construct the chimney of a certain height to prevent downward drafts caused by the proximity of the vertical wall of the building, and a saving in the material required to construct the chimney and in the labor is thereby effected.

In the modified form shown in Fig. 5 the edge of the shelf 12 is serrated, as at 13, to permit the flow of water into the trough underneath the shelf, the device in other respects being the same as hereinbefore described.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a chimney including its flue, a shelf extending from side to side of the chimney and inclined downward widthwise of the shelf, and an opening through the wall of the chimney communicating with the trough formed at the junction of the shelf and inner wall of the chimney.

2. A chimney including its flue, a trough extending across the chimney from side to side and inclined downward toward one side thereof, an opening through the wall of the chimney communicating with said trough, and a shelf inclined downward widthwise thereof to said trough.

3. A chimney including its flue, a plural number of shelves each extending widthwise partially across the chimney and each inclined downward widthwise of the shelf, a trough formed at the lower edge of each of the shelves, and an opening through the side walls of the chimney communicating with said trough.

4. A chimney including its flue, a plural number of troughs extending across the flue from side to side and inclined downward endwise of the troughs, an opening through the wall of the chimney communicating with each of said troughs, and a shelf extending widthwise thereof partially across the chimney and inclined downward widthwise to said troughs.

5. An improved lining for a chimney including a tubular section having a shelf extending across the chimney from side to side and inclined downward widthwise of the shelf, a trough extending across the lining from side to side at the lower edge of the shelf and terminating at one end of the trough in an opening through the lining.

6. An improved lining for a chimney consisting of a section of tubular form, a plural number of shelves each extending across the chimney from side to side and widthwise of the shelf partially across the chimney, each shelf being inclined downward widthwise thereof, a trough formed at the lower edge of each shelf extending across the chimney from side to side and terminating at one end in an opening through the lining.

7. An improved lining for a chimney including a tubular section, a trough extending across the lining from side to side and formed integral therewith and terminating at one end in an opening through the lining, and a shelf extending across the chimney from side to side and inclined downward widthwise to said trough.

8. An improved lining for a chimney including a tubular section, a plural number of troughs formed integral with the lining extending from side to side thereof in a downward direction terminating at one end in an opening through the lining, and a plural num-

ber of shelves each extending widthwise partially across the chimney and inclined downward widthwise of the shelf to said trough.

9. In a chimney, in combination, a shelf extending partially across the chimney, a trough located appurtenant to said shelf, and an opening through the wall of the chimney communicating with said trough.

10. In a chimney, in combination, a plural number of shelves each extending partially across the chimney, troughs located appurtenant to said shelves, and openings through the wall of the chimney communicating with said shelves.

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