where it is extremely undesirable that a youngster of eleven years of age should be sent to associate with hardened lads of eighteen or nineteen. It would be an excellent thing could the former be sent to a separate home where kindly and judicious treatment would render the chances of a relapse into crime far less likely. As it is, boys too often learn in our reformatories lessons in the art of burglary which they will hasten to apply on their release.'

"'Have the efforts of the School Board,' I asked, 'proved of much avail towards the lessening of crime?'

"'It is a well-known fact,' replied Mr. Horsley, 'that the number of young clerks who forge letters and cheques, and commit similar crimes, has of late years much increased; but there can be no doubt that the gradual spread of education amongst the so-called lower classes has a beneficial effect as regards criminal statistics. Last year there were no less than 47,000 prisoners who could neither read nor write. Of these a large number were of such an age as to show that they must have succeeded in escaping the vigilance of the School Board officers and the compulsory bye-laws. Whilst on this branch of the subject, it may be of interest to mention that of 78,416 persons arrested in the metropolis in a recent year, as many as 4,677 females, and 8,426 males, were unable to read or write. It is a very sad fact that on examining prison statistics we find that the great crime-incentive is drink, and that this intemperance, a national disgrace, seems to be yearly on the increase. Within five years, for example, it is found that cases termed "drunk and disorderly" have increased by 26,000.'

"The last topic dealt with in our conversation was the work of the Discharged Prisoners' Aid Society. Mr. Horsley spoke much and earnestly of the need for more money and more helpers. 'Were funds forthcoming,' he said, 'more homes and refuges could be established for the benefit of men and women, to which they might go directly after leaving prison. One society of Christian workers does much excellent service in this direction. The 400 members endeavour to obtain employment and homes for discharged prisoners, and generally interest themselves in and help such. But it and other similar associations are sadly hampered for want of funds, and I would, in conclusion, urge on all to consider the duty that is laid upon them by their Master to help the weak and afflicted, and those who are in trouble.'"

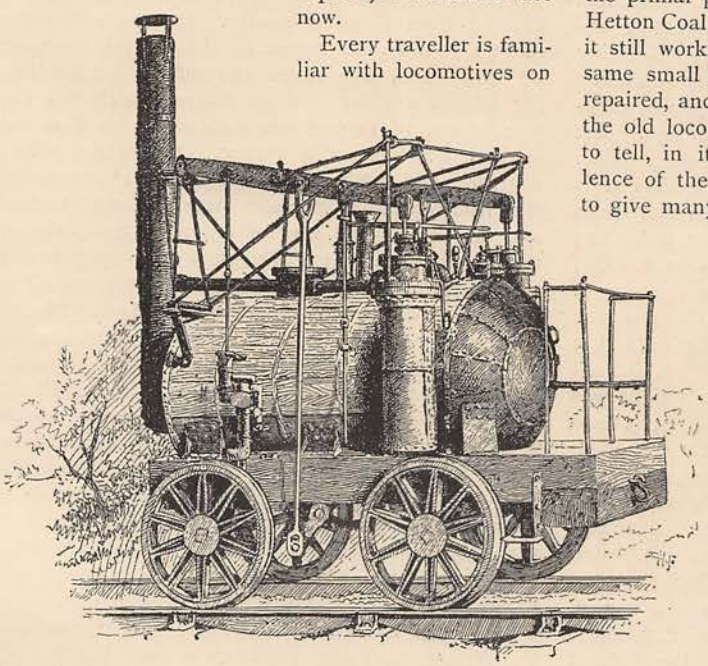
LOCOMOTIVES ON THE LINE.

THERE were locomotives before the line—as we know it—was begun. Trevethick and Blenkinsop had completed their locomotive engines between seventy and eighty years ago; and Hedley's "Puffing Billy," the oldest engine in existence, did duty three-score years and ten ago. But it was not until the year 1825 that the first public railway in the world was opened, and thus it is that locomotives on the line date from that year. On the 16th of September, 1824, an order was given to the then young firm of Robert Stephenson and Co., to construct two locomotive engines "for the sum of £500 each." The earliest delivered of these is now placed on a pedestal near Darlington Station, and it is the parent of "locomotives on the line." It differed widely from the engines we know; its weight was about a tenth of the heavy engines of to-day; it drew a gross load of forty tons, at a speed not exceeding twelve miles per hour, and its cylinders were perpendicularly placed. The story of this early locomotive, of its completion in the old factory on Tyneside, of its being sent by the great road to the south, drawn by horses, and raised on the line near the village of Great Aycliffe—that story is well known. After this came, in due time and order, "Hope," "Black Diamond," "Diligence," and the "Royal George"—the first four were Stephenson's engines, and the latter was Timothy Hackworth's. Not alone in dimensions, but in mode of construction and in powers of endurance, these old travellers on the line differed from those of to-day. In the workshops there were no tools except hand-lathes; there were no turn-tables, only ropes and pulleys for the lifting of the engines, and the "screw-jack" was the sole means of raising the locomotive, so that the work of construction was slow. One of the oldest engineers told the writer that the wheels were metal with iron tyres, and for repairs they were hammered on and off, as the one way of removing and refitting them. At one time, out of twenty-two locomotives on the primal line, fifteen were off work for repairs. The story is told of how the engine-drivers dealt with the refractory or worked-out engines: in "slippery weather or on some long greasy incline the speed would flag rapidly; the engineman, first lavishing oil on the rods and bearings, and then forcing the wheels round with a crowbar, would cry out to the fireman, 'Give it to her, Bill, man; give it to her,' as Bill with his shovel strode alongside, frantically scraping up small ballast, and dashing it before the wheels to make them bite," vainly. Then the fire was roused up, and the engineman and fireman sat down on the side of the bank until "steam rose, and off she went."

There are local stories told as to the esteem and the mystery that surrounded these early locomotives in the popular estimation. On the occasion of the

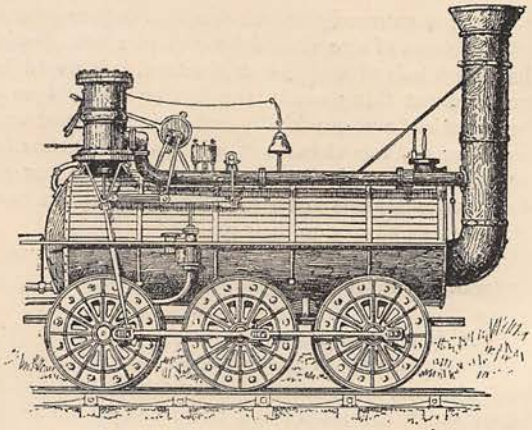
opening of the first railway, an attentive Durham man regarded "Locomotion" with anxious care, and finally concluded in the country Doric, "I's warrant she gans by smoak," whilst one in a higher social sphere inquired of one of the projectors of the line, who had his hand on the side-bar, if that was the motive-power.

This was in the early days of railways, when passenger carriages were not trusted to locomotives, but to horses: when a bell or trumpet was used for signalling purposes, and when the banks of the Tees had the only public railway in the world. As time passed on, the railway system grew, the number of engines and engine-builders increased, and the competition at Liverpool determined for a time the use and the form of the locomotive, and decided also its value for other purposes than haulage of coal. For it is remarkable that coal-transit brought into being the engine: on a coal line, in 1804, one of Trevethick's engines ran; on "Middleton Coal Railway, near Leeds," Blenkinsop's engine worked; and at Wylam and Killingworth collieries, Hedley's and Stephenson's engines worked. But the use of the engine for passenger traffic caused the need for speed as well as strength, and gradually the locomotive was made more compact, the stroke shorter, the number of tubes was increased, the consumption of fuel was diminished, and the multitubular boiler became common. The old locomotive has disappeared from the line—one is "laid up in lavender" at Kensington; a second guards the northern bank of the Tyne, and, close to the high-level bridge and to the old castle, is a connecting link between the distant past and the present; and a third, as we have said, is mounted on a pedestal at Darlington, once the brain and the pulse of the railway system. But, with one exception, none are in use now.



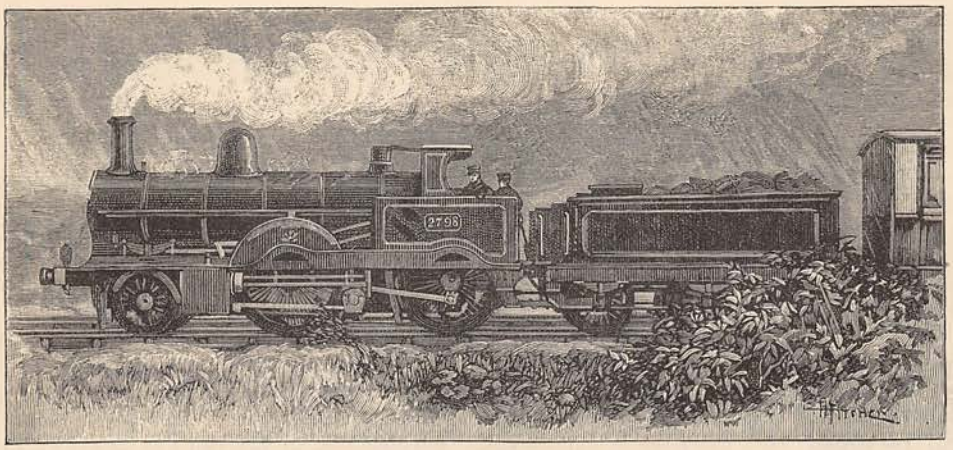
ONE OF THE EARLIEST LOCOMOTIVES—"PUFFING BILLY."

Every traveller is familiar with locomotives on the line in our day, and those whose journeys are fairly frequent can tell the dark London and North Western engines before they see their names, can contrast them with the light hues of those on the Brighton line, or the ruddy-brown of the Midland, or the green of the Great Northern. Experts, too, can pick out the rather ponderous express of the North British from the splendid ones that do the best duty on the North Eastern; whilst the special features of the Crewe compounds, the bogie engines that do duty on some of the dale lines, or those of the "Lord of the Isle" class which run long distances, scooping up the water they need whilst flying along—these are all determinable easily at a glance.



"THE ROYAL GEORGE" AS REMODELLED BY HACKWORTH.

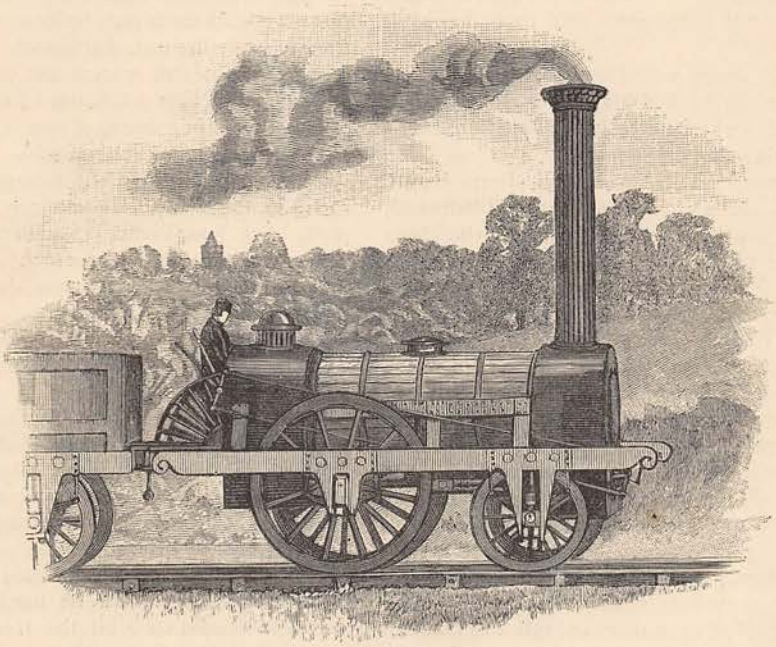
We have named an exceptional old locomotive still at work. One of the first four engines built for the primal public railway was sold years ago to the Hetton Coal Company, and on the line of that company it still works. It has the old upright cylinders, the same small body, and, though parts are renewed and repaired, and some slight alterations have been made, the old locomotive remains, after sixty years' work, to tell, in its wheezy puffs, the story of the excellence of the work of its builders. It would be easy to give many stories of the drivers of the old locomotives—of those who, in days when "Time-tables" were not, regularly stopped at one prolific field to gather mushrooms; of the straight-spoken engineman who, when remonstrated with for "racing" at the rate of fourteen miles per hour, averred that he would keep up to that rate if he "burst the boiler;" and of the North-countryman who, not a score of years ago, declined to join in a strike because of his attachment to the engine he drove, and he "couldn't trust her" to a stranger. But the service "on the line" has been systematised now, and whilst the convenience of the public has been consulted, the idiosyncrasies of locomotive builders and drivers have



CREWE COMPOUND HIGH AND LOW PRESSURE EXPRESS ENGINE.

gone. The construction of the engine is no longer confined to one small establishment at Newcastle, nor the repairs to a "barn-like erection" at Shildon, in Durham, as was the case in 1825. The Tyne is no longer the chief of constructing centres — Manchester and Glasgow are its rivals, as far as private builders are concerned; and Crewe with its wonderful works, Derby, Doncaster, Manchester, Swindon, and other places, are the centres of the works of those great companies which chiefly build their own iron steeds. There can be no greater contrast than that of a picture of the first engines, and that of one of to-day; but changed as are the dimensions and altered the position of the parts, and increased the speed and weight, the cost and the strength, yet the thousands of locomotives on the line now in every land are in the main principle what they were when George Stephenson was "first railway engineer" at a salary of £300 per annum, at a time when his broad Northumbrian dialect puzzled the committees of the Commons House, when his son Robert was engineer to the Hetton Coal Company, and when Hackworth was practically a foreman in some small engineering works, and the whole of the engine-building and repairing operatives in the world did not number 180. And those who travel on the line, and those who compare the modes of travel of the present and the past, would wisely give credit to the early engineers whose constant care and experiment and work brought to its present perfection the chief means of land travel.

J. W. S.



PASSENGER ENGINE BY STEPHENSON, 1831.