

Sanitary.

VENTILATION OF BEDROOMS.

The ventilation of bedrooms, a very important matter, is, as a rule, much neglected. The circulation of the blood is not nearly so active during sleep as when awake. The *Lancet* has some important notes on this subject. The sleeper is entirely dependent upon the atmosphere supplied to him for the means of carrying on the chemical purification and nutrition of his body. He must breathe the air that surrounds him, and he does this for a lengthy portion of each period of twenty-four hours, although it is probable that in a large majority of cases the atmosphere has become so deteriorated by the expiration of carbon and the emanations from the body generally, that if the senses were on the alert some change would be sought as a mere matter of preference.

When a person places himself in a condition to take in all air, without being able to exercise any control over its delivery, he ought to make sure that the supply will be adequate, not merely for the maintenance of life, but for the preservation of health. If a man were to deliberately shut himself for some six or eight hours daily in a close room, with closed doors and windows (the doors not being opened even to change the air during the period of incarceration), and were then to complain of headache and debility, he would be justly told that his own want of intelligent foresight was the cause of his suffering. Nevertheless, this is what the great mass of people do every night of their lives with no thought of their imprudence. There are few bedrooms in which it is perfectly safe to pass the night without something more than ordinary precautions to secure an inflow of fresh air. Every sleeping apartment should, of course, have a fireplace with an open chimney, and in cold weather it is well if the grate contains a small fire, at least enough to create an upcast current and carry off the vitiated air of the room. In all such cases, however, when a fire is used, it is necessary to see that the air drawn into the room comes from the outside of the house. By a facile mistake it is possible to place the occupant of a bedroom with a fire in a closed house in a direct current of foul air drawn from all parts of the establishment. Summer and winter, with or without the use of fires, it is well to have a pure ingress for pure air. This should be the ventilator's first concern. Foul air will find an exit if pure air is admitted in sufficient quantity, but it is not certain pure air will be drawn in if the impure is drawn away. So far as sleeping rooms are concerned, it is wise to let in air from without. The aim must be to accomplish the object without causing a great fall of temperature or a draught. The windows may be drawn down an inch or two at the top with advantage, and a fold of muslin will form a "ventilator" to take off the feeling of draught. This, with an open fireplace, will generally suffice, and produce no unpleasant consequences even when the weather is cold. It is, however, essential that the air outside should be pure. Little is likely to be gained by letting in a fog or even a town mist.

THE FILTRATION OF DRINKING WATER.

Dr. A. B. Prescott remarks, in the *Michigan Medical News*: It seems to me more attention might well be given to the purification of rain water, river water, etc., by that simple means, everywhere and at once cheap and available, the use of a portable filter with a good bed of pulverized charcoal in layers with gravel. I do not disparage filters set in cisterns or reservoirs. If made on right principles they may do the

work expected of them. They have an advantage of permanence and uniform supply without daily attention, but they are much more liable to failure from neglect of the true conditions of filtration than the simple movable filters manufactured for sale.

Some of the definitions and conditions of a good water filter may be given as follows:

1. It must be more than a strainer, and remove more than suspended matters. A brick partition (of bricks mortared edge to edge) in the cistern or reservoir makes a good strainer, removing undissolved matters, but not much else.

2. It must remove from the water the dissolved colloids—the organic matters. The power of a bed of powdered charcoal, especially bone charcoal, to withdraw coloring and other colloid matters, is familiar in manufacturing operations.

3. The good water filter, instead of becoming filled with the organic matters it removes, causes their prompt oxidation. To do this it must have air. A filter constantly submerged under water can act only with the attenuated oxygen dissolved by the water, and cannot effect half the oxidation it would if exposed to the air for the greater part of the time. Without oxidation of its gatherings, a filter can render only a brief service.

SPONTANEOUS COMBUSTION.

Dr. Hoffman has called attention to some curious cases of spontaneous ignition of hydrogen in air. The phenomenon has been noticed in factories where large quantities of zinc were being dissolved in hydrochloric acid for the preparation of zinc chloride. Violent explosions took place when no flame was near; and it was eventually ascertained that the gas took fire spontaneously. It appears to be caused by fragments of very porous zinc, which, when lifted above the surface of the liquid during the violent evolution of the gas, and so brought in contact with hydrogen and air, act just as spongy platinum would do under the circumstances. The author recommends the performance of such operations in the open air. The ignition can be shown by treating a few kilogrammes of finely divided zinc with acid. The "zinc dust" may even ignite by contact with water.

OFFICIAL REGULATION OF HOUSE DRAINAGE.

THE BYE-LAWS OF AN ENGLISH TOWN, WITH COMMENTS.

The *Plumber and Sanitary Engineer* of New York, in its November number, contains the following extracts of the bye-laws of an English town (Uppingham) for regulating drainage and the ventilation of sewers. We quite agree with the Editor's remarks, but the difficulty in Montreal is that, although we have some excellent bye-laws for Municipal government, they are not, as a rule, vigorously enforced.

"§1.—Every drain from a house or building shall be laid down in a straight line, with proper falls and true gradients, and shall be of glazed stoneware or iron pipes, carefully jointed and made water tight. No right angled junction shall be allowed except in the case of a drain discharging into a vertical shaft, and the work shall be executed in a substantial and workmanlike manner, and shall be inspected by the surveyor to the Sanitary Authority before being covered up."

"§2.—No drain should be constructed so as to pass under a dwelling house, except in particular cases where absolutely necessary. In such cases, the following precautions shall be adopted. The portion of the drain which passes under the house shall be constructed either of glazed stoneware pipes, bedded or covered in concrete, or of cast iron pipes, and such portion shall be ventilated at each end by a suitable pipe or opening, according to the provisions in §4."

The above two sections are as well adapted to our climate and circumstances as to those of England. Except that here we do