

by which smoke from houses might be carried through the sewers to some gigantic chimneys; Sir. G. Gourney's steam jet principle of condensation—all these have had their advocates, and, in time, none have been found adequate, and some have been considered little better than worthless.

The ventilating shaft has its imperfections. In summer, when ventilation is so much required, the temperature within and without the shaft, is oftentimes so nearly equal, that little ventilation can be effected; and even in winter, when these conditions are so favorable to ventilation, the aqueous portion of the sewer gas, meeting with the cold air and the cold surface of the pipes, becomes condensed, and is again returned to the sewer. The chimneys of factories were condemned, on account of their not being available except on working days, and, moreover, as their efficiency as chimneys would be affected. The furnace was disapproved of, on account of its enormous expense, and its influence being limited to a short distance. The Archimedian screw attached to the revolving cowl, removed only twenty per cent. sewer gas, and, according to Baldwin Latham, is more of an impediment than assistance in this respect. Sir G. Gourney's steam jet condensing principle, was tested by Mr. Nicholas Wood, who found it inferior to the furnace. The terrible mortality of Croyden* illustrated the dangerous effects of using the rain-water pipes for ventilating purposes. But since it has been demonstrated that the power resulting from the combustion of one pound of coal, would give more ventilation than thirty-eight or fifty pounds consumed in the ordinary way, the mechanical means should be preferred. The use of exhausters, driven by steam power, for the ventilation of sewers, was first tried in Paris and Antwerp, and thought worthy of a Parliamentary investigation. This contrivance consisted in placing large fans as exhausts within the main sewer itself at its outlet, the drains and gratings being all trapped, and having merely openings at the extreme ends for the admission of fresh air. This proved unsuccessful, as was shown by the evidence of Mr. G. W. Bazalgette, C B., and Mr. Haywood, before the Parliamentary Committee. First, on account of their not being able to render the sewers air tight, because the opening of a house trap, the putting in of a