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HOLLOW BUILDING WALL VENTILATING DEVICE

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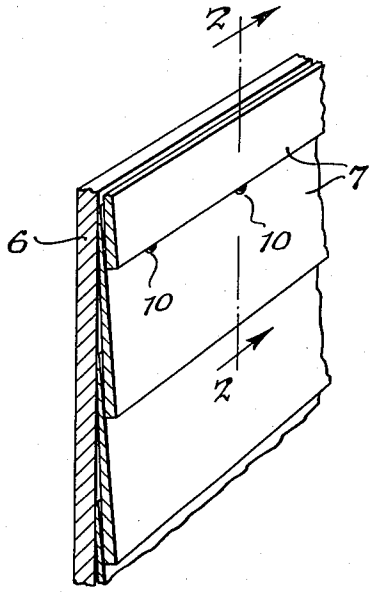


Fig. 1.

Fig. 2.

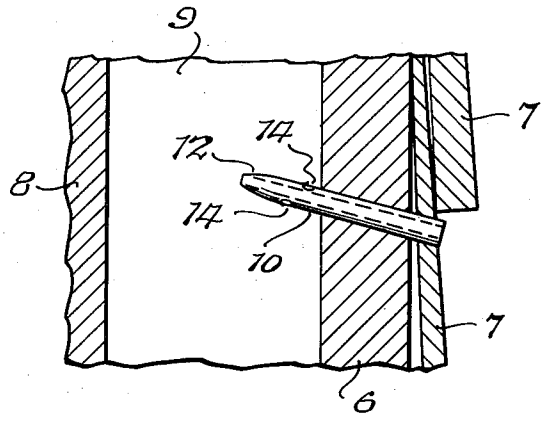


Fig. 3.

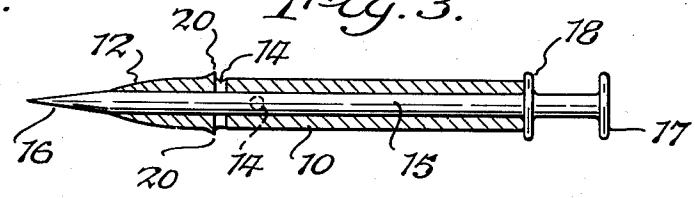


Fig. 4.

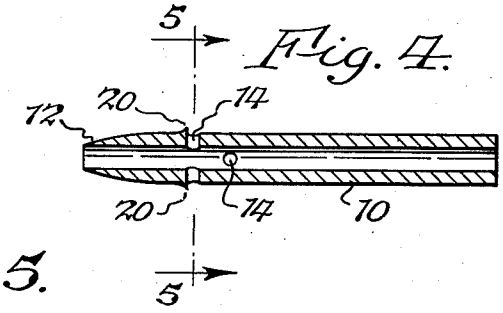
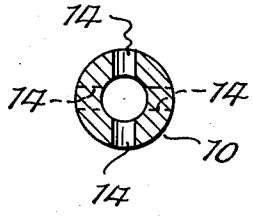


Fig. 5.



INVENTOR.
Shepard J. Wilder,
BY
Cushman, Darby & Cushman,
Attorneys.

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HOLLOW BUILDING WALL VENTILATING DEVICE

Shepard J. Wilder, Concord, N. H.

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6 Claims. (Cl. 20—4)

This invention relates to means for providing ventilation for the interior of hollow building walls.

It is well known that water vapor frequently gets into a hollow building wall and this vapor becomes condensed when cooled. The resulting water is generally believed to be the main cause of the peeling of paint from the exterior of the building wall, and also may cause rotting or decay of wooden parts of the wall. Ventilating means for hollow walls as heretofore devised were relatively costly to install on a building.

It is consequently an object of this invention to provide devices which can be readily and inexpensively applied to a building for the purpose of permitting any vapors which enter into the space of a hollow wall to escape.

Another object is to provide ventilating devices of this type which may be readily applied to the outer part of a building wall by merely driving the devices by means of a hammer or other implement through a part of the wall.

A further object is to provide a device of this kind with a nail or spike which may be used to drive the device through a part of a building wall and which nail or spike, when removed, leaves the device open to establish communication between the interior of the wall and the ambient atmosphere.

Other objects and advantages will be apparent from the following description of some embodiments of the invention, and the novel features will be particularly pointed out hereinafter in connection with the appended claims.

In the accompanying drawings:

Fig. 1 is a fragmentary, perspective, sectional view of the outer part of the building wall showing ventilating devices embodying this invention applied thereto.

Fig. 2 is a fragmentary, sectional view of a building wall on an enlarged scale, taken partly on the line 2—2, Fig. 1.

Fig. 3 is a central, sectional view on a still larger scale of a ventilating device embodying this invention showing the same assembled on a spike.

Fig. 4 is a similar sectional view of the ventilating device when the spike has been withdrawn therefrom.

Fig. 5 is a transverse section thereof on an enlarged scale on line 5—5, Fig. 4.

Ventilating devices of this type are particularly desirable for use in connection with building walls constructed mainly of wood, and Fig. 1 shows by way of example the outer part of a hollow building wall, this outer part including the usual sheathing 6 which may be of wood or other material, and 7 represents the usual outer material of the wall which may be clap boards, wooden or other types of shingles, or the like.

8 represents the inner surface of a building wall which may be of lath and plaster of other material, and which is spaced from the sheathing to form a hollow interior 9 of the wall, Fig. 2, in which water vapors tend to collect and which it is desirable to ventilate.

My improved ventilating devices include small tubes 10 which it is desired to force through the outer layer

of a building wall. These ventilating devices are of hollow cylindrical or tubular form and preferably the ends, which extend into the hollow wall, are tapered or of frusto conical shape, as shown at 12. These tubes are preferably made of metal such, for example, as aluminum, and may if desired be provided adjacent to their tapered ends with transversely extending holes or openings 14. When these tubes are inserted into a wall, as shown in Fig. 2, the hollow interior of each tube forms a communication between the space 9 of the wall and the exterior of a building. Air carrying water vapor may pass outwardly through the hollow tube by entering at the tapered end of the tube and through the openings 14, and passing outwardly through the tube to the exterior of the building, or fresh, outside, drier air may pass through the tube in the opposite direction to the interior of the wall.

In order to facilitate the positioning of these ventilating tubes in a building wall I preferably provide a spike or pin having a shank portion 15 formed to extend through the interior of the hollow, tubular ventilating member 10 beyond the tapered end 12 thereof and terminating beyond this end of the tube in a pointed end 16. This spike is preferably provided with the usual head 17 which may be struck by a hammer or other implement to drive the spike with a ventilating tube thereon into a wall. The spike, however, is preferably provided in spaced relation to the head 17 with a radially, outwardly extending flange or bead 18 which is formed to bear against the outer end of the ventilating tube 10. Consequently, when the spike and tube are assembled as shown in Fig. 3, they may be readily driven into the outer part of a building wall, as shown in Fig. 2. After the tube and spike have been driven into a building wall, the spike may readily be removed for use in connection with other ventilating tubes. The tubes should be driven at an upwardly extending inclination so that the inner tapered end of the tube is located at a higher elevation in the interior of a wall than the outer end thereof, so that rain water will not tend to pass through the tube into the interior of the hollow wall. Preferably also the ventilating tubes are driven into the wall closely to the lower edges of the clapboards or shingles, which further opposes the entry of rain into the interior of the wall.

The auxiliary ventilating holes 14 formed in the ventilating tubes 10 are preferably provided with burrs or outwardly projecting parts 20 for the purpose of opposing the removal of the tube in the reverse direction from a building wall. These projections have the further function of preventing any material of the building wall from entering into the holes 14 and plugging the same, as might happen for example if the ventilating devices are driven through asphalt shingles or similar materials.

The ventilating tubes as herein disclosed have the advantage that they can be very easily and quickly inserted into a building wall, generally by use only of a hammer. However, if necessary, to prevent splitting of wooden parts of the building wall, holes may be drilled into the building wall before driving the tubes into the same, the holes being smaller, or at least no greater in diameter than the external diameter of the tubes. These ventilating tubes are of small diameter but provide amply for removal of vapors from the interior of a wall. When the building includes upright frame members between the sheathing and the inner part 8 of the wall, it is of course desirable to apply one or more of these ventilating tubes between each upright frame member. The ventilating tubes being small in diameter, are quite inconspicuous when applied to a building wall so that they do not detract in any way from the appearance of the building.

The use of spikes or pins for driving the ventilating

tubes into a building wall has the advantage that the tubes may be made with relatively thin walls and will not be damaged by driving them into a wall for the reason that the shank of the spike or pin holds the tube against deformation during the driving of the same into the wall and also the outer end of the tube is not damaged by receiving the hammer blows indirectly through the flange or bead of the spike.

It will be understood that various changes in the details, materials and arrangements of parts, which have been herein described and illustrated in order to explain the nature of the invention, may be made by those skilled in the art within the principle and scope of the invention as expressed in the appended claims.

I claim:

1. A device for use in connection with the ventilation of the interior of a hollow building wall, said device including a tubular member having an uninterrupted smooth axial passage throughout its length, a spike having an external diameter slightly less than the internal diameter of said tubular member and adapted to be inserted into said passage of said tubular member, said spike having at one end thereof a head and having an annular outwardly extending shoulder in spaced relation to said head and formed to engage an end of said tubular member, said spike having a tapered pointed end adapted to extend beyond the other end of said tubular member, said other end of said tubular member being tapered, said device when driven into a building wall initially forming a hole therein by means of the pointed portion of the spike, said tapered end of said tubular member upon further driving of said device into the wall enlarging said hole to enable said tubular member to extend into said hollow wall by blows upon the head of said spike and transmitted to said tubular member through said shoulder on said spike, said spike when removed from said tubular member opening said passage therein through which air may pass from a hollow wall to the exterior of the wall.

2. A device according to claim 1, in which said tubular member is provided adjacent to the tapered end thereof with a plurality of transversely extending apertures communicating with the interior of said tubular member and which when the device is in its operative position in a wall are in the hollow interior of the building wall, and burrs extending outwardly from said tubular member in advance of said apertures with reference to the direction of movement of said tubular member when driven into a wall.

3. A ventilating device for a hollow building wall including a tube formed to extend from the exterior of the building into the interior of said hollow wall, said tube having a smooth air passage extending throughout the length of the same and of such length that the end thereof terminates in said hollow wall and is provided with a tapering portion which facilitates the driving of said tube through a hole in the wall, said tube being provided adjacent to said tapered end with apertures extending from the exterior to the interior of said tubular member and arranged within the hollow building wall when said device is in its operative position to provide air passages between the interior of the tube and the interior of a building wall.

4. A ventilating device according to claim 3 and in which said tubular member is provided adjacent to said tapered end with apertures extending from the exterior to the interior of said tubular member and arranged within the hollow building wall when said device is in its operative position, and outwardly extending projections formed on said tubular member in advance of said apertures to prevent material of said wall from entering said transverse apertures when said tubular member is driven into a wall.

5. A device according to claim 3 and including a member which fills the interior of said tubular member while the same is driven into a wall and which has a pointed part extending beyond said tapered end of said tubular member and a shouldered part engaging the other end of said tubular member during the driving of said tubular member into a wall.

6. A device for use in connection with the ventilation of the interior of a hollow building wall, said device including a tubular member having an uninterrupted, smooth axial passage throughout its length, a spike having an external diameter slightly less than the internal diameter of said tubular member and adapted to be inserted into said passage of said tubular member, said spike having at one end thereof an annular, outwardly extending shoulder formed to engage an end of said tubular member, said spike having a tapered pointed end adapted to extend beyond the other end of said tubular member, said other end of said tubular member being tapered, said device when driven into a building wall initially forming a hole therein by means of the pointed portion of the spike, said tapered end of said tubular member upon further driving of said device into the wall enlarging said hole to enable said tubular member to extend into said hollow wall by blows upon said spike and transmitted to said tubular member through said shoulder on said spike, said spike when removed from said tubular member opening said passage therein through which air may pass from a hollow wall to the exterior of the wall, said tubular member being provided adjacent to the tapered end thereof with a plurality of transversely extending apertures communicating with the interior of said tubular member and with the interior of the building wall.

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