pounds raised one foot high in one minute is added. It will be necessary to add a few words respecting the construction of this column.

In order to compare these experiments with each other, these results must be reduced to a common standard of comparison, and it is very convenient to express the results of such experiments by the pounds raised one foot high in one minute, this being the method of estimating horses' power.—The number is in each case obtained in the following manner. I will take the first experiment.

Here 1050 lbs. was raised 16½ feet high in 90″; this is equivalent to (1050 × 16·5 =) 17325 lbs. raised one foot high in 90″, which is equivalent to (17325 ÷ 1·5 =) 11550 lbs. raised one foot high in one minute. In this case then

the man's power = 11550.

The same calculations being pursued in the other cases, give the numbers constituting the last column of the following table.

No of experiment.	Statical resistance at handle.	Weight raised.	Time in seconds.	Time in minutes.	Remarks.	Man's power.
I	10	1050	90	1·5	Easily by a stout Englishman	11550
II	15	1575	135	2·25	Tolerably easily by the same man	11505
III	20	2100	120	2	Not easily by a sturdy Irishman	17325
IV	25	2625	150	2·5	With difficulty by a stout Eng'man	17329
V	30	3150	150	2·5	With difficulty by a London man	20790
VI	35	3675	132	2·2	With the utmost difficulty by a tall Irishman	27562
VII	....	.....	150	2·5	do. by a London man same as Experiment V.	24255
VIII	....	.....	170	2·83	With extreme labor by tall Irishm'n	21427
IX	....	.....	180	3	With very great exertion by a sturdy Irishman same as Ex. III	20212
X	....	.....	243	4·05	With utmost exertion by Welshm'n	15134
XI	....	.....	35	.....	Given up this time by an Irishm'n	.....

We may consider Experiment IV as giving a near approximation to the maximum power of a man for two minutes and a half; for in all the succeeding experiments the man was so exhausted as to be unable to let down the weight. The greatest effect produced was that in Experiment VI. This, when the friction of the machine is taken into the account, is fully equal to a horses' power, or 33,000 lbs. raised one foot high in one minute. Thus, it appears, that a very powerful man, exerting himself to the utmost for two minutes, comes up to the constant power of a horse, that is, the power which a horse can exert for eight hours per day.

JOSHUA FIELD.

Lambeth, May, 1826.

Trans. Inst. C. E.

MOHAWK AND HUDSON RAILROAD RECEIPT FOR 1839.

Receipts from passengers,		$116,664 26
do do freight and U. S. mail, ($4688,)		33,848 82
		$150,513 08
Expenditures, for horse, locomotive and steam stationary power, including incidental expenses, (exclusive of $7000 interest on loan of $100,000 borrowed,)	68,055 27	
Equal to near 7½ per cent. on $1,100,000,—cost of the road,	$81,457 81	