*A Novelty in Railway Management.**

This is a principle which we have long since advocated in the *Artizan*. It will be remembered that, in Mr. Leclaire's factory, in Paris, all the men have a share in the profits of the business.

The dividend declared by the London and Brighton and South Coast Railway Company, at a meeting of the proprietors held on the 24th, was £2 12s. per cent. for the half year, leaving a surplus balance of profits of £4248. The total receipts for the half year have been £306,219, being an increase of £19,862 over the corresponding period of 1849. The total increase of income has been at the rate of $17\frac{3}{4}$ per cent. during the last three years, whereas the expenditure has been $12\frac{3}{4}$, occasioned by the amount of renewals.

Two important features are shown in the present report. It is intended that the principal officers of the company, upon whose exertions its prosperity in a great measure depends, shall benefit by the increase of dividend in each year, so that for an advance of 1 per cent. of dividend, they shall receive an advance of 25 per cent. on their salaries. As regards the other servants of the company, it is intended to provide a retiring pension in the event of their being disabled or superannuated in the company's service; £1000 annually will be appropriated towards a benevolent fund for this purpose.

The Ventilation of Collieries, Theoretically and Practically Considered.

By MR. WILLIAM PRICE STRUVE, *M. Inst. C. E.*†

The author commenced by showing that the general principles which ought to govern the ventilation of collieries were—1, That a current of air through the channels of collieries, at a velocity of five feet per second, was sufficient for most purposes. 2, That a current exceeding that velocity would only be attained at the expense of leakage and other evils. 3, That, in order to obtain the requisite supply of fresh air, the channels of a colliery or mine ought to be enlarged, according to the exigency. In the process of laying out a mine, a sub-division occurred by which the workings were apportioned into numerous compartments, which facilitated the system of splitting the current of air, or diverting it into numerous channels, giving to each compartment a separate and, therefore, more effective ventilating force; at the same time the area of the channel was enlarged, and the aggregate length of the air-tube shortened, so that it was quite practicable to pass through the workings of a mine three hundred cubic feet of air per minute for each man employed. A comparison of the dimensions of the air passages and the velocities of the currents in numerous collieries led to an estimate of motive power required to produce the results attained in the best ventilated mines, in case of the employment of a steam engine and air pumps. This power would have varied between 23 horse power and 26 horse

* From the London *Artizan*, for February, 1851.

† From the London *Railway Journal*, No. 599.

power. The efficiency of furnace ventilation was always increased by the depth of the shafts, especially if they were entirely devoted to the purposes of ventilation, irrespective of the working of the pit. The experiments of Mr. N. Wood, Mr. G. Elliot, Mr. H. Vivian, and other mining engineers, were then quoted, to demonstrate the insufficiency of the "steam jet" as a means of promoting ventilation, showing that it was a most wasteful application of power, when compared with the steam force employed to work Struvé's mine ventilator at the Eaglesbush Colliery. This apparatus consisted of two hollow pistons, resembling large gasometers, plunging into cisterns of water, and having inlet and outlet valves. The pistons received alternate motion from a small steam engine of 5 horse power, and being filled and emptied at each revolution of the crank, produced a regularity of current and a degree of copious ventilation hitherto unknown in the mines to which they had been applied. The small cost of their establishment—only about one hundred pounds for an extensive mine—joined with the little liability to getting out of order, was much in their favor. The paper terminated with copious extracts from the able mining reports of Mr. John Phillips and Mr. Kenyon Blackwell, confirming all the positions assumed by the author. The discussion upon this paper was announced to take place at the next meeting, Tuesday, November 26, until which time the meeting was adjourned.—*Proc. Inst. Civ. Eng.*, Nov. 19, 1850.

*Cornish Engines.**

The number of pumping engines reported this month is 27. They have consumed 2081 tons of coal, and lifted 19,000,000 tons of water 10 fathoms high. The average duty of the whole is, therefore, 52,000,000 pounds, lifted one foot high by the consumption of 94 lbs. of coal.—*Lean's Engine Reporter*, Jan. 8, 1851.

Messrs. Clark and Motley's Patent Locomotive Steam Carriage for Common Roads.†

These gentlemen have put forth a prospectus, in which they show that the capital cost of a steam locomotive carriage for the common roads is 600*l.*, and that the produce from 30 passengers per day, at 1*d.* per mile, would be 12*l.* 10*s.*, and that the working expenses, including 5 per cent. interest on the capital, would amount to 3*l.* 5*s.* 6*d.* per day, leaving the large profit of 9*l.* 4*s.* 6*d.* per day. But we arrive at quite a different conclusion, and that we do without disturbing the working expenses, and the number of passengers carried. For we say that the passengers who would travel by such a vehicle, would be of the same class as those who travel by railway, the common road steam carriage being, in fact, in competition with the railway system. Very well. What do railway passengers produce as an average? Why, the average is under 2*s.* 6*d.* each. Therefore,

*From the London Railway Journal, No. 608. † Ibid. No. 607.