G. H. AKERLUND.

VENTILATING SYSTEM FOR STABLES AND OTHER BUILDINGS.

APPLICATION FILED MAR. 2, 1917.

1,263,833.

Patented Apr. 23, 1918.

2 SHEETS—SHEET 1.

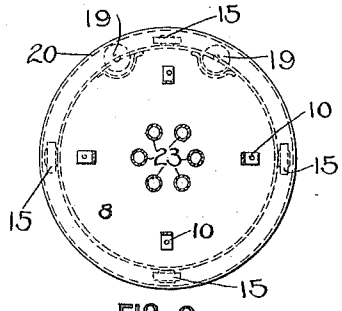


FIG. 2

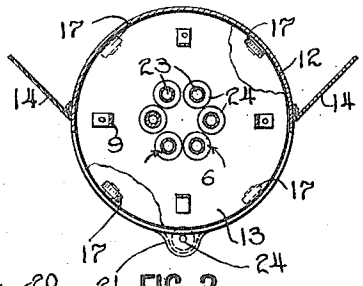


FIG. 3

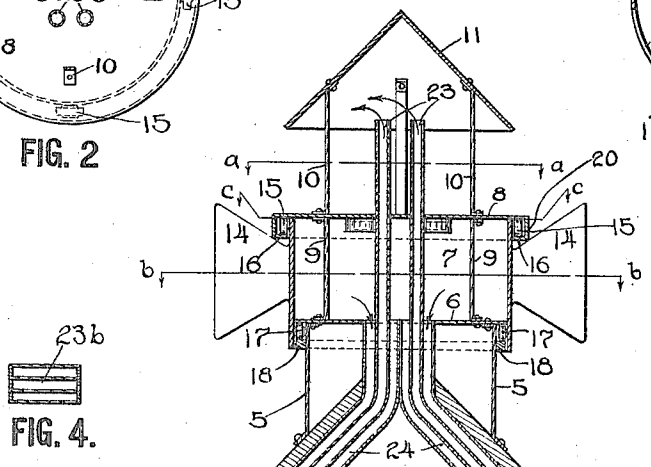


FIG. 4.

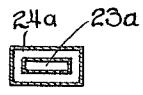


FIG. 5.

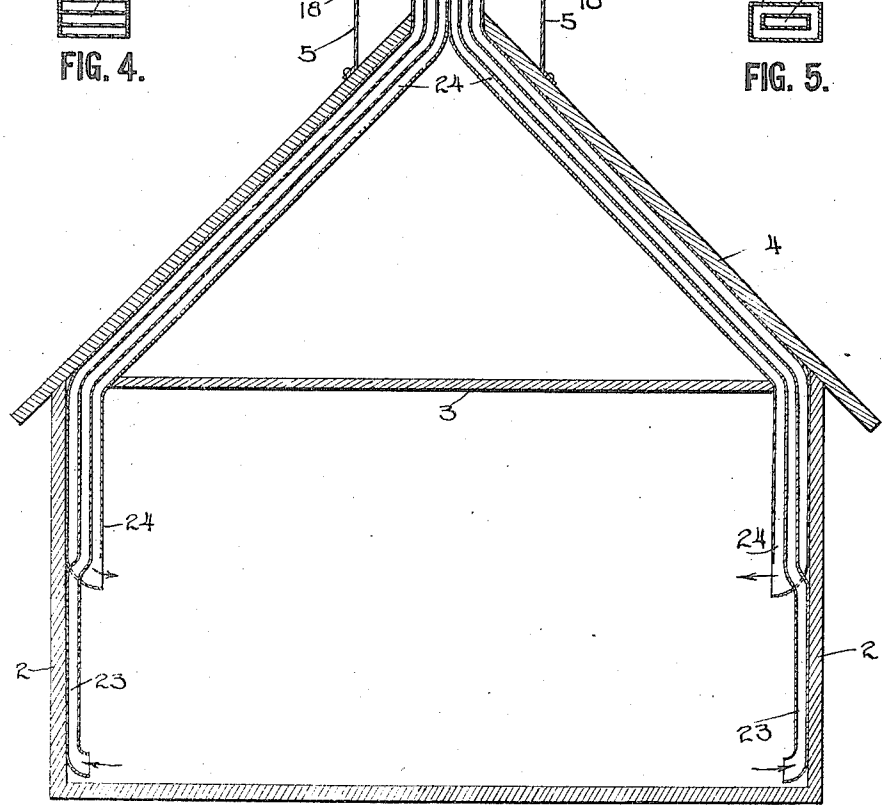


FIG. 1.

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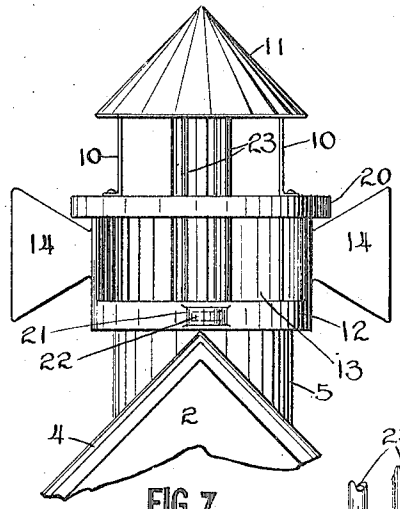


FIG. 7.

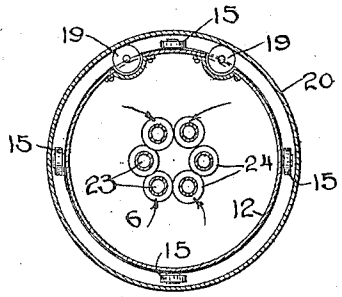


FIG. 6.

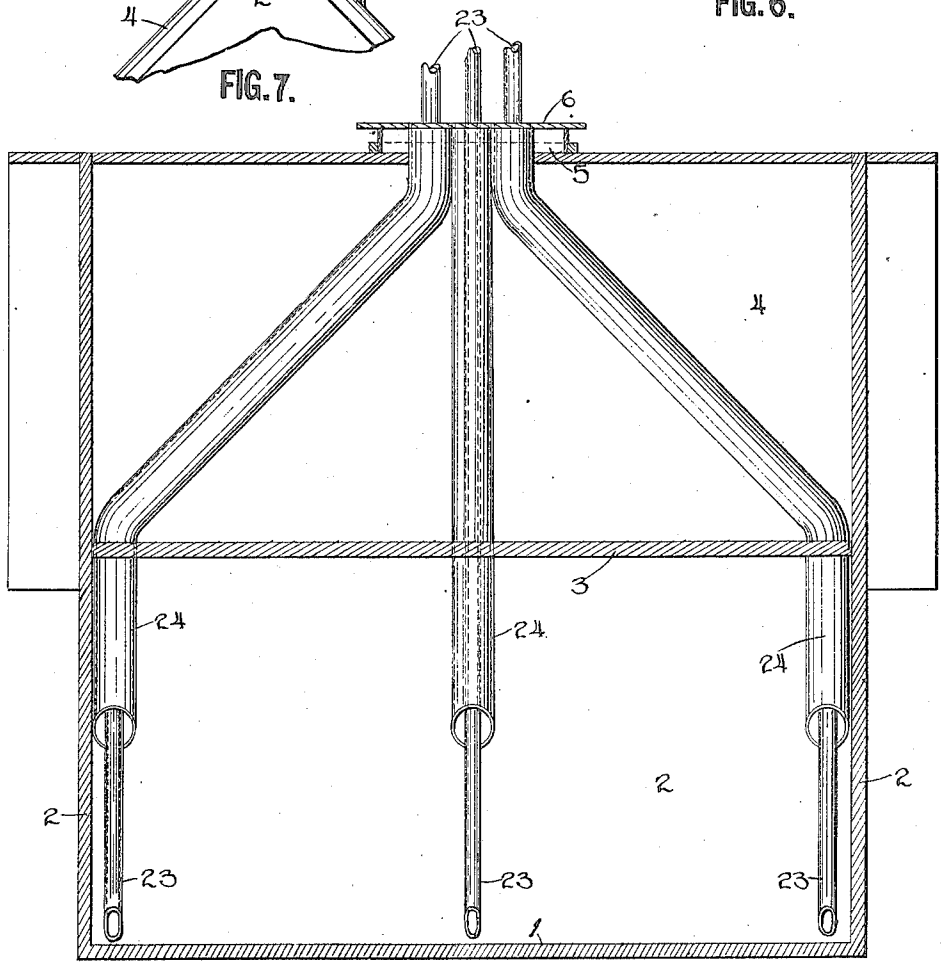


FIG. 8.

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UNITED STATES PATENT OFFICE.

GUSTAF H. AKERLUND, OF BRAY, MINNESOTA.

VENTILATING SYSTEM FOR STABLES AND OTHER BUILDINGS.

1,263,833. Specification of Letters Patent. Patented Apr. 23, 1918.

Application filed March 2, 1917. Serial No. 151,953.

To all whom it may concern:

Be it known that I, GUSTAF H. AKERLUND, a citizen of the United States, residing at Bray, in the county of Pennington and State of Minnesota, have invented a new and useful Ventilating System for Stables and other Buildings, of which the following is a specification.

This invention relates to ventilators and ventilating systems for stables, barns and other buildings in which animals are kept; and the object is to provide such structures with efficient means for supplying fresh air and removing the foul air.

In the accompanying drawing: Figure 1 is a cross section of a stable or other building embodying my invention. Fig. 2 is a horizontal section on the line *a*—*a* Fig. 1. Fig. 3 is a horizontal section on the line *b*—*b* Fig. 1. Fig. 4 is a cross section of the tubing through which the air is circulated, showing a modification of the same. Fig. 5 is a cross section of the tubing through which the air is circulated, showing a further modification of the same. Fig. 6 is a section on line *c*—*c* Fig. 1. Fig. 7 is an elevation of the side of the head of the ventilation system facing the wind. Fig. 8 is a longitudinal vertical section of the building shown in Fig. 1, with most of the parts above the roof omitted.

Referring to the drawing by reference numerals, 1 designates the floor, 2 the walls, 3 the ceiling and 4 the roof of a stable or other building in which good ventilation is desired without having the fresh air to bring too much chill in with it.

Preferably in the middle of the roof is provided a hollow base 5 for a ventilator which forms the upper part of the ventilating system. Said hollow base 5 has its top covered by a fixed circular floor 6 of a wind chamber 7, the latter having a flat roof 8 fixed on posts 9 projecting from the floor 6, and upon the roof 8 are fixed other posts 10 holding a conic hood 11.

As best shown in Figs. 3 and 7, the wind chamber comprises a sheet-metallic cylinder 12, having a large opening 13 which by two rearwardly diverging side wings 14 is at all times held against any wind that may be blowing. To facilitate such rotation of the cylinder, the latter is provided with rollers 15 riding on a circular track 16, which is secured to the under side of the roof 8, and rollers 17 riding on a circular track 18 fixed about the hollow base 5. The cylinder 12 is also provided at its rear side with an anti-friction roller 19 rolling along the vertical rim 20 which holds the track 16 to the roof 8. It also carries upon its front side, below the opening 13, a hood 21 in which is mounted an anti-friction roller 22, rolling along the hollow base 5, so that the body of the cylinder or semi-cylinder 12 does nowhere rub against any stationary part but rotates, so to say, on roller bearings. The wings 14, are placed at the sides of the cylinder in order that the wind may readily get to them, which would not be the case if a single wing was fixed upon the rear side of the cylinder, or even if directed upward thereon in rear of the structure above the cylinder.

The tubular part of the system comprises any desired number of foul air tubes 23, extending from near the floor 1 and up almost to the hood 11, which latter keeps snow hail and rain out of the tubes.

Spaced about each of said tubes is a fresh air tube 24, which extends from a point between the floor 1 and the ceiling 3, upward through the floor 6 of the wind chamber so that when the wind blows into said chamber it forces a downward draft in the fresh air tubes, said draft driving also the foul air, near the floor 1 into the tubes 23 and thus out above the wind chamber so as not to get mixed with the fresh air. If little or no wind is blowing, the foul air being warmer than the incoming air and having its outlet located higher up will still rise upward and allow the colder fresh air to pour into the room; but said cold air will have its chill much reduced by moving downward in contact with the foul air tubes, whose contents have received the highest temperature of the room occupied by cattle or other animals.

In Fig. 5 is shown that the spaced telescoped tubes 23^a and 24^a may be square or flat in cross section if so desired. And in Fig. 4 is shown how the foul air tubes 23^b may have the fresh air tubes 24^b only at two sides of it.

What I claim is:

In a ventilating system for houses, the combination with a horizontal circular base in the top of the house roof, of a series of posts concentrically fixed on the base, a circular roof fixed on said posts and having its outer edge extended downwardly and in-

wardly to form a circular track, a cylindrical wind chamber mounted to rotate upon said base underneath the edges of said roof, rollers mounted on the cylinder and arranged to support it by rolling upon said track, and auxiliary rollers arranged to guide the lower part of the body of the cylinder in its rotary movement about the base, said wind chamber having in its front side an opening and at each side of the opening a rearwardly inclined wing for the wind to act on and hold the cylinder with the opening against the wind; said base and roof having apertures and upward draft tubes therein, and the base having also apertures with downward draft tubes therein.

In testimony whereof I affix my signature.

GUSTAF H. AKERLUND.

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