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BUILDING INSULATION CONVEYER NOZZLE

Original Filed Oct. 5, 1931

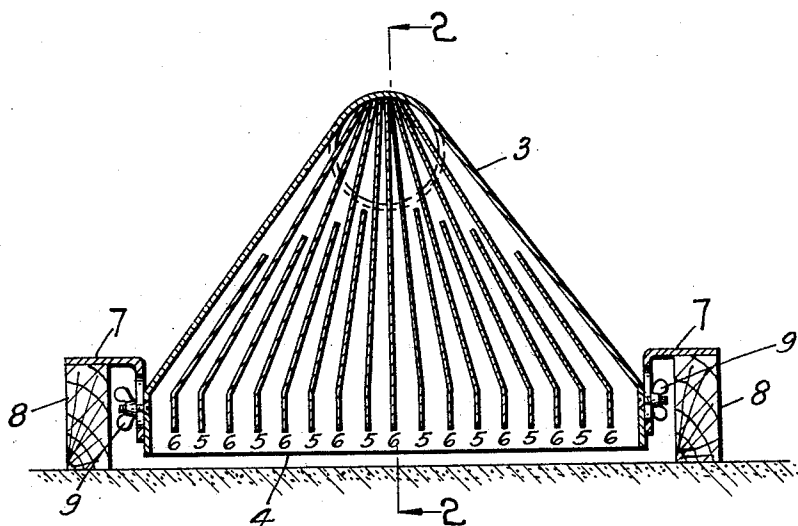


FIG. 1.

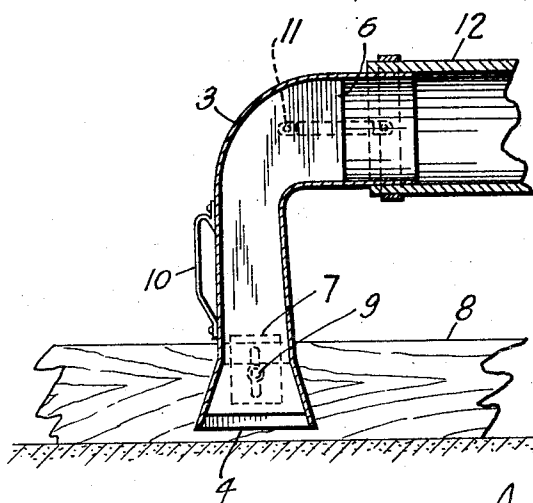


FIG. 2.

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BUILDING INSULATION CONVEYER NOZZLE

Original application filed October 5, 1931, Serial No. 566,916. Divided and this application filed July 11, 1932. Serial No. 621,974.

This invention relates to a new and useful building insulation conveyer nozzle, adapted for use in connection with a building insulation conveyer of the general type shown in my application for patent filed October 5, 1931, Serial No. 566,916, of which this application is a division.

The principal object of the invention is to provide a nozzle of novel form, adapted to be attached to a flexible hose which forms a part of the conveyer pipe through which the building insulation is conveyed to the point of application, novel means being provided to separate and distribute the building insulation in the process of application, the nozzle being mounted on adjustable runners to move on a predetermined level or plane so as to spread the material over the entire surface between two joists, thus facilitating the application of the material and insuring uniformity of depth or thickness.

A further object of the invention is to provide a building insulation conveyer nozzle which breaks up and diffuses any material which may have become packed or compressed in passing through the feeding mechanism, so that the material is deposited in its normal state.

Other objects and advantages reside in the detail construction of the invention, which will become more apparent from the following description.

Fig. 1 is a transverse vertical cross section of the nozzle, illustrating the interior separators thereof.

Fig. 2 is a longitudinal vertical sectional view of said nozzle, the section being taken on the line 2—2 of Fig. 1.

Referring to the drawing in detail, in which like reference characters designate corresponding parts in both views of the nozzle, and in which the present drawing illustrates one of the numerous forms covered by the inventive ideas, the present form is described in detail as follows:

3 is the nozzle of novel construction, peculiarly adapted for the distribution of dry building insulation and other similar substance, having a suitable connection adapted to be attached to a flexible hose, 12, and curving

vertically at right angles to said flexible hose 12, and flaring horizontally to the width of approximately the distance between two standard spaced ceiling joists 8, and abruptly flaring longitudinally to form the horizontal oblong outlet orifice 4 having curved ends as shown in the drawing, and having internal separators 5 attached to or integral with said nozzle, a given number of these separators 5 spaced an equal distance apart, extending from the point of curvature of said nozzle to the face of the outlet orifice 4 forming substantially equivalent volumetric apertures within the vertical portion of said nozzle, and equidistant between these separators, short separators 6 extending from the face of said outlet orifice 4 to a suitable point between said outlet orifice and the point of curvature of said nozzle, in such manner that building insulation as it reaches the curved portion of the nozzle will be divided by the long separators 5, and as it reaches the short separators 6, will be again divided, so as to distribute the insulation uniformly throughout the entire length of the outlet orifice 4 of said nozzle.

Adjustable gauges 7 are provided attached to said nozzle by suitable means, the horizontal portions of which form runners to support said nozzle upon two ceiling joists 8, and the nozzle may be raised or lowered by adjusting said gauges vertically by means of the thumb-screws 9, thereby making it possible to secure any desired uniform depth of building insulation within the range of depth commonly used in buildings. Handles 10 and 11 are also provided for convenience in manipulating said nozzle, as shown in the drawing.

It will be seen that in operation, by drawing the nozzle along upon the adjustable runners 7 upon the ceiling joists, the building insulation is discharged in a steady flow in width approximately the distance between two standard spaced ceiling joists, and deposited in a layer between said ceiling joists that is uniform in thickness.

Having described my invention, what I claim is—

1. A building insulation conveyer nozzle consisting of a casing having a horizontal

cylindrical portion, the inlet orifice of which is adapted to be connected to a flexible hose, said horizontal portion merging into a vertical transversely expanding portion having
 5 a horizontal oblong outlet orifice with curved ends, each of said curved ends being provided with a vertically movable horizontal runner having vertical supports secured to said
 10 nozzle casing by adjustable thumbscrews, the interior vertical portion of said nozzle being divided into substantially equivalent volumetric uniformly and progressively expanding
 15 apertures by internal separators longitudinally disposed within the vertical portion of said casing, said apertures each being subdivided by medial longitudinal separators of varying length from the face of said
 20 outlet orifice, said nozzle being provided with handles, substantially as described.

2. A building insulation conveyer nozzle consisting of a casing having a horizontal cylindrical portion, the inlet orifice of which is adapted to be connected to a flexible hose, said horizontal portion merging into a vertical transversely expanding portion having
 25 a horizontal oblong outlet orifice with curved ends, the interior vertical portion of said nozzle being divided into substantially equivalent volumetric apertures by internal separators longitudinally disposed within the
 30 vertical portion of said casing, said apertures each being subdivided by medial longitudinal separators of varying length from the face of said outlet orifice, said nozzle
 35 being designed to receive building insulation under pressure of compressed air and to utilize the force of gravity in conjunction with rapidly expanding air pressure and internal stationary separators to diffuse, separate and
 40 discharge said building insulation through the outlet orifice of said nozzle.

3. A building insulation conveyer nozzle consisting of a casing having a horizontal cylindrical portion, the inlet orifice of which
 45 is adapted to be connected to a flexible hose, said horizontal portion merging into a vertical transversely expanding portion having a horizontal oblong outlet orifice with curved ends, means disposed within said vertical
 50 portion of said casing for separating and diffusing building insulation as it passes through said nozzle so as to discharge said building insulation throughout the entire length of the outlet orifice, and adjustable
 55 means for movably suspending said nozzle between two ceiling joists of a building at any desirable height to secure the required depth or thickness of building insulation.

4. A building insulation conveyer nozzle
 60 consisting of a casing having a horizontal cylindrical portion, the inlet orifice of which is adapted to be connected to a flexible hose, said horizontal portion merging into a vertical transversely expanding portion having
 65 a horizontal oblong outlet orifice with curved

ends, means disposed within the vertical portion of said nozzle for separating and diffusing into its natural state building insulation delivered thereto, and means comprising
 70 vertically adjustable gauges for movably suspending said nozzle between two ceiling joists of a building at a predetermined level to insure the deposit of a layer of building insulation of uniform depth or thickness between
 75 said ceiling joists.

5. In a building insulation conveyer nozzle, in combination: a casing having a horizontal cylindrical portion, an inlet orifice adapted to be connected to a flexible hose, a vertical transversely expanding portion merging into
 80 a horizontal oblong outlet orifice with curved ends, vertically movable horizontal runners having vertical supports secured to each end of said nozzle casing by adjustable thumbscrews adjacent to said outlet orifice, interior
 85 separators longitudinally disposed within the vertical portion of said casing to form substantially equivalent volumetric expanding apertures within the vertical portion of said casing, medial separators of varying
 90 length longitudinally disposed within said apertures to subdivide said apertures, a vertical handle attached to the extreme outside vertical face of said nozzle casing, and a horizontal handle attached to the horizontal
 95 cylindrical portion of said nozzle casing.

In testimony whereof, I have hereunto set my hand at Denver, Colorado, this 29th day of June, 1932.

JAMES H. NORTON. 100

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