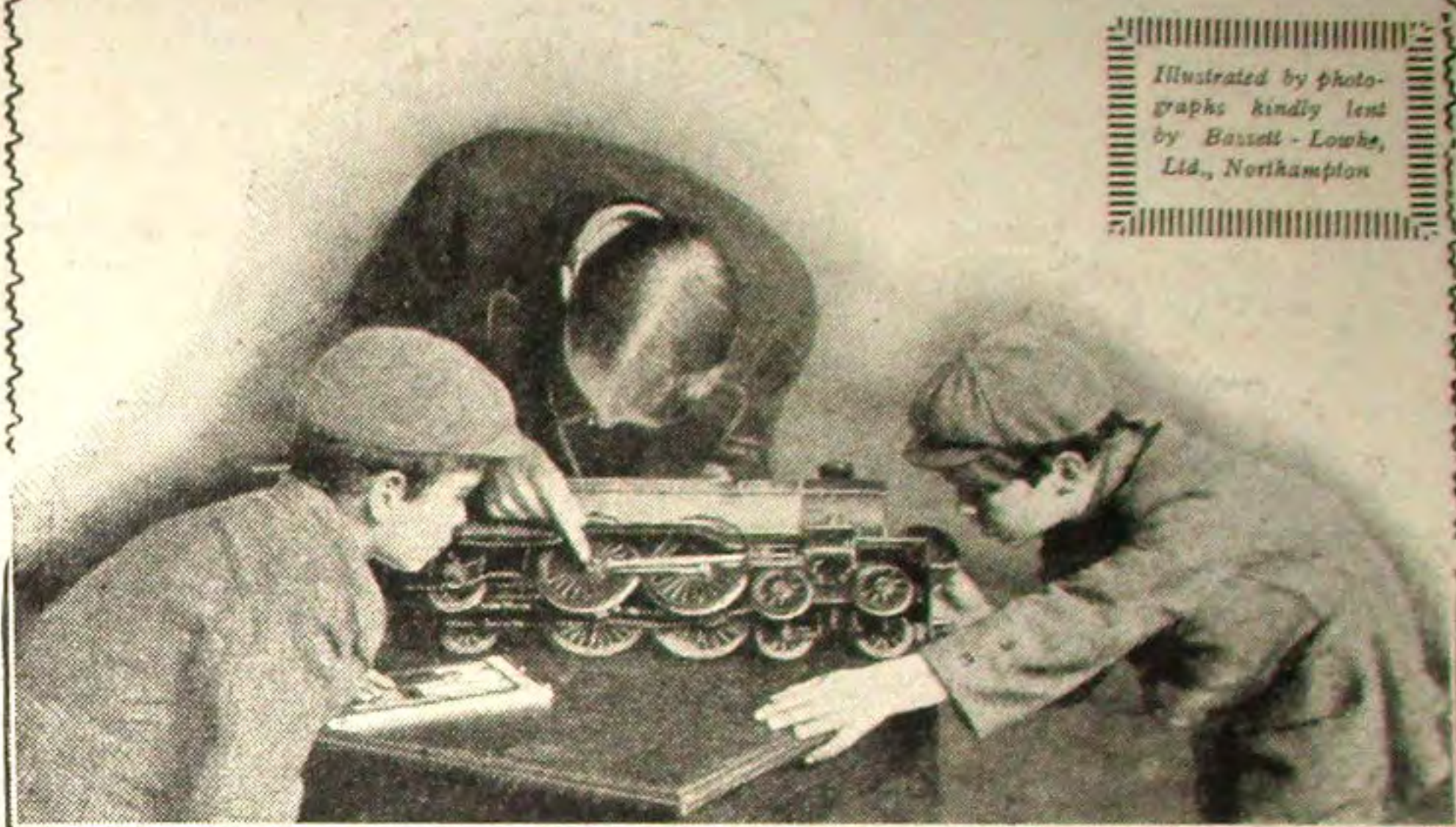


THE FASCINATION OF THE MODEL RAILWAY

*Illustrated by photographs kindly lent
by Bassett-Lowhe,
Ltd., Northampton*



Explaining the working of a model engine to two keen young engineers

THIS is an age of engineering achievement, and every modern boy takes a keen interest in the marvels of mechanics he sees working all around him in the course of everyday life.

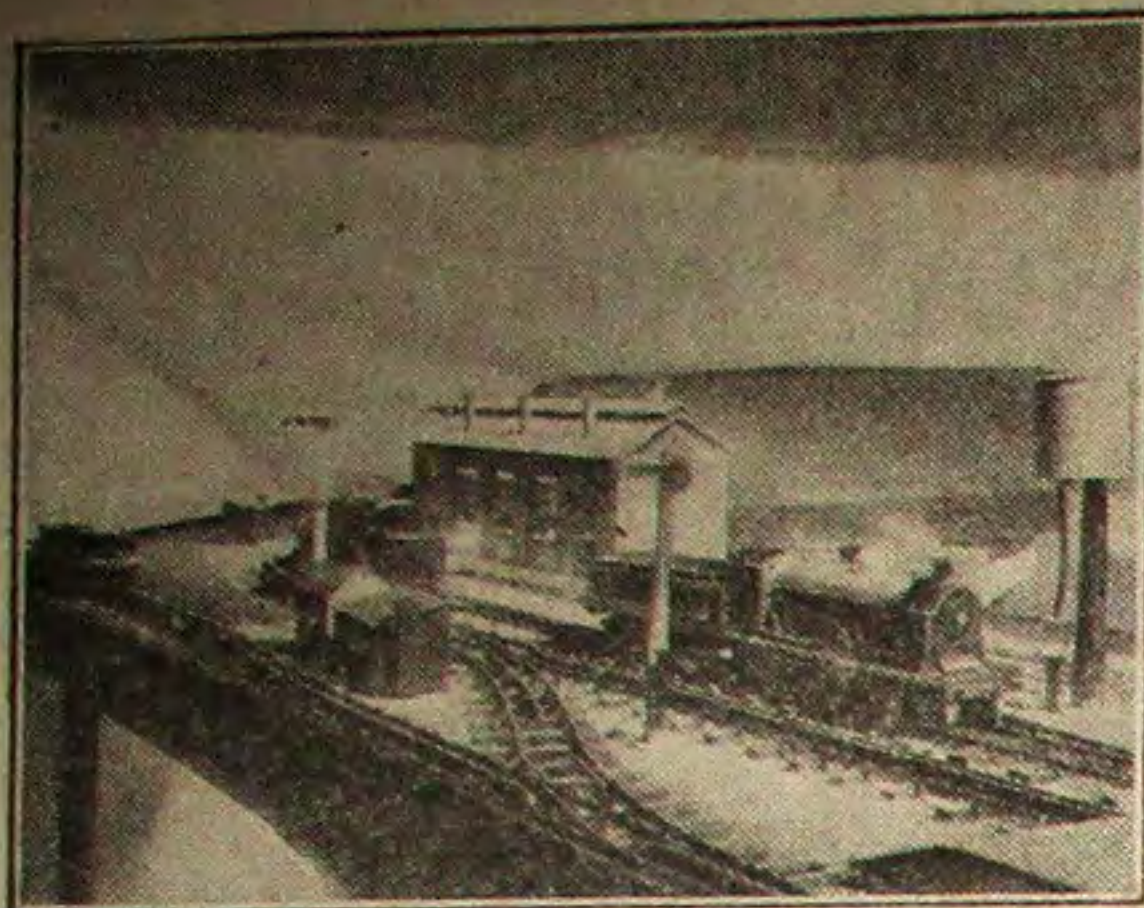
It is natural, then, for a boy to turn to mechanical models to play with, and this natural tendency is one that should be encouraged by all wise parents, for there is much valuable instruction as well as amusement to be gained from the mechanical models which are the most popular of all toys to-day.

The enthusiasm of many of the world's greatest engineers was first fired by playing with cleverly designed toys, from which they learnt the first principles of their craft.

Of all mechanical toys, none possesses the supreme attraction of the model railway. It offers interest and amusement in endless variety, and no boy alive can resist the fascination of playing with a model railway.

As a matter of fact, very few fathers can resist it either! The wise boy will soon discover that this is a toy in which it is easy to arouse the interest of father; this is a very useful point to remember, for to possess a really good model railway with all its manifold details requires the expenditure of a certain amount of cash, and this is where father will come in useful!

But a model railway is so fascinating that interest in it will last for years, and conse-



A wayside station on a model railway

quently it can be built up from quite modest beginnings.

A start is usually made with a few lengths of tin-plate track laid round the dining-room table. As time goes on the stock of rails can be added to, until the line gets too big for the table and has to be transferred to the floor. If necessary it can later be laid in the garden, which, of course, offers the best scope of all for realistic effect, with real tunnels, sidings, and wayside stations. Some lucky youngsters possess lovely garden railway systems, with solid metal rails fastened down with tiny miniature "chairs" on real wooden sleepers. A few grown-up enthusiasts even have model railways laid out round their estates, which will carry passengers, the little trains being pulled by model locomotives which are miniature reproductions, exact in every detail, of famous engines working express trains on the crack railway systems. But this luxurious type of model railway, of course, costs a small fortune to build and equip, and is a toy for the wealthy enthusiast only.

The Question of Gauge

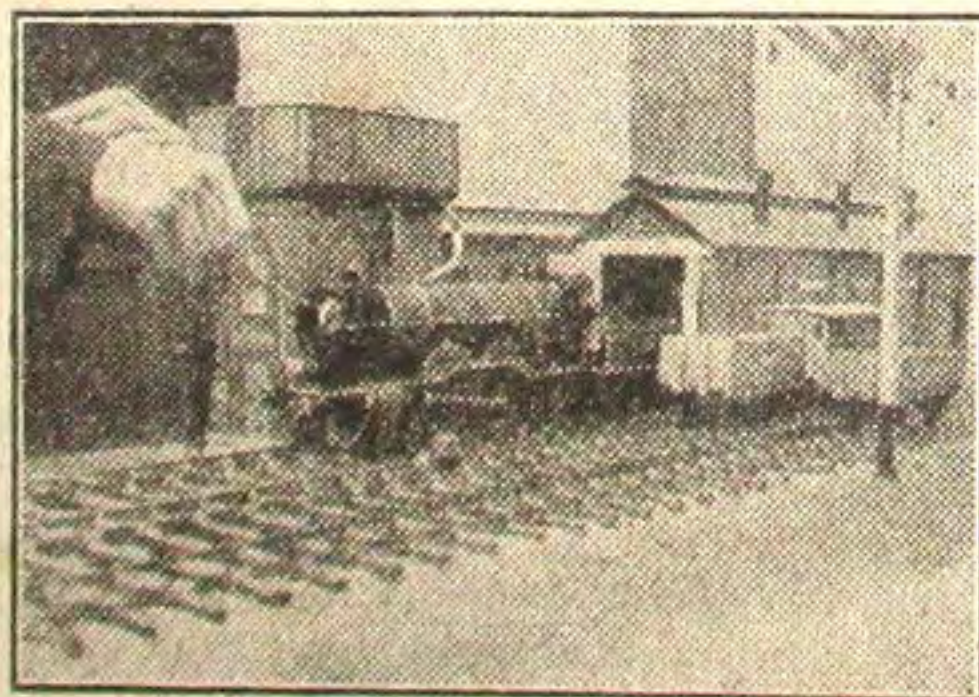
THE indoor railway which makes use of tin-plate rails fitting together in convenient lengths is fascinating enough to satisfy the ordinary boy, and in starting to build up a system of this kind, the first thing to be considered is, which gauge is the most suitable?

The gauge referred to in the catalogues of model-makers and toy-shops as No. 0 is the cheapest, and naturally the smallest; but perhaps the most useful size for all-round purposes, for all but the simplest of systems, is No. 1 gauge, which is only slightly dearer than No. 0 gauge. Much greater choice of engines and rolling-stock is available in the No. 1 gauge size, while it is amply big enough for all but the most elaborate systems.

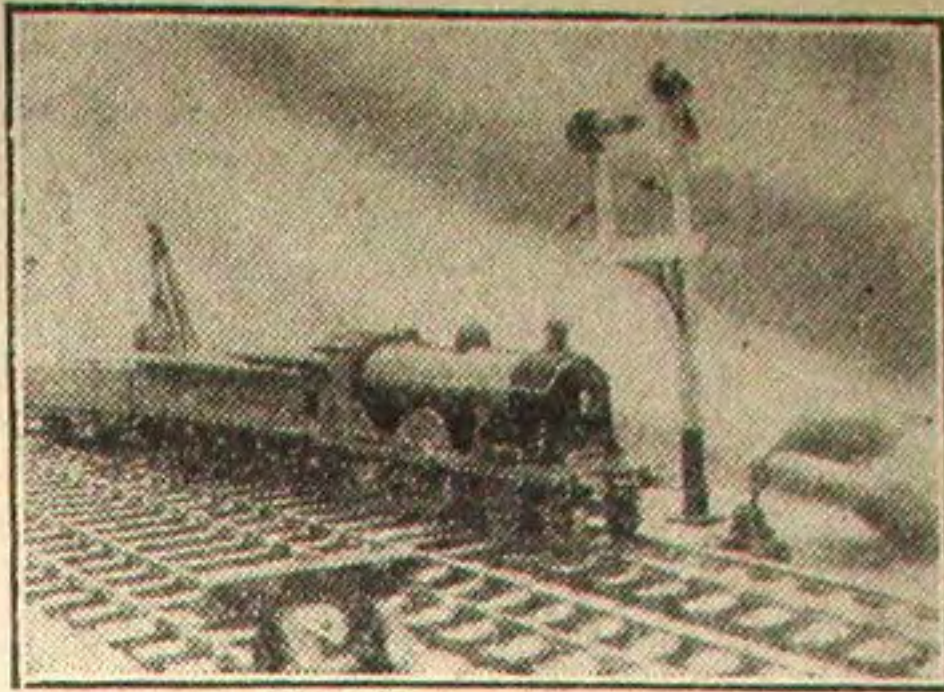
The next item to be considered is the motive power of the railway—steam, clockwork or electricity? For most boys electricity will be ruled out, as the apparatus required is somewhat complicated, and generally needs the care and superintendence of a grown-up person. Clockwork is no trouble, involves no mess or risk of conflagrations, or damage to table or carpet, and is always satisfactory.

The Lure of the Steam Engine

ON the other hand, steam is undoubtedly the most fascinating. Handled intelligently and carefully, according to the maker's instructions, a modern model steam locomotive is perfectly safe and infinitely the most realistic, and most boys would plump for a steam engine in preference to any other sort. What could be more fascinating than a perfectly proportioned little model steam train, puffing proudly round its track, in and out of tunnels, past sidings and wayside stations, rattling over the "points" with exactly the



Before the run; oil and water for a model engine



Working the "points"

same noise, on a smaller scale, of the famous "Flying Scotsman"!

The engine can be started, stopped, reversed, or made to whistle or blow off steam, at the will of the young engineer in charge, who will take a pride in his model which clockwork mechanism, with all its advantages, is incapable of inspiring. But for all that, the sturdy clockwork engine forms a valuable adjunct to a model system of which the main motive power is steam.

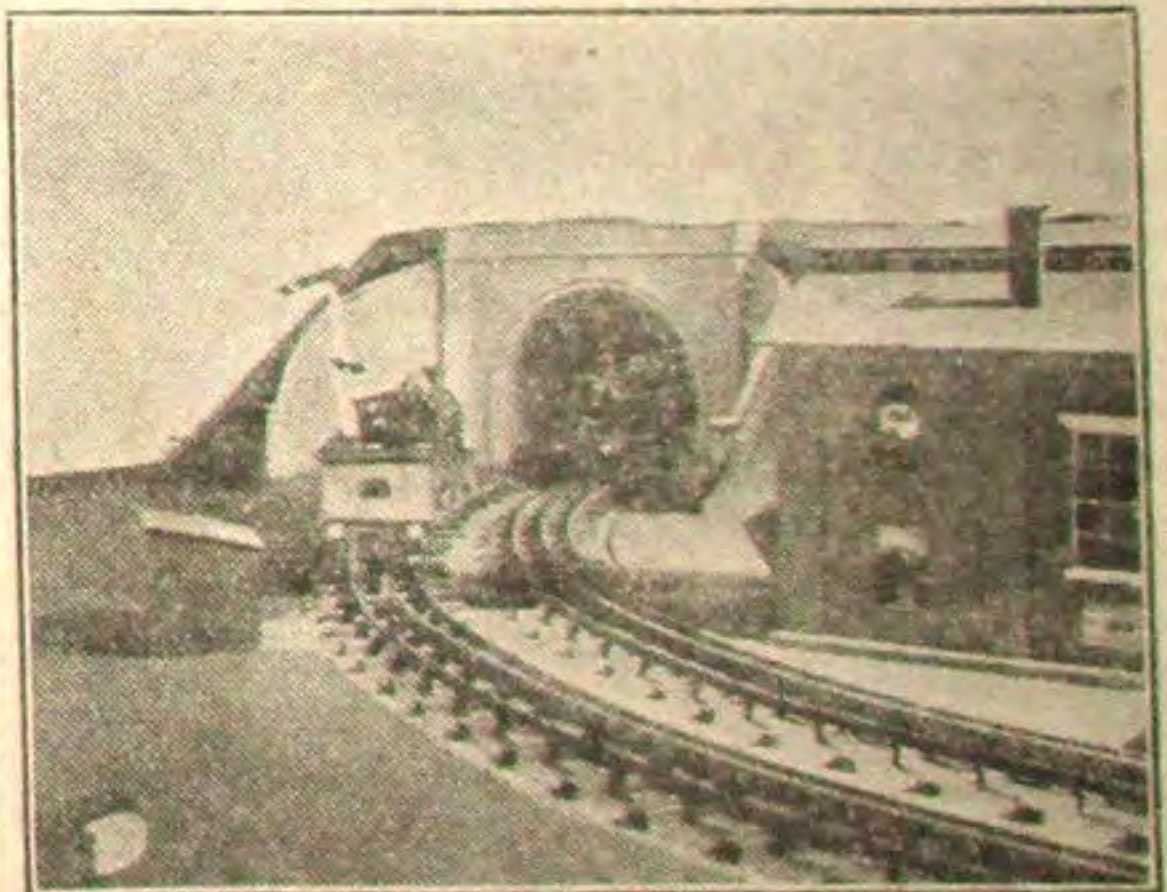
There is a wonderful choice offered to the model railway enthusiast in both steam and clockwork engines, which can be bought in most of the standard gauges at any big toy-shop or stores. Messrs. Bassett-Lowke, the famous model engineers of Northampton, have specialised for many years in model locomotives which are exact reproductions, correct to scale and enamelled in the correct colours, of well-known types of engines used by all the big British railways. Goods engines, tank engines and big compound express engines, of the types used to haul the crack long-distance trains, all have been faithfully copied for the benefit of the model railway owner; and when once the choice of system has been decided—that is to say, whether Great Northern, Midland, London and North Western or other type is to be followed—then all the rolling-stock can be obtained to match. Every detail of a real railway system can be obtained in model size, if required, in addition to every type

of rolling-stock; stations, signals, signal-boxes, tunnels, buffers, even tiny models of the metal advertisement-plates displayed on stations, correctly lettered; while little lead guards, porters and passengers can be had to people the model system.

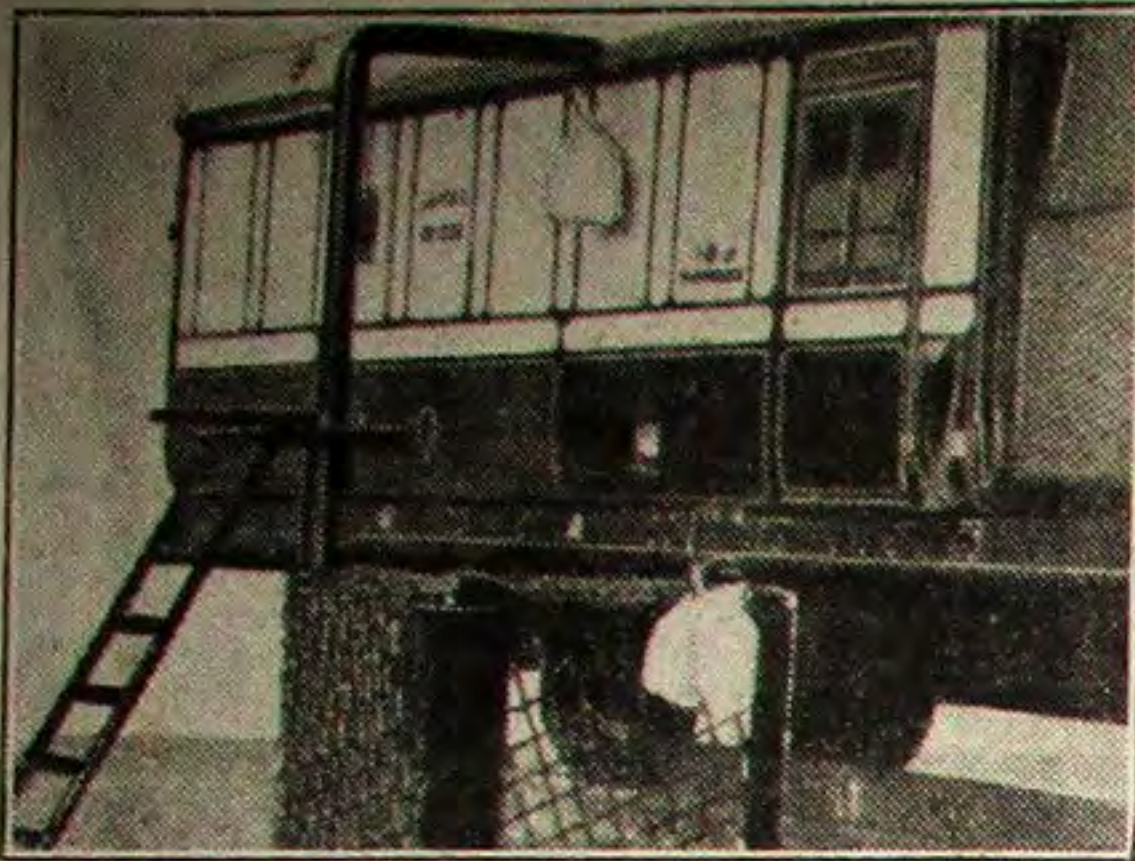
Building up the Railway System

ONE of the great advantages of model railway engineering is that the work of building up your system is never finished. Endless scope is offered for the young engineer to construct himself many of the accessories he requires to make his line more realistic. The building of a model station, for instance, is a most fascinating occupation, which allows ample opportunity for the exercise of a boy's natural ingenuity. The station can be modelled on the lines of an important terminus, with its arched roof and a thousand and one elaborations of detail. It can be a wayside station, a simple construction with a wooden shelter; or it can be just a "halt," little more than a platform edged with railings.

The model railway which starts with a dozen feet of rails, one locomotive and a few trucks can be built up little by little, into an elaborate system: the owner will find the interest and the fascination of the pastime grow upon him as the system grows, and he will learn something all the time. The expenditure of a few shillings here upon, say,



The mouth of the tunnel. Another view of a miniature railway.



Scale model of a Post Office van, showing the device used for picking up and dropping mailbags while the train is in motion

a set of points; the construction, by personal labour, of a realistic tunnel; every separate article has its own place in the building up of a model which will be a joy and a pride to the young engineer and his boy friends.

How to Handle the Engine

ANY boy can learn how to handle a model steam locomotive in a very short time, but before the first run of a new engine, the maker's instructions should be read very carefully, or the mechanism of the engine may be injured. To prepare the engine for a run, the young engineer should proceed as follows: First remove the lamp from the engine, fill the container with methylated spirit, and replace the screw cap; next, fill the boiler two-thirds full with clean water, either cold or warm, by unscrewing the safety valve; after making sure that it works freely, replace the safety-valve. The lubricator, which is usually to be found in the smoke-box, should then be filled with cylinder-oil; the spirit lamp may now be lighted. During the three or four minutes that it takes for steam to get up, the axles and other moving parts should be lightly oiled. The whistle should be tried occasionally, and when it blows clearly, steam should

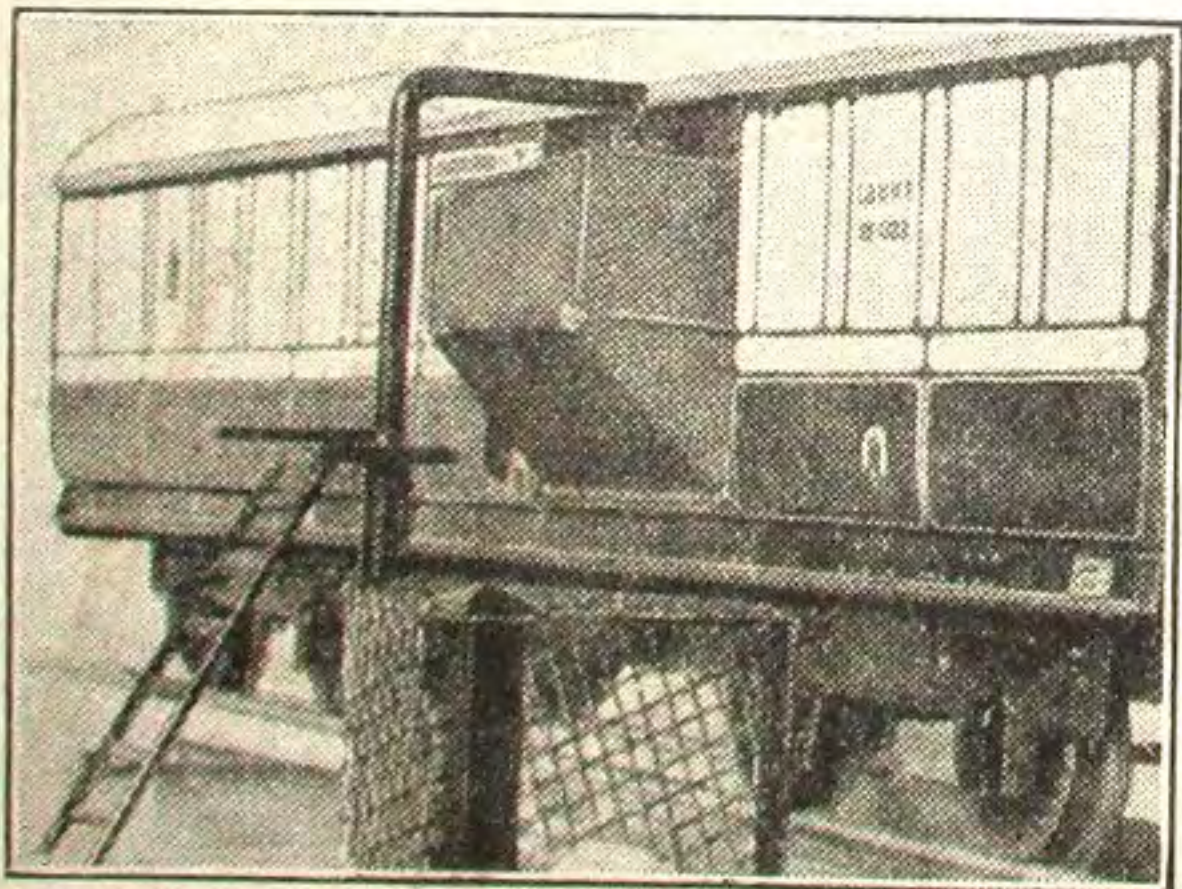
be turned on to the cylinders by gently moving the regulator. This is the great moment, as the little engine, slowly at first, and then gathering way, steams majestically along the track!

The young engineer should remember that although the safety-valve is provided to deal with excessive pressure of steam, it is not wise to allow the engine to stand still for more than a minute or two with the lamps burning, or the whole model will be liable to overheat, and damage may be caused.

When the methylated spirit in the lamp is exhausted, the container must, of course, be replenished; but it is very important to remember that the *boiler must also be refilled with water* every time this is done. Most model engines are designed so that the water in the boiler

just outlasts the spirit in the lamp; when the latter is refilled, therefore, the boiler must be replenished at the same time, or it will soon run dry, with disastrous consequences.

It is clear then that it is quite a simple matter to manipulate a model steam locomotive successfully; and careful handling and close following out of the above instructions will help the young engineer to obtain the maximum of efficiency, together with long and satisfactory service from his model.



This photo shows one set of mailbags caught by the net at the side of the track. The "scoop" on the side of the van is "picking up" another bag

The Simplicity of the Clockwork Engine. Some Points to Note

SIMPLE as the steam engine is to run, the clockwork engine is simpler still. The great point to be careful of is not to overwind the engine. Overwinding results in the breakage of a spring and puts the engine right out of action, though the spring can, of course, be replaced when a new one has been obtained.

The clockwork mechanism should not be over-lubricated, as too much oil clogs it, and picks up so much dust that the efficiency of the en-

gine is greatly reduced. Light sewing-machine oil should be sparingly used to oil the axle-bearings, cog-wheels and coupling-rods, while a little should be worked between the plates

of the spring. Do not hold the engine in the air and allow the wheels to fly round while you manipulate the reversing-gear and other levers, as this will damage the gear-wheels.

In choosing a clockwork engine, note the width of the spring, the thickness of the gear-wheels, and the width of the pinions, which should be of steel and of ample dimensions. Long and trouble-free service will repay the attention which is paid to these important particulars.

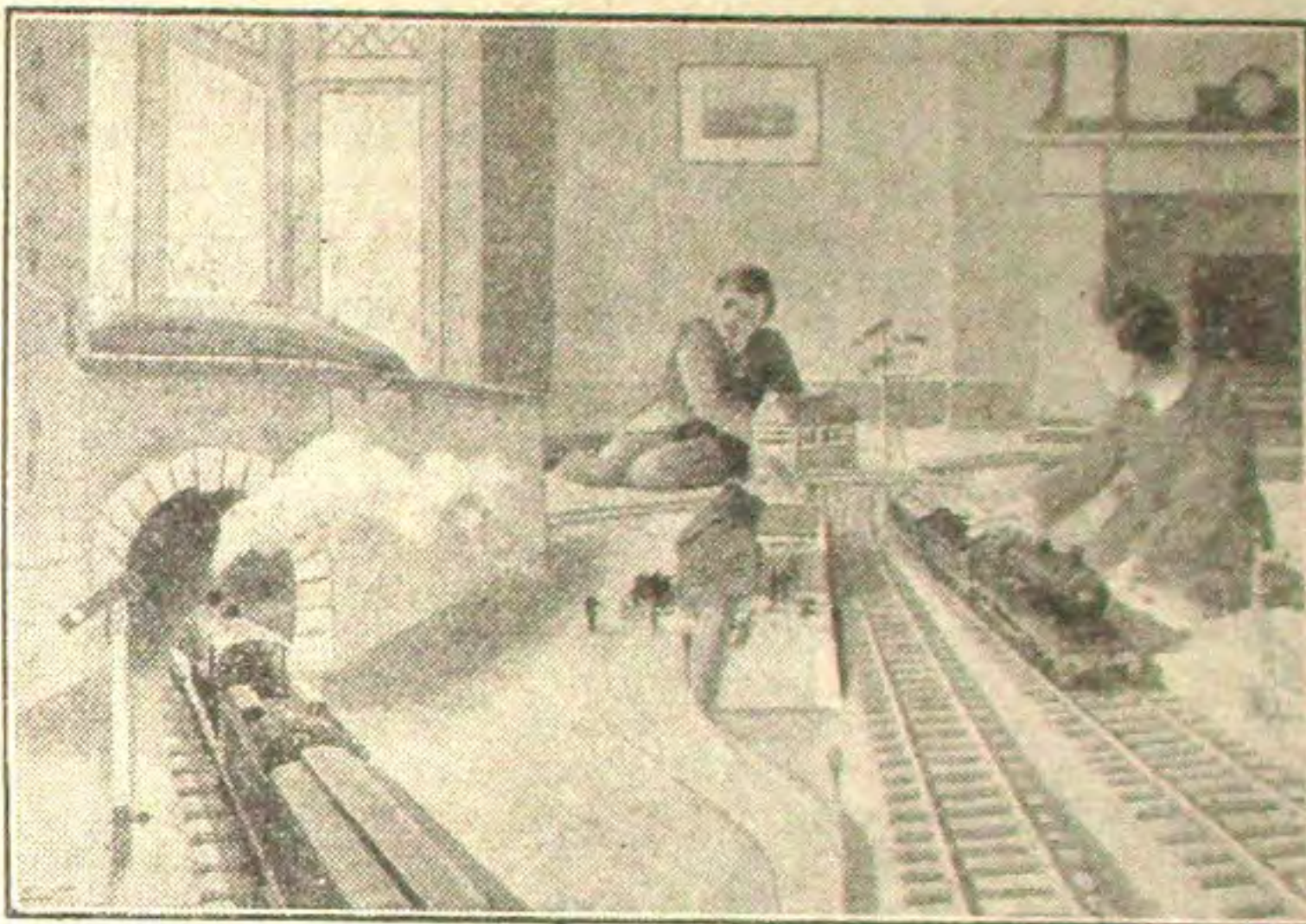
Don't forget that a clockwork engine six months old, if it has been properly treated,

will run better than a new one, as the gear-wheels will have become nicely worked into one another.

Model engines, whether driven by steam or clockwork, must be handled carefully and intelligently to give the best results. And the same applies to every piece of mechanism in the world.

This is one of the many valuable lessons learnt by the boy who is lucky enough to possess one or more of these beautifully constructed playthings. The thorough grasp of the construction of the model mechanism, and clear understanding of the mechanical

principles involved which is automatically acquired by the young model-railway enthusiast cannot fail to stand him in good stead later on, in this age of universal machinery.



Working a model railway is fascinating and instructive as well

As time goes on the opportunities offered to ambitious boys by the engineering profession, in its manifold branches, cannot fail to become greater, and at the same time competition for the best posts will doubtless become keener. And in the race for supremacy the boy who has an elementary knowledge of mechanics as a foundation for his technical training, and who has been accustomed to handling machinery in miniature himself, will possess a valuable advantage. The young model railway enthusiast should take care to put this point of view, which is undoubtedly a sound one, to his father. It will help!

C. M. D.



DARKNESS had descended like a pall over Greyfriars School.

It was a bitterly cold evening, and the majority of the fellows were indoors, either doing their prep. or playing chess.

The Famous Five of the Remove, however, were outside, exposed to the cold and the darkness. With the agility of monkeys, they had swarmed up on to the roof of the gym. by means of the water-pipe.

The gym. roof was at no great height from the ground. At the same time, it had been a risky climb, and had one of the party made a false move, and fallen, he would have been an ambulance case.

"Here we are!" panted Bob Cherry. "Just half a tick, you fellows, while I get my bearings. Ah, there's the window of Loder's study—just opposite where we're standing!"

"Good!" murmured Harry Wharton. "He won't be able to recognise us, will he?"

"Not likely! Too dark for that," whispered Johnny Bull.

The pockets of the Famous Five were bulging suspiciously. They were full of ammunition in the form of prehistoric eggs. So ancient were those eggs, in fact, that they resembled Macaulay's Lays of Ancient Rome. It was the intention of the juniors to bombard Loder of the Sixth.

Loder, as everybody knows, is a bully and a beast and a bad egg. And, as Bob Cherry remarked, it was only right that bad eggs should be pelted with their namesakes.

Only that afternoon, Loder had ill-treated Frank Nugent's minor because the latter had refused to go down to the village and buy him some cigarettes.

Dicky Nugent had received a very rough handling; and the Famous Five had planned revenge on the heavy-handed prefect. They had climbed on to the gym. roof for the purpose of putting their plan into execution.

From where they stood they got quite a good glimpse of Gerald Loder. A beam of light from his study window revealed him seated at the table, conning the pages of a sporting paper, and blissfully unconscious of the fact that he was under observation.

"Now!" muttered Harry Wharton.

The avengers groped in their pockets and produced an egg apiece. Then, measuring the distance, they took careful aim.

Crash!

Two of the shots missed their target, and crashed against the window-pane. But the remaining three, hurled with unerring aim, found their billet. They went whizzing through the window, and two of the eggs burst on Loder's forehead, while the third smote him on the chin, and the yolk streamed down his fancy waistcoat.

"Yaroooooh! What the thump——" gasped the astonished prefect, leaping to his feet.

And then a further volley of ammunition crashed upon his person.

Pressing his handkerchief to his nose—for the aroma of those eggs was far from savoury—Loder staggered to the window and looked out.

At first he could see nothing, so intense was the darkness; but presently he discerned a number of shadowy figures on the roof opposite. He had no idea who his assailants were, but he was determined not to take the

bombardment lying down. He believed in the policy of an eye for an eye, a tooth for a tooth, and an egg for an egg.

Opening his locker, and taking an egg from a paper bag, Loder hurled it in the direction of the shadowy figures. He heard a smashing sound, followed by a yelp of anguish; but he failed to recognise the voice of the victim.

Then the roof-party set up a further bombardment. But Loder was determined not to retreat. Mad with rage, he picked up a flower-pot, and hurled it at his assailants. Even as he did so, however, a shower of eggs smote him in the chest, checking the force of his throw.

The flower-pot fell short of its objective and dropped into space.

Now, it so happened that Mr. Quelch, the master of the Remove, was strolling in the Close, with the object of taking a "breather" before settling down to a strenuous evening's work.

Suddenly, and without warning, a hard and heavy object descended from above, and flattened Mr. Quelch's mortar-board over his eyes.

The Form-master sat down violently on the flagstones, utterly dazed. He vaguely wondered if there had been a revival of the air-raids.

"Bless my soul!" he gasped. "This—this is appalling! But for the protection of my mortar-board I should have been stunned!"

He tottered to his feet, and peered around him. Then he discovered what had struck him. It was a flower-pot.

Mr. Quelch picked up one of the fragments and examined it. But there was no clue as to where the flower-pot had come from.

And then, gazing upwards, the Remove-master beheld five shadowy figures on the roof of the gymnasium.

In the uncertain light, the Famous Five had the appearance of fully grown men rather than schoolboys. And Mr. Quelch immediately jumped to the conclusion that they were suspicious characters who had broken into the school with some ulterior motive.

"How dare you!" he shouted. "How dare you insult me in this manner! Who are you?"

No reply came from above.

"Come down, and give yourselves up!" thundered the Form-master. "You are

detected, and escape is impossible!"

Still there was no reply from above.

Mr. Quelch's brain worked swiftly. He was quite convinced, by this time, that the individuals on the roof were burglars, or, at any rate, marauders.

How could he apprehend them?

He was not agile enough to climb to the roof

of the gymnasium. Besides, he would need help in dealing with five apparently desperate ruffians.

And then a happy inspiration occurred to him.

He would sound the alarm. He would ring the bell which was provided in the case of fire or other emergency.

Having formed this resolve, Mr. Quelch groped his way towards the bell-rope and tugged it viciously.

Clang, clang, clang, clang!

The jangling, discordant notes rang out on the night air. And the effect was instantaneous.



The eggs, hurled with unerring aim, went whizzing through the window and burst on Loder's forehead. (See page 34.)

Fellows who were doing their prep. hurriedly closed their books and dashed out of their studies to see what the alarm was all about. And fellows who were playing chess and similar games sprang to their feet and rushed out to investigate.

"What's going on?"

"Ask me another!"

"Is the school on fire?"

"Goodness knows!"

"Let's go and investigate."

"Yes, rather!"

The alarm-bell continued to clang, and all was chaos and confusion.

II.

THE Famous Five were wise in their generation.

They knew that if they remained on the roof, detention and punishment would follow.

So they descended, via the water-pipe, into the Close.

Mr. Quelch was too deeply engrossed in tugging at the bell-rope to observe the juniors' descent.

"Safe!" muttered Johnny Bull, who was the last of the five to reach terra firma.

"What's the next move, Harry?"

Harry Wharton gave a chuckle.

"Follow me!" he rapped out.

And he dashed up to Mr. Quelch, with his chums following hard at his heels.

"Where's the fire, sir?" he asked breathlessly.

Mr. Quelch, still clinging to the bell-rope, inclined his head as the captain of the Remove addressed him.

"On the gymnasium roof—" he began.

He was about to say, "On the gymnasium roof I distinctly saw five figures!" But as soon

as he had uttered the first four words the Famous Five rushed away.

"Fire!" they yelled loudly. "Fire!"

By this time the Close was thronged with excited fellows. And the cry was taken up on every side.

"Fire! Fire!"

Wingate of the Sixth clutched Bob Cherry by the arm.

"Where's the fire?" he panted.

"Quelch says it's on the roof of the gym!"

"My hat!"

Wingate lost no time in setting to work. He despatched a number of fellows for the fire-

hose and appliances; then he sprinted away to the Head's study.

Dr. Locke stood at the window, with an expression of utter bewilderment on his face.

"Wingate!" he gasped. "What—what—ever does this disturbance mean?"

"Fire, sir!" said the captain of Greyfriars briefly.

"Bless my soul! Where?"

"On the gym. roof, sir! I came here to use your 'phone. May I summon the local fire brigade, sir?"

"Yes, yes!" murmured the distracted Head. "By all means, Wingate!"

The Sixth-former hastily snatched up the receiver and spoke into the transmitter.

"Give me the local fire station—quickly!"

A moment later the operator's voice announced:

"You're through!"

A sleepy voice sounded over the wires.

"Wake up, man!" snorted Wingate.

"There's an outbreak of fire at Greyfriars! Do you hear? Summon the brigade at once!"



Gazing upwards, the Remove-master beheld five shadowy figures on the roof of the gymnasium. (See page 35.)

"Very good!" came the reply, in tones which suggested that any old time would do.

Wingate rang off, and went out into the Close.

There was plenty of animation, there was heaps of excitement, but there was no sign of a fire.

Wingate gazed upwards, expecting to see clouds of smoke ascending from the roof of the gym., but everything seemed as usual.

Meanwhile, a party of juniors dashed up with the fire-hose, which was speedily brought into action.

The amateur firemen had a very poor sense of direction, for the jet of water, instead of shooting upwards, descended in a deluge upon the crowd in the Close.

Panic-stricken fellows rushed hither and thither to avoid a ducking. And Mr. Quelch was shouting and gesticulating wildly.

"There is no fire, my boys. The hose is not needed. Let this absurdity cease! I tell you, there is no——"

Swoosh!

Mr. Quelch got in the way of the stream of water which shot from the hose-pipe, and he was nearly swept off his feet by the force of the current. He staggered back, spluttering wildly.

"Oh, dear! Gug-gug-gug! I am drenched! My garments are soaked! Desist, my boys—do you hear? There is no fire!"

"No fire, sir?" said Johnny Bull, in surprise. "Then why did you sound the alarm?"

"Had you stayed to listen to my explanation in the first place, Bull, you would have understood the facts. A number of suspicious-looking characters were visible on the roof of the gymnasium!"

"My hat!"

"Doubtless they were burglars; but of that I am not certain."

"We'll jolly soon see, sir!" said Bob Cherry. "Stop fooling about with that hose, you fellows! Yoooop! You're pointing it straight at me, you duffers! Up with it! Level it at the gym. roof!"

The fellows with the hose-pipe obeyed and a moment later the upturned hose played upon the roof of the gymnasium.

"That'll fetch 'em!" said Coker of the Fifth.

But it didn't. Whereupon Coker and his two study-mates, Potter and Greene, sped

away to the woodshed for a ladder. This they reared against the wall with some difficulty.

"Turn that hose off, you kids!" said Coker, in tones of authority. "We're going up to investigate."

And the three Fifth-formers hastily swarmed up the ladder.

Scarcely had they reached the top, when a loud clanging and

rumbling announced the arrival of the local fire brigade.

As the engine turned in at the school gateway, one of the men sang out to Gosling, the porter:

"Where's the fire, mate?"

"Roof o' the jimmynasium!" replied Gosling.

The fire-engine rushed on, halting at length in the midst of the surging crowd.

"Don't see no sign of a fire!" granted the chief fireman.

"Can't you see tongues of flame leaping up from the gym. roof?" asked Nugent.

"Dashed if I can! Still, we might as well



"Where's the fire, sir?" asked Harry Wharton, running up breathlessly. (See page 36.)

turn the 'ose on, mates. We ain't come all this way for nothin'!"

Blissfully unconscious of the fact that there were people on the roof, the firemen got busy with the hose.

It was a much more powerful hose than that which the Greyfriars juniors had been using.

Sizz-z-z! Swish! Swoooooosh!

Coker, Potter, and Greene, who were groping about on the roof, looking for the burglars, had the shock of their lives.

A powerful stream of water smote Coker in the chest, and he cannoned violently against Potter, bowling him over like a ninepin. Then Greene stopped the stream of water with his chin, and with a wild yell he toppled over on top of Potter. After which, the hose-pipe played upon all three.

Choking and spluttering, and gouging the water from their eyes and ears, the Fifth-formers staggered to their feet, only to be knocked down again.

The Arctic conditions which prevailed did not render a shower-bath enjoyable, and wild gurgles and fierce exclamations greeted the ears of the hysterical crowd below.

Finally Mr. Quelch succeeded in persuading the firemen to cease fire. And when Coker, Potter, and Greene, having sorted themselves out, came down the ladder, they resembled a trio of drowned rats.

Coker's fury knew no bounds. He clenched his big fists and rushed at the chief fireman, who promptly took refuge behind Mr. Quelch.

"Coker!" thundered the master of the Remove. "You forget yourself, sir!"

"Lemme get at him!" hooted Coker. "I—I'll burst him!"

"Ha, ha, ha!"

"Look at us, sir—soaked to the skin! Did you ever see such awful-looking guys?"

"You're no worse-looking than usual, Coker, old man!" said Bob Cherry.

And there was a fresh burst of laughter.

Heedless of Mr. Quelch's stern protestations, Coker made another rush at the fireman. But Wingate of the Sixth seized him by the shoulders and swung him back.

"Tell me, Coker," said Mr. Quelch eagerly, "were there any desperate scoundrels on the roof?" Coker was sullenly silent.

"Only Coker, Potter, and Greene, sir!" murmured Johnny Bull.

"Ha, ha, ha!"

"Silence, Bull!"

Mr. Quelch passed his hand over his brow.

"I—I am positive I saw a number of marauders on the roof of the gymnasium!" he muttered. "I can only conclude that they have got away by some subterfuge."

Then, after apologising to the firemen for the unnecessary trouble to which they had been put, Mr. Quelch hurried into the building to change his garments.

The fire-engine rumbled away, and gradually the crowd dispersed, realising that it was a false alarm, and that there had been much ado about nothing.

As for the Famous Five, they were almost sobbing with merriment.

"What a lark!" gurgled Bob Cherry. "If only Quelchy knew!"

"Ha, ha, ha!"

THE END



Mr. Quelch got in the way of the stream of water which shot from the hose-pipe, and he was nearly swept off his feet by the force of the current. He staggered back spluttering wildly. (See page 137.)