

other hand, the butchers themselves are becoming quickened as to the sense of the importance of the situation. For example, we find that in Sheffield the butchers are asking for the appointment of a jury of experts, consisting of a veterinary surgeon and two or three butchers, to whom all doubtful cases should be submitted; and that in Belfast, cases in which the treatment of tuberculous carcasses is involved are being brought up in the Custody Court for arbitration and decision. Let it once be understood that the inspection of dead meat is not a sham, and that there is equally rigid inspection in every district, and it will soon be found that butchers and cattle dealers will be more prompt in detecting tuberculosis during life. As soon as tuberculous cattle cease to pay, the supply will be cut down to the demand; and when the cattle that are now rejected in Glasgow, Sheffield and Belfast can find no buyers in other markets, fewer of these animals will, during life, find their way into the hands of either salesmen, buyers, or consumers.

SEWAGE TREATMENT BY Electrolysis is making progress, and may prove the most economical of all. According to Dr. Dixon, (Prof. of Hygiene, Penn. Col of Med.) the chemical treatment of sewage in different towns would appear to cost from thirty shillings to seventy shillings per one million gallons, whereas it is calculated that by means of electrolysis it will only cost about twenty shillings per million.

THE VASTNESS OF THE NEW YORK CROTON AQUEDUCT.—From a profusely illustrated article on "The New Croton Aqueduct," in the December Century, we quote the following: "It is a curious commentary on the demands of modern civilization to observe the effect of building the dam of this aqueduct. The million people in the city need a reserve of drinking water, and twenty-one families must move out of their quiet rural homes and see their hearths sink deep under water. The entire area to be taken for the reservoir is 1471 acres. Twenty-one dwellings, three saw and grist mills, a sash and blind factory and a carriage factory must be torn down and removed. A mile and a quarter of railroad track must be relaid, and six miles of country roads must be abandoned. A road twenty-three miles long will extend around the two lakes, and a border or 'safety margin'

three hundred feet wide will be cleared all around the edge to prevent any contamination of the water. This safety border will include a carriage road, and all the rest will be laid down to grass. As the dam rises, the water will spread wider and wider over the fields, farms and roads. Every tree will be cut down and carried away. Every building will be carried off, and the cellars burned out and filled with clean soil to prevent any possibility of injury to the water. Fortunately there is no cemetery within the limits of the land taken up for the reservoir. Had there been one it would have been completely removed before the water should cover the ground. Fifty-eight persons and corporations, holding one hundred and eleven parcels of land, will be dispossessed in order to clear the land for the two lakes and the dams, roads, and safety border. Compared with other tunnels, the new aqueduct is easily at the head of all works of a like character in the world. The cities of Chicago and Cleveland are each supplied with water through tunnels extending out into a lake. The first Chicago tunnel is 5 feet in diameter and 10,567 feet long. The second tunnel is 7 feet in diameter and 51,490 feet long. The Cleveland tunnel is only 5 feet in diameter and 6,661 feet long. All of these tunnels were laid in comparatively soft materials. The Baltimore water supply includes a rock tunnel twelve feet in diameter and seven miles long, and is lined with brick work for about two miles. The old Roman aqueducts were several of them longer than the Croton Aqueduct, but they were all very small, and were merely masonry conduits a few feet in diameter. The Liverpool water supply is conveyed by an aqueduct about twice as long as the Croton Aqueduct, but it is mainly a surface aqueduct, there being only a little tunnel-work. A portion of the aqueduct is merely a pipe line. The supply is from a reservoir, formed like that at Croton or at Sodom, by building a dam across a narrow gorge in a valley among the mountains of Wales. The dam is larger than that at Sodom, being 136 feet high, while that at Sodom is only 78 feet. Compared with the proposed dam it will be small, as the new dam is to be over two hundred feet high, and will be the highest dam in the world. The aqueduct tunnel, when compared with railroad tunnels, is a little smaller in diameter than the three most famous tunnels, but is very much longer. The Hoosac Tunnel is only 21,000 feet long, the Mont Cenis is 8 miles long, and the St. Gothard $9\frac{1}{2}$ miles long, while the new Croton Aqueduct, as we have seen, is nearly 30 miles long.