

now building, to be amply sufficient. The projector, patentee, and engineer is Mr. Charles T. Harvey, whose plans have been faithfully executed by the Phoenix Iron Company, who can take an honest pride in their work, as exhibited along Greenwich-street.

The accompanying diagram (Plate 4) shows the general arrangement of the motive power.—A. P. B., New York, December, 1867.

RAILWAY AND OTHER PROJECTS AFFECTING THE CITY OF LONDON.

Application has been made to Parliament during the Session of 1867—8, for powers in respect of seven railway and other new projects affecting the City of London, and plans and bills have been deposited. The Engineer to the Commissioners of Sewers, Mr. Haywood, has made a report upon these schemes.

The following is a list of them:—

- No. 1. Eastern Metropolitan (Underground) Railway.
- No. 2. Islington Railway.
- No. 3. Metropolitan Railway (Smithfield Junction and Extension of Time).
- No. 4. Tower Subway.
- No. 5. London Corporation Gas.
- No. 6. Great Eastern Railway (Extension of Time).
- No. 7. The Metropolitan Districts Railways (Extension of Time).

EASTERN METROPOLITAN UNDERGROUND RAILWAY.

This Bill is for the formation of an Underground Railway, commencing in the City by a junction with the Metropolitan Railway in Aldgate High Street, east of St. Botolph's Church; from that point it is to be carried along the Whitechapel High Street and the Mile End Road to a junction with the Great Eastern Railway at Bow. The entire line is to be subterranean; and it is to be formed beneath the public ways. The public way of the City which will be affected is the line of Aldgate High Street, between Sun Court and the City boundary, and a small area of private property will be taken for the purpose of forming a station. The total area scheduled within the City, including the public way, is about three-quarters of an acre, of which the area of private property is about one-sixth of an acre. The public way is to be restored to its original level and condition when the works are completed. By exchange stations at Bow and at Aldgate High Street, passengers will be carried from the west to the extreme east of London, without leaving the railway system, if this proposed Railway is carried out.

ISLINGTON RAILWAY.

This Bill is to enable the formation of a Railway between Little Moorfields and the Essex Road, Islington, at a point near to the Agricultural Hall. The line is to start from Little Moorfields between Union Street and Tenter Street, then crossing Tenter Street, White Street, and Reynold's Court (at which point it leave the City): it will cross Chiswell Street and a large number of streets on the west side of Bunhill Row, Bath Street, and Shepherdess Walk; it will pass over the City Canal near to Wenlock Basin, and over James Street, William Street, and Essex Street, and through property on the northern side of St. Peter Street, and terminate at the Essex Road, Islington, near to the Agricultural Hall, at Islington Green. The line is to be on a viaduct starting at a level of 30 feet above the pavement in Little Moorfields; Tenter Street is to be crossed by a bridge 22 feet high, White Street by a bridge 21 feet high, and Reynold's Court by a bridge 19 feet 6 inches high. The viaduct is to be formed of wrought and cast iron, and the work is to be made and fitted together at the factory before it is brought on the ground; it is stated that it will be constructed much more speedily than any other class of viaduct can be, and owing to the height at which it will be carried, the narrowness of the gauge, which is to be but 3 feet, and by the mode of construction adopted generally, the promoters consider the cost of the formation will be small when compared with that of other viaduct lines, and therefore that unusually small fares can be charged to passengers, with considerable profit to the shareholders.

The line appears to have been projected with a view to secure that traffic which it is anticipated would go from Islington to the City by means of the projected new line of thoroughfare from Upper Street, Islington, to Fore Street, which was reported on by me in October, 1865. The total area of the property scheduled in the City is about $1\frac{1}{2}$ acres, of which about one-quarter of an acre is public way. Powers to take the largest portion of the area which is scheduled by this Company within the City, were granted to the Metropolitan Railway Company in 1860.

METROPOLITAN RAILWAY (SMITHFIELD JUNCTION AND EXTENSION OF TIME.)

This is a project for making a Junction Railway between the Metropolitan Railway at Smithfield Market, and the London, Chatham and Dover Railway. The junction with the Metropolitan Railway is to begin at the

Meat market; it is then to be carried beneath the new street now being formed from Farringdon Road to the Western side of the Market, and thence by a curve beneath St. John's Court, to a junction with the London, Chatham and Dover Railway, at Snow Hill. The line will be entirely subterranean. The total area scheduled within the City is about $2\frac{1}{2}$ acres, of which about 9 perches is public way; of the property scheduled the largest portion either already belongs to the Corporation in respect of the Market Improvements, or to the London, Chatham and Dover Railway Company. The public ways will be restored to their original state when the Railway work is completed. The Bill for this line of Railway also seeks power to extend the time for the purchase of lands in the parish of St. Giles Without, Cripplegate, for which an Act was passed in the year 1865. The powers granted by the Act of 1865 expire in 1868, and it is sought to extend that time to 1870.

TOWER SUBWAY.

This is a Bill for the formation of a Subway beginning at Tower Hill, a little to the north of Lower Thames Street and the Tower Dock, crossing beneath the river, and terminating on the southern side to Pickle Herring Stairs, in the parish of St. Olave, Southwark. The surface of the rails of this subway in the centre of the river is to be 61 feet 6 inches below high water mark, the depth of the shaft on the City side will be about 60 feet below the surface of Lower Thames Street. The subway is to be about 8 feet in diameter. No private property in the City is scheduled, but the subway will pass beneath Tower Hill close to Lower Thames Street, and beneath those sewers, under the care of the Commission, which receive the drainage of the western side of Tower Hill, and discharge into the river near to the Tower Dock, and the shaft and subway station may touch that part of the public way on Tower Hill which is also under the control of the Commission.

The subway is to be of cast iron, and it is intended to convey passengers by an omnibus which will be lifted in the shafts to the surface of the pavement on either side of the river, and which, when filled, will be lowered to the level of the subway: the omnibus will carry 12 passengers, and will be moved partly by gravitation and partly by other means. It is to run backwards and forwards all day. The journey through the subway will occupy but a very short time, and the fares are to be very low. Of the utility of any safe, quick, and cheap means of crossing the river at this spot, there can be no doubt; but what is imperatively demanded is a new bridge across the river, with suitable approaches on either side, and, if that were constructed, this subway would be unnecessary.

GREAT EASTERN RAILWAY (EXTENSION OF TIME).

The Great Eastern Railway Company, in the year 1865, obtained powers to take certain property in the City of London, beginning on the northern side of Liverpool Street, and from thence to the City boundary, and to form a terminus in Liverpool Street. This power expires in 1861, and by the present Bill it is sought to extend the power to 1871, a further period of three years.

METROPOLITAN DISTRICT RAILWAY (EXTENSION OF TIME).

In the year 1864, the Metropolitan District Railway obtained an Act for making a Railway through the City of London, from Blackfriars to Trinity Square, Tower Hill; by the present Act it is sought to extend the time for taking the property required, from the year 1868, when their present powers will expire, to the year 1870.

CITY OF LONDON CORPORATION GAS WORKS.

This Bill is promoted by the Corporation of the City of London, with a view of supplying the citizens with gas of an increased illuminating power, and greater purity, and at a lower price than it is already supplied. In respect of illuminating power, the gas is to produce from an Argand burner consuming 5 feet of gas per hour, a light equal to that of eighteen sperm candles of six to the pound, each burning at the rate of 120 grains per hour, whereas the illuminating power of the gas supplied to the citizens is, according to the Metropolis Gas Act of 1860, only equal to that of 12 sperm candles. In respect of purity, not more than twenty grains of sulphur, in any form, are to be contained in 100 cubic feet of gas. In respect of price, it is provided that not more than 3s 6d., is to be charged by the Corporation for 1000 cubic feet of gas, whilst the price of gas of inferior illuminating power is now 4s per 1000 cubic feet. As to testing—the Bill further seeks to define more clearly the mode of ascertaining the illuminating power and purity of the gas, that apparently having been a point not well determined by the Metropolis Gas Act of 1860. As to meters—The Corporation takes powers to supply meters, under certain conditions, to all consumers without charge. The site of the proposed Gas Works is on the northern banks of the Thames at North Woolwich to the East of Silvertown, from whence the leading mains are to be brought by the principal Roads to the City; these leading mains may enter the City, both at Aldgate High Street and the Minories. Powers are also sought to lay down gas mains and pipes throughout the City, and generally to carry on such operations as are usually carried on by Gas Companies, or such as may be