

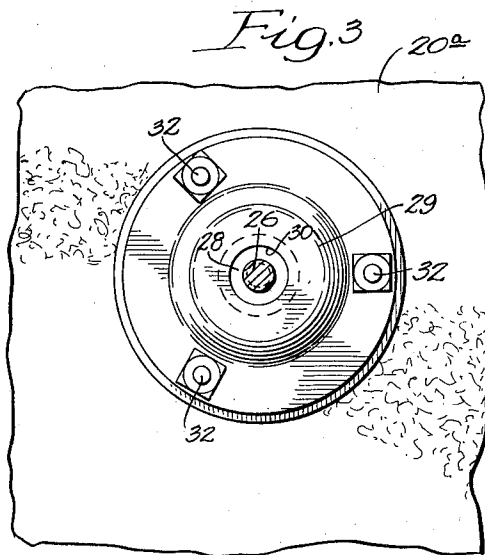
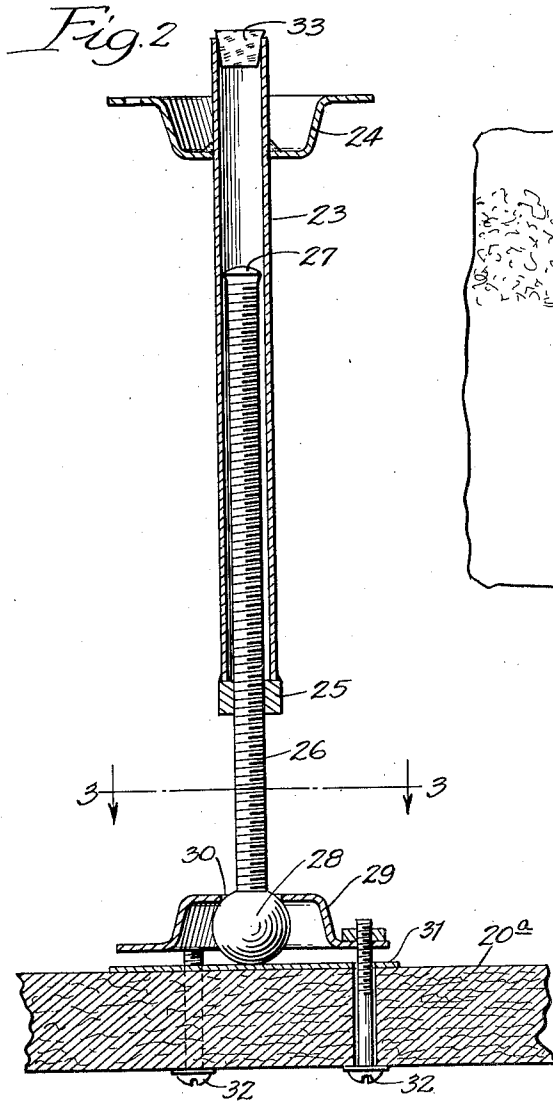
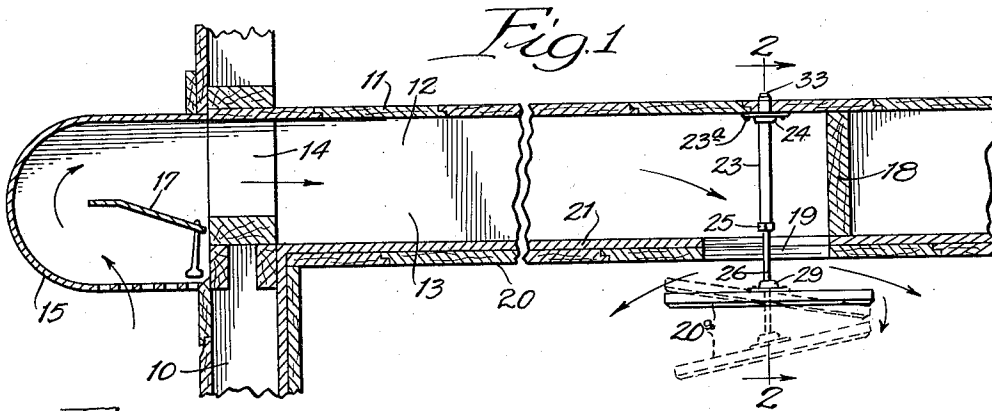
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TILTING DIFFUSING PLATE

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TILTING DIFFUSING PLATE

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3 Claims. (Cl. 98—41)

This invention relates to stable ventilation systems and particularly to means for introducing fresh air into stables without the creation of cold spots and dangerous drafts.

When outtake flues take damp foul air out of the stable, it must be replaced with fresh air from outside. It is not impossible to bring in fresh air through windows, doors and irregular openings, but it is dangerous to do that, especially in cold weather. It not only creates drafts, but leaves certain spots in the stable unventilated.

An object of this invention is to provide a simple and efficient means for spreading or diffusing the stream of incoming cold air and distributing this in various directions and proportions from the point of inlet as may be needed to mix the fresh cold air with the warm moist air in the stable to the best advantage.

Another object is the provision of means for supporting a diffusing plate beneath a fresh air inlet opening so that it can readily be raised, lowered or tilted with respect to the opening to effect the desired control of the introduction of the fresh air.

These and other objects as will hereinafter appear are accomplished by this invention which is fully described in the following specification and shown in the accompanying drawing in which

Figure 1 is a partial section through an air intake passage with my diffusing plate at the discharge opening into the stable;

Fig. 2 is a partial vertical section on the line 2—2 of Fig. 1; and

Fig. 3 is a horizontal view on the line 3—3 of Fig. 2.

The embodiment of the invention is illustrated in connection with a stable having an exterior wall 10, and an elevated floor 11 with joists 12 between which is located an inlet air passage 13 which communicates at one end through an opening 14 in the stable wall with an intake control box 15 which has a series of slots 16 for the intake of air and a control plate 17 which moves under the action of wind pressure on the side of the building to prevent a too rapid rush of cold air into the stable. This, however, forms no part of the present invention and is not shown or described in detail.

At the inner or discharge end of the air passage is an end closure 18 and a discharge opening 19 into the stable. The lower side of the passage is formed by ceiling boards or the like 20 and a layer of suitable heat insulating material 21 is placed inside the ceiling to prevent the boards at the bottom of the air passage from

being chilled by the cold incoming air to a point where moisture will condense on them from the warm moist air in the stable.

This invention relates to the control and diffusion of fresh cold air through the opening 19. To do this I mount a plate 20^a preferably circular upon the lower end of a support as shown in detail in Fig. 2. This comprises a tube 23 to which is secured near one end a flanged base 24 as by welding, brazing or soldering while a nut 25 is similarly secured to the other end and in alignment therewith. A screw 26 is screwed through the nut after which the upper end is burred or riveted over so as to prevent the screw from being thereafter disconnected from the nut. The lower end of the screw has a ball or spherical head 28 upon the upper surface of which is supported a plate 29 having a central aperture 30.

The head is frictionally held between the edge of the aperture 30 and a friction plate 31 by means of bolts 32 which pass through the diffusing plate 20^a and serve also to secure the apertured plate and friction plate thereto. The upper end of the tube 23 is closed by a stopper 33 or the like to prevent dirt and moisture from entering. The diffusing plate 20^a is preferably made of an insulating material like Celotex which is sealed against the entrance of moisture by dipping or spraying with a suitable waterproofing lacquer or the like. The support is placed centrally of the opening 19 and secured to the under side of the flooring 11 as by means of screws or bolts 23^a.

The diffusing plate can be raised or lowered by rotating it, thereby turning the screw in the nut 25. This varies the distance of the plate from the opening and hence controls the total volume of cold fresh air admitted. If desired, the plate can be raised so as to cover the opening 19 and substantially prevent the ingress of fresh air. When lowered, as it ordinarily is in use, it can be tilted in any direction to distribute the fresh air as desired thereby preventing cold spots on the one hand or poor ventilation on the other. The use of a round plate contributes toward this result by spreading or diffusing the cold air more uniformly on all sides.

While I have shown and described but a single embodiment of my invention, it is to be understood that it is capable of many modifications. Changes, therefore, in the construction and arrangement may be made which do not depart from the spirit and scope of the invention as disclosed in the appended claims.

I claim:

1. In a ventilation system for stables, an intake air passage leading to an elevated point in the interior of a stable, said passage having an opening on its lower side for the discharge of air into the stable, a diffusing plate disposed beneath the opening, a support for the plate mounted opposite the opening, and vertically adjustable screw means connecting the diffusing plate and support comprising a frictional joint having a ball, a friction plate in engagement with the lower surface of the ball and with the diffusing plate, an apertured plate bearing upon the ball upper surface, and means interconnecting the diffusing plate, friction plate and apertured plate adapted to maintain the two latter against the ball with sufficient friction to sustain the diffusing plate in any selected adjusted tilted position relative to the discharge opening and to transmit from the diffusing plate to the ball engaging plates a rotary force for vertical adjustment of the screw means whereby to sustain the diffusing plate at a desired elevation.
2. For use with a barn ventilating system having an intake passage provided with a downwardly facing circular discharge opening, a diffusing plate below the opening, and means for adjustably supporting the plate comprising a nut having a fixed co-axial mounting relative to the discharge opening, a vertical screw passing through the nut and cooperating with the threads thereof for adjustable support therefrom, a universal joint comprising a ball at the lower screw end, an apertured plate bearing upon the ball upper surface, a second plate adapted to bear against the ball lower surface and in contact with

the upper surface of the diffusing plate, and screw means interconnecting the diffusing plate and both ball engaging plates adapted, when tightened, to enhance the frictional engagement at the universal joint sufficiently to sustain the diffusing plate in any selected adjusted tilting position relative to the discharge opening and to transmit from the diffusing plate to the ball engaging plates a rotary force for vertical adjustment of the screw whereby to sustain the diffusing plate at a desired elevation.

3. In a ventilation system for stables, an intake air passage leading to an elevated point in the interior of a stable, said passage having an opening on its lower side for the discharge of air into the stable, a diffusing plate disposed beneath the opening, a support for the plate mounted opposite the opening, and vertically adjustable screw means connecting the diffusing plate and support comprising at the lower end of the vertical screw means a head which is circular about a horizontal axis, a friction plate in engagement with the lower rounded surface of the head and with the diffusing plate, an apertured plate bearing upon the upper rounded surface of the head, and means interconnecting the diffusing plate, friction plate and apertured plate adapted to maintain the two latter against opposite rounded surfaces of the head with sufficient friction to sustain the diffusing plate in any selected adjusted tilted position about a horizontal axis and to transmit from the diffusing plate to the head engaging plates a rotary force for vertical adjustment of the screw means whereby to sustain the diffusing plate at a desired elevation.

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