by other means; and it is a trifle for them to allow the common traffic to use their rails. But the whole pavement should be iron.—*American Artisan.*

### Sewage of English Towns.

The last report of the Sewage of Towns Commission has just appeared. As the result of labors extending over eight years, the commissioners have confidence in the following conclusions:—1. The right way to dispose of town sewage is to apply it continuously to land, and it is only by such application that the pollution of rivers can be avoided. 2. The financial results of a continuous application of sewage to land differ under different local circumstances; first, because in some places irrigation can be effected by gravity, while in other places more or less pumping must be employed; secondly, because heavy soils (which in given localities may alone be available for the purpose) are less fit than light soils for continuous irrigation by sewage. 3. Where local circumstances are favorable, and undue expenditure is avoided, towns may derive profit, more or less considerable, from applying their sewage in agriculture. Under opposite circumstances, there may not be a balance of profit; but even in such cases, a rate in aid, required to cover any loss, need not be of large amount. Finally the commissioners said that, in their judgment, the following two principles are established for legislative application:—First, that wherever rivers are polluted by a discharge of town sewage into them, the towns may be required to desist from causing that public nuisance. Second, that where town populations are injured or endangered in health by a retention of cesspool matter, the towns may be required to provide a system of sewers. And should the law, as it stands, be found insufficient to enable towns to take land for sewage application, it would, in their opinion, be expedient that the legislature should give them powers for that purpose. The report is signed by the Earl of Essex and the other members of the commission, and dated March, 1865.—*London Artisan.*

### On Food and Work.

At the Royal Institution, after the Easter vacation, Professor Lyon Playfair delivered a lecture "On the food of Man in relation to his useful work." In his treatment of the subject he cousidered almost entirely nitrogenous food, or that kind which produces flesh, on which he remarked the power to do work depends; and consisting of the lean part of flesh, of corn, beans and peas; such food as fat and potatoes only tending to keep up the animal heat. The amount of work which a man can do in a day has been estimated to be equal to a force that, if properly applied, would raise the weight of his own body one mile—the standard weight of a man being assumed to be 150 lbs. To enable him to do that amount of work he should eat 4½ ounces of nitrogenous food, in addition to food that produced only heat. A horse could do eight times as much work as a man, but it eats rather more than eight times the nitrogenous food in beans and corn. The lecturer alluded to the dynamical theory of heat, according to which heat and mechanical power may be converted into each other; but he did not explain why that theory does not apply to heat-producing food, such as fat and potatoes, which ought, he supposed, to have its dynamical effect. He mentioned, indeed, that the heat-producing-food might probably contribute towards the work done, but he considered it to be an insignificant portion, if any, and that the useful work of man is produced almost entirely of nitrogenous food.

### A Trap to catch Burglars.

A London paper recently published a description of a curious invention designed to catch safe-burglars. The depredator no sooner commences, in perfect ignorance of the secret arrangements, to force open the door, drill the lock, or move the safe, than by so doing he sends a telegraph message to the nearest police-office, exhibiting the number of the safe he is attacking, and this number, registered in the police-books, has opposite to it the address of the house in which the robbery is being effected. The apparatus is the invention of M. Barb, and is a very simple affair. An instrument termed the "communicator" is fitted inside the safe; it consists of a small bolt, which is forced back upon a coil-spring when the door is closed, and which, in opening or moving the door, is instantly set in motion, In connection with this, bolt wires are led through the bottom or the back of the safe and concealed in the wall, or inclosed within gas and water pipes, and, communicating with the street-telegraph wires, are connected with the "alarm" and indicator at the police-station. The effect of tampering with the door or other part of the safe, is to sound the alarm-bell at the police-station, and to exhibit on the face of the instrument the number of the safe. Arrangements are, of course, made to obviate the sending of alarms on ordinary and legitimate occasions of using the safe, by simply putting the apparatus out of gear at the pleasure of the owner. The simple operation of turning a small key is all that is required to render the wires available, after which the owner may leave his premises, perfectly confident that electricity will keep a tireless watch over the property left in its custody. M. Barb has patented his invention, but it cannot be called *barb*arous to burglars, so far as their immediate corporeal punishment is concerned.

### Watering Plants.

While travelling in Ohio last summer, during that exceedingly dry season, I noticed in a friend's garden a contrivance for watering plants, which struck me as being the best that has yet come to my knowledge. It may be old to you and to some of your many readers, yet I will venture to give it.

It was nothing more than the principal of capillary attraction applied to moistening the earth around cucumber vines. A vessel containing water was placed near the plants, from which extended a piece of old cloth to the roots of the plant. Thus water was conveyed from the vessel to the plant slowly, keeping the ground constantly in a good degree of moisture. One vessel answered for several hills. This method I think much superior to pouring on water, which generally flows off and