

THE "DESTRUCTOR" OR REFUSE CREMATORY.

The "destructor" for the burning of refuse established in London, E., by Mr. Geo. Shaw, is thus described by the *Sanitary Engineer* of that city: It represents externally a cubical mass of brickwork about thirty-six feet long by twenty-four feet deep and twelve feet high; it consists of ten compartments or cells lined with fire-brick, all well tied and bolted together with strong iron tie-rods, with substantial wall-plates at the ends, and wrought-iron channel and angle irons along the front of the furnaces. The top forms a perfectly flat platform, having five openings about three feet by two feet each in the centre, into which the refuse to be burned is shot or shovelled. About a wagon-load of refuse is sent into the holes or openings referred to each time the furnaces require feeding; it falls upon a sloping hearth, which is covered in by a reverberatory arch of fire-brick, and it slides forward when sufficiently dry toward the fire-bars, where it burns somewhat fiercely, the fire-brick arch above concentrating the radiant heat upon it. The opening for the entry of refuse is divided from the opening for the exit of gases by a wall, a bridge preventing the refuse, which is heaped up immediately below, from finding its way into the main flue. Two cells are provided with special openings about three feet by three feet, immediately over the fires, for the introduction of infected mattresses or other bulky things, where they are readily consumed without causing a smell. In several towns these openings have been found valuable for destroying condemned meats. At Leeds, during the year ending December, 1883, they consumed 14 carcasses of beef, 15 carcasses of sheep, 160 carcasses of pigs, 8 carcasses of calves, 3 carcasses of goats, 2 carcasses of horses, 1 carcass of donkey, 130 rabbits, 156 dogs, 48 cats, 220 beast heads, 6½ tons of shellfish and shells, besides 33,000 loads of ordinary refuse. The Commissioners, however, have another effectual method of treating their condemned meat, though they may find the openings useful for animals that have died of infectious diseases. The gases from the furnaces on the way to the chimney-shaft pass through a large multitubular boiler of special construction, and arranged with flues so that every partical of heat may be utilized. At intervals, varying according to the refuse that is burned, the clinkers, which are sim-

ply a fused mass of glass, earthenware, etc., are withdrawn through the furnace doors, and a further charge of refuse shovelled in at the top. The result of the process is that everything is consumed, or converted either into clinkers or a fine ash. The destructor is estimated to deal with sixty loads in twenty-four hours; but from results already obtained it is expected to exceed this amount when the workmen become better acquainted with their duties. The labor of two mensuffles to feed the cells by day, and that of two by night, and a similar number for the withdrawal of the clinkers, etc. As before stated, the hot gases pass through a large multitubular boiler, where they generate steam to drive a horizontal engine with 18-inch cylinder and 3-feet stroke. This engine works three mortar mills with pans eight feet in diameter. Into these the clinkers made in the destructor may be mixed with lime, and ground into mortar. From the same boiler steam is also conducted to two four-horse power engines, fixed at the end of the destructor, which drive powerful gearing automatically arranged to lift the waggons as they enter the yard, and to tip their contents directly on the top of the furnaces. No fuel of any kind is required, the refuse being amply sufficient to generate steam to drive the whole machinery. A small vertical boiler is connected with the small hauling engines in case they are required to lift refuse when starting the works. At the time of the visit there was only one lift in action, but it was evident that the steam power would comfortably lift more than was required, if both were in use. We saw the waggons enter the yards from their rounds of collection in the city. They contained almost every conceivable kind of waste. One waggon made a special delivery of several hundred rotten cocoanuts; but cocoanuts, dead dogs and cats, shellfish, with other offal, had all to undergo the warm operation of cremation, and all this apparently disagreeable work was carried on without the slightest nuisance. We watched the waggons drawn under the lift. When in position chains were quickly attached, and in less time than it takes us to write, the waggon body had gone up and was being emptied on the high level platform; while the horse and wheels were standing on the ground level, the waggon body almost immediately reappeared empty, and was delivered into its position again between the wheels, and then the horse and waggon were