us, it was 100 inches wide, and the depth of the water, from the top of the board to the top of the water (at dead level), was $11\frac{1}{8}$ inches.

By the rule above referred to, $11\frac{1}{8}$ inches deep, and 100 inches wide, gives a discharge of 1580 cubic feet per minute; but from this must be deducted the condensing water from the engines, &c., which does not pass the turbine, amounting, by measurement, to 60 cubic feet per minute, thus leaving 1520 cubic feet, as having passed through the turbine per minute.

1520 cubic feet multiplied by $62\frac{1}{2}$ lbs., (the weight of one cubic foot of water,) gives 95,000 lbs. falling through 47 feet, equal to $95,000 \times 47 = 4,465,000$ lbs., falling through one foot per minute; and this reduced to horses' power will be $\frac{4465000}{33000} = 135$ horses' power nearly, without

making any allowance whatever for anything. Here, then, we have 135 as the absolute power of the water, and out of this we have 124 horses' power of useful effect. The per centage of effect will therefore stand $\frac{124 \times 100}{135} = 92$ per cent. of the absolute power of the water. 75 per cent.

is considered a very fair result for the very best water wheels, but here we have at least 90 per cent. of the total weight of the water consumed; a result far better than anything I ever read or heard of before, and which, I think, is well worthy of the attention of all parties interested in the use of water as a motive power.

In conclusion, I may mention that the above (or similar) experiments have been made repeatedly with results varying but slightly from the above, and in every case the greatest care was exercised; and in order to guard against too hasty conclusions, there were full sets of experiments taken on different days, and also at different times on the same day.

Bessbrook, Newry, Ireland, March, 1853.

*Receipts of French Railways.**

The receipts of French railways in 1852 are not yet known; but according to the returns published down to the 25th of December by the different Companies, they may be calculated to amount to 110,000,000f., being an increase of about 30,000,000f. as compared with the receipts of 1851.—*Times Paris Correspondent.*

Experiments on Portland Cement.†

We have received the following particulars of experiments on Portland cement, publicly made by Messrs. Aspdin, Ord & Co., on their premises in Abingdon street, Westminster, to which we willingly give insertion.

* From Herapath's Journal, No. 710.

† From the London Builder, No. 525.