

those seated near the stove. The other half of the stove being uncovered affords considerable radiant heat, which is a valuable means of quickly warming children coming in cold in the morning. The stoves are commonly from 36 to 50 inches long.

The foul air is drawn off at the floor by a flue F, at each side of the room, back of the seats. These two flues are carried up along the wall to the height of the stove-pipe and then taken horizontally across to a half drum G, partitioned at the end, which rests upon the stove pipe for 6 to 12 feet of its length. From this drum the air is conducted up through the ceiling and roof by a vertical flue H.

The total capacity of these flues should be not less than $2\frac{1}{2}$ square inches for each pupil. They are provided with slides I, at the floor, to be closed in the evening so that by opening the side-slides in the jacket, exclusively internal circulation is secured. Another slide J, at the ceiling, pulled down to open and pulled up to close by a couple of light chains, opens to cool the room when it becomes too warm and is left open in the hot weather in summer.

The temperature, efficiency of ventilation and economy of fuel will each and all depend considerably on the intelligence with which the teacher uses the several slides to control the conditions.

In a circular letter, which I recently addressed to all the school boards, I quoted from letters received from school officers where the method had been in use several years. Mr. D. Fitzpatrick, Crampton P. O., said that their schoolhouse was ventilated on the principle described in 1889, the average quantity of fuel used in the 7 years previous was $11\frac{1}{2}$ cords per annum, since, $8\frac{1}{2}$ cords per annum,

the heat is evenly distributed. Mr. Thomas Harris, Rebecca P.O.—The method has been in use 6 years, and, instead of one part being too hot and another too cold, as formerly, now all parts have an even, comfortable temperature, saving in fuel has averaged nearly four cords per annum. Mr. R. Sterrit, St. Marys P.O., where the schoolhouse was thus ventilated 5 years ago, writes: "Before then there were frequent complaints of headaches; since we have not heard of such complaints; it used to be too hot near the stove and too cold in the corners for the children to sit there; now it is comfortable in all parts of the room; the saving in fuel has been over 4 cords of wood per annum." Mr. Arch. McDougald, Melbourne P.O., writes that the system gives the best of satisfaction; no reports of headaches; wood has cost on an average about \$10 a year less.

It might naturally be expected that more fuel would be consumed in a ventilated room than in an unventilated one, and it invariably results that way in a furnace-heated building, because the heat is entirely dependent on displacement of air. But, in the stove-heated school room, the bringing down of the super-heated strata of air from the upper part, the avoidance of the rapid chillings by opening doors and windows at recesses and other times, to get a fresh breath, and the provision for an almost exclusively internal circulation out of school hours more than compensate for the heating of the greater amount of air. Of course, even though it required more fuel, ventilation should be obtained at any reasonable cost. Not only do children thrive better, physically, in a pure atmosphere, but their intellectual progress, other things being equal, will be more rapid and satisfactory.