

## Science Notes.

## FEATS OF ENGINEERING.

IT has been said that London is so honeycombed by railways, drains, sewer conduits, gas, water, and electrical conductors, that nervous people have hazarded the uncomfortable foreboding that some of these days the enormous pressure of the superincumbent structures will break through into these several hollows, and there will be a general subsidence, with consequences as fatal and disastrous as those of a tremendous seismic upheaval.

Yet these underground structures are continually being added to. Underlying the busy thoroughfare of Queen Victoria Street is the District Railway. Below this is the low-level main sewer. Still lower, some eighty feet below the surface, it is intended very soon to construct an electric railway running from the City to Waterloo.

In London there are said to be some eighty miles of main sewers, and four thousand miles of smaller drains from which two hundred million gallons of sewage are discharged every twenty-four hours. The pollution of the river by this enormous quantity of sewage is a subject which for a long time has engaged the earnest attention of engineers and chemists. In London, as in other large cities, various works have been constructed to deal with the sewage chemically.

Other cities than London have, however, taken the lead in the matter of water supply. Liverpool and Manchester obtain their water from the solitary mountains of North Wales and the Lake District respectively.

Lake Vyrnwy, which supplies Liverpool, is of artificial origin. The course of the River Vyrnwy was obstructed where it flowed through a valley hemmed in on all sides but one. The basin thus formed is of such vast extent that it took over a year to fill, and the reservoir is considered adequate to supply two and a-half million people. The aqueduct through which the water flows is seventy-seven miles long.

Manchester is supplied by Lake Thirlmere, the aqueduct being close on a hundred miles long.

Birmingham also has acquired a site in South Wales, which is to be flooded and formed into a reservoir.

London will probably in the future become independent of the Thames as a water supply, and when the time comes the work will no doubt surpass in magnitude all other similar undertakings. The great size of our city and the remoteness of mountainous country and consequent high rainfall, all render the problem of acquiring a mountain reservoir a difficult one.

The progress of engineering has been exhibited in a very striking manner in connection with the removal intact of huge structures. This is regarded generally as an American idea, but the practice at least is not very uncommon in this country. Recently a railway station in Cheshire, weighing about 400 tons, was moved six feet back into a more convenient position.

We read that in 1586 an obelisk was raised in Rome by the aid of forty capstans worked by no less than 960 men and seventy-five horses. In 1878, Mr. Dixon raised Cleopatra's Needle with four hydraulic jacks and four men.

## Reflections

## FROM A BOARD ROOM MIRROR.



THE Princess of Wales has consented to open a grand bazaar in aid of St. Mary's Hospital, Paddington, at the Portman Rooms, on Thursday, June 27th.

The Duke of Connaught has consented to preside at a festival dinner on behalf of the funds of Westminster Hospital, to be held at the Hôtel Métropole, on Saturday, July 6th.

Madame Albani has kindly promised her services at the concert to be given by the Royal Amateur Orchestral Society at the Queen's Hall on May 18th, for the benefit of the Victoria Hospital for Children, and at which Their Royal and Imperial Highnesses The Duke and Duchess of Saxe Coburg Gotha and Their Royal Highnesses the Duke and Duchess of York will be present.

The Clapham Maternity Home, which, we believe, owes the greater part of its success to the efforts of Dr. Annie McCall, issues a very satisfactory Sixth Annual Report. Three hundred and two in-patients were received, and forty-two Nurses trained in midwifery and maternity work. It has also a large outpatient department for the General Diseases of Women and Children. The entire staff are women. The practice in maternity work is of the utmost value to women medical students. The maternity training is given chiefly to Nurses who have already trained in medical and surgical Nursing.

It is encouraging in the interests of morality to learn from the Committee of the Association for providing Homes for Inebriates, that the experience of another year has strongly confirmed the presence of a diseased condition in many inebriates, and of the fair prospect of a cure of the disease of inebriety, especially if treated at an early stage of the malady. They hope that efficient legislation will be brought to bear on treating drunkenness rather as a disease than a crime, and adopting curative rather than punitive measures in its treatment. Whisky heads the list, by a large majority, as being the favourite drink, while tobacco is classed as an "associate habit." It is comforting to note that morphinism and other such

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