

fresh air sucked in through the U pipes or boxes. By closing the damper, the inrush of air through the lower pipes is at once checked, while a partial closure has a corresponding partial effect on the action of these inlets. In this way, the whole system is under easy control, and can be adjusted to suit the weather or the number of animals in the stable. . . . This plan has stood a fair trial, having been in operation for upwards of seven years. I may say that I would not exchange it for any system of winter ventilation I have ever seen. . . . By this plan a stable can be kept free from odors, and at a temperature during the coldest weather of from 35 to 40 degrees Fahrenheit, which is quite warm enough for healthy animals of any kind."

By way of further note on this plan of ventilation, it may be added that the outer arm of the U pipe may be of any length that seems advisable, while the inner arm should terminate near the ceiling, or may rise to the ceiling and extend horizontally for some length. Of course, it is understood that this system is not confined to one inlet pipe. The number of U pipes put in will depend upon the number of animals in the stable.

Figure 9 represents an inexpensive system of ventilation that is in operation at Dentonia Park Farm, of the late Mr. W. E. Massey, of East Toronto. The cowl, which revolves so as always to face the wind, is made of galvanized iron, and stands immediately above the peak of the barn, so as to catch the full force of the wind. The wooden box (or iron-pipe, as in the figure), which is the continuation of the cowl inlet, extends down through the floor of the barn to the stable beneath. The joints of the box or pipe should be practically air-tight. At the floor, the inlet shaft may be of wood, but land tile cemented at the joints will make a better and more lasting job. The outlet shafts, of which there should be two at least, in opposite parts of the stable, should extend up into the barn well above the hay and straw, if not quite through the roof. An excellent plan for the outer terminal of the outlet shaft is to provide a cowl that points away from the wind, thus increasing the driving power of the wind by giving it an aspirating effect at the mouth of the cowl. These outlet shafts might be used also as feed shafts for carrying hay or meal from the barn floor to the stable below.

By way of comment, there is given below a report of the working of the system, kindly furnished by Mr. J. B. Ketchen, superintendent of the Dentonia Park Farm. The report was written March 17th, 1900:—

TEMPERATURE. "I should think we had our supply shut off half a dozen times probably during the last winter. We rarely shut the outlet, and by careful watching the temperature can be regulated. In both the outlet and intake shafts there are revolving doors that can be shut by an attached string."

EFFICIENCY. "It is quite satisfactory. A horse stable is the most difficult part to ventilate properly, but in our stables I will guarantee that you could work all day, and your clothes would not have the smell of stables on them."