

erect "sucking" apparatus at both ends. No doubt the transport of the Camden-town machinery from Battersea-fields, and its re-erection, have been attended with considerable expense, as we know they have with much difficulty. The laying of a large tube at a depth of four or five feet below the surface of a street—that street being already occupied by a net-work of gas and water mains, with their connexions—is in itself no trifling task. It is to be trusted that final success will repay the shareholders for the labor and the money which have been expended. It may be stated, finally, that the non-fitting of the carriages enables them to pass freely over steep gradients and sharp curves, which is fortunate, for these will have frequently to be encountered in laying conveyance pipes through the great thoroughfares of London. Messrs. Rimmell and Clarke are the engineers, and James Watt & Co. constructed the engine and machinery.—*Building News.*

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*Inspection of the Pneumatic Despatch*, by the POSTMASTER GENERAL and Sir ROWLAND HILL.

From the *London Mechanics' Magazine*, February, 1863.

On Monday last Lord Stanley of Alderly, the Postmaster General, and Sir Rowland Hill, the Secretary to the Post-office, officially inspected the working arrangements of the branch tube of the pneumatic despatch (which has been laid from the Euston station to the north-western post-office in Eversholt street), previous to the transmission of the mails between the two places above mentioned, the post-office authorities having conceded this privilege to the Pneumatic Despatch Company. The time appointed for the inspection was half-past 12 P. M., and on the arrival of the Postmaster General and Sir Rowland Hill at the station, within the boundary of the Euston terminus, they were received by Sir Charles Rich, one of the directors; Mr. Margary and Mr. Rammell, the secretary and engineer of Pneumatic Despatch; Messrs. Blake and Stewart of the London and North Western Railway, being among those present. The working arrangements were thoroughly explained by Mr. Rammell, the engineer, and trains of cars were rapidly propelled backwards and forwards through the tubes. The cars contained heavy weights, being principally loaded with stout planks, and on the signal being given by Wheatstone's admirable telegraph, they were despatched to the other end of the tube, with a pressure of about 4 ounces, in a few seconds over a minute, the average up the incline being about 1 minute 12 seconds, returning by vacuum in 1 minute 5 seconds. The mail bags, upwards of 120 per day, will be blown through the tube in 55 seconds to the post-office, Eversholt street, the usual time occupied by the mail carts being at present about ten minutes. Two persons were conveyed, in the presence of the post-office authorities, through the tube, and returned by vacuum without having experienced the slightest discomfort. Having fully examined the operation of blowing the cars from Euston, the visitors proceeded to the station at the other end of the tube. This is

situated underground, beneath the roadway of a small turning leading from Eversholt street, and is close by the side of the north-western district post-office. Here the very interesting operation of sending the cars back to Euston was explained by Mr. Rammell, and two cars having been placed within about a foot of the open tube, a vacuum was created and they were drawn with a rush into the tube, the small station reverberating with the sound of the receding train. This concluded the experiments of the day, and on leaving, both Lord Stanley and Sir Rowland Hill appeared favorably impressed with the entire working of the system—the Postmaster General observing that it appeared from the experiments to be very satisfactory and very efficient. Previous to leaving the station at Euston, Lord Stanley descended with Mr. Rammell into the air chamber of the revolving disc, the motive power of which consists of a 15 horse power engine. The next step of the company will be to lay tubes connecting the markets of London with Camden goods station with a tube to the general post-office, and Pickford's depot in Gresham street, and these operations will eventually tend to revolutionize the carrying system of the metropolis, and relieve the crowded state of our principal thoroughfares.

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*Proceedings of the Association for the Prevention of Steam Boiler Explosions, Manchester.*

From the Lond. Mechanics' Magazine, January, 1863.

[Abstract from the Chief Engineer's Monthly Report.]

During the past month, ending Dec. 31st, 1862, there have been examined 430 engines—3 specially; 621 boilers—12 specially, 9 internally, 54 thoroughly, and 556 externally, in which the following defects have been found:—Fracture, 4; corrosion, 33 (1 dangerous); safety valves out of order, 13 (2 dangerous); water gauges, ditto, 24; pressure gauges, ditto, 9; feed apparatus, ditto, 1; blow-off cocks, ditto, 32 (1 dangerous); furnaces out of shape, 7, (2 dangerous); blistered plates, 1. Total, 124 (6 dangerous). Boilers without glass water gauges, 6; without pressure gauges, 16; without blow-off cocks, 27; without back pressure valves, 44.

*Explosions.*—While I am happy to be able to report that no explosion has happened during the past month to any of the boilers under the inspection of this association, the occurrence of five explosions in other quarters during that period has come to my knowledge. Each of these has been attended with fatal consequences, 26 persons in all having been killed, and upwards of 32 injured. Two of the exploded boilers were personally examined.

The first of these explosions, and from which 10 persons were killed and 26 injured, occurred at an iron works. The boiler was a horizontal one, of plain Cornish type, with a single internal flue, and a longitudinal steam chamber fixed above the shell. It was heated, as is common in such works, by the flame passing off from the iron furnaces; the flames of one of these passed through the internal flue in one di-