

ON THE "UNDERGROUND."

BY F. M. HOLMES.



"NOW, then, there! Any more goin' on!" Bang, slap, crash!

With great vehemence the carriage doors are slammed, and the smart little engine, quickly gathering speed, whirls the train almost out of the station before the late passenger, madly plunging down the stairs, reaches the gate to the platform.

To his breathless expostulations the phlegmatic porter only replies:

"Nother train presently," clips the ticket, and mysteriously disappears.

If he is wise—which he seldom is—the impatient passenger will engage his gigantic intellect with the tablet advertisements so choicely decorating the grimy station walls, or he will examine the contents of the book-stall, or quietly and unostentatiously observe his fellow-travellers.

But the impatient passenger is not wise. He frets and fumes, exclaims against the bad air of the "Sewer," as the Underground Railway is politely termed—worries about the consequence of not being able to keep his appointment, through those wretched trains—wishes he had taken a 'bus—in short, forgets altogether the spirit of the line, by some poet unknown, that "quiet ways are best."

Because, of course, the next train that comes fussing and bustling to the platform is not the train he wants. We never do get what we want in this life, but unmindful of this interesting fact, and also that the true philosophy is to make the best of what we have, our impatient passenger still fumes and frets, until at last, amid the maze of Inner Circles, Putneys, Hammer-smiths, Kensingtons, and other trains, he finds his seat.

He is one of those people who travel first-class on the Underground. By 'bus, tram or boat he has to mix with all sorts and conditions of men, but by the Underground he can actually cut himself off from them on luxurious cushions for a minute or two! No second-class will serve his turn, though why the authorities will not adopt the sensible arrangements of the Midland, and refuse to weight their trains with three classes, is a puzzle.

Surely Londoners do not want to be perpetually sorting themselves into three classes for a few minutes' travel! The consequence is that the third are usually densely crowded, while many of the first are empty. One would think that two classes would really afford ample accommodation for the short journeys and lighten materially the weight of the train.

But our impatient passenger bestows himself in the first—because there is not a "firster." He has his reward. The powerful little engine pulls up sharp at the next station, a passenger alights, away steams the train again with breathless eagerness, and oh! horror of horrors! the impatient passenger is left alone with a lady!

Is she an adventuress?

Out of the sides of his eyes he looks with fear and trembling, and catches a similar sidelong glance out of her eyes at him.

"Is he a brute?" she is saying to herself.

They have caught one another's surreptitious looks, and instantly the faces are twitched round and survey the interesting prospect of the dark tunnel walls without.

"Never mind!" mutters the impatient passenger, "we shall soon arrive at the next station." Jerk! the train stops dead. The signals are against it, and here are the two unfortunate passengers, suspicious of each other's company, shut up together! How dull and distant sounds the roar of London. Again the lady steals a sidelong glance at her companion. He is still studying the tunnel wall or buried in his daily paper.

She is quite reassured. He does not seem a brute after all; her purse is quite safe. Her delicately gloved fingers grasps her ivory-handled—or her stalwart-sticked husband-beater—umbrella less firmly. She will not need to use it. Jerk! On steams the train again and quickly they are whirled from solitude to bustle.

The impatient passenger keeps his appointment after all; the phlegmatic porter was quite correct, there was another train in a few minutes, though they seemed hours to him, and at the expiration of the day, after a satisfactory dinner—impatient no longer—he renews his faith in the Underground.

Everybody uses it. The Londoner who has not at some time or other been whirled along its tunnels must be a rarity. It is in a sense a microcosm of London itself; for all classes may be seen in its trains. There may be a few superior beings who, rolling in wealth, roll also in their carriages, and disdain even the padded firsts of the Underground; but even they must at some time have used it, if only to see what it was like.

The workmen use it, so to speak, in their thousands; and no wonder, considering the facilities granted by workmen's tickets. The Metropolitan Company, who own the largest part of the Underground, greatly extended the system of these tickets last June (1892). The fares are very low and the hour up to which the tickets can be bought was extended to 7.30 a.m. The issue of the tickets ranges from St. Mary's, White-chapel, in the east, to South Kensington, in the west, and northward to Harrow-on-the-Hill.

Book to Bishopsgate, on the Underground, on a Saturday afternoon, say at half-past two or three, and

watch the workmen stream out of the train into the subway connecting the station with the Great Eastern terminus, thence to be whirled away to Walthamstow or Tottenham; or in the early morning, before London is half awake, make your way down to St. Mary's, Whitechapel, or to Aldgate, and see how the workmen of all kinds use the Underground; you may gain some idea of one of the myriad phases of London's many-featured life.

Then, fly round the iron circle—for the main Metropolitan and its rival and yet ally, the Metropolitan District, form together a circle of railway (though not a very geometrical one) around inner London—fly round, and as the day advances notice how more of the leisured and fewer of the industrial classes come into the trains. The good folk then appear who need not reach their offices until nine or ten, or even later. Then come the ladies who are going shopping, or who visit the stores, or who are flying along to see their dearest friend. All classes use the Underground, and if a drunken man or woman should be in the carriage, all boycott him most rigorously. The offending one might be miles away, for all the notice taken. Some may lift their noses high in the air, others bend them pensively to the floor, others gaze thoughtfully straight ahead. The result is the same; the ignoring of the obnoxious one—of any kind—is complete.

At night you see the tired boy fast asleep in a corner after his work, then crowds returning from places of amusement, and at last the Underground, like the huge city it serves, grows a little quieter for a short time. But only for a short time, and the trains soon begin again to run their almost ceaseless round.

So much is it used that contempt of the man who proposed it seems curious now. Yet the idea was treated with great contempt. No end of objections were raised and opposition offered. History is not altogether silent as to the name of the bold man who proposed the audacious idea. Mr. Charles Pearson should be remembered prominently in connection with the scheme, even as is George Stephenson with the improvement of the locomotive and of the railways themselves.

Something was wanted to facilitate the growing traffic of the streets, and the question arose, What was to be done? Why not run a railway underground! was suggested. Of course the croakings were terrible. The croakers had a fine field-day and made their sweet voices heard with a vengeance.

They generally do. Well, well, we must not be too hard on the croakers. Why, I am a croaker myself—sometimes; that is, I do not scruple to criticise schemes of which I do not approve. Every Englishman does the same in this dear land where "Each may say the thing he will!" And quite right too! Sound criticism is often most valuable and leads to improvement; but there is another criticism which is unsound, unscientific, needless, and carping. Of course my criticism is not of this order! But the croakings about the Underground were most alarming. The tunnels would fall in; the houses near by would be shaken to pieces, persons would be

poisoned by the sulphurous smoke and smell! Well, none of these dreadful catastrophes occur. And up to the end of 1891 the company had carried the unthinkable number of nearly 1,558 millions of passengers without the loss of a life.

But it was not until the Great Western Railway offered £200,000 towards the undertaking, which would give them access to the City, and the City Corporation offered the same amount to assist in providing an outlet for the growing traffic of the streets, that the scheme began to make headway. Even then the price of the shares continued low, though they gradually rose as the time of opening drew near; but when it was opened and proved an immense success they rose rapidly.

The railway ran from Paddington to Farringdon Street. This part, therefore, of the iron circle now existing is the real old, original Underground; passengers to Paddington can at once see its value in affording them facilities for reaching the City. Of course there were several engineering difficulties in the way. The old river Fleet—now little better than a sewer and popularly known as Fleet Ditch—vigorously protested against the treatment to which it was subjected. Three times its meandering waters had to be crossed, until at last it was taken up very roughly out of its old course and dumped down into a sewer, something as we are told a vexatious, worrying child is put to bed. It fought for some recognition and gave as much trouble as it could, for it burst forth into irruption near King's Cross. But it had to submit to the inevitable and at last hide itself somewhere out of sight in a big drain-pipe.

And yet, less than seventy years ago, it was—according to pictures—quite a pretty little stream at St. Pancras, not far from King's Cross. If only our



"'NOTHER TRAIN PRESENTLY'" (p. 22).



"STUDYING THE TUNNEL WALL OR BURIED IN HIS DAILY PAPER" (p. 22).

engineers, with all their skill and energy, were not quite so cast-iron in their ideas—if only they had a little more regard for the beautiful in nature and in art! Why did not some genius arise seventy years ago or less and cleanse Fleet Ditch, embank its sides, embower it in trees, bridge it where necessary, and provide an idyllic stream and pathway from Hampstead, where it rose, right through London to the Thames at Blackfriars?

However, the Fleet was disposed of and other difficulties were surmounted; such as the making of light but powerful engines which, like wise persons, should consume their own smoke and steam, and prevent their ill temper from becoming a poisonous nuisance as far as possible to anybody else; carriages had to be lighted by gas, and new signals invented by which trains could, like disasters, follow fast one after the other, but yet, unlike disasters, ever keep a safe space between.

But at length the line was opened. And because of its connection with the Great Western it had a broad, as well as a narrow, gauge of line. All doubts of its success were soon dissipated. On the first day—January 10, 1863—more than 30,000 persons travelled by its trains, and there was great difficulty in getting a seat—a difficulty which is not unknown to-day.

For some seven months the Great Western Railway managed the line—a piece of history which is probably now almost entirely forgotten; but differences arising, the Metropolitan Company began to work it themselves on August 10th, 1863. The double-gauge

rails also gave place eventually to the narrow gauge alone. Steel rails, to resist the frequent friction of so many trains running and of the numerous stoppages, came also to replace the original rails, which had steeled surfaces only. They are more costly, but less expensive in the end because they last longer.

The immense success of the Metropolitan led to a flood of proposals. Forthwith a committee sat. That is a way we have, and, notwithstanding some disadvantages and certain delays, it is not a bad way either. The Parliamentary Committees of 1863 and '64 effected quite a railway revolution in London. Their conclusions have really been the basis of subsequent schemes and of subsequent legislation. They laid down the eminently wise principle that no square or open space be taken; that a huge central station was objectionable; that underground railways were preferable to overground; and that no heavy goods traffic pass through the centre of London. Further, they decided to accept the inner-circle scheme of Sir John Fowler, the engineer of the Metropolitan—a

circle which would practically unite all the termini of the great railway lines—and they also approved the outer circle scheme.

These plans have both been carried out, with extensions and complications extraordinary.

The Midland and Great Northern have pushed their way into the City as well as the Great Western, and in order to do this a splendid piece of engineering work was performed. Their tunnel was brought under the Metropolitan tunnel—which itself is thirty feet below the roadway—and crossing under the line was carried up again to the other side of the Metropolitan. Thus, when a passenger is looking westward at Farringdon Street Station, he may see a Midland or Great Northern train on his left; when, after plunging through the darksome tunnel, he arrives at King's Cross, he finds the same train on his right. From this point, back again to Moorgate Street Station, where the Midland and Great Northern end, the railway is called by the railway officials the widened lines.

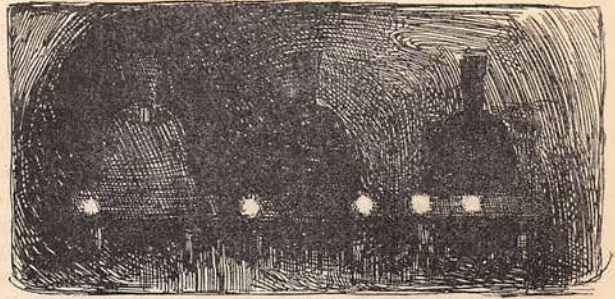
The trains rushing round one after the other—some on the inner circle alone, and others to various extensions or offshoots—are worked on a strict block and electric lock system, by which a space of line is maintained between each train; and by means of the machinery itself, the signalman is assisted to maintain the block, should he at any time forget what he has done. Notwithstanding, however, the very long time which the railway is necessarily worked—from about five in the morning to twelve or half-past at midnight—the

average hours of a signalman are about eight. In the same way throughout the line the men work in two batches.

Now look at one of the powerful little engines, painted a dark red, as it comes rushing into a station with its long line of carriages. The strong vacuum brake—for the Metropolitan have settled the "battle of the brakes" by adopting the "vacuum"—pulls up the train sharp and we can glance at the engine from the platform. Those two pipes from the cylinders to tanks on either side the huge barrel of the boiler, carry the steam after it has done its work, to a cold water bath in the tank, there to be condensed back again to water. And as the cold water becomes warm with the constant influx of the steam, it is ejected at certain intervals and fresh cold water taken in.

At some places the engineers may blow off the steam—engines being like some people who must get rid of their steam somehow—and each engineer is supplied with a diagram showing the parts of the tunnels where, by reason of blow-holes, or other openings to the upper air, the steam may be thus exhausted. The fact remains, however, that the greater part is condensed in the tanks, which are often refreshed with cold water for the purpose.

Then, that one white light on the engine's right hand means that it is an inner circle train, condemned for ever to whirl around the tunnels from Aldgate unto Aldgate; or if it bears two white lights, one on either side, it may escape the "vicious" circle and rush away to enjoy itself at beautiful Richmond, while if it have one white light on the buffer-beam, and one at the foot of the funnel, it has something to do with Hammersmith, and according to the side on which the



INNER CIRCLE HAMMERSMITH RICHMOND
ENGINE HEAD-LIGHTS (DISTRICT RAILWAY).

buffer-beam light appears, it depends whether the journey is through the City to Aldgate, or whether the train plunge under the Thames to come up bright and smiling at New Cross in the south-eastern district. On the District system these same dispositions of the head-lights have quite different significations, as our artist shows.

As for the St. John's Wood branch, its trains scornfully refuse to join in the mad whirl of the inner circle; its passengers must alight if they wish to mingle in that wild diversion; it heads away—largely through the open country—to Chesham and Aylesbury, by virtue of which the Metropolitan is becoming something more than a part of the Underground.

And what is its trunk line and terminus—or can it be said to have either? Well, so far as a circle can be said to have a terminus, Aldgate—where the bend round from Mark Lane comes in and completes the circle—appears to fulfil that function, though even then there are trains that run on to St. Mary's, Shadwell, and New Cross. In fact its limbs extend from New Cross in the south-east to Chesham in the north-west, and to Richmond in the west. But its trunk might be described as from Aldgate to South Kensington.

The Metropolitan has now an extent of $51\frac{3}{4}$ miles, with its lines to Chesham and Aylesbury, while its huge capital-expenditure has risen to £11,763,280, and it pays an average dividend of some three per cent. on its ordinary shares. The Metropolitan District is even more expensive, for its thirteen miles of line, with its extension to Putney, has a capital of £8,214,019. The building of the Underground has been a mighty undertaking, exhibiting much high-spirited enterprise and immense engineering skill and ingenuity, while the facilities afforded to London locomotion are simply enormous. In a comparatively few minutes the traveller can be whirled away from the western suburbs to the City or East End, or along the river to Hammersmith, Putney, or Richmond. So great has been the development of railway enterprise in London that there are now some 200 stations altogether in the metropolitan area, and even this large number is likely to be increased by the influx of electric railways. But it may be taken for granted that they will run underground, so intimately has that once-despised idea become woven into the life of the people of London.



"THE TIRED BOY FAST ASLEEP IN A CORNER" (p. 23).