VOL. XLIV No. 3 MARCH 1959

MECCANO MAGAZINE

AIR AMBULANCE ON THE BEACH AT BARRA

15c

Have YOU got this NEW diesel?

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Here's the latest Hornby-Dublo Locomotive—a realistic model of the first B.R. standard design diesel-electric for main-line duties—the English Electric Type 1 (Series D8000).

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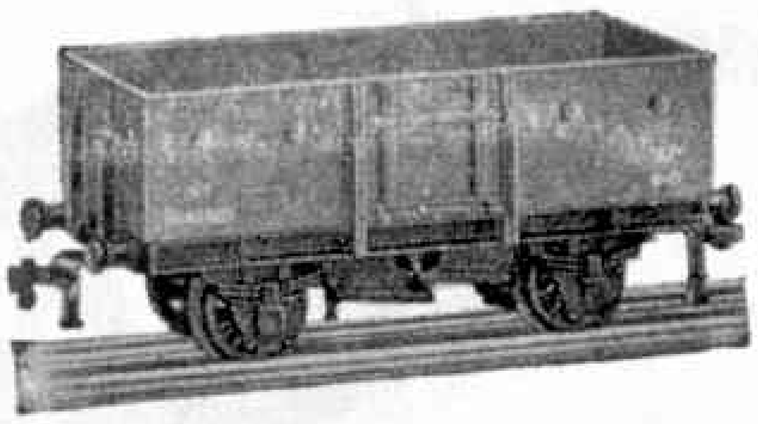
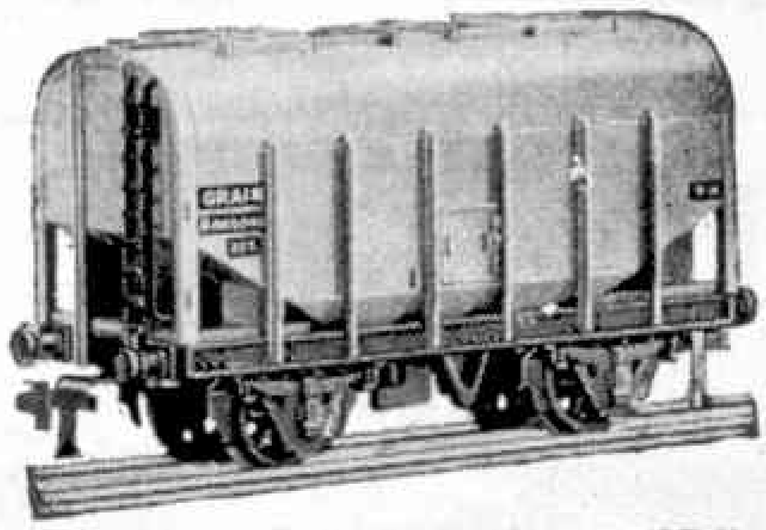
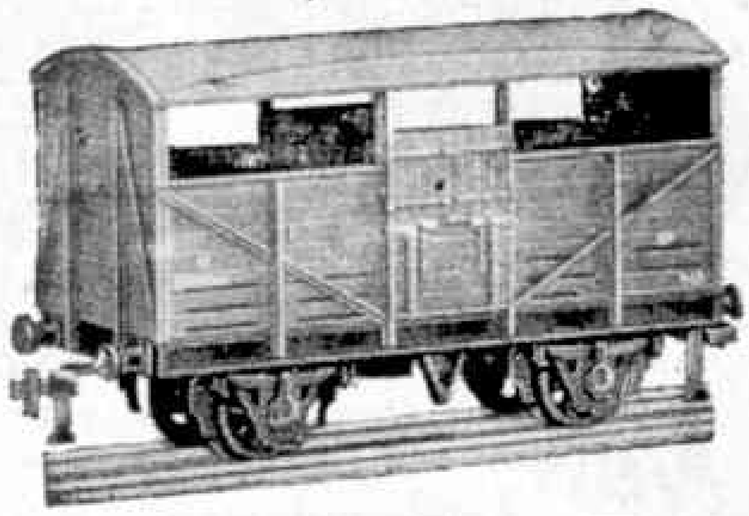


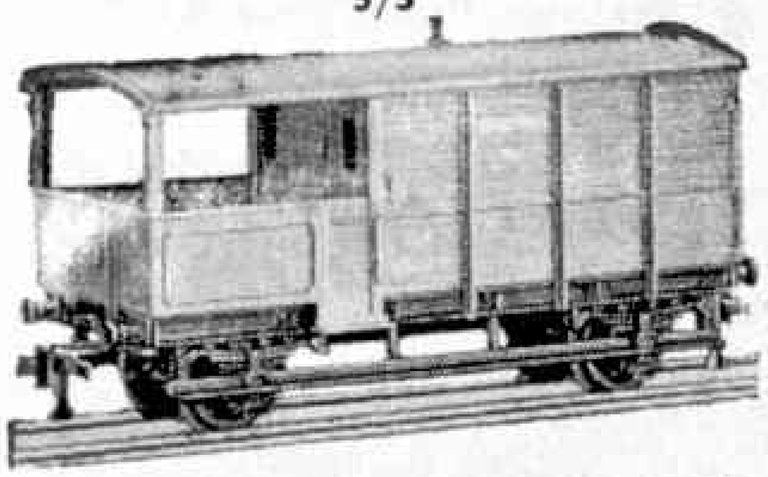
4640 Goods Wagon, Steel Type (SD6)
Length $3\frac{1}{2}$ in.
4/6



4625 20-ton Bulk Grain Wagon (SD6)
Length $3\frac{3}{4}$ in
6/9



4630 8-ton Cattle Wagon (SD6)
Length $3\frac{3}{4}$ in.
5/5



4312 Goods Brake Van (W.R.) (SD6)
Length $4\frac{5}{16}$ in.
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4665 "Saxa" Salt Wagon (SD6)
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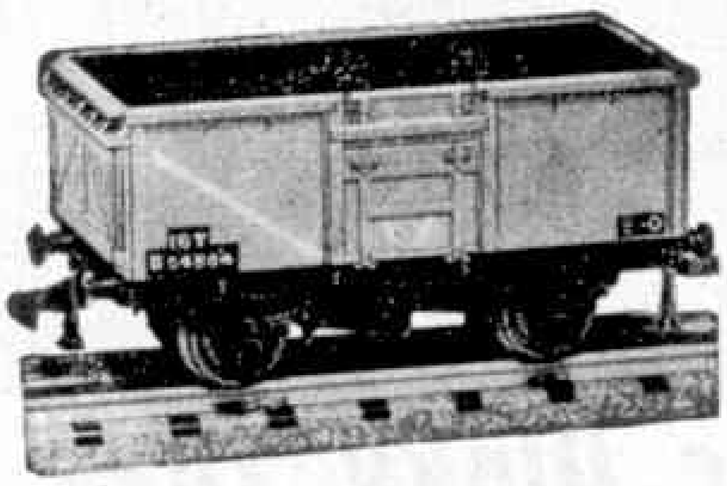
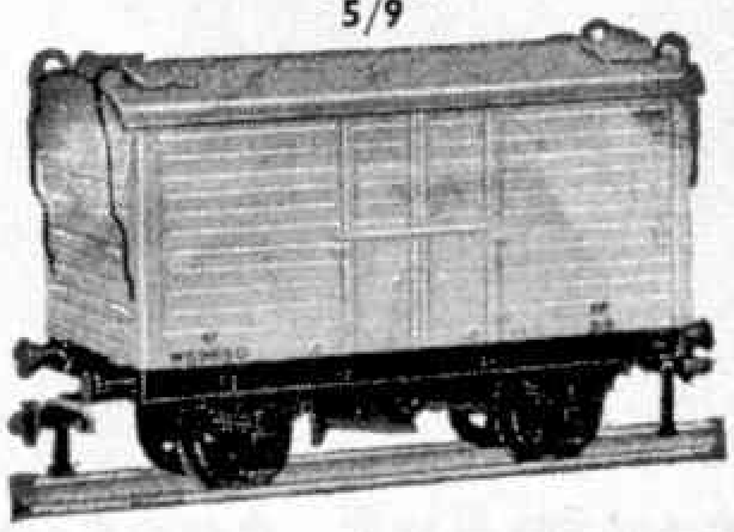


4655 16-ton Mineral Wagon (SD6)
Length $3\frac{1}{2}$ in.
5/6



4320 6-ton Refrigerator Van (W R.) (SD6)
Length $3\frac{1}{2}$ in.
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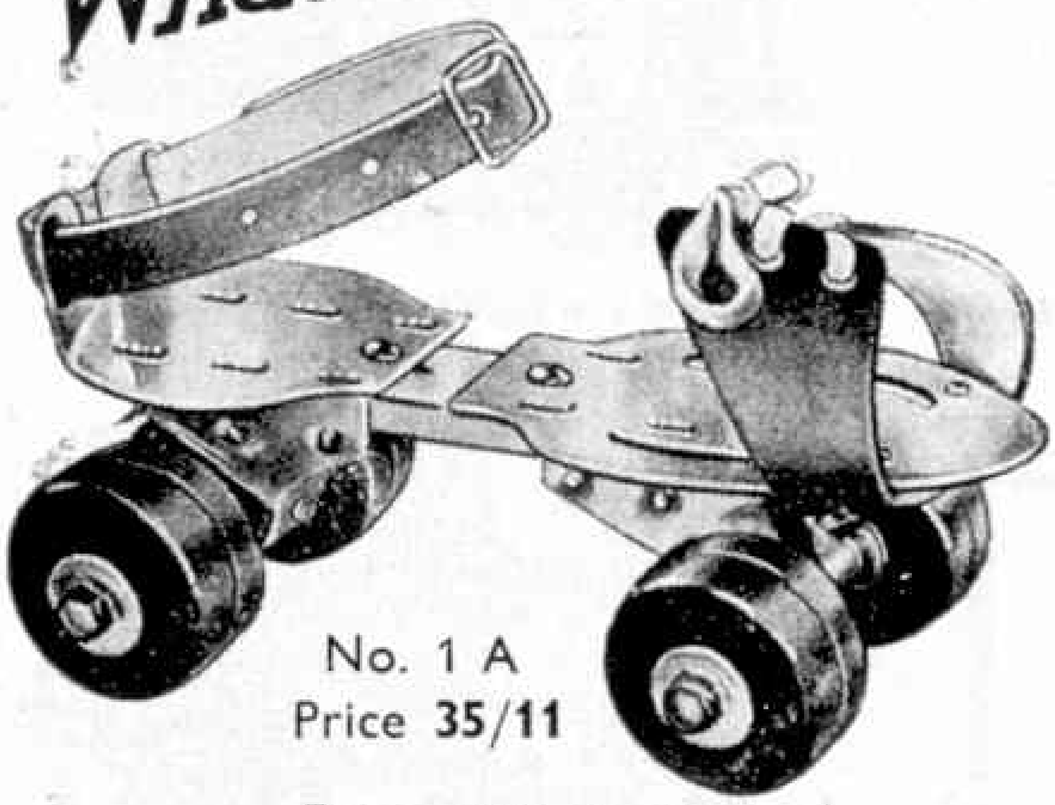

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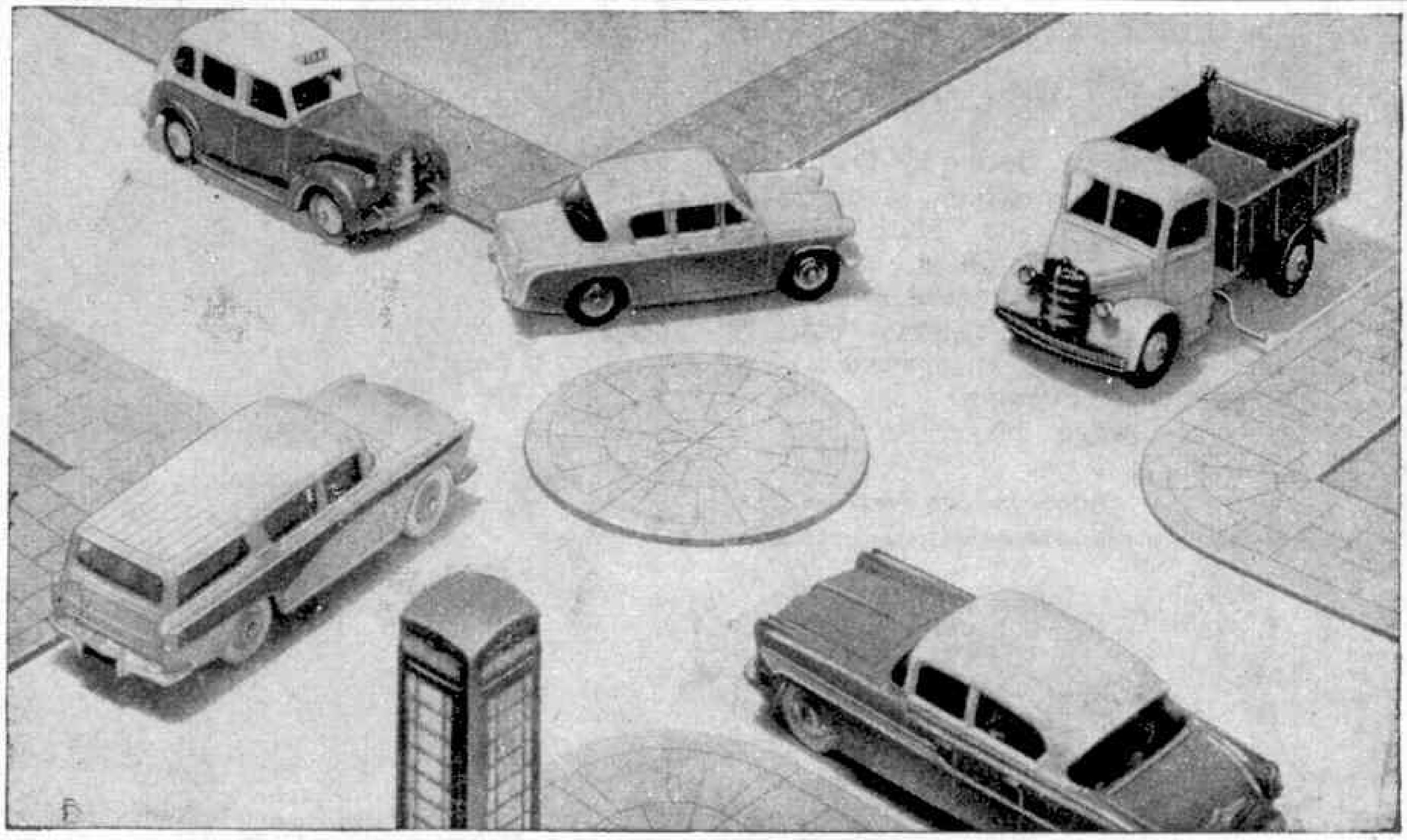

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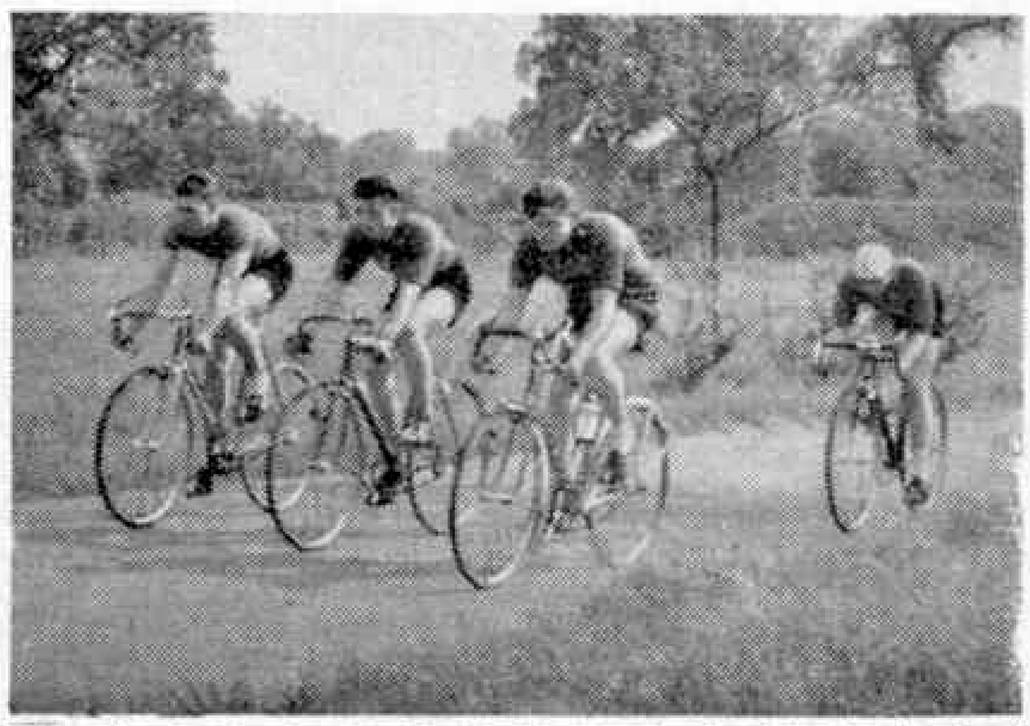

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AA4/QP

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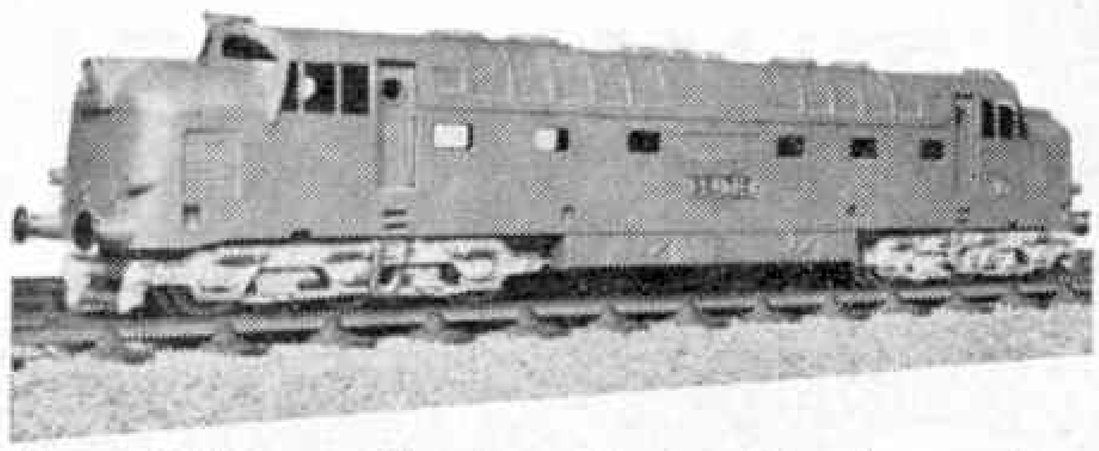

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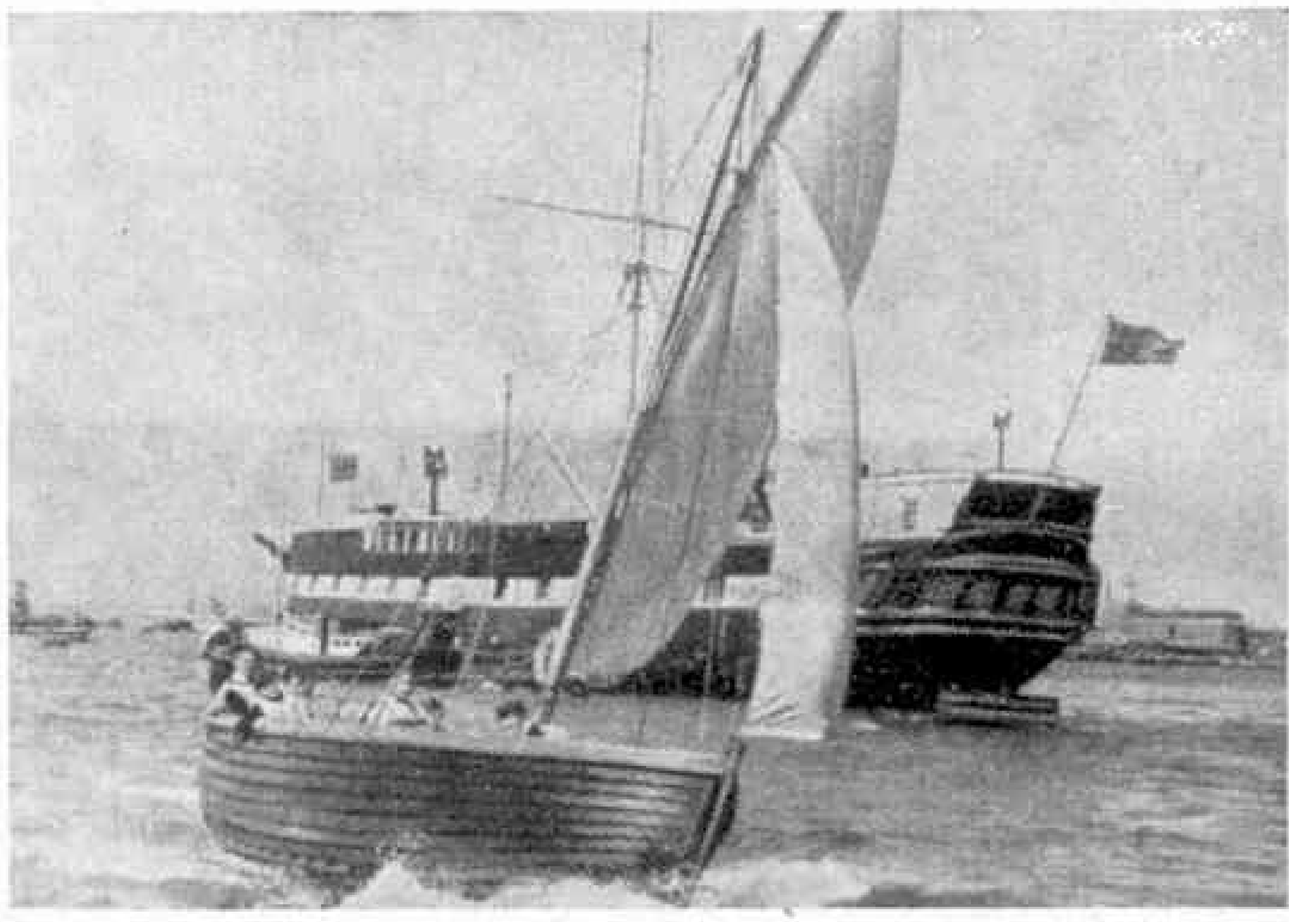

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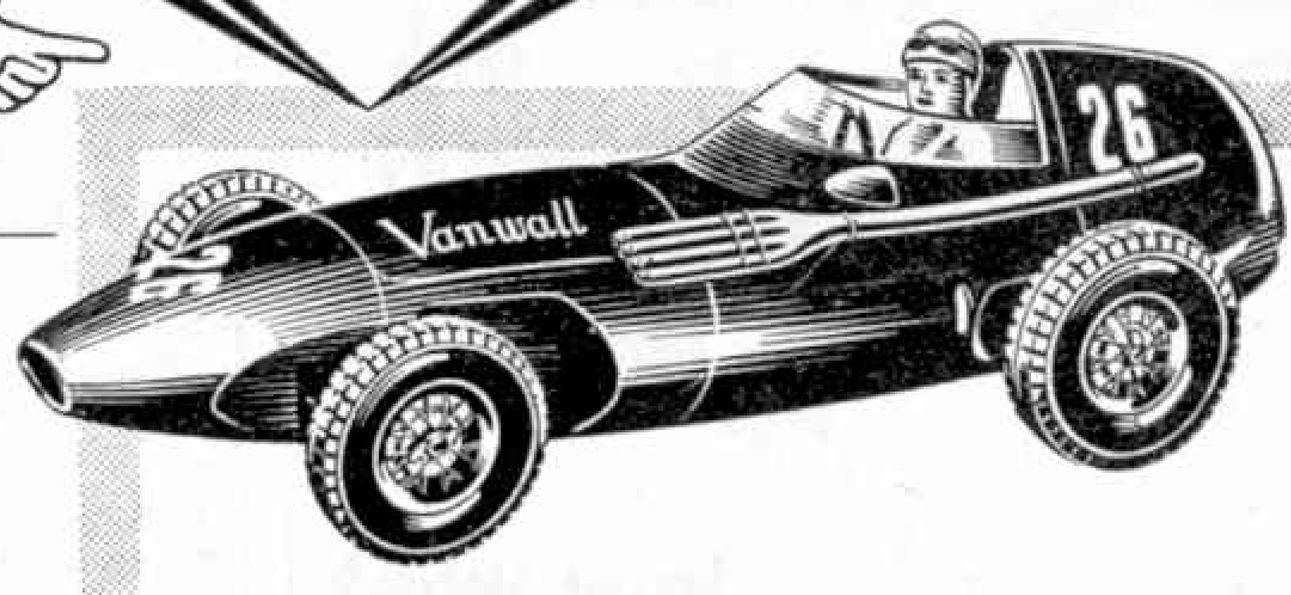

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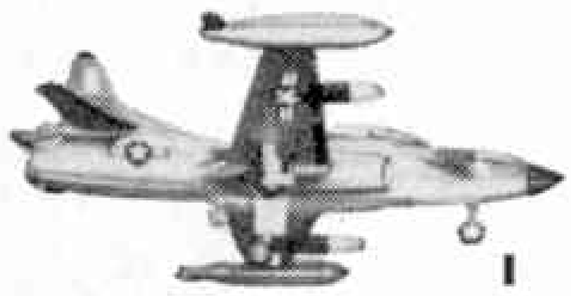
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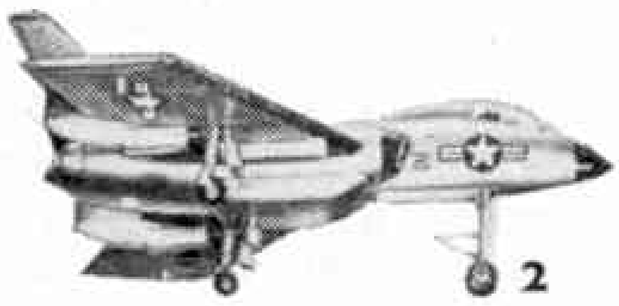
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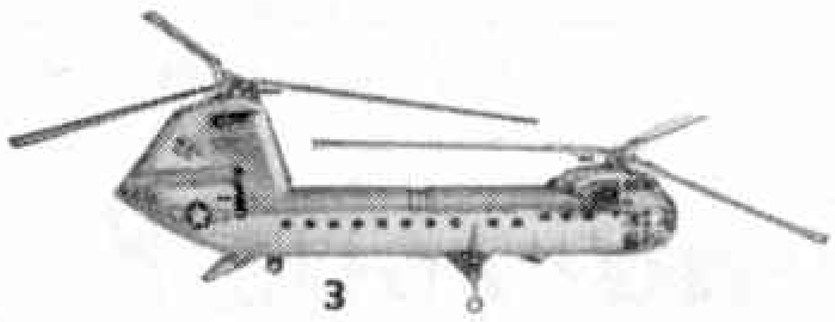
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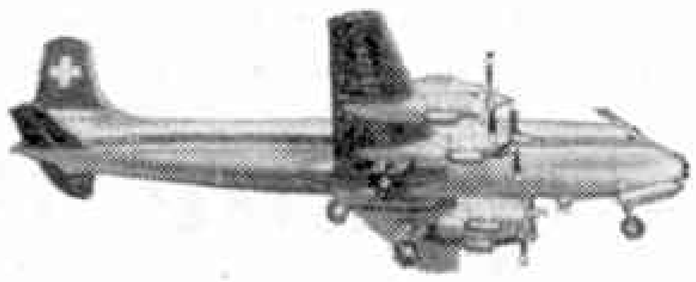
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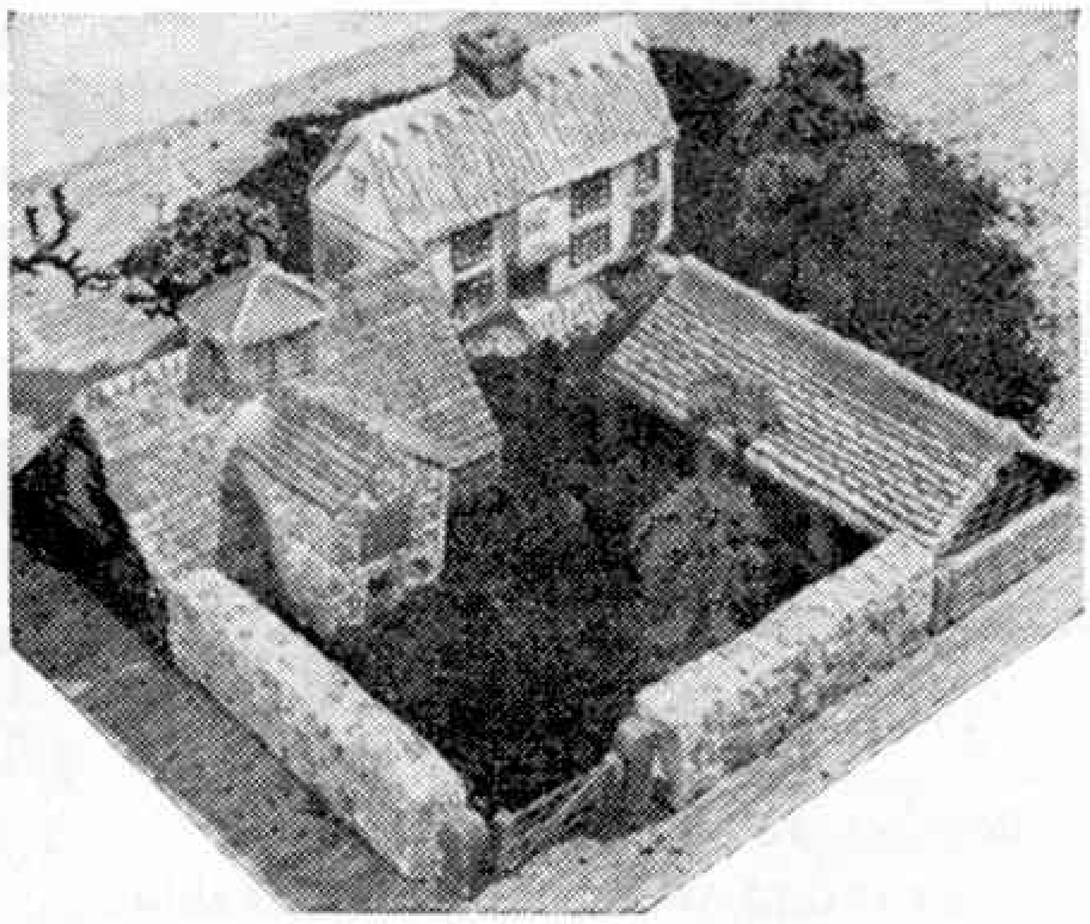

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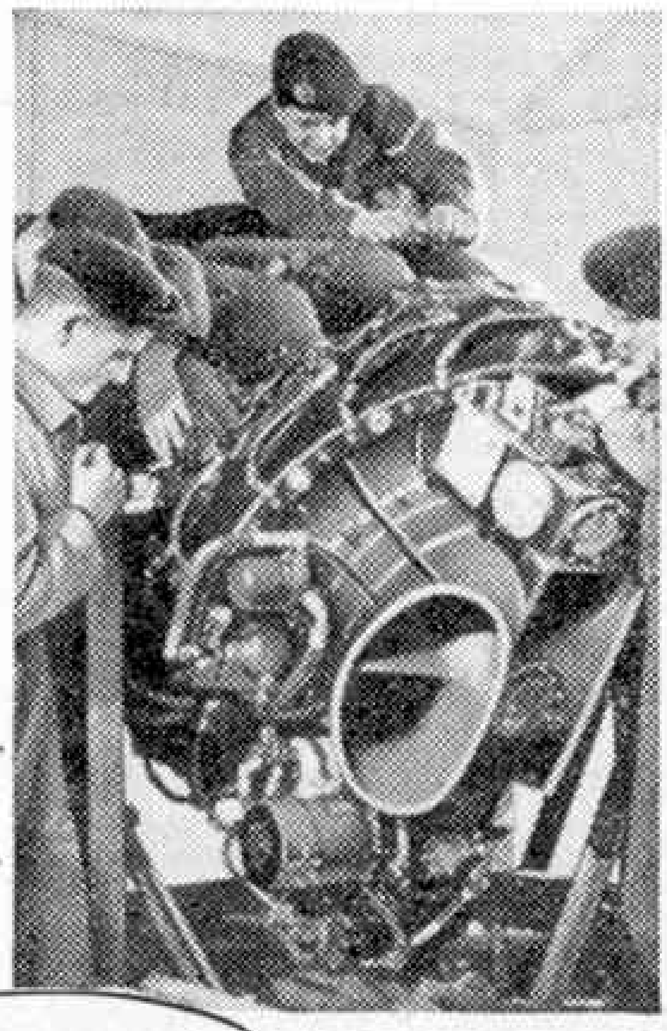
You may already have a friend in the A.T.C. Ask him about joining, or post off the coupon below for all the details.



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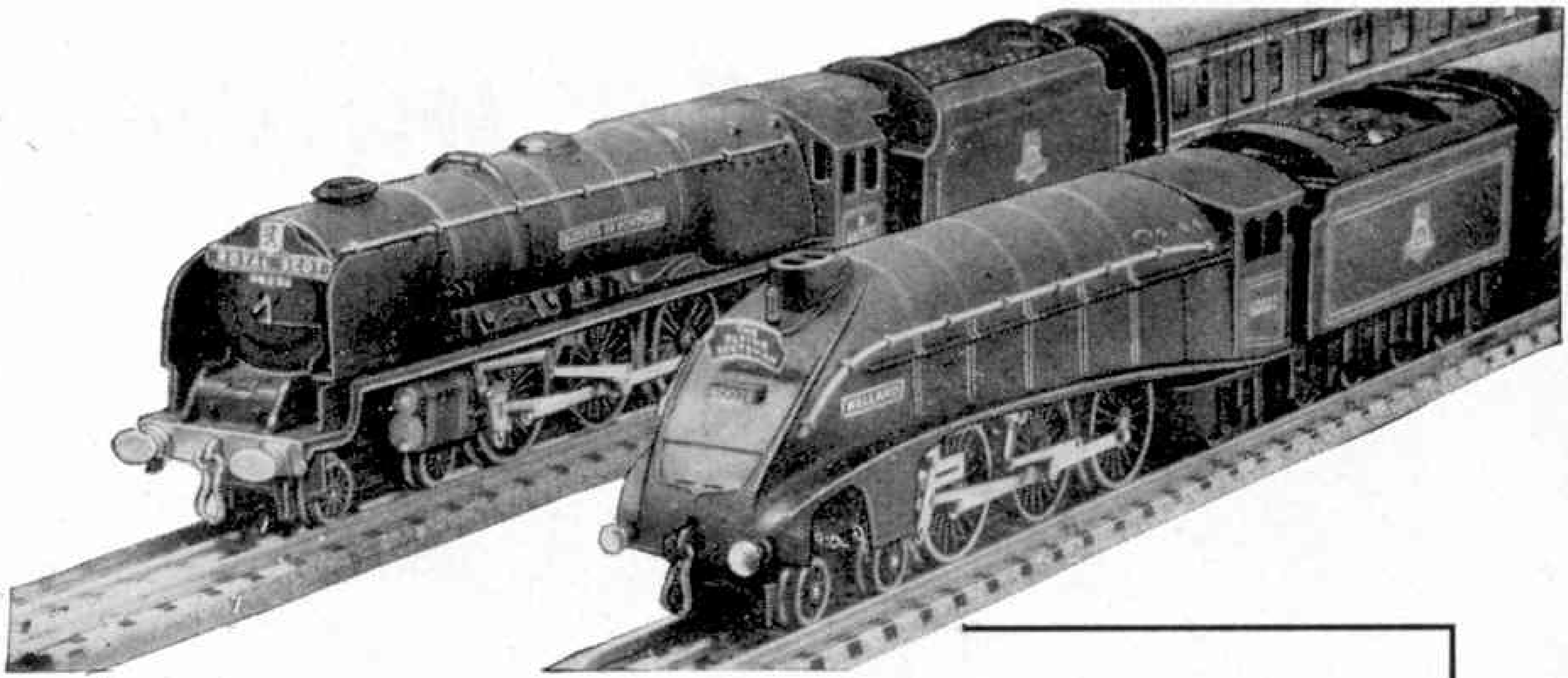

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Add the final touch of realism to your Hornby-Dublo Expresses with the new Locomotive Headboards, Train Name and Destination Board Labels.

Metal Headboards and self-adhesive Train Name Labels are available for Hornby-Dublo Locomotives "Mallard" (L11), "Duchess of Montrose" (L12), and "Bristol Castle" (LT20).

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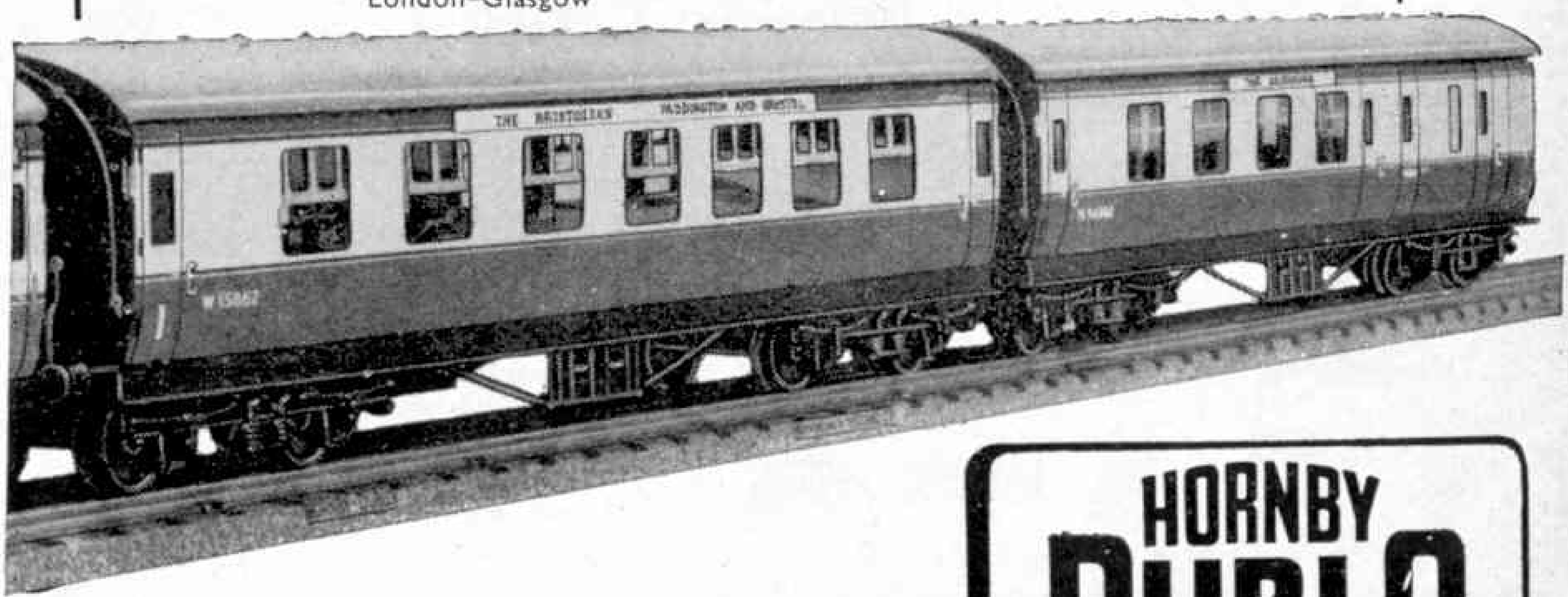

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Next Month: "R.A.F. MOUNTAIN RESCUE SERVICE"

MECCANO MAGAZINE

Editorial Office:
Binns Road
Liverpool 13
England

EDITOR : FRANK RILEY, B.Sc.

Vol. XLIV
No. 3
March 1959

Do *You* know this Famous Spot?

MY picture this month does not look remarkable. Yet there is something historical about the spot where this posting box and stamp machine are fixed, and it is indeed of first-class world-wide importance. It is in Blackwell Street, Kidderminster, Worcs., and the posting box stands in the outer wall of the Automatic Telephone Exchange building, which has been built in the place where once stood the cottage in which Sir Rowland Hill, founder of the penny post, was born. The only record of this is a commemorative plaque on the door.

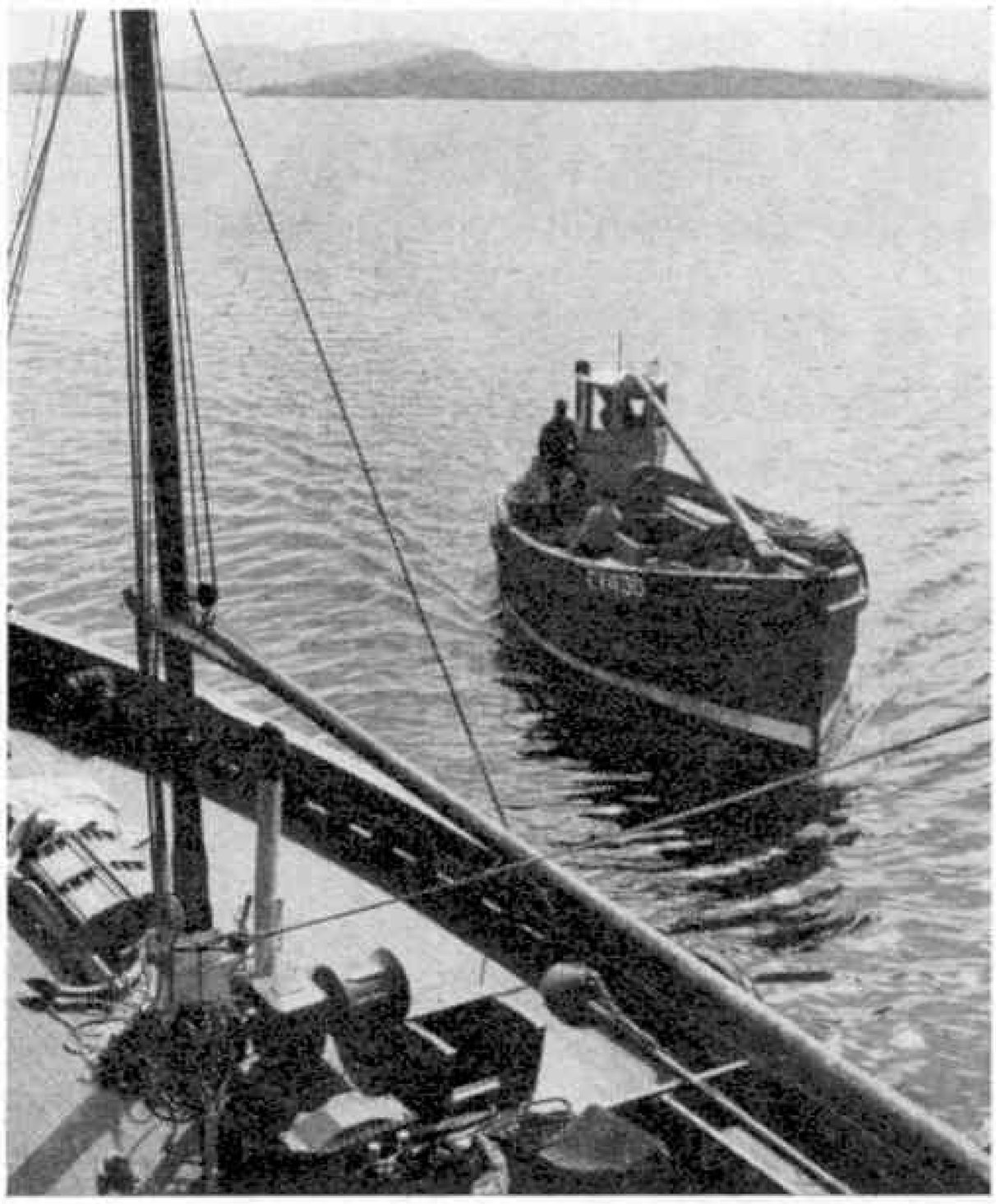
This picture shows a posting box and stamp machine in the wall of a building erected on a spot famous in stamp history. Do you know its associations? If not read about it on this page.

In the centre of the town is a spot that is far better known, for there is a statue of Sir Rowland. Its cost was met by a fund to which more than 200,000 subscribers throughout the world contributed.

My picture, and these notes, I owe to Mr. J. B. Shilvock, Stourport, who adds the information that whenever congresses are held in the Midlands it is a practice to visit the statue and lay a commemorative wreath at its foot, but somehow the birthplace seems to be overlooked. He comments that in any country other than ours there would almost certainly be a special cachet available for all mail posted in this box, unique for its association with the pioneer of the adhesive stamp.

I am sure all of you will welcome the two articles in this issue associated with the Western Isles and the West Coast of Scotland. One of them deals with a famous steamer service in this vast area, now a great holiday ground, the other with the use of aircraft in it for bringing to hospital as quickly as possible people who are dangerously ill or have been injured, perhaps in a vessel sailing off the Western Isles. But as usual this issue goes pretty well round the world this time to the home of the Blackfeet and other famous Indian tribes, and to India, with an unusual account of a river voyage on the Hooghly River from Calcutta. Let me know how you have enjoyed these and other features.

The Editor



Scotland's Air Ambulance Service

By

John W. R. Taylor

SOME months ago, a member of the crew of a fishing trawler broke his leg while the vessel was at work near the Western Isles of Scotland. The skipper at once set sail for Castle Bay, on the tiny island of Barra, in the remote Outer Hebrides.

This might seem a strange thing to do, because there are few facilities for taking care of injured men on Barra; but the island is one of the regular ports of call for the de Havilland Heron four-engined air liners operated by B.E.A. in Scotland, and long before the trawler chugged its way into harbour its radio call for medical aid was being answered.

It has long been a requirement for the smaller machines used on B.E.A. services to the Scottish Highlands and islands that they must be able to carry stretchers, for use on air ambulance duties. So, as soon as the trawler's S.O.S. was picked up, Heron G-ANXB, named after the famous Scottish surgeon, *Sir James Simpson*, was towed out of the hangar at Renfrew Airport, Glasgow, and prepared for the 300-mile round trip to Barra and back.

In the briefing room, its aircrew, consisting of Captain D. Hoare and Radio Officer A. Mackenzie, made a quick but careful check of the weather. The all-important third member of the team, a young and pretty nurse from the Southern General Hospital at Glasgow, was already on her way to the airport. Within an hour of receiving the call for help, G-ANXB was at the end of the runway waiting for clearance to leave.

By the time it took off, the injured fisherman had been carried on a stretcher from his boat to a waiting Dormobile ambulance and, like the aircraft, was heading for Barra's aerodrome. This is like few other airfields in the world, for it consists simply of a strip of firm sandy beach, with a single small wooden shack which serves as a control tower, booking office and passenger lounge. In place of the usual complex radio and radar aids, its electronic equipment comprises a 'walkie-talkie' radio, operated by Miss Kate MacPherson, who combines the jobs of airport manager, air traffic controller, booking clerk, receptionist and catering officer with her main task of running a local guest-house.

Operating a one-woman aerodrome is not without its problems. There was, for example, the time when deep holes kept appearing in the 'runway', threatening to interfere with the twice-weekly regular B.E.A. services. The mystery was solved when a local inhabitant was seen to arrive

The picture above shows a trawler arriving at Castle Bay, Barra, with a fisherman who has sustained a broken leg while at sea. The trawler has made for Castle Bay, because it is there that the Air Ambulance, a B.E.A. Heron, will pick up the patient and take him to hospital for treatment. The cover of this issue shows the nurse who travels with the Air Ambulance attending to the casualty before the flight southward. For the picture on which our cover is based, and for the illustrations to this article, we are indebted to British European Airways.

with a cart into which he began shovelling sand from the middle of the landing area. It transpired that the kind of sand found on this beach makes the best possible covering for the bottom of bird-cages, and the digger and his family had been 'exporting' it to the mainland for years. He was persuaded finally to dig somewhere else and Barra remained on the airline map.

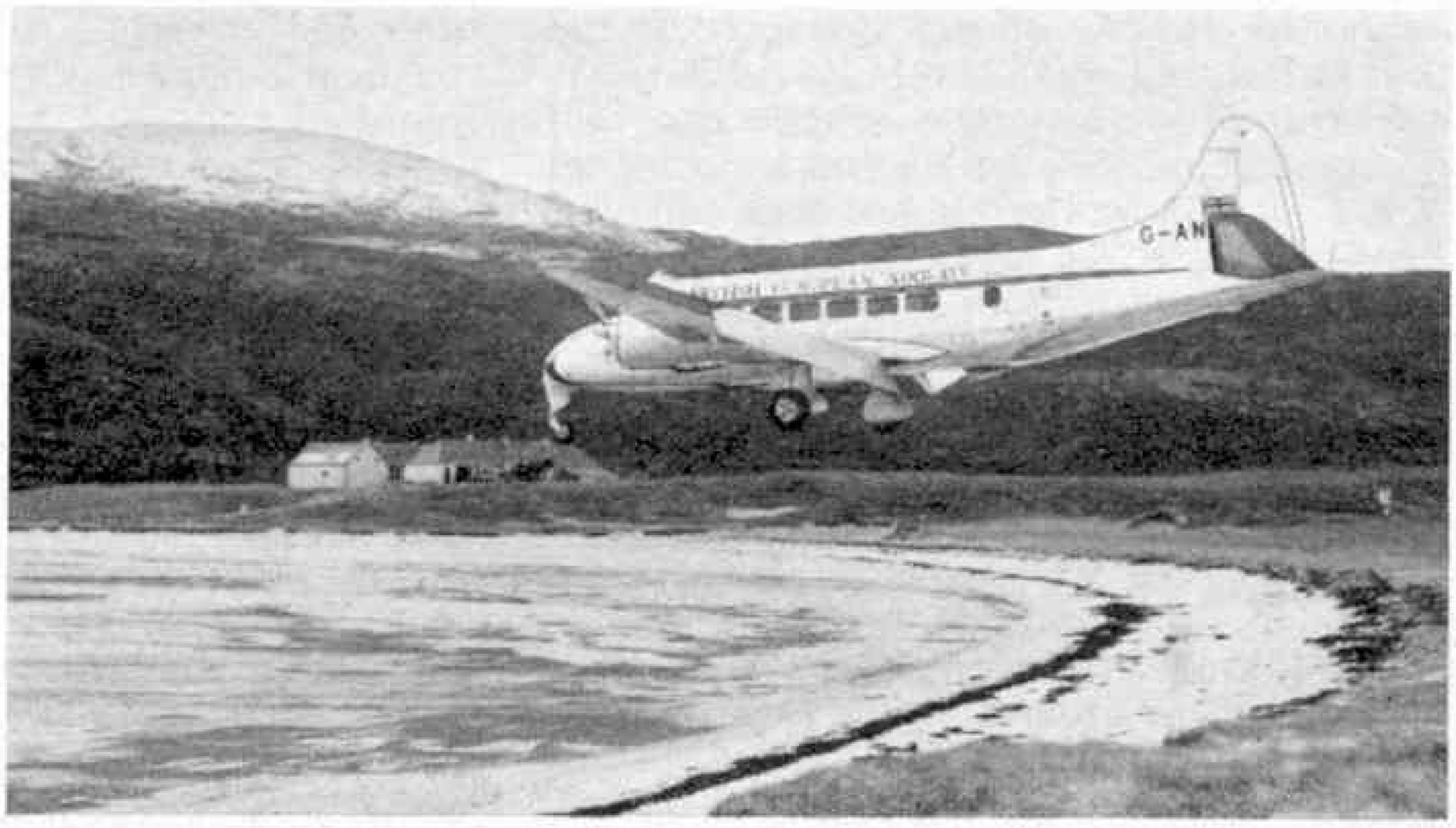
The nurse arrives from the Southern General Hospital, Renfrew, and is escorted to the B.E.A. Heron Ambulance aircraft by a Traffic Clerk.

As Captain Hoare approached the island, he could be confident, therefore, that the beach, washed and smoothed regularly by the tide, would be as safe for his lightly-loaded Heron as the most costly concrete runway at an international airport. Final confirmation came in soft Highland brogue through his earphones, as Miss MacPherson called through her 'walkie-talkie': "Hello X-ray Bravo, hello X-ray Bravo — O.K. to land. Over".

A slight movement of the controls was sufficient to bring the Heron into line with the beach, and as Captain Hoare throttled back it lost height gradually and made a feather-light touch-down on its sturdy fixed undercarriage. Deftly, he taxied it towards the waiting Dormobile, and in a matter of minutes after landing the fisherman was inside the cabin, being tucked between warm blankets by the nurse. A few more minutes, and Kate MacPherson was signalling "O.K. to take off", and the little Heron climbed gracefully towards Renfrew, where an ambulance waited to whisk the patient speedily to the Southern General Hospital.

Such an operation seems simple and matter-of-fact, and so it is on a day when the weather is good and the tides are right. But, being an emergency service, it has to operate all the time, and often the little Herons fly from Renfrew on days when normal air liners are grounded by bad weather. Then, the mercy flights demand all the courage, experience and skill that their aircrews can muster; and even this is not always sufficient, for in September 1957 Heron G-AOFY was lost and those on board killed whilst trying to land in bad weather at Islay to save the life of a seriously-ill woman.

More than 25 years have passed since the first air ambulance flight was made to Islay, on 8th May 1933. Further appeals for help soon followed, and the value of a properly-organised air ambulance service became so clear that Midland and Scottish Air Ferries undertook the task in the same year, flying twin-engined D.H. Dragons out of Renfrew.



The Air Ambulance about to land on the beach at Barra.

Since then, it has become almost a tradition for de Havilland aircraft to be used on the Service, which was taken over first by Northern Scottish Airways and then by B.E.A. when the Corporation was formed in 1946.

B.E.A. used D.H.89A Dragon Rapides for this work until March 1955, when the Herons entered service. These have since proved worthy successors to the gentle old biplanes, offering the same multi-engined dependability and the ability to fly from tiny airstrips, although they cruise at 165 m.p.h., compared with the Rapide's 117 m.p.h. Quite often Pionairs (improved Dakotas) have made ambulance flights to the larger Scottish airfields; but 85 per cent. of the calls for help come from the Western Isles and the Kintyre Peninsula, where even a Pionair is too big to land.

Since 1948, when the National Health Service was introduced, the cost of the Air Ambulance has been met by the Department of Health for Scotland, through the various Regional Hospital Boards, so that it is available free to the sick and the injured. It is not difficult to imagine the suffering that is saved by a smooth flight of perhaps an hour compared with a day's journey by boat in stormy weather, and sometimes the sea is so rough that surface travel would be completely impossible.

Places served by the Ambulance unit are Campbeltown, Islay, Tiree, Barra, Benbecula, Stornoway, Kirkwall (Orkney), Sumburgh (Shetland), Inverness, Wick, Aberdeen and Edinburgh. For many years the B.E.A. official-in-charge of the unit at Renfrew was Captain David Barclay, a veteran of so many mercy flights that half Scotland rejoiced when he was awarded an M.B.E. for his work. He has been followed by Captain R. F. New, who keeps two crews at round-the-clock readiness, taking spells of 24 hours on, 24 hours off.

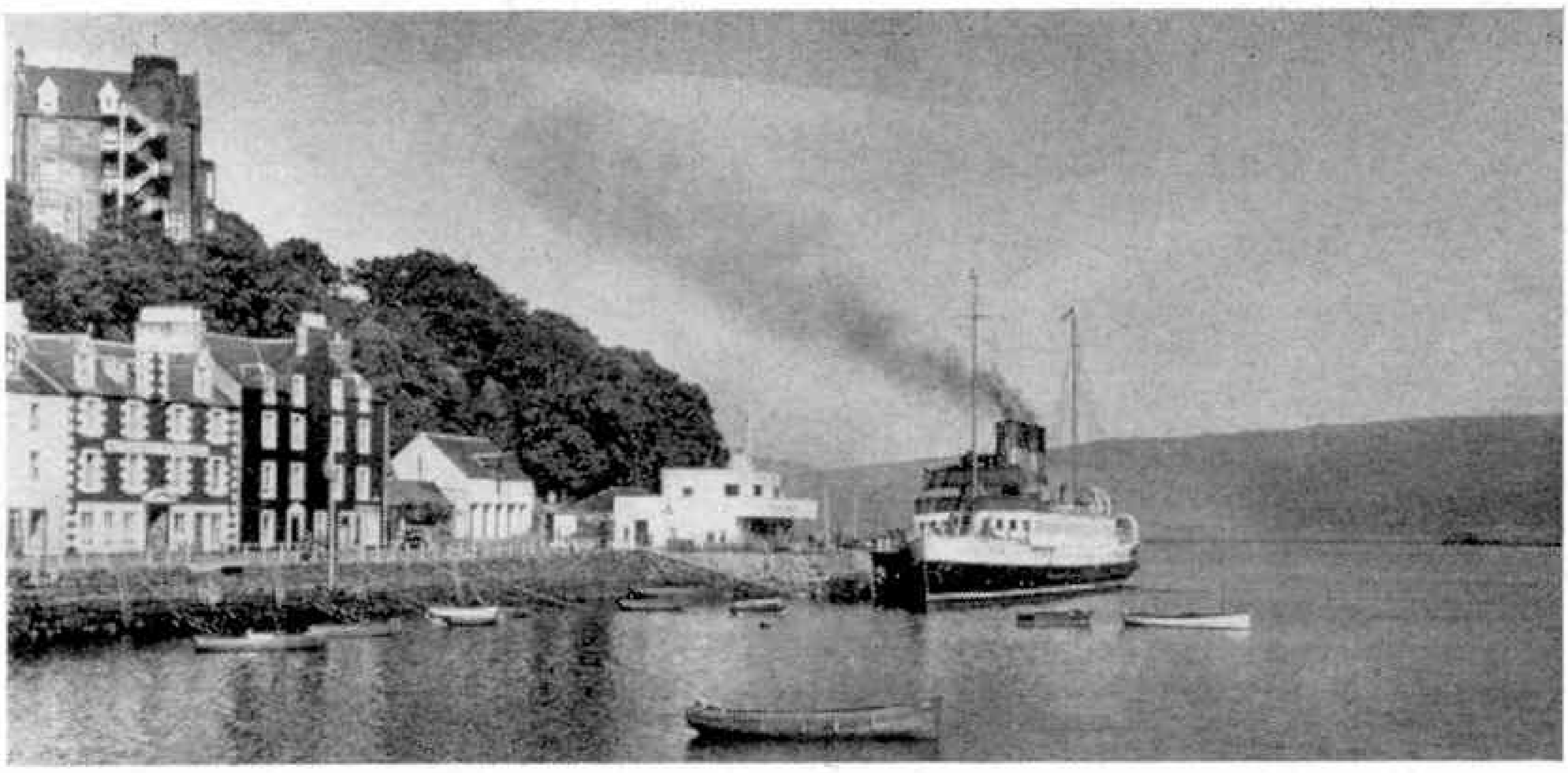
The Herons are always available for ambulance flights, but this does not mean they are parked permanently at Renfrew, waiting for an emergency call. In fact, as in the case of the Pionairs, they spend much of their time flying scheduled services, from which one or the other can be switched as needed.

Usually, the machinery of the Ambulance Service is set in motion by a local doctor, who contacts his nearest B.E.A. Superintendent, who in turn passes the message on to the B.E.A. Operations Room at Renfrew. Movement Control at the airport immediately call the B.E.A. Medical Branch, giving details of the request and diagnosis of the case, and are told of any special care or attention that may be required in flight in the patient's interests.

Above the nurse is seen attending to the patient before the flight back to Renfrew Airport.

It is necessary in most cases only to remove four of the 15 passenger seats and install in their place two cradles to support a specially-designed stretcher; but oxygen and other medical equipment can be provided when required.

During the last financial year of 1957/58, a total of 305 invalids were carried on 232 flights, representing more than 50,000 miles of flying. Altogether well over 4,000 patients have been carried by the Air Ambulance since it started and many of them owe their lives to the speed with which it flew them to hospital. But the value of the Service cannot be measured only in terms of statistics. Its real worth lies in the peace of mind it brings to countless homes in the remoter parts of Britain, by the knowledge that the finest medical care is only a short flight away.



David MacBrayne and his Steamers

By E. M. Patterson

IT is difficult to travel far in the West Highlands and Islands of Scotland today without meeting the name of MacBrayne. As that of the owners of the steamers linking the mainland with the islands of the Inner and Outer Hebrides, and also of road lorry and bus services, it has been familiar in Glasgow and north-west from that city for over a century.

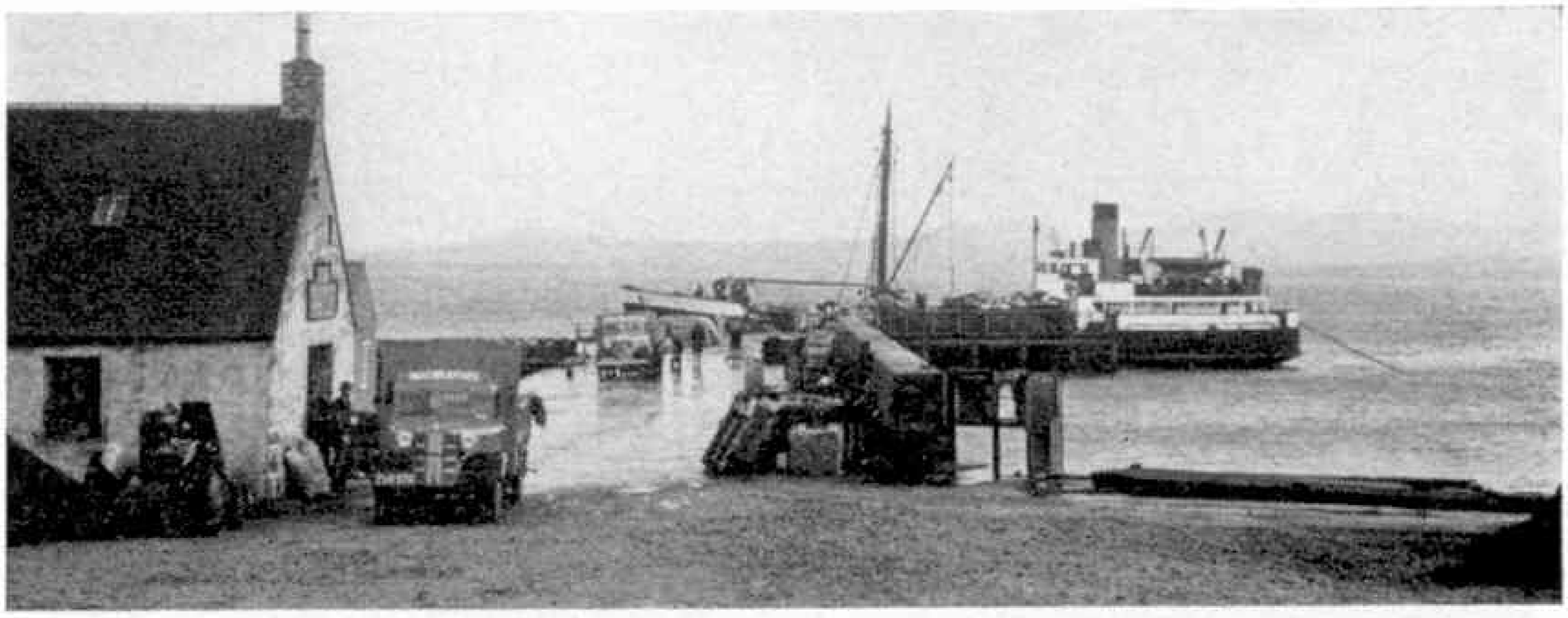
With its background of mountain peaks the western Scottish seaboard is geographically the most remote part of the British Isles, and the population is sparse. Communications are difficult because of the hills, and although road improvements have made the region more accessible in recent years, sea transport remains an essential part of the life of the West Highlander and the Hebridean. Into these parts the MacBrayne boats sail today, carrying their red and black funnels and their blue, red and white house flag along a coastline that is intricate and often cliff-bound, and maintaining Royal Mail, passenger and goods services all the year round in fair weather and in foul.

The scenic beauty of the West Coast of Scotland and the many islands off it is enjoyed every summer by thousands of holiday makers. There is trade too to be carried on throughout the year. The vessels that provide the two services have long been famous and we meet many of them in this article, which deals with the ships of a line carrying a name that has become a household word in the Hebrides and many parts of Scotland's mainland.

The region served by MacBraynes today corresponds roughly to that described by Dr. Fraser Darling in his book *West Highland Survey*. Dr. Darling tells us there that in an area of 8,600 square miles there live only 119,000 persons, fewer than in the city of Norwich. Railways reach the west coast only at Mallaig and at Kyle of Lochalsh. Much of the coast is open to the wild Atlantic gales, and the Minch, which separates the mainland from the Outer Hebrides, is notoriously stormy.

Before the beginning of the 19th century there were no regular sea services to the West Highland and island coasts. The Kintyre peninsula, reaching down the west side of the busy Firth of Clyde, forced a long and exposed sail around the Mull of Kintyre. It was not until 1801 that the Crinan Canal was opened across the peninsula between Ardrishaig and Crinan, and the journey between Glasgow and the west coast greatly shortened. In 1822 construction of the much longer Caledonian Canal permitted through sea traffic between Glasgow and Inverness.

Through these difficult seas, Henry Bell's tiny, wooden-hulled, paddle steamer *Comet* began in 1819 a pioneer service between Glasgow and Fort William. The Comet's engine developed a nominal 4 h.p. and her gross tonnage was a mere 24.6. On this route she lasted only a year, before being wrecked in a December storm in Loch



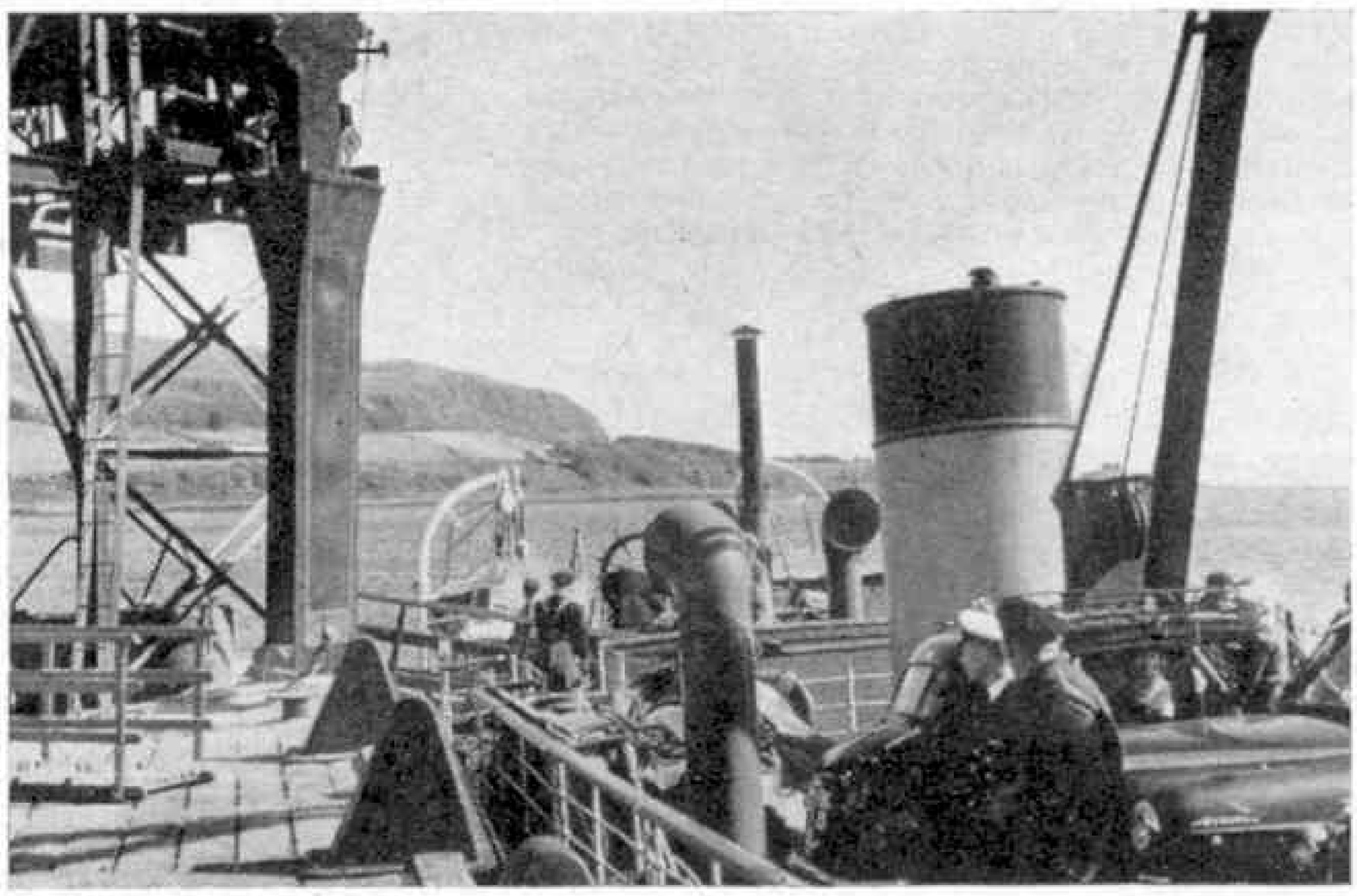
MacBrayne steamers are seen in the pictures at the head of these pages. Above is s.s. "Loch Frisa" at Bruichladdic Pier, Islay, and on the previous page is t.s.s. "King George V" at Tobermory, on the Isle of Mull.

Craignish. However, the *Comet* and her owners together ushered in a new era of transport for these parts, and she was speedily followed by other paddle boats, notably the *Highland Chieftain* and the second *Comet*, each only slightly bigger than their predecessor. In the early years of the 1820's, the bulk of the traffic was carried on two routes—from Glasgow to Fort William and from Glasgow to Tobermory on the Island of Mull.

During the 1830's the population of the region was at its greatest, and according to Dr. Fraser Darling was about twice its present day figure. Trade increased rapidly and quite a number of different steamship owners entered into competition. Out of them the firm of G. and J. Burns had risen to prominence by 1846, buying out some of the less successful rivals in the process. In that summer the steamer services covered the Glasgow-Fort William and Glasgow-Ardrishaig - Oban - Tobermory - Portree routes, while on Wednesdays G. and J. Burns' iron paddle-steamer *Dolphin* performed a day excursion from Oban to Staffa and Iona, thereby introducing tourists to a route that is still a popular one today as the round-Mull sail of t.s.s. *King George V*.

In 1847 these early tourists were followed by H.M. Queen Victoria on her first visit to the West Highlands, when she voyaged through the Crinan Canal. She was conveyed in the barge or track-boat *Sunbeam*, drawn by three track horses ridden by scarlet-uniformed postillions. With the monarch's visit on this, and on two subsequent occasions, West Highland tourist travel received a powerful impetus and the term Royal Route became fashionable and was used with good effect in tourist advertisements.

Expansion of the steamer trade was everywhere proceeding rapidly by mid-century and Messrs. Burns' interests had widened to include areas outside Scotland. They decided in 1851 to relinquish their Highland interests and transferred the ownership of eight boats and two barges to one David Hutcheson, who was their Chief Clerk. A noteworthy condition of the transfer was that a nephew of the Burns', thirty-seven year old David MacBrayne, became



The veteran motor vessel "Lochinvar" at Lochaline Pier, Morven.

one of the partners in the new firm. He was an able and active member of the Hutcheson firm and after the retirement of the elderly David Hutcheson, and then of his brother Alexander, MacBrayne was left in command. So it came about in 1879 that the name of the concern was changed from that of David Hutcheson and Co. to David MacBrayne. The fleet consisted then of 12 steamers.

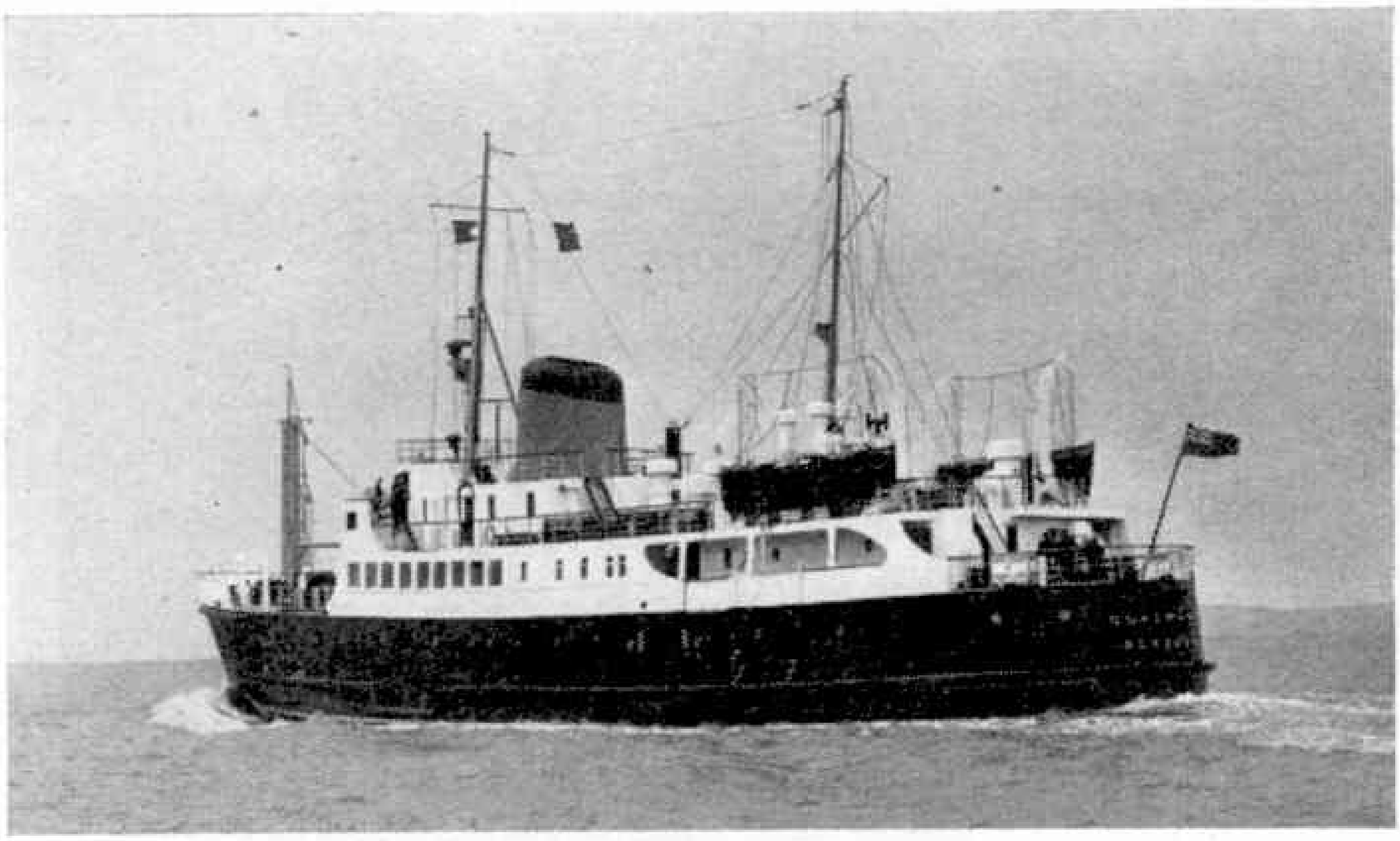
David MacBrayne had already foreseen the continuing expansion of the west coast traffic and he had been instrumental in purchasing a succession of larger and faster steamers to deal with this development. Already in 1864 his *Iona*, a graceful paddle boat of 393 tons, had entered the waters of the Clyde. Transferred to the MacBrayne fleet in the 1879 change of name, she served her owners well for 72 years, operating for the most part from Ardrishaig.

Two years after the *Iona*, three notable steamers were added to the expanding fleet—the *Gondolier*, *Chevalier* and *Linnet*. The first two of these were paddlers and worked on the Caledonian Canal and on the Corpach-Crinan runs respectively. The *Gondolier* had a life of 70 years. The little *Linnet* never wandered far from her base on the Crinan Canal, and acted as a sort of floating tram-car there until 1929.

Without a doubt, the most famous of the MacBrayne paddle boats was the beautiful twin-funnelled *Columba*, launched by Thomsons of Clydebank in 1878. She was constructed of steel, then regarded as a novelty, and had a displacement of nearly 600 tons. Her length of 301 feet was never exceeded by any Clyde river steamer. She was well known for her comfortable passenger quarters, and on board she had the joint innovations of a barber's shop and a Post Office, the latter using its own postmark.

The *Columba* was used on the Glasgow to Ardrishaig service. To the regret of many, she was scrapped in 1936. When she was withdrawn, it was decided to perpetuate her name on the Ardrishaig run by naming her successor the *Saint Columba*. This boat has been almost as popular as the old *Columba*. With a gross tonnage of 851, she had the distinction of being the only 3-funnelled Clyde river steamer. The *Saint Columba* was withdrawn from service at the end of September 1958.

Between 1879 and 1905, David MacBrayne had built or purchased 37 vessels for his fleet and by the latter year it totalled 32 steamers. Through the years the firm and its fleet have seen many changes. The wooden paddle boats were succeeded by their iron counterparts, and those in turn by steel. Now the paddle boats of the fleet are only a memory and diesel propulsion is largely succeeding the turbine. In 1908 the fleet attained its maximum size, when 37 ships were listed.



The newest MacBrayne vessel, and the pride of the fleet, is R.M.S. "Claymore," pictured above.

Two years previously the company had entered upon a new venture by operating road services, running a single bus from Fort William to North Ballachulish. Now over 100 buses work, both on the mainland between Glasgow and Inverness and on some of the islands.

In the second World War the last of the paddle steamers were withdrawn. The Admiralty took the old *Gondolier* from the Caledonian Canal and sank her at Scapa Flow as a block ship, while the *Pioneer* served her country afloat as a naval research vessel.

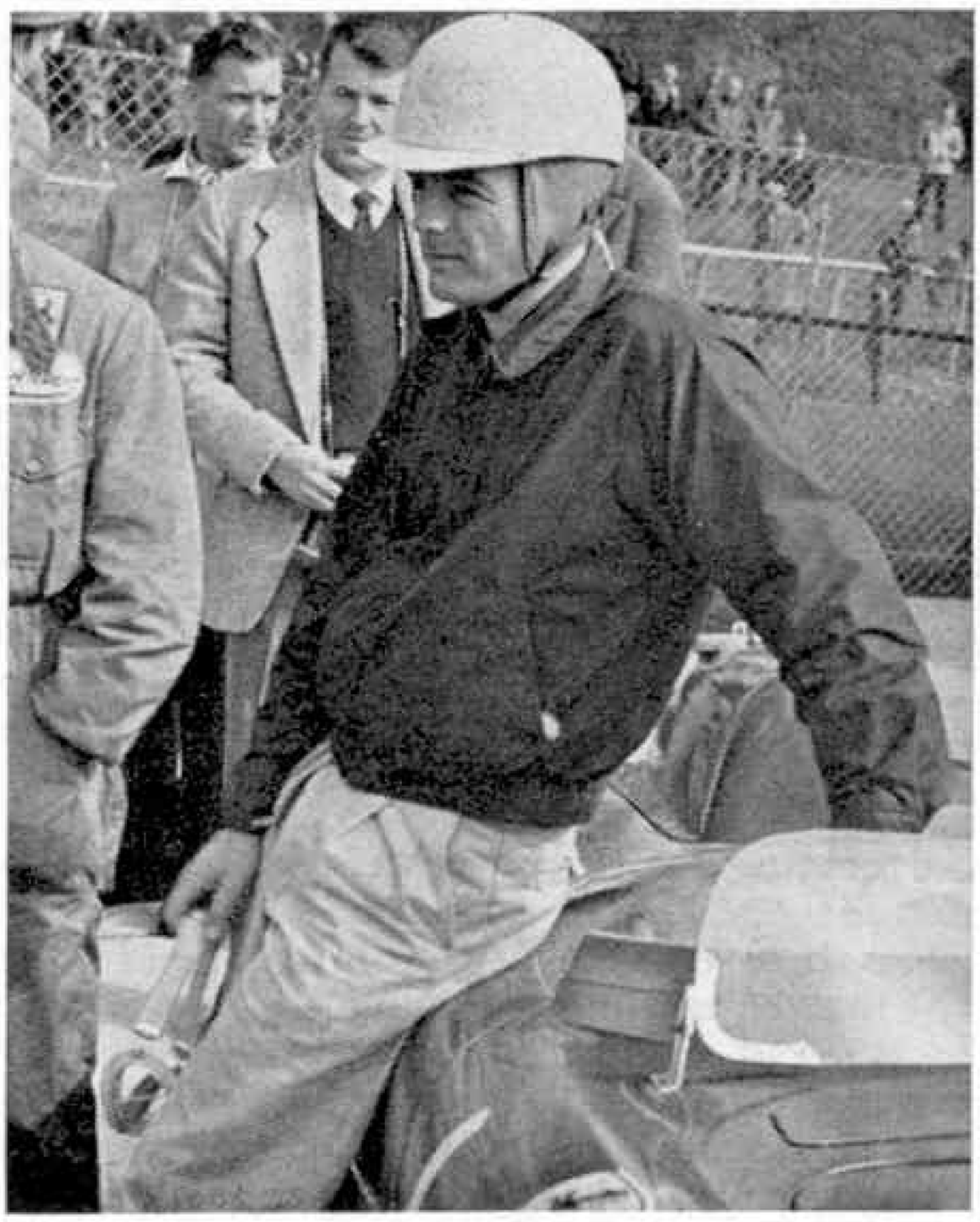
The expansion of road transport of passengers and goods has naturally had its effect on the steamer services. The old Crinan-Oban-Fort (*Continued on page 130*)

Road and Track

By Peter Lewis

WHEN I visit Goodwood on Easter Monday for the first International motor-race Meeting of the 1959 season, I shall remember—together with many other followers of the sport—how John Michael Hawthorn made his sensational debut with the Cooper-Bristol at the Sussex track on Easter Monday 1952.

From that day, when he astonished the Goodwood crowds with his skill, Mike's motor-racing career was a mixture of triumph and tragedy, culminating in that greatest of all honours—the Driver's Championship of the World. I shall remember him as a man who displayed the finest qualities of sportsmanship and courage, a man who refused to accept defeat.



Philip T. Hill, of Santa Monica, U.S.A. He has all the qualities so necessary in a top-flight G.P. driver.

Only a week or so before he so tragically died, Mike told a group of us at a London dinner what he felt about the 1959 season. He did not see it as a dull, uninteresting season by any means and was emphatic that there will be some very exciting racing. His reasons were centred around a tough, wiry little Californian who will drive for Ferrari again this year. His name is Phil Hill.

The American, who will be 32 years old in April, is a seasoned sports car driver and first competed with a Ferrari in 1956. That year he won the Swedish G.P., co-driving with M. Trintignant, and the Messina 5 Hour Race, driving solo. In 1957 he drove again for Ferrari and, teamed with the late Peter Collins, won the Venezuelan G.P., and clinched the sports car championship for the Italian team.

The Hill/Collins combination proved a formidable one and last year the American really hit the headlines. In the Argentine and at Sebring victory went to Collins and Hill, while at Le Mans Hill shared the winning Ferrari with Gendebien.

It was during the 1958 season that Phil Hill "arrived" in Formula I racing. I remember watching him come into the pits with his Ferrari at the Nurburgring after the German G.P. last year. As always it had been a gruelling race, and Hill had driven steadily and well. He looked remarkably fit and still very much on his toes. I told myself that here was someone to watch.

Sure enough he put up sensational performances at Monza—fastest lap as well!—and at Casablanca, taking third place in each race, and his masterly driving and obedience to team discipline was of great assistance in clinching the World Championship for Mike Hawthorn.

I cannot close the subject of Grand Prix racing without paying a tribute to Mr. G. A. Vandervell. What a magnificent show he has put up since the appearance of the original Vanwall, a 2-litre car driven by Alan Brown. This was at Silverstone in 1954, and since then Mr. Vandervell has soldiered on doggedly, steadily building up his list of successes since the never-to-be-forgotten day at Aintree in July 1957, when Stirling Moss won the British G.P. in a Vanwall.

Last season saw the green cars winning six out of the ten World Championship events, and the newly instituted

The Lotus Seven, powered with either a Ford Anglia or Coventry Climax engine. Watch out for the car this season.

Manufacturers' Championship. It is indeed a sad thought that no Vanwalls will race this year, but at least we can thank Mr. Vandervell and all those who belonged to the Acton *equipe* for putting Great Britain well and truly on top during 1958.

The Lotus Seven

Those of you who went to Brands Hatch on Boxing Day, or watched the racing on television, will recall that Graham Hill went remarkably quickly in a two-seater Lotus Seven, identical in appearance to the one illustrated on this page, and won the race for sports cars up to 1,100 c.c. This particular Lotus was fitted with a 1,100 c.c. single overhead camshaft Coventry Climax engine in Stage I tune, giving 75 b.h.p. at 6,250 r.p.m.

The Climax power unit certainly makes this innocent-looking two-seater tourer a veritable wolf in sheep's clothing, as I found out when I went for a run in the Brands Hatch Seven soon after Christmas. It was then that Colin Bennett, the enthusiastic and able P.R.O. of Lotus, told me about the three cars available in the Seven range—the Basic, the Export and the Super.

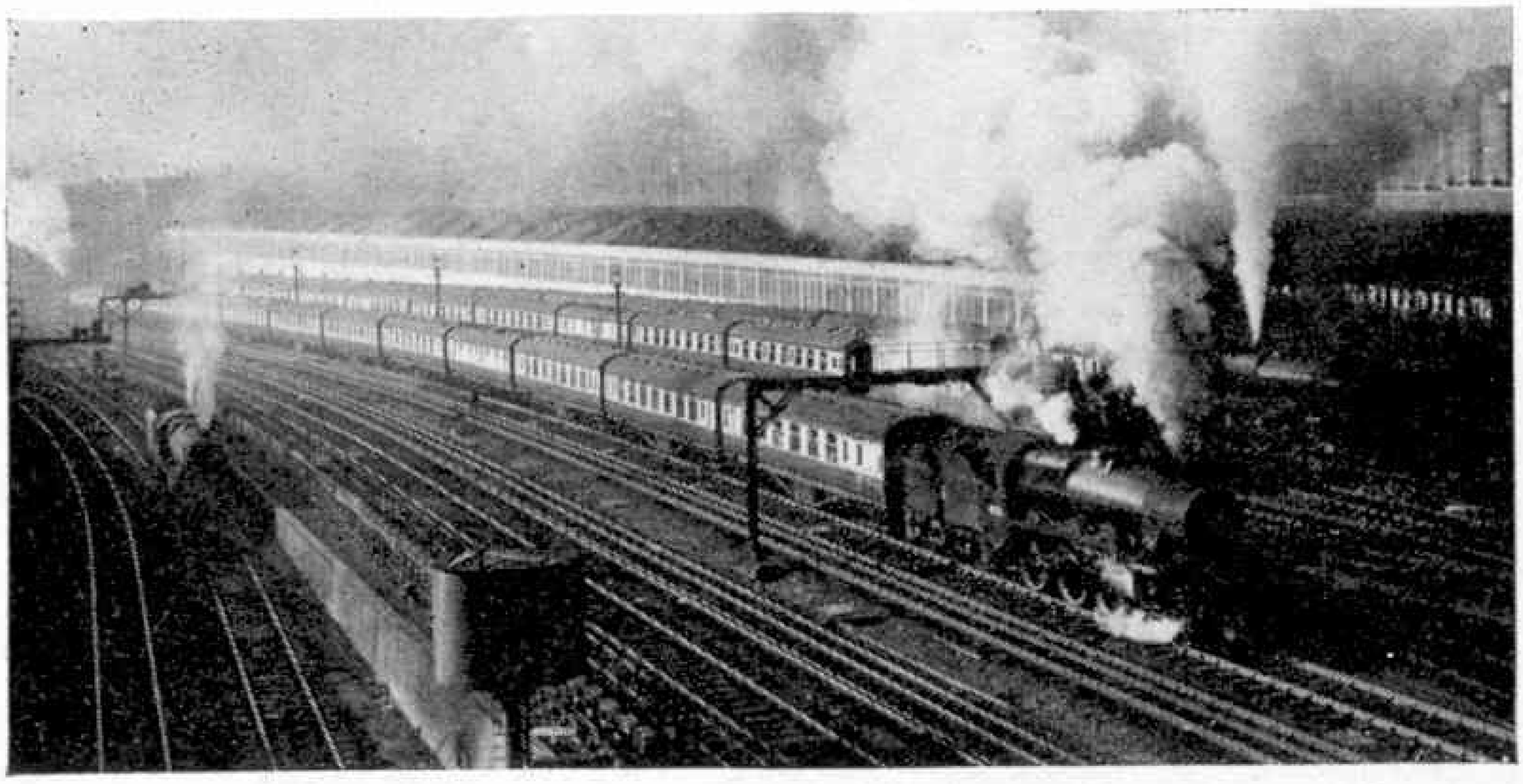
All three Sevens, which can be purchased as kits of parts and built on a "do it yourself" basis, make use of a multi-tubular space frame developed from the highly successful Lotus Eleven at Le Mans. They also have independent front suspension, identical to that of the Lotus Eleven, and a proprietary "live" rear axle mounted as in the Climax-powered Eleven Club model. The result is the sort of excellent handling and road-holding that one always associates with the name Lotus.

All three Sevens have hydraulic brakes and Lotus-modified proprietary rack and pinion steering, and the main difference in the cars is in the power unit and method of getting the power to the rear wheels. The Basic and Export both use the Ford Anglia 1,172 c.c. engine, with a three-speed Ford gear-box, with the compression of the sturdy 100 E power unit raised on the Export model and coupled with stronger valve springs, more efficient exhaust and inlet manifolding, twin S.U. carburetters and close ratio gears.

The Super, with the Climax engine in Stage I tune, has a four branch exhaust manifold, twin S.U.'s, competition electrics and a lightweight four-speed gear-box that can have close ratios at extra cost.

Only recently a group of three enthusiasts built a Basic Seven in 11 hrs. 40 min., having collected the kit from the Lotus works after limited partial assembly.

Kit of parts laid out, prior to assembly of a Lotus Seven in Basic trim. Assembly takes less than twelve hours.



A striking photograph on Camden bank by R. J. Blenkinsop. A Jubilee, No. 45721 "Impregnable", tackles the ascent with a twelve-coach train, assisted in rear by an 0-6-0 tank.

Railway Notes

By R. A. H. Weight

Goods Runs on the L.M.R.

Along the Midland Division main line, with its numerous gradients, although there has been a small influx of Britannia 4–6–2 and Scot 4–6–0 more powerful locomotives, the 6P Jubilee 3-cylindered 4-6-0s are still a mainstay of the express services that are tightly timed in most cases south of Nottingham or Derby, while north thereof also to Manchester it is what is called a "hard road".

On the 12.15 p.m. from St. Pancras to Leeds and Bradford, for example, 6P No. 45557 *New Brunswick*, stationed and ably manned at Kentish Town, with 9-on, maximum load, 325-330 tons full, worked hard to keep the exacting fastest schedule as far as Trent Junction with two intermediate stops. After attaining an initial top speed of 77 m.p.h. near Luton, and following climbs out of London, a maximum of 90 m.p.h. on the descent towards Bedford was followed by a permanent-way speed restriction. Then after breasting the 1 in 119 Sharnbrook bank without dropping below 54 m.p.h., followed by 78 m.p.h. at Irchester, the 12.15 drew gently to its first halt at Kettering only half a minute late, in 71½ min. for 72 miles. There was only a deficit of a few seconds at Leicester, 27 miles start to stop in just over 31 mins. after a signal check, breasting two summits and twice accelerating to 76 m.p.h. Almost on the level forward to Trent, with speeds up to 79-77 m.p.h., there was a slight gain on the mile-a-minute booking along 20¾ miles. So after a grand effort the train, which I have often known to be hauled by two engines, was now to time having made three passenger stops in 48 miles.

Engine and crew continued through to Leeds, proving masters of the schedule and also of the many climbs, slowings and other hazards of an arduous industrial and hilly route, calling at Sheffield. Leeds was reached by 4.22 p.m., well ahead of the quickest 4¼-hr. timing from St. Pancras, allowing more margin over the later stages.

I have notes of an excellent run with a similar load and locomotive by the 9.15 a.m. *Waverley*, bound for Edinburgh. Kettering was passed in 72 min., and thence via the Melton Mowbray line I described not long ago, in spite of a repair slack, the train reached its first stop at Nottingham punctually—123½ miles in 124 min.—and Leeds was reached before time in 4¼ hours.

The name *Robin Hood Express* has been applied to the 8.15 a.m. Nottingham–St. Pancras fast train, returning at 4.45 p.m.

Another Jubilee, No. 45741 *Leinster*, with 10 coaches from Wolverhampton, Birmingham and Coventry to Euston, ran into the London terminus 10 min. before time. Every signal was clear, but an extra stop was made on the through line at Rugby, whence the easily graded 82½ miles were covered in 79 min. equalling the fastest timing given to the previous afternoon express until last September. Extra allowances apply now, as already announced, to cover delays due to engineering work prior to electrification and part of the modernisation scheme. This had not been started when this run took place, so a keen Bushbury (Wolverhampton) crew on a good engine covered a full-speed stretch of 70 miles in just under 1 hr. at an average of 70 m.p.h.!

Before the schedules were eased, on a very fast and heavy express, *The Lancastrian*, early Stanier 8P 4–6–2 No. 46209 *Princess Beatrice*, bound for Liverpool, had "14-on" or 475 tons behind the tender. After taking up passengers at Watford Junction, the train left a little late, faced with a 136-min. timing for 140½ miles to the next stop at Crewe, including three repair slowings. The task would certainly have been achieved, but unfortunately there was a short signal stop at Tamworth, 92½ miles from Watford, reached in 87 min. as booked, and a signal slowing outside Crewe. Even so less than 3 min. were dropped and an average of over 60 m.p.h. was maintained overall, with four maxima around 80–83 m.p.h., and hard work uphill.

Royal Scot 7P 4–6–0 No. 46134 *The Cheshire Regiment*, with 12 coaches or 400 tons, made a flying finish after a number of stops working from Crewe with Camden driver and fireman on the 8.30 a.m. Carlisle–Euston principal stations train. From the last halt at Bletchley, the 46¾ miles into the London terminus took only 43¾ min., 37 of them being reeled off at an average of 74 m.p.h., with a maximum of 86 approaching Watford on the gradual descent from Tring. So a slightly late start was converted to early arrival.

On the *Royal Scot* Glasgow–London express, running non-stop over the 299 miles from Carlisle, the S.R.-built 1,750 h.p. diesel-electric locomotive, No. 10203, hauling throughout 13 coaches, or about 470 tons, on several occasions made up time last summer, when the fast timing was 5 hr. 18 min. (318 min.) unaided. Each way this famous train is worked sometimes by two diesels, Nos. 10000–1, or 10201–2, of rather less power, or by a large steam Pacific.

Messrs. D. S. M. Barrie, B. C. Bending and N. Harvey have kindly supplied logs quoted herein.

Locomotive Jottings

New Warship class diesel-hydraulic express locomotives are A1A–A1A Nos. D602–3, named respectively *Bulldog* and *Conquest*. New Bo–Bos are Nos. D801–2, *Vanguard* and *Formidable*. The first three are allocated to 83D, Laira, Plymouth.

The 3000 class, ex-G.C.R.-R.O.D. type, 2–8–0, is extinct on the W.R. Five of the latest series 2–10–0s are announced to be shedded at Old Oak, London. Pannier tanks, Nos. 6412, 6439, one at each end to reduce weight on bridges, green and clean, hauled an 8-coach special train organised by the Stephenson Locomotive Society amid snow and sunshine through the lovely Wye valley, Chepstow–Monmouth–Ross, on the day these branch lines were closed to regular passenger traffic. Other engines of the W.R. 0–6–0T pannier type, have been on various London and country branch, S.R. trials.

Sunshafts at Newcastle Central pick out the bulky form of Pacific No. 60133. "Pommern". This striking photograph was taken by J. J. Gill.

Withdrawals from service include S.R. King Arthur 4–6–0s, Nos. 30454 *Queen Guinevere* and 30766 *Sir Geraint*, and from the L.M.R. the Fell 4–8–4 experimental and complicated diesel locomotive No. 10100.

More S.R. light Pacifics have been rebuilt and others are now being modified similarly, including several working on the Western Division. The powerful English Electric Company's *Deltic* diesel-electric express locomotive, familiar on Liverpool–Euston or other L.M. fast trains for some time, was to change after January to a spell of trial running with expresses to and from King's Cross. Jubilee 4–6–0 No. 45610 has been renamed *Ghana* instead of *Gold Coast*.

Continuing series previously mentioned, further additions have been made to the stocks of diesel locomotives at various depots. No. E5000, the first of the new S.R. electric mixed traffic engines, has been noted hauling trial Victoria–Newhaven expresses with heavy loads.

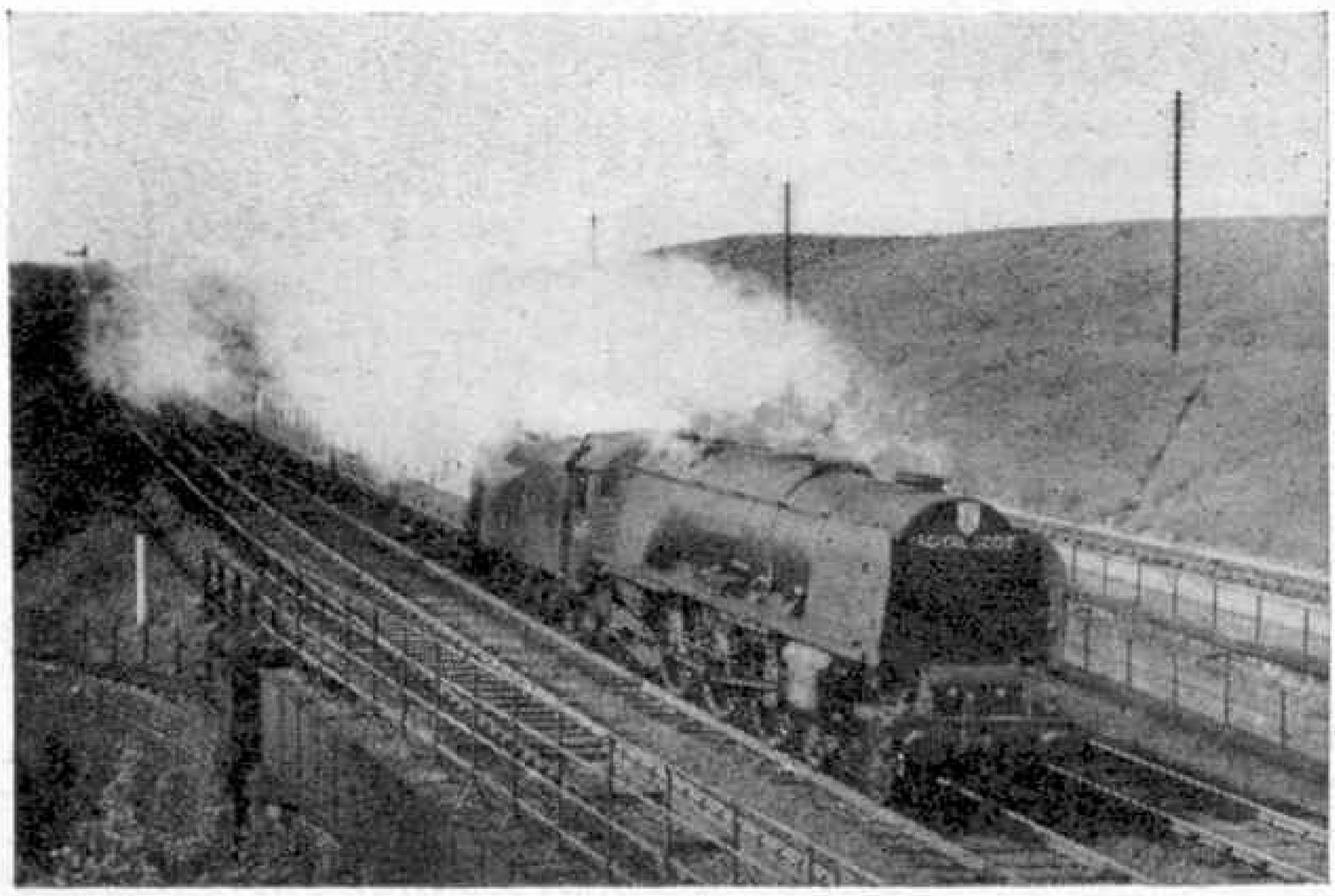
Many Diesel Developments

Numerous additional services have been scheduled for introduction during operation of the current timetables. Two-car diesel units are running through between Perth and Arbroath, calling at the Tay Bridge main line station in Dundee, and thence along part of the East Coast route, with additional journeys between Arbroath and Dundee. One coach in each set is powered by two 6-cylinder horizontal, underfloor engines developing 150 h.p., driving through a fluid flywheel and a four-speed epicyclic gearbox coupled to one of the bogie axles. Like others they are comfortably equipped in latest style, affording heating and good lighting, with excellent side, front or backward views from windows. They were built by the Metropolitan-Cammell Carriage and Wagon Co. Ltd. Dundee, West, is used by express steam trains to and from Glasgow; the local East passenger station has been closed.

Similarly improved and usually more frequent services are announced between various Midlands towns, in the Liverpool–Wigan area, around Bristol and Chippenham, from Ilkley and York, along more East Anglian routes as part of Great Eastern Line speed-up and timetable reorganisation, on branch or outer suburban tracks in the King's Cross and Paddington districts, and elsewhere. Single railbuses have enlivened transit facilities on the Gloucestershire Cirencester and Tetbury branches from Kemble, a junction on the Swindon–Gloucester main line.

A large diesel maintenance depot has been brought into use at Stratford, E.R. Others for servicing have been completed at Cambridge, Buxton and Stoke-on-Trent. More are under construction in several Regions.

An example of lively running on fast bookings by a 6-car diesel train was recorded by Mr. Barrie. From a start at Chester, the Steel Works approaching Crewe, 19½ miles, were passed in 19¼ min. and Crewe station after a signal stop reached in less than the 25 min. allowed. Along the Potteries route 14½ miles from Longton to Uttoxeter took only 15½ min., and thence non-stop to Derby, 19 miles in 20½ min., including junction slowings and maximum speeds of 72-73½ m.p.h. at a number of points throughout, 5-6 minutes were gained!



L.M.R. No. 46236 "City of Bradford" speeds southward past Wolverton with the up "Royal Scot". This former streamliner now has a standard smoke-box and chimney, as shown. Photograph by D. Ives.

Indians of the Plains

By J. Barras Walker, A.I.B.P., A.R.P.S.

THERE is probably no subject of greater interest, especially to the younger ones of us, than the North American Indian. Unfortunately those legendary figures, whether they be the Hurons or Iroquois of the Eastern forests, the Comanches or the Apaches of the American Southwest, or the Sioux and Blackfeet of the Great Plains, come to us mostly through the colourful but not always accurate channels of the motion picture and the comic book.

This is true even in North America, so any door that opens to us a true, fascinating, and thoroughly exciting view of the true life of these people is of real value. Such a door exists in the Museum of the Plains Indian at Browning in Montana, in the United States. Browning is the headquarters of the one and a half million acre reservation of the Piegan Tribe of the Blackfeet Nation. Adjoining it across the Canadian border to the north is the reservation of the Blood Tribe, while the Blackfeet proper are again to the north of that.

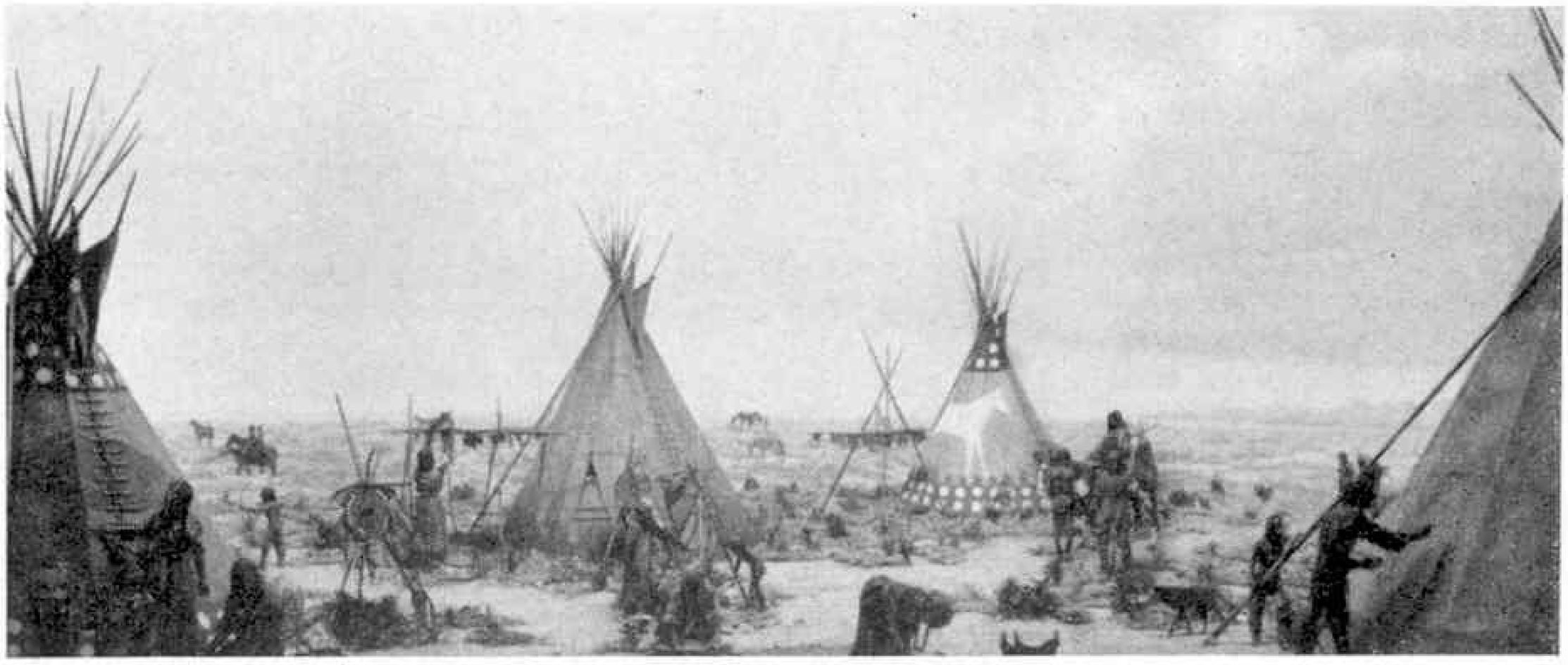
Before the Indians of the Plains acquired the horse they used dogs for carrying their belongings, which were slung on poles trailing on the ground.

The Blackfeet were perhaps the most feared and most respected of the Plains Indians. They took quite a beating way back in history when neighbouring tribes acquired the use of the horse before them. But once they too had acquired this strange creature, offspring of horses brought over by the Spanish Conquistadores after Colombus, they regained their greatness to such an extent that at that point in North American history when the movement westward brought on the Indian wars, the United States Government was only too ready to grant what the Blackfeet asked. In consequence the Blackfeet came out of it all very well placed as far as lands and grants were concerned.

It might be added that besides being fearsome, the Blackfeet were also wise. Seeing the white man's coming as inevitable, they traded on their fearsome reputations to make a good thing out of a dubious future!

The Museum at Browning is concerned, not only with the Blackfeet Nation, but with all the Plains Indians. In it is recorded in Indian art and handiwork the lives of many famous tribes, the Sioux, the Mandans, the Cheyenne, the Arapahoe, the Shoshone and many others besides the Blackfeet themselves, and the whole is something of absorbing interest to young and old alike. The Museum is also the centre of research work into the history of thirty tribes that inhabited the plains, and all sculpture, carved panels, paintings and decorative iron work is by Indian artists.

Probably the most interesting feature of the institution is a series of dioramas, in which are beautiful models depicting Indian life on the plains in the days when the bison roamed the prairies in millions. For the bison was the staff of life to the Indian. It gave him meat, clothes and shelter, its hides supplying his clothes and his teepees



Life goes on in a typical Plains Indian village of tepees made of bison hides.

or tents, and it was only the extermination of those huge herds by slaughtering white hunters that brought an end to the Indian's reign and his way of life.

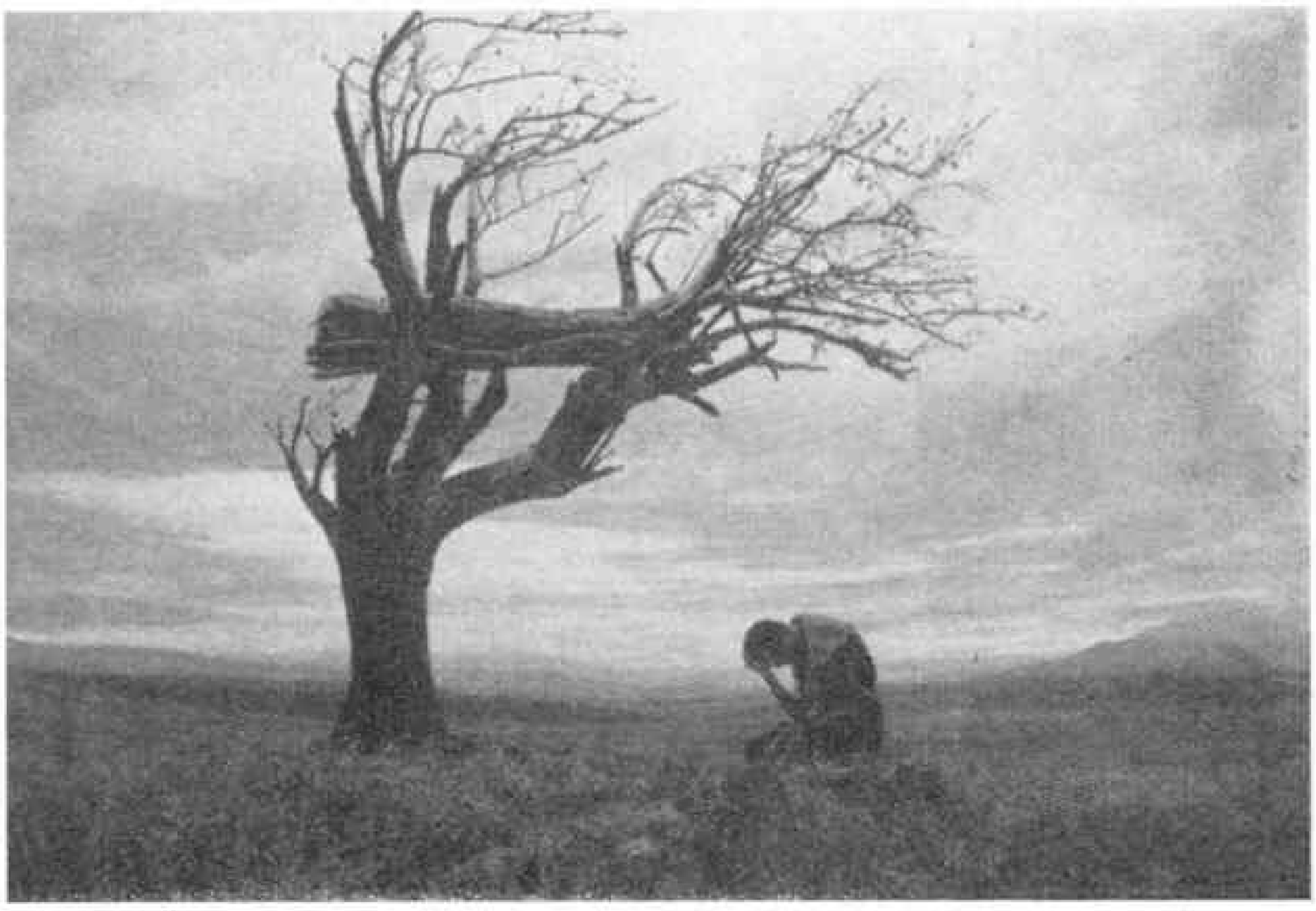
Photographs of some of these dioramas, many of which are several feet long, are reproduced as illustrations to this article, but there are many more than can be dealt with here. Details are accurate and fine, and regarding the groups in their native settings is like looking through a window into the actual scene. The diorama of a typical Plains Indian village shows details of the teepees, the camp fire, squaws curing skins, children practising with their bows and arrows, and braves talking with one of their company who has just returned from a scouting mission. A second rightly shows us a Plains Indian village on the move, for these tribes were semi-nomadic and changed their locations to follow the great bison herds that were their life. The carrying poles known as "travois" are evident on their horses. These poles were also used in making the frameworks of their teepees, and the hides used as the covering and other belongings can be seen rolled and attached to the trailing poles. In the distance may be seen one of the scouts riding out on the flank to watch against surprise attack from a marauding band from some other tribe.

Before the Indian had the horse he used dogs as beasts of burden. Their loads were carried on smaller "travois" attached to the dogs' backs, as can be seen in one of the accompanying pictures.

The Indian was devout and religious, believing in a Hereafter, and he endowed various natural phenomena with spiritual powers. The Sun was one of these powers and one large diorama depicting Indians of the Arapahoe tribe shows the Sun Dance, in which the men danced around a central pole, playing on bone and reed whistles with a choral group accompanying them. This dance lasted for a considerable time, the whole village participating. The white-painted and decorated men carried on the dance with the greatest vigour to the point when exhaustion caused them to slump on the ground.

An Indian village on the move, with everything the inhabitants possess, including rolled-up tepees, carried on poles trailing behind the horses.

Lastly comes a rather poignant diorama, very bleak and not so full of characters as the foregoing ones. This represents a Blackfeet burial. The dead warrior, in his finest clothes and wrapped in bark, lies in the branches of a tree while his wife mourns him below, all in the complete solitude of the wide plains where these people dwelled so long.



The last rites of a Blackfeet Indian.

One leaves the Museum, no matter what one's age, with a new interest in the legends the cinema and adventure books have brought us. Most people have now changed ideas about them. They have come to think of Indians that were "bad medicine," treacherous, always stern and saying little but "Ugh!" It is very refreshing to find that the Plains Indian was within the circumstances of his environment much as people everywhere. True he was a particularly dashing and exciting character, and the tribes were possibly the finest light cavalry the world has known. But he was religious, he had his laws and he enforced them. He lived hard and worked hard, had a great fondness for practical jokes, was no more honest or dishonest than any other man, but perhaps enforced his justice a little more sternly.

The chiefs too were not just warriors. Although many of the war chiefs were great military tacticians, others were great leaders and great statesmen. When we discover from such a source as this Museum what the North American Indian of the Plains really was, we find in his story much more substance than mere legend!

Famous River of Calcutta—*(Continued from page 123)*

Pagoda." But it added, "—or Pott's Folly."

This was a three-tiered brick tower, 60 ft. or more in height, and of no particular architectural style unless there was a flavour of Tibet about its eaves. The roofs had sprouted grass, and even a few bushes, and at the very summit the Port Commissioners' intrepid surveyors had erected a small steel tripod as their mark. This was the reason for our interest in this edifice with the curious name.

But why Pott's Folly? Well, Robert Pott was a gentleman of Calcutta who in 1782 brought out from London a famous actress of the day, Emily Warren, whom he wished to marry. Pott met his bride-to-be at Madras, to accompany her on the last stage of the long journey, but almost within sight of her destination she died very suddenly just off the village of Kulpi. She was buried in Calcutta, but Pott also erected a memorial on the bank of the river opposite where she died.

Kulpi was our last halt, and next day the *Dumayne* hastened back to Calcutta. We turned the great bend above Diamond Harbour, and sped past the *James and Mary* without a qualm—and why not, with our mere thirteen feet draught? We steamed on past the jute mills which manufacture between them a million tons of "gunnies" every year for a world ever hungry for its sugar and potato bags, past oddly named Buj Buj, Calcutta's oil port, past the Botanical Gardens where stands what is claimed to be the biggest tree in the world, and so to Garden Reach with its shipyards and big houses and vessels at anchor.

A few hundred yards more, the dock entrances were astern and we were anchoring at our home moorings, within sight of historic Fort William.

Easy Model-Building—*(Continued from page 133)*

Parts required to build the model Roundabout: 6 of No. 2; 8 of No. 5; 5 of No. 10; 2 of No. 11; 8 of No. 12; 1 of No. 17; 1 of No. 19g; 3 of No. 22; 1 of No. 24; 2 of No. 35; 52 of No. 37a; 50 of No. 37b; 9 of No. 38; 1 of No. 40; 1 of No. 44; 2 of No. 48a; 1 of No. 52; 4 of No. 90a; 2 of No. 111c; 2 of No. 125; 1 of No. 126; 2 of No. 126a; 2 of No. 188; 2 of No. 190; 2 of No. 199; 2 of No. 200; 2 of No. 214; 4 of No. 215; 4 of No. 221.

Parts required to build the Turntable Fire Escape: 4 of No. 2; 4 of No. 5; 4 of No. 10; 5 of No. 12; 2 of No. 16; 2 of No. 17; 1 of No. 19s; 4 of No. 22; 1 of No. 24; 4 of No. 35; 28 of No. 37a; 24 of No. 37b; 6 of No. 38; 1 of No. 40; 2 of No. 48a; 1 of No. 52; 2 of No. 90a; 4 of No. 111c; 1 of No. 125; 2 of No. 126; 2 of No. 126a; 4 of No. 142c; 2 of No. 189.

Among the Model-Builders—*(Continued from page 145)*

Fishplate 4. The track is constructed by bolting the two 1" Strips to the lugs of the Double Bracket. The two 2½" Strips are then joined to the Fishplate and bolted on to the Double Bracket. As many of these sections as are desired can be built and then linked together by 1½" Rods held in place by Spring Clips.

In each second section the 1½" Strips should be spaced from the Double Bracket by a Washer.

One of the many other ways of making creeper track is illustrated in Fig. 2, on page 145. The method of construction will be obvious from the picture.

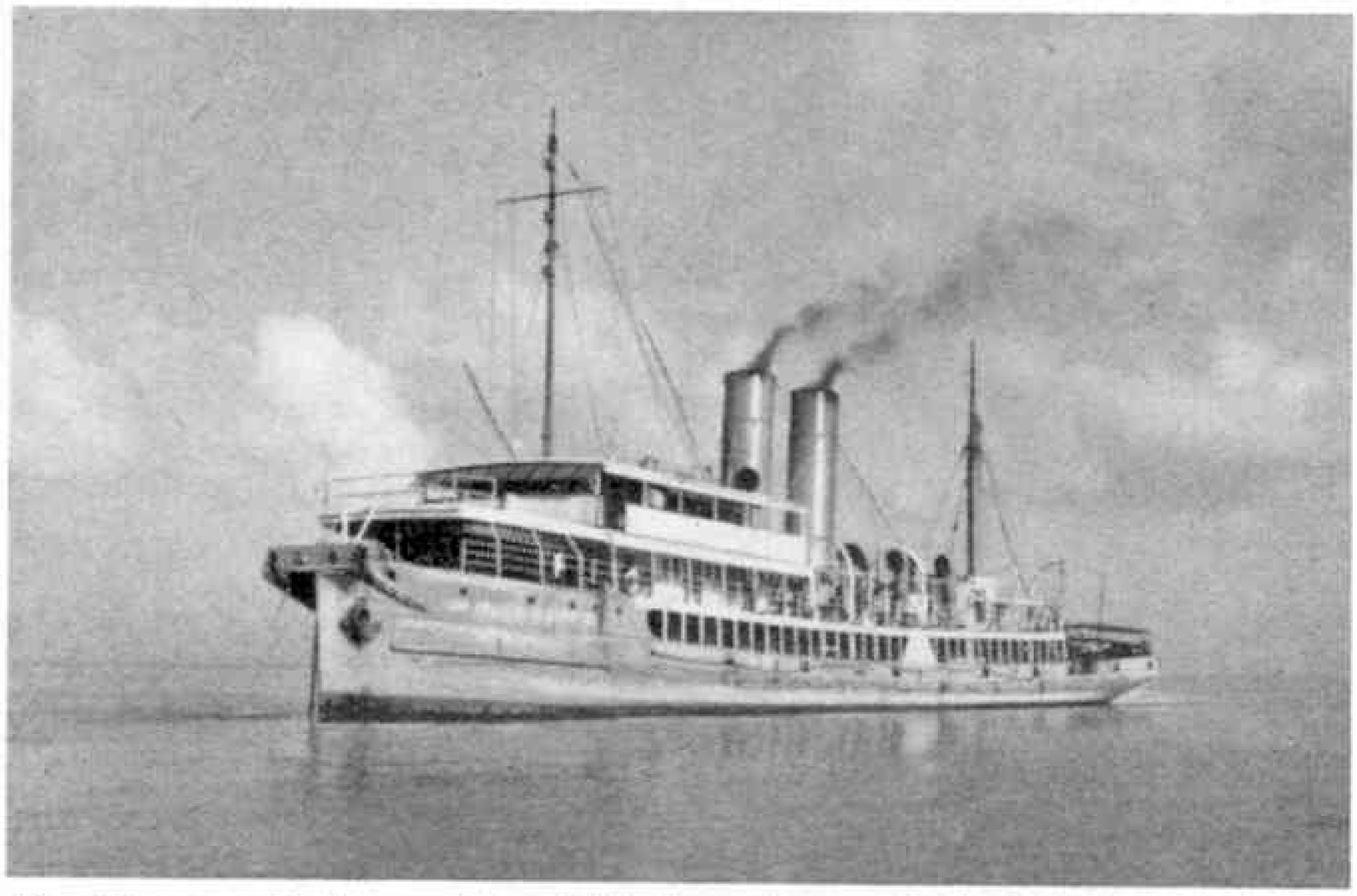
Famous River of Calcutta

Inspection Trip along the Hooghly

By Robert Garvie, B.Sc., M.I.C.E.

THE Hooghly is a river of shoals and shallows, a highway of seaborne trade, with a difficult channel and a bad reputation. It is a river of sultry heat and monsoon rains, and occasional violent storms. It is also a river of history. It was in 1693 that Job Charnock, an officer of the East India Company, sailed up from the south and landed on the eastern shore a hundred miles from the Bay of Bengal, and there established a trading post. He was not to know that he was founding what is today one of the world's great centres of trade and industry—the city of Calcutta.

The bulk of the shipping that enters the Hooghly each year is made up of deep sea freighters, tankers, and vessels engaged in the Indian coastal trade. There are regular passenger services to Rangoon, Singapore, the Far East and South Africa, but these do not compare in volume with the traffic of such ports as Southampton, Colombo or Bombay. It is therefore not surprising that even among globe-trotters there are not very many people who can claim an intimate acquaintance with Calcutta's famous, or notorious, river. It was my good fortune to spend a week or so on its waters, and during that time I saw more of its features of interest than would ever be possible from a deck chair on the Rangoon Mail.



The "Dumayne", the vessel in which the author made the trip described in this article.

My ship was the Calcutta Port Commissioners' deep sea tug, salvage vessel and lightship tender, *Sir Frederick Dumayne*. The *Dumayne*, as she was always familiarly known, was built on the Clyde in 1922. Her two raking yellow funnels and a grey hull gave her a smart appearance that was only slightly marred by the stocky and vertical mainmast, which carries a heavy derrick for lifting buoys from the water. Our sleeping cabins were on the upper deck, and our dining saloon-lounge-cum-office—was the bridge itself! The climate of Lower Bengal encourages one to spend as much time as possible in the open air.

From Calcutta's Kidderpore Docks to the furthest light vessel in the Bay of Bengal, the Western Channel Light, is 140 miles. It is 140 miles of buoys, marks, beacons, lights, tide semaphores and depth indicators, a channel of twists and bends, bars, sandbanks and curious currents — and every mile of the way is marked by the repetition of the sinister word *Wreck* on the whiteness of the chart.

One of the very first reports despatched by Charnock to his London Directors in 1694 told of an early and still the most famous victim of the river. "The *Royal James and Mary* arrived from Sumatra in August 1694, and coming up the Hooghly she fell on a bank on this side of Tombolie Point, and was unfortunately lost, being immediately overset, and broke her back with the loss of four or five lives."

From that day to this, the *James and Mary* has been a name of dreadful meaning

Pott's Folly, at Kulpi.

in the ears of every deep sea mariner. It belongs to a great bank concealed beneath the water near a sharp right-angle bend in the channel, and even modern vessels with powerful engines and every navigational aid must treat the passage with the greatest imaginable respect.

This shoal has been described as the world's greatest graveyard of ships. Once a vessel has touched, heeled and gone down, it is never seen again; the bottomless sands and silts engulf it. It all happens with terrible speed. Hear what happened to the barque *Swallow* in 1822, which "struck forward, hung a few minutes, turned right round, shot off into deep water and went down head foremost, colours flying, royals standing and all in less time than I take to write this account of it."

There are several bars on the Hooghly, and to maintain a deep channel for shipping the Port Commissioners operate a fleet of big suction dredgers. River surveyors sound the worst places every day. The results are transmitted to the port headquarters in Calcutta, and the latest readings are then issued to the pilots. It usually takes two days to make a passage between the open sea and Kidderpore Docks, and the price of safety, on the Hooghly as elsewhere, is eternal vigilance.

Of course, the port authority is not content to allow the vagaries of the river to continue unchecked. The most difficult stretch is the last thirty miles below Calcutta, and a few years ago it was proposed to construct a ship canal in its place, across the low lying eastern shore. Investigations of tidal estuaries have reached a high degree of reliability these days, and it was decided to study the Hooghly problem in this way before embarking upon a costly scheme.

A model was laid out on the other side of India, at the Central Government's research establishment at Poona, and some idea of its size may be gained from the fact that 4,000 tons of Hooghly silt were shipped from Calcutta to Bombay to form the bed material. The tests and the analyses of the thousands of tidal runs occupied five years or so, and the expert's recommendations were adopted. As a result, extensive training works have been planned to control the river, and it is hoped that these will provide a satisfactory answer to the centuries-old problem. Meanwhile, the bars must be dredged and the gas buoys kept alight, and pilotage remains intricate and compulsory.

During the voyage in the *Dumayne* we inspected a great many of the shore marks and survey stations, going ashore by launch and then wading through the shallows and across the wide beaches of soft mud. Then we tramped, sometimes for miles, across paddy fields, along the embankments called bunds, and by jungle

The old signal gun carriage at Khijiri.

paths, through small villages and by lonely mud huts tenanted by simple cultivators and herdsmen. There was not a mile without its points of interest, and whole books could be written about this river and its people. At night, when we lay at anchor, the darkness around us was dotted with the lights of the gas buoys, while the freighters slipped by with threshing screws on their lawful occasions.

The Hooghly opens so gradually into the Bay that it is impossible to say just where the mouth might be. On the eastern side, Saugor Island and its banded lighthouse are definite enough. Beyond them lie the channels and jungles of the Ganges delta, home of the Bengal tiger, crocodile and immense python. The tree-lined west shore slips away southwards, and what was the bank of the river transforms itself into the coast of India, and it was hereabouts that I visited the strangest of all the places that I saw on this trip.

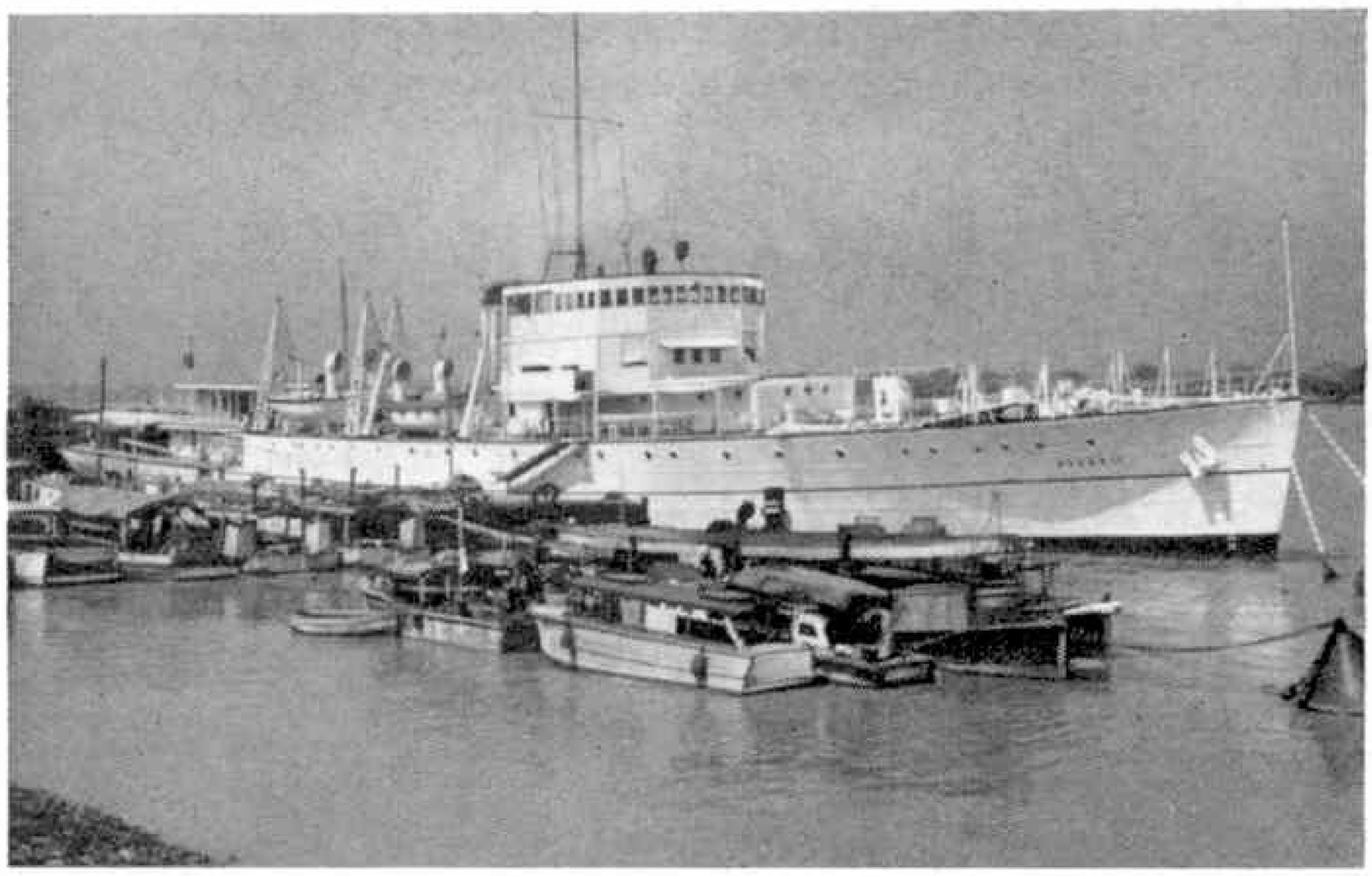
This was called Khijiri, an area of jungle behind high protecting earth bunds, with patches of paddy amongst the trees. Damp and mud-spattered from our usual type of landing, we walked along the top of the bund, and then descended into a clearing. There stood a house, not a native hut of mud, but a substantial brick mansion, with verandahs and a tower. It was old and dilapidated, but still habitable, and it was occupied by a peasant family, several squawking fowls, and a goat.

"This was once an East India Company station," the skipper told me. "When the ships arrived off the mouth of the river from England, they rowed the mails ashore to this post, to be sent on to Calcutta by fast pinnace. The sluggish East Indiamen would take days, perhaps weeks, working their way up."

He led the way across the clearing to a patch of bushes and long grass. "The signal gun," he said, pointing to a gun carriage lying half hidden at the foot of a huge pedestal of plastered brickwork.

The skipper turned and went off in another direction. We came to a wall, and within the wall was a graveyard, an acre or two in extent, with broken and leaning stones gradually losing a battle with the remorseless tropical jungle. The dates on the stones were all of a century and a half ago, and the names are mostly those of ship's officers and men who had died in this lonely and forgotten outpost.

At one of our landings, we had to walk by the carcase of a water buffalo which had been left on the foreshore by the receding tide. Already there were pi-dogs quarrelling over the feast, and vultures were dropping out of the empty sky as is their mysterious habit, one after another at regular intervals. The evil birds stood warily to one side, as though waiting until their numbers were sufficient to enable them to dispute possession of the meal with the snarling dogs. We were back at the spot within an hour or so, and nothing remained except the white bones and some hideous shreds.



One of the two new pilot vessels of the port of Calcutta, the "Hooghly", a converted Royal Canadian Navy sloop, lying at moorings off Takhta Ghat.

A few gorged vultures lurched over the mud in an effort to take off; the dogs had gone about their business.

Our Hooghly marks and beacons were not always the strictly utilitarian tripods and chequerboards and tall masts of normal practice. After all, any solid object will serve to carry the little plate or spike that is all that a surveyor needs for his observations. We anchored for our last night in Kulpi Roads, and landed in the mouth of a creek. A short walk across the open fields brought us to what the chart called "Kulpi (*Continued on page 120*)

This small helicopter is the McDonnell Model 120, described on this page.

Air News

By

John W. R. Taylor

High Speeds by British Aircraft

The Fairey Rotodyne's new speed record of 190.9 m.p.h. over a 100 km. (62 mile) circuit on 5th January this year is almost as important and exciting as the first "over-1,000 m.p.h." speed record set up by the same company's Delta 2 research aircraft in 1956.

Fairey deliberately chose to cover a fairly long distance, instead of making a top speed dash over a mile or two, to demonstrate the sort of cruising speed that passengers can expect when they fly in this superb vertical take-off air liner in a few years' time. They more than proved their claims for its performance, because the Rotodyne, piloted by Sq. Ldr. Ronald Gellatly, not only beat the 100 km. helicopter record by 49 m.p.h. (34 per cent.), but exceeded the world absolute speed record for helicopters by 29 m.p.h.

Almost simultaneously with news of the Rotodyne's achievement came an announcement that the English Electric Lightning fighter has been flown at twice the speed of sound during routine test flights by the company's chief test pilot, Wing Cdr. Roland Beamont. The actual speed attained, at a height of 35,000 ft. over the Irish Sea, is understood to have been about 1,280 m.p.h.; but only a small amount of re-heat was used behind the two Avon turbojets, and the Lightning is capable of even higher performance, carrying full operational equipment.

The Canberra Replacement

Another news item from English Electric is that this company will collaborate with Vickers in the design and construction of the most important military aeroplane required by the R.A.F. in the mid-60's.

For well over a year there has been tremendous competition within the British aircraft industry for the contract to produce a replacement for the Canberra. The requirements, known as Specification OR 339, called for a machine able to deliver nuclear weapons at up to three times the speed of sound, but which would still be capable of operating on reconnaissance and close support duties in combat areas from runways of limited length and strength.

The main contract has been placed with Vickers, and development of the aircraft, now known as the T.S.R.2, will be done on a fifty-fifty basis with English Electric at Vickers' Weybridge works. No other details are available, except that the bomber will be powered by an advanced version of the Olympus turbojet produced by the newly-combined Bristol Siddeley Engines Limited.

Soviet Space Station

According to a report in the magazine *Newsweek*, Russia's missile expert Prof. Anatoli Blagonravov stated recently that Russia will begin building in May a space station that will carry a five-man crew in an orbit 2,500 miles above the Earth. He added that it will be shaped like a submarine, 1,000 ft. long and 280 ft. in diameter

Midget Weight-Lifter

A tiny helicopter that will lift 3,900 lb. of payload and fuel, although its own empty weight is only 2,400 lb., has been built by the McDonnell Corp. of St. Louis, U.S.A. Designated the Model 120, it has the simplest possible tubular airframe, as can be seen in the illustration above. An enclosed cabin for the pilot is mounted on the front of the frame, which carries also three AiResearch GTC-85-35 gas-turbine compressors. These supply compressed air to the blade-tip pressure-jets which drive the three-blade rotor.

When used as a flying crane, the Model 120 hauls cargo at the end of a pilot-controlled hook located immediately under the rotor head. Alternatively, up to twelve people, or fire-fighters and equipment, can be carried on "toboggan seats" mounted between undercarriage cross-tubes and enclosed by side panels.

The Model 120 will fly with any one of its engines stopped. Maintenance is so simple that a complete engine change can be made in five minutes without tools or equipment.

Giant Weight-Lifter

A second U.S. aircraft that recently lifted more than its own weight was a huge Douglas C-133A Cargomaster of the Military Air Transport Service. Although carrying 117,900 lb. (more than 52 tons) of cargo, it took off in only 4,500 ft. and climbed at a fantastic 2,000 ft. per min. to the height of 2,000 m. (6,700 ft.) required to break the official world record. It then went on up to 10,000 ft. for good measure. The previous record was held by a Boeing KC-135 Stratotanker, which lifted 78,089 lb.

Powered by four 6,000 h.p. Pratt & Whitney T34 turboprops, the C-133A was a perfectly standard machine belonging to the 1607th Air Transport Wing, whose commanding officer said afterwards "The C-133 could lift this kind of payload any day in the week. I am confident it could have carried more." It weighed 274,900 lb. at take-off.

The prototype of the Armstrong Whitworth A.W. 650 Argosy freighter made its first flight on 8th Jan. last. The Air Ministry have ordered many of these freight carriers for R.A.F. Transport Command.

Cargo by Rocket

Convair are experimenting with the delivery of military cargoes by rocket, to isolated groups of soldiers in combat areas. In initial tests over a desert range in California, one of the company's Lobber rockets carried a 50 lb. payload for six miles and delivered it intact to the target area.

The Lobber and its launcher can be carried and operated by a team of three men. Its payload could comprise rations, ammunition, medicines, radio equipment or other urgently-needed supplies.

New Aircraft for Transport Command

The first of 20 Britannia 253s for R.A.F. Transport Command flew at Belfast on 29th December last. The components for all of these aircraft are being built by Short Bros. and Harland, although five of them will be assembled by Bristol Aircraft. They are powered by four 4,445 h.p. Proteus 255 turboprops and can carry 115 troops, 16 tons of freight or stretchers for casualty evacuation duties for more than 4,100 miles at 400 m.p.h.

More welcome news for Transport Command is that the Air Ministry have placed an order for a considerable number of Armstrong Whitworth Argosy freighters, the prototype of which made its first flight on 8th January this year.

One of the fastest and most versatile aircraft of its type in the world, the Argosy is powered by four 2,100 h.p. Rolls-Royce Dart Mk.526 turboprops. The A.W.660 version for Transport Command will carry more than 13 tons of payload for 800 miles or four tons for 2,800 miles at 276 m.p.h. In addition to large nose-loading doors, it will have "beaver tail" doors at the rear of the cabin which will open in flight to permit the dropping of supplies and equipment by parachute.

World's Fastest Air Liner

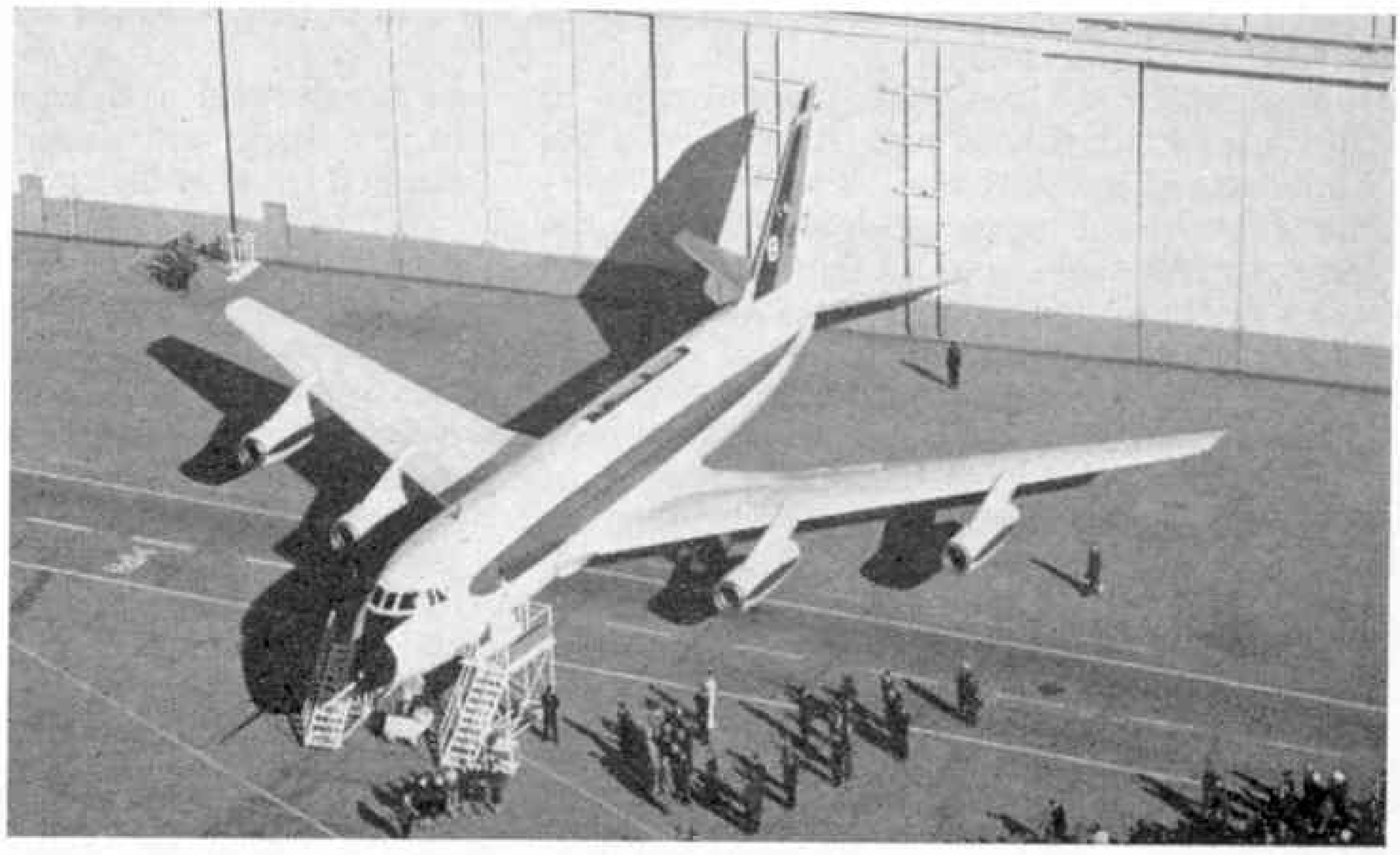
The lower illustration on this page shows the prototype of the world's fastest air liner, the Convair 880, soon after its completion at San Diego, California, on 15th December last year. Finished in a striking white and gold colour scheme, it has four 11,000 lb. thrust General Electric CJ-805-3 turbojets, similar to the military J79 which powers America's fastest fighters and bombers.

Orders for 53 Convair 880s have been placed by TWA (30), Delta Air Lines (10), SAS and Swissair (5), REAL of Brazil (4) and Transcontinental of the Argentine (4). Each will have normal accommodation for a crew of five and 88 first-class passengers, and will fly medium-length routes at a cruising speed of up to 615 m.p.h. A later version known as the Convair 600, with seats for 90-120 passengers and improved engines, will be even faster.

Air Liners will Land Automatically

Automatic approach and landing systems, which will permit air liners to operate on schedule in all weather conditions, are inevitable according to a report issued by technical experts of the International Air Transport Association. Using such equipment, air liners could be landed "blind" in fog; but this does not mean that push-buttons will replace pilots, who will still be needed to take over in emergencies.

A British automatic landing system, developed by the Royal Aircraft Establishment, has already been used for countless experimental landings. Its basis is a highly-accurate instrument landing system built by the Pye Company.



Another prototype, this time the Convair 880, the world's fastest air liner.

A Pioneer Railway

Story of the Whitby and Pickering Line

By Geoffrey N. Wright

WHEN it was proposed to build a railway giving access to the old fishing port of Whitby, on the North Yorkshire coast, George Stephenson was eventually asked in 1831 to investigate the possibilities, submit a report, and give his advice. The shortest route, via Grosmont, Beckhole, and Newton Dale was advised, and his estimate for a single line was £2,000 a mile, excluding the cost of land that would have to be bought. The final inclusive cost was estimated at £80,000.

In 1833 an Act of Parliament authorising the construction of the Whitby-Pickering railway received Royal Assent, and in September that year a start was made on the first section between Whitby and Sleights. In order to avoid building two swing bridges over a navigable part of the Esk where it looped its course, a by-pass for the River was cut, thus altering its course, and allowing the railway to stay on the north bank to Ruswarp. Even so, nine bridges had to be built between Sleights and Grosmont a distance of less than four miles.

Old and new tunnels at Grosmont, on the Whitby-Pickering line near Whitby. The old tunnel was built in 1836, when the line was constructed.

Just south of Grosmont, the entrance to the Vale of Goathland was blocked by a big sandstone ridge that had to be tunnelled—the subsequent opening being 130 yards long, 10 feet wide, and 14 feet high. A few miles farther on, at Beckhole, a 1,500-yards incline with an average gradient of 1 in 15—at its steepest, 1 in 11—had to be negotiated. When in operation this worked as follows. At the foot of the Incline two trucks or carriages were coupled to the end of a 1,500 yard rope passing round a horizontal grooved wheel at the top of the Incline. The other end of the rope was fixed to a water tank, which when full of water was sufficiently heavy to draw up the two carriages from the bottom, in 4½ minutes. For the return journey, the tank, which had, of course, descended the Incline, was emptied. On its bogie-wheels it was just heavy enough to act as a brake to a loaded truck or carriage descending. Eventually, however, the water tank was replaced by a stationary winding engine.

The summit of the line was at Fen Bogs, 600 feet high and two miles south of Goathland, and there, where the line entered Newton Dale, existed a great morass. To give a good foundation for the track a method originally used by the Normans was employed. Great quantities of brushwood and young timber were laid in the bog, and sheep's wool was tightly packed in as well.

After a short trial run part-way from each terminus, the whole 24 miles of the line was ceremonially opened in May 1836. To the accompaniment of church bells ringing, the music of bands, and all flags flying, the first carriages left Whitby at 8 a.m., cheered off by a vast crowd, to arrive at Pickering some 4¼ hours later. The six passengers inside each of the two horse-drawn "stage-coaches on railway-wheels" paid 4/- for the trip; outside passengers were charged a shilling less than this. The train returned the same day in just under three hours.

The local populace was delighted and

started to use the line to such an extent that in August that year, 4,200 passengers were carried. In addition, a large quantity of stone, timber, and fish was also transported. Traffic of this kind indeed was the main reason for building the line; passenger usage was to have been a secondary consideration. Fresh industries were developed at Ruswarp and Grosmont.

On the Whitby-Pickering Railway at Newton Dale. Here the line follows the route laid down in 1836 through the beautiful valley between Goathland and Pickering, on the North Yorkshire moors.

But all was not well. The original estimate had been overspent by £25,000. This had to be made good. It was soon realised that a line built merely to join two towns had very restricted limits of use. It had to be related to the network as a whole. These two birds were killed with one stone when, in 1845, the line was sold to the York and North Midland Co. for £80,000, which led eventually to connection at Pickering with lines from York and other places.

Within two years it had become a double-track line ready for use by new locomotives. But even they could not successfully and safely negotiate the Beckhole Incline. To by-pass it, a new or "deviation" line had to be built, from Grosmont to Goathland, and a new and wider tunnel built.

Today, if you travel on the Whitby-Pickering line, you will see a disused signal-box near the south entrance to this tunnel. On it is the word, *Deviation*, and it marks the place where the newer line branched off from the older one. The Old Incline, at Beckhole, is now a grass-grown sheep-ride, and a popular walk for the many visitors who stay at the bracing and lovely moorland village of Goathland. It is just possible now to pick out the place, half-way up the Incline, where the gradient was deliberately increased in 1872 to test out some equipment to be used on the mountain railways of Brazil. But there are few people left now whose ancestors could have remembered a journey on the "Divvi", as the locals called the original Deviation.

The journey now takes less than a quarter of the time of the service of 120 years ago. There is still a steep ascent from Grosmont to Goathland, the line rising 350 feet in less than 3 miles, following roughly the deep and winding gorge of the Mirk Esk. The 9-mile stretch between Goathland and Levisham is the longest distance between successive stations in the N.E.R.

"Deviation" signal-box, Grosmont, where the new line constructed in 1847 branches off the original one (1836).

Cutting a Figure

By Arthur Gaunt

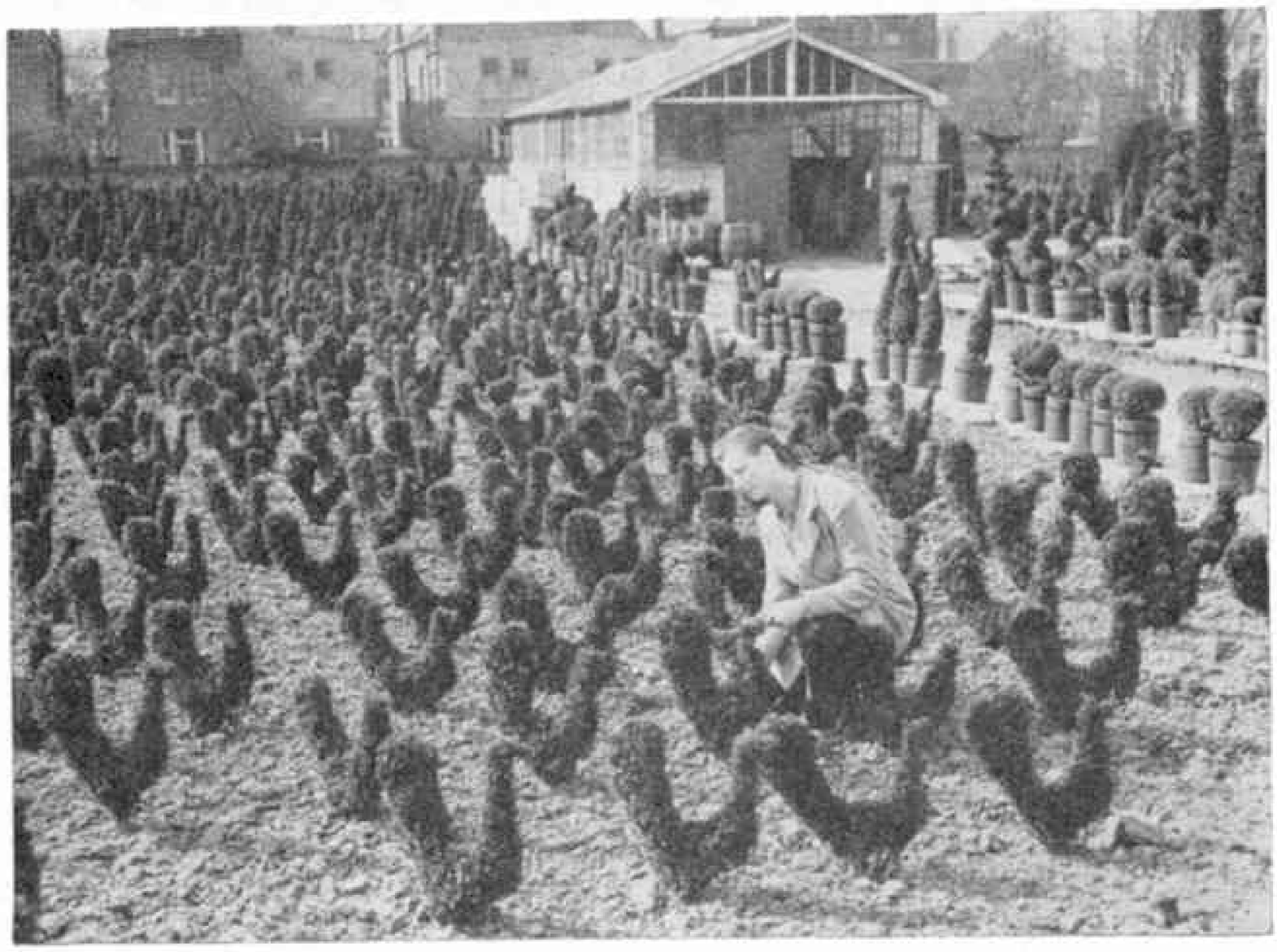
SHRUBS and hedges in strange shapes, trained and clipped, are more popular today than ever and some of the effects achieved are remarkable indeed. The efforts range from geometrical figures to birds and beasts. Novelties such as a huge judge's wig, umbrellas, and boats are on the list of objects produced by tree modellers up and down Britain.

An astonishing effort at Westwood Manor, near Bradford-on-Avon, is an extension of the building fashioned in topiary, as the art of tree shaping is called. This addition to the house replaces an earlier stone wing and is a faithful reproduction with windows, doorway and chimneys—all made of yew.

This strange work dates from about 1920, but most outstanding topiary effects elsewhere have been created only by painstaking work throughout a much longer period. One of the largest and most ancient topiary gardens in Britain adjoins Levens Hall, in Westmorland. It was started about 250 years ago, and still presents the picture envisaged at that distant time.

There are scores of wonderful figures in foliage, and many of them are the original trees planted by the designer, a French gardener who was also employed by royalty in the late 17th century. Subsequent owners of the Levens Hall gardens have preserved his work, and in cases where a clipped yew has had to be replaced, the new one has been trained and cut just like its forerunner.

Other large collections of topiary work are in the formal gardens at Blenheim Palace, near Oxford, and at Compton Wynyates, Warwickshire, while a particularly well-known example of the craft is the maze at Hampton Court, near London. A further fine maze in topiary form is at Hatfield House, Hertfordshire.



A section of a topiary nursery, where quaint tree figures are grown in hundreds. Tending and trimming them is a job that has to be done regularly for several years. Photograph by courtesy of Kew Topiary Nurseries Ltd.

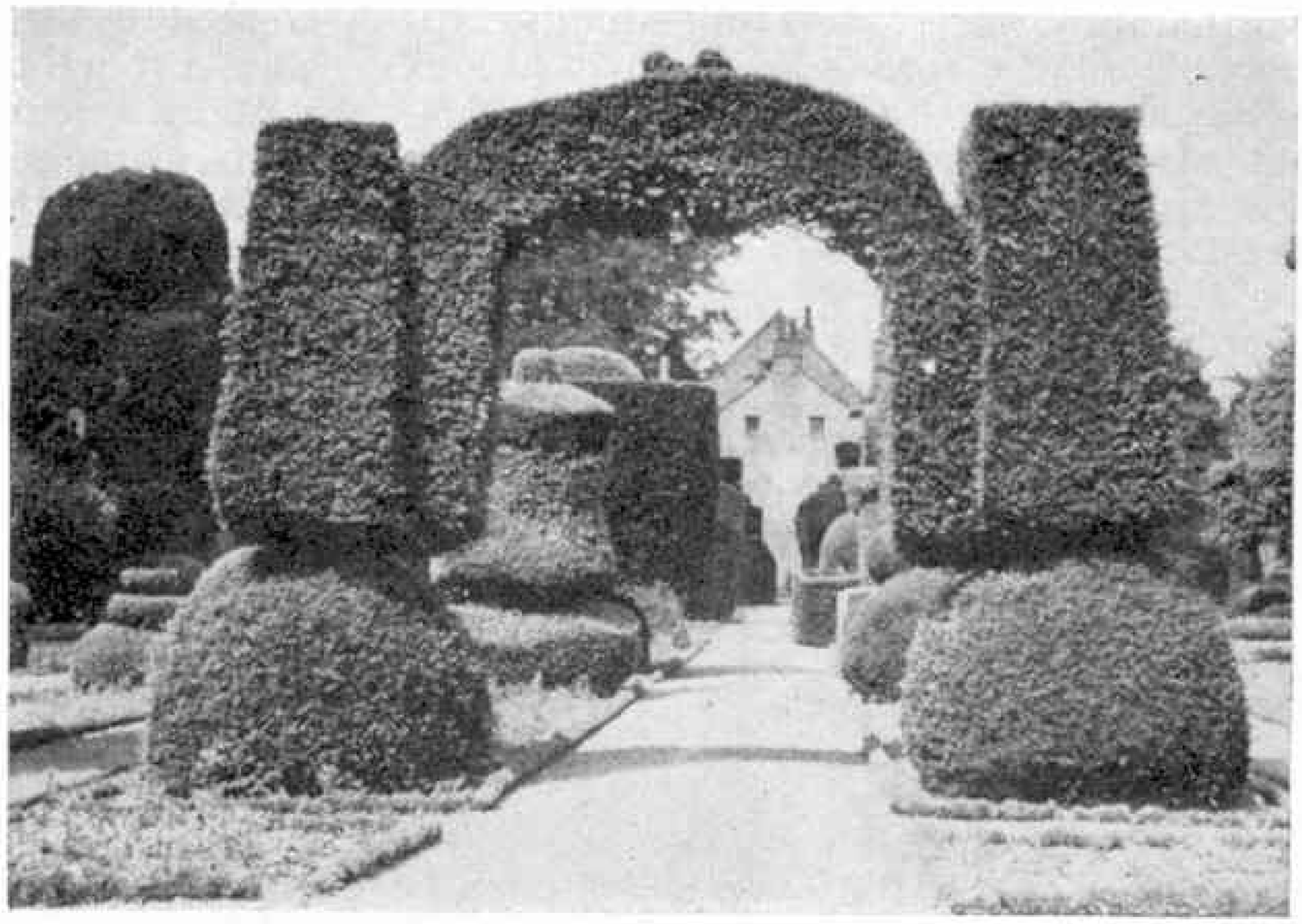
Today tree sculpture is being taken up more and more by owners of much smaller gardens, though it demands a lot of patience. Producing an elaborate figure may take thirty years or more, and even a simple small design cannot be achieved in less than ten years. There are topiary nurseries where mature trees already trained can be bought, however. One of these nurseries, near Kew, has a stock of 15,000 from which to choose. A perfect tree figure of a peacock—perhaps the most popular piece of topiary work—costs about £20.

The fashion has waxed and waned for centuries, and its very name is derived from that of a Roman gardener, Toparius, though the craft was already old in his time. It is believed to have had its birth in China. In Britain it had a vogue during the Roman occupation, and although its popularity declined later it was revived again in Tudor days. The maze at Hampton Court was in fact designed for Cardinal Wolsey, and it was just one of many extravagant topiary efforts executed both there and elsewhere during the 16th century.

Abroad, too, topiary was widely favoured at that time. Evelyn, the diarist, records

that by the 17th century many amazing works were being executed in tree sculpture. He describes a Genoa effort consisting of a whole flock of sheep complete with a shepherd, while in the background were a number of wild animals!

In England, the development of topiary was greatly promoted by the French gardener Le Notre, designer of the celebrated gardens at Versailles. He even went so far as to trim trees so that they took the form of different styles of architecture.

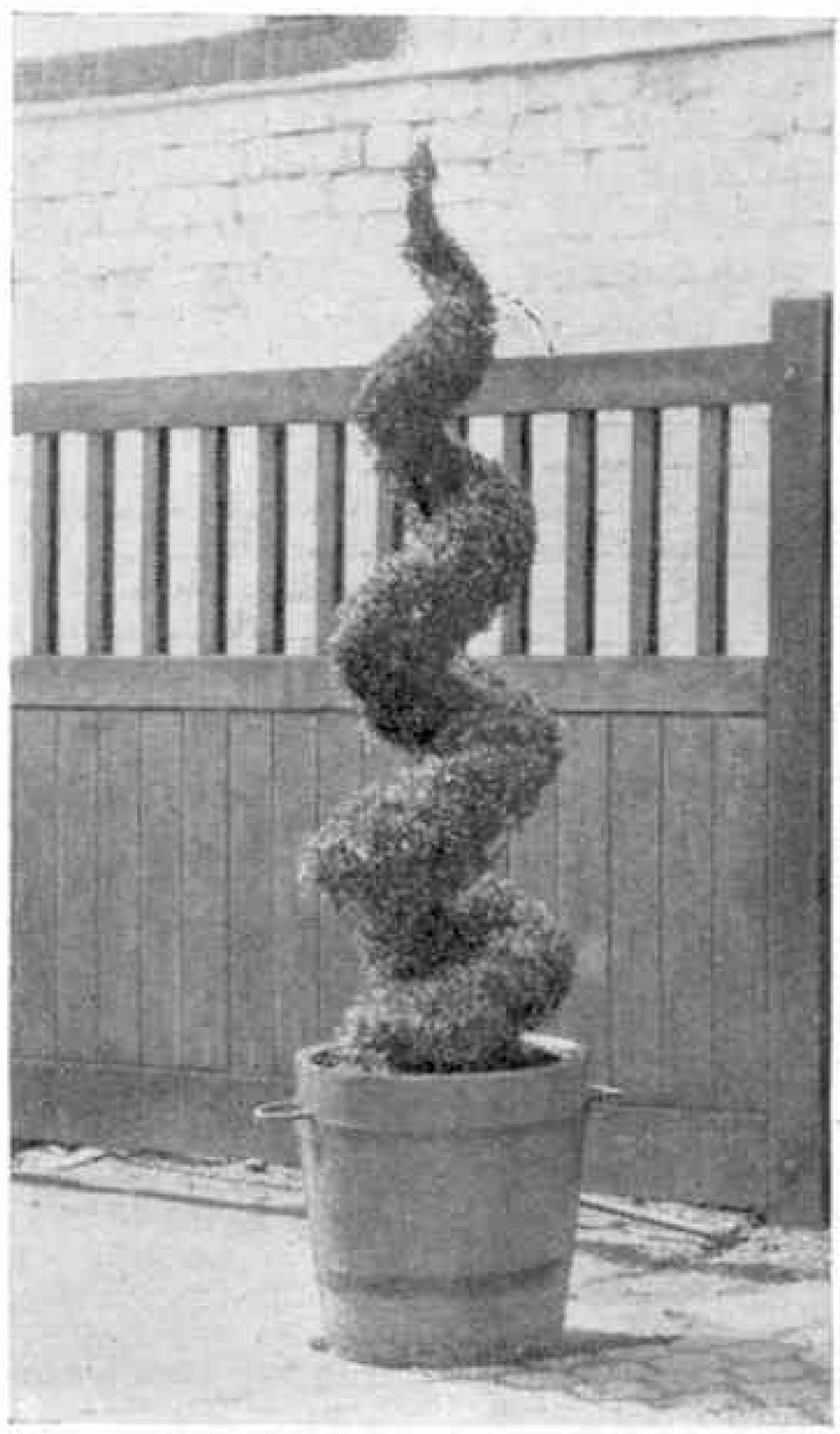


Arches and obelisks of clipped yews make an unusual picture at Levens Hall, Westmorland.

An aversion to this style of gardening set in during the 18th century, and as a result hundreds of excellent topiary gardens were dug up and converted into natural landscape gardens. The movement against topiary was so widespread that it seems miraculous that such examples as the ones at Levens Hall and Compton Wynyates managed to survive.

A noteworthy topiary garden, for it was made in the early 1800's when the style was generally in eclipse, is at Wrest Park, Bedfordshire. Another historic house with trees trimmed into the shapes of animals, heraldic designs, and ships, is Chastleton House, Oxfordshire.

The craft of tree clipping is not confined to the large garden, and some admirable specimens are to be found outside cottages and even in churchyards. Swans, peacocks, chessmen, mushrooms, and various kinds of animals have been "grown" by ordinary gardeners. Some of the effects are ingenious as well as attractive—such as a bird perched in a ring, and an angel with a sword.



Nowadays topiary trees and shrubs like this odd-looking spiral are grown commercially, though it still takes many years to get the final effect. Photograph by courtesy of Kew Topiary Nurseries Ltd.

An amusing topiary figure stands outside a cottage at Marholm, Northamptonshire. It is a life-like figure of a man wearing a top hat and holding his arms outstretched. Even his collar and the lapels of his coat have been carefully reproduced by expert trimming.

Such everyday things as flower pots and cups and saucers are to be seen at various places, each created by clipping hedges or trees.

At Bedfont, near Staines, two topiary peacocks flanking the church porch are said to represent two proud ladies. Thomas Hood described them as "being proud as peacocks", and the two birds were fashioned as a reminder of the ladies' haughtiness.

A few years ago a lifelike figure of a prancing horse was created in topiary in a field near Oakham, Rutlandshire. It was an appropriate effort for a district noted as a fox-hunting area.

The Haycock Inn, Wansford,

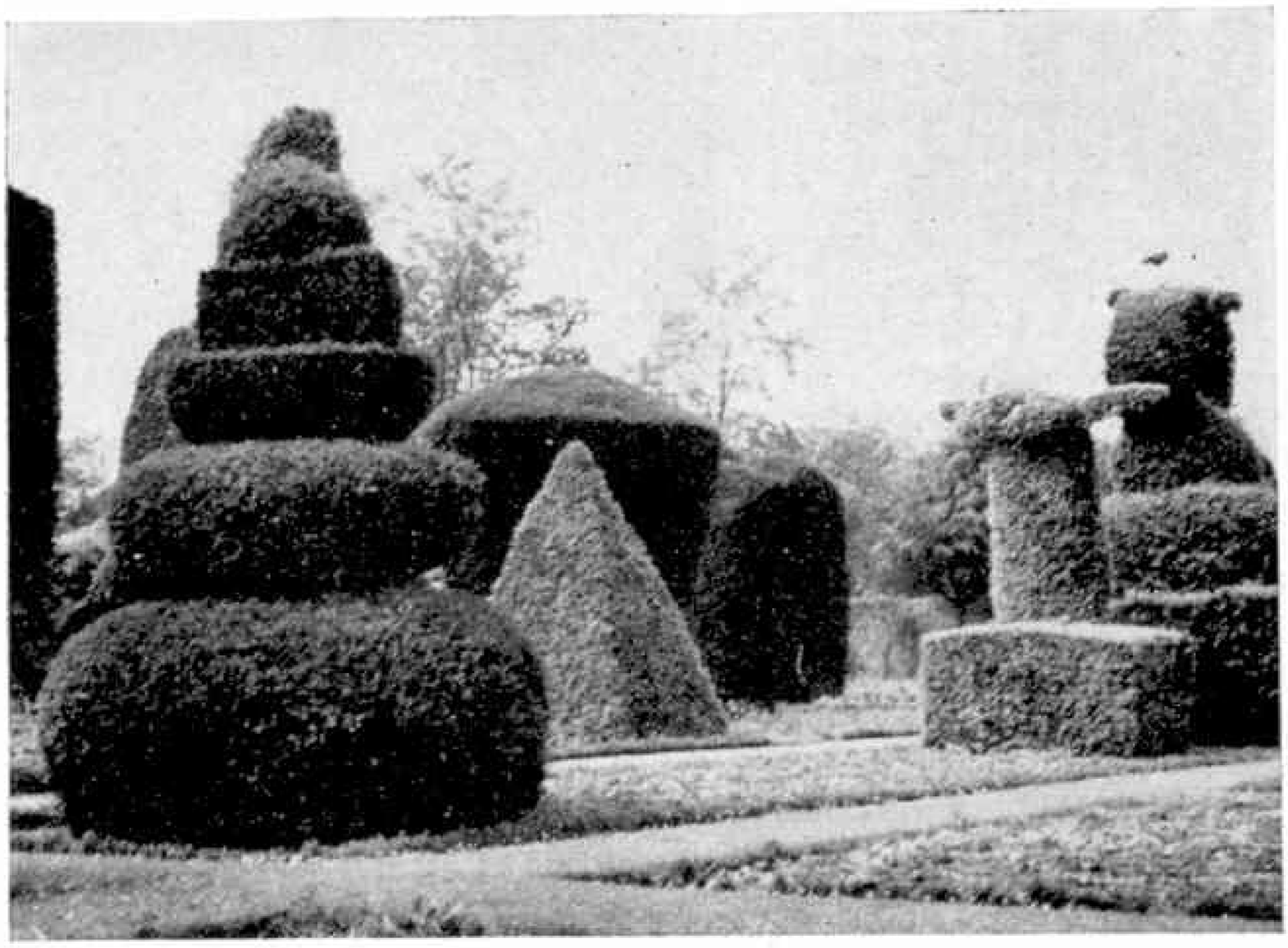
Northamptonshire, has an equally apt example in the form of a man astride a haycock. It serves as an unusual inn sign, but also commemorates the legend of a sleeping yokel who was carried away on a haystack when the nearby river overflowed. Awaking among strangers and being asked where he came from, he blandly replied "Wansford *in England*".

An amusing topiary figure attracts the attention of railway travellers passing through Scarva station, in Northern Ireland. Known as Old Bill, this oddity sits on the station wall, holding a wooden sword and wearing a top hat. Unlike many other shaped trees and bushes this is not yew or box but hawthorn, for it has been found easier to make it grow downwards over the wall to form the legs of the figure.

Most topiary figures are formed round a wire skeleton, to which the branches are tied. In a few years the skeleton is completely hidden. By that time the tree has assumed roughly the shape required, and all that remains is to trim the outline periodically.

At one time wooden formers were popular, but today the job of making the skeletons is a wire-worker's task—and a skilled craft too. A wide variety of shapes can be created by the expert, merely with stiff wire, a rough template, and a pair of pliers.

Many topiary figures, including dancing bears, have been grown round wire frames fashioned in the North Yorkshire village of Wass, near Coxwold. In addition to skeletons for the widely popular topiary peacock, individual ones of more original conception have been made. One of the most unusual was a stag with a devil on its back!



A fantasy of geometrical figures within the gardens of Levens Hall, Westmorland.

As one of the oldest garden crafts, tree modelling still has a great appeal. Interest is being fostered in it today by the opening of many large gardens where captivating examples are to be seen, but the creation of only one of these tree figures in a suburban garden can be a pleasant pastime.

David MacBrayne and his Steamers

(*Continued from page 113*)

William route, with its calls at small places on the Lorne coast, has long been abandoned and many of the piers are now derelict. Kinlochleven, with its aluminium works, at the head of the fiord-like Loch Leven, is no longer a port of call, with the building of a good road at the end of World War I. In the far north-west the former passenger sailings to the piers of Wester Ross and Sutherland are now discontinued, as improved roads connect with the railway at Lairg.

Birds at Play—(*Continued from page 141*)

leaving the nest. They soon grow out of it.

When the blue tit Rambler made a habit of tearing the leaves of winter jasmine and throwing them on to the lawn, I thought she had invented a new game. Exactly a year later, early in the breeding season, this strange behaviour was repeated. She also removed leaves from an American Pillar rose near her nesting hole and threw them on the yard a few feet away.

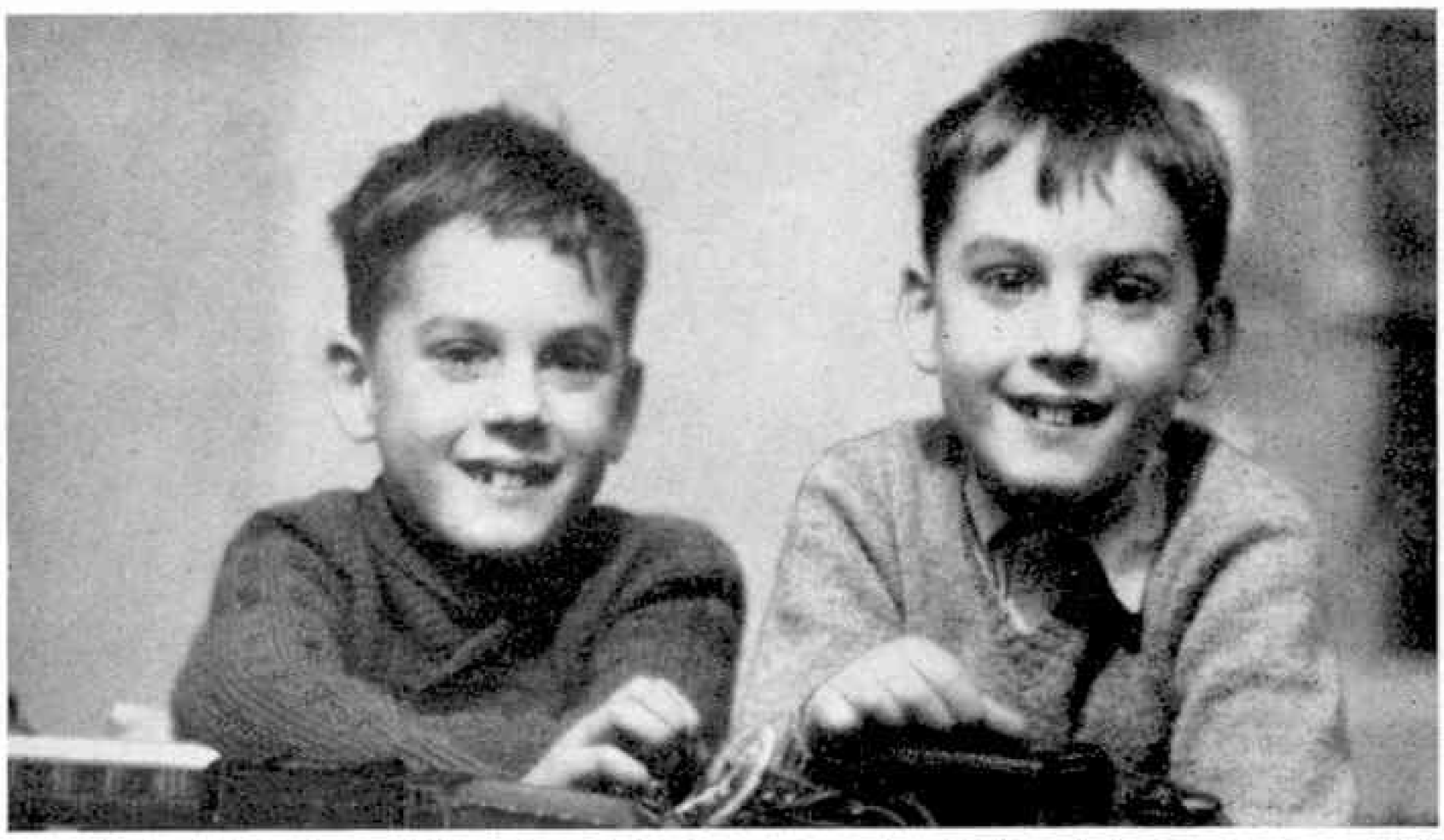
Was this "play", or what the scientist calls "displacement activity"? Just as the boy faced with a difficult problem may anxiously stroke his chin, so birds often release their sense of tension by allowing the instinctive drive to build a nest or to forage for food to find an outlet in some other way. Great tits commonly express their nut-cracking skill by hammering against our wooden window frames.

Yet as willow warblers romp amid the bushes, or adult sea birds splash each other as if for the sheer fun of it, who can escape the belief that "nature red in tooth and claw" is normally dominated by the spirit of contentment? The mood of most creatures most of the time is fittingly expressed by the swallows gaily playing with a feather in the sky, the great tits charging into the wind with a warbler at their tails, or the rooks and ravens tumbling about in the rising currents of air.

MECCANO MAGAZINE

Junior Section

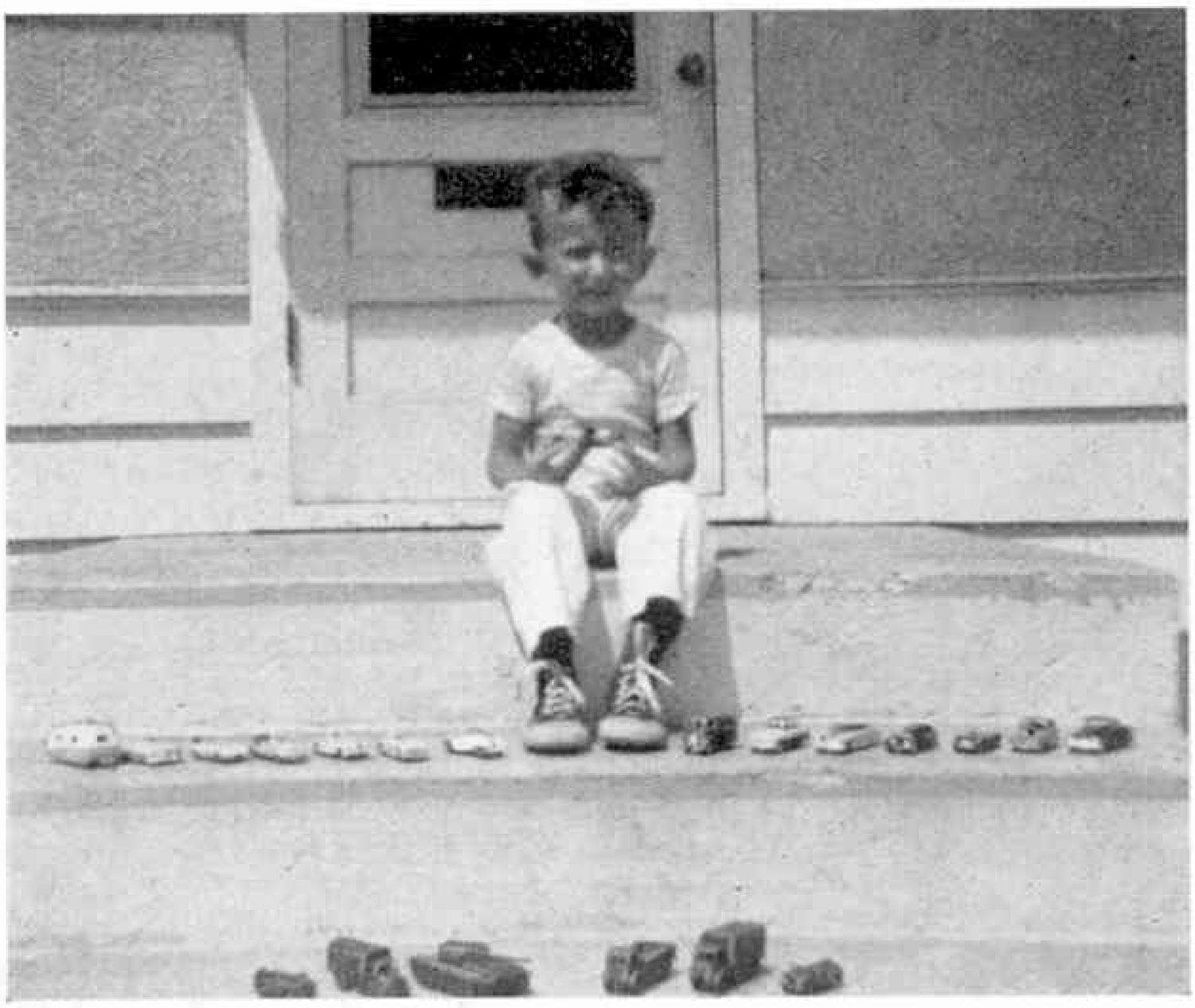
IN the *M.M.* for December last I included a picture of the plaque at Louth, Lincolnshire, that marks the position of the Greenwich Meridian. I asked if any readers knew of other points where this Meridian is marked, and I have since received several interesting letters that demonstrate the fact that there are many such markings.



Hornby-Dublo twins. Michael and Grahame Joseph, of Forest Green, Surrey, with their Hornby-Dublo Railway.

The first to reach me told me about one on the sea front at Cleethorpes, and a point at the Old Windmill, about a quarter of a mile along the Spurn Head road from Patrington, in East Yorkshire, through which the Meridian also passes. This information came from Richard J. Appleton, who lives in Hull, and his letter was soon followed by one from K. E. Milburn, Chingford, describing an obelisk at Pole Hill, Chingford, about 300 ft. above sea level, from which a fine view over London can be obtained in clear weather.

Other interesting letters came from D. Mudd, Grimsby, who wrote of a strip of metal marking the Meridian on a road a few miles north of Louth, and from Dudley S. Baker-Beall, whose discovery is at Peacehaven, near Newhaven, where the line is marked by stone pillars on each side of the road.



A Canadian Dinky Toys enthusiast Randy Shierman, Calgary, with part of his collection.

Easy Model-Building

"Spanner's" Special Section for Juniors

Turntable Fire Escape
(Outfit No. 1)

The simple Turntable Fire Escape shown in Figs. 1 and 2 can be built from parts contained in Outfit No. 1.

The chassis is a $5\frac{1}{2}'' \times 2\frac{1}{2}''$ Flanged Plate. Two Fishplates are bolted to each side flange, one hole from each end, and at the front end the same bolts serve to fix in place a $5\frac{1}{2}'' \times 1\frac{1}{2}''$ Flexible Plate that forms the engine bonnet, and also a $2\frac{1}{2}''$ Strip 1 on each side. The Fishplates provide the bearings for two $3\frac{1}{2}''$ Rods to which 1″ Pulleys fitted with Tyres are fixed.

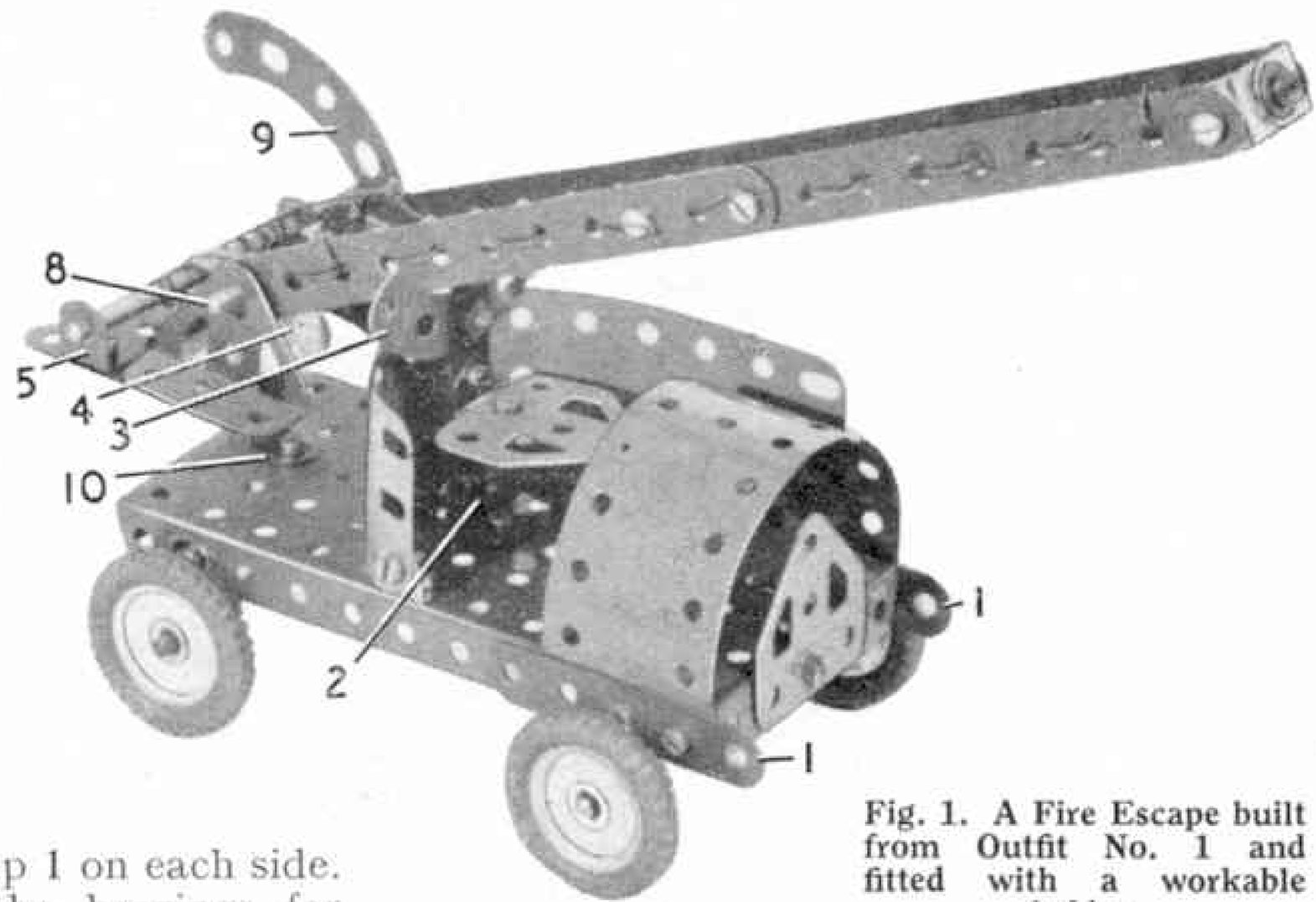


Fig. 1. A Fire Escape built from Outfit No. 1 and fitted with a workable ladder.

A $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip 2 is attached by one of its lugs to the Flanged Plate in the position shown. The driver's seat, a Flat Trunnion, is fixed to the Double Angle Strip by an Angle Bracket, and a Stepped Curved Strip 3, which forms a support for the ladder in the lowered position, is bolted immediately above the Angle Bracket.

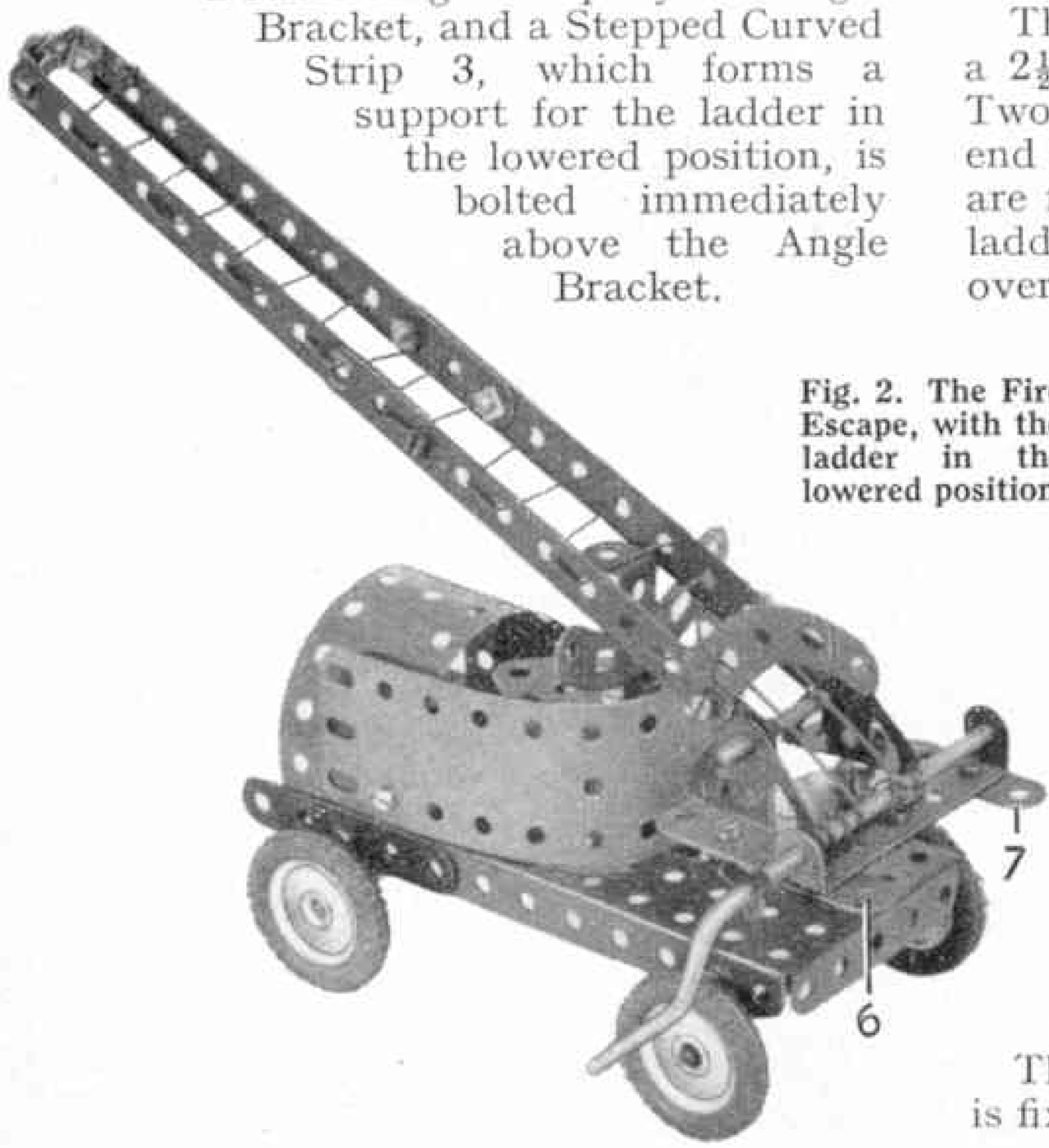


Fig. 2. The Fire Escape, with the ladder in the lowered position.

One side and the back of the cab are made up with a $5\frac{1}{2}'' \times \frac{1}{2}''$ Flexible Plate, which is gently curved to shape and fastened to the Flanged Plate by two Angle Brackets.

The turntable is a Bush Wheel 4 to which a $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip 5 is bolted. Two $2\frac{1}{2}''$ Strips 6 and 7 are bolted to each end of the Double Angle Strip and to these are fixed two Trunnions. Each side of the ladder is made from two $5\frac{1}{2}''$ Strips overlapped three holes and connected together at the top by two Angle Brackets as shown. The ladder is pivoted at its lower end on a 2″ Rod 8. To prevent the ladder being raised to too sharp an angle a Stepped Curved Strip 9 is fixed to its lower end as shown. The rungs are formed with Cord threaded through the sides of the ladder.

For raising and lowering the ladder two lengths of Cord are fastened tightly to a Crank Handle that is mounted in the Double Angle Strip 5. The other end of each Cord is tied in the third hole in each side of the ladder.

The Bush Wheel of the ladder turntable is fixed on a 2″ Rod that is passed through

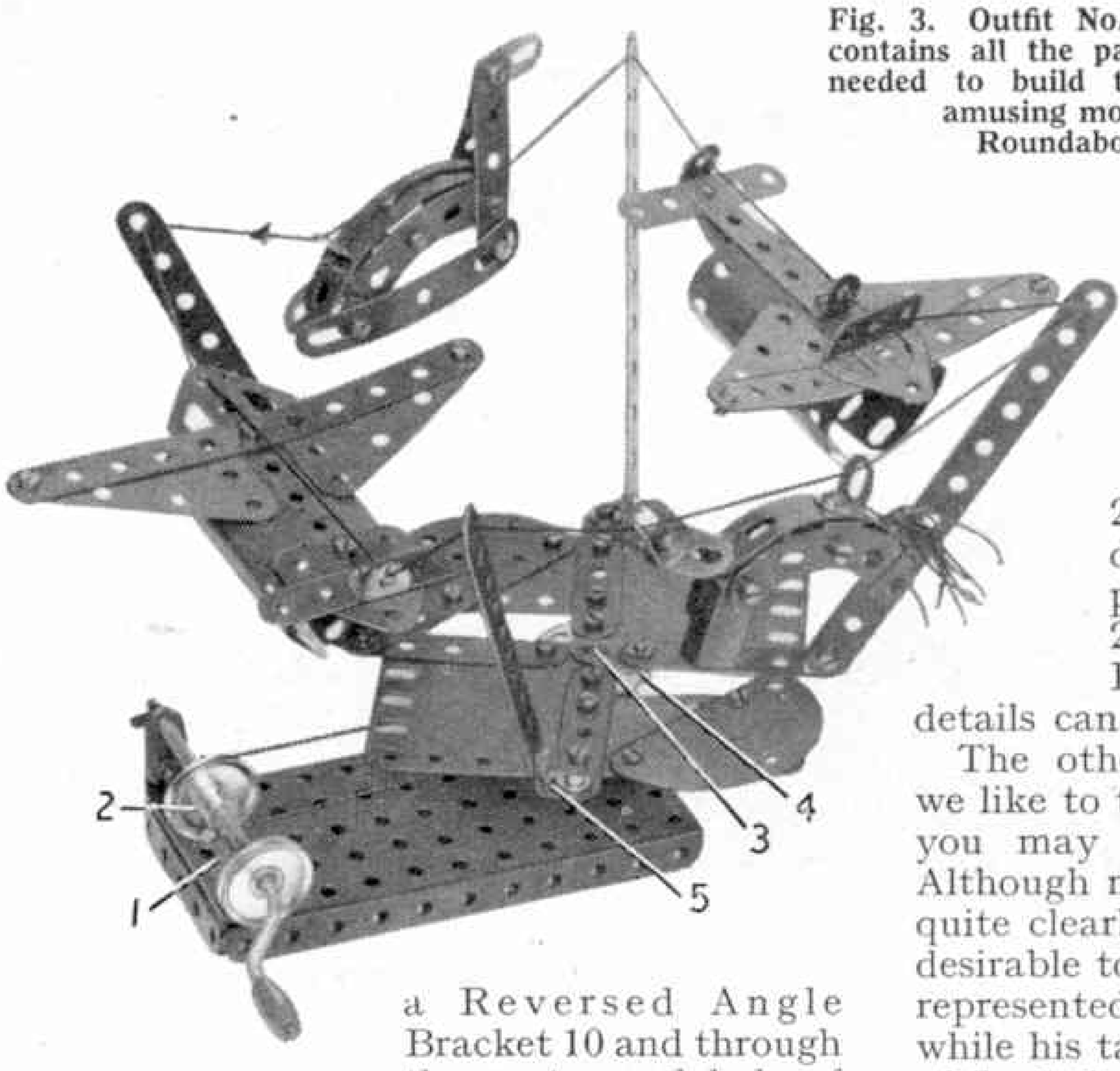


Fig. 3. Outfit No. 3 contains all the parts needed to build this amusing model Roundabout.

a Reversed Angle Bracket 10 and through the centre end hole of the Flanged Plate. A Spring Clip, fixed on the Rod below the Plate, holds it in place.

A list of the parts required to build the Fire Escape is given at the end of this article.

A Roundabout (Outfit No. 3)

The base of the Roundabout is a $5\frac{1}{2}'' \times 2\frac{1}{2}''$ Flanged Plate to which is bolted at one end a $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip 1. A Fishplate is bolted to each lug of the Double Angle Strip and these form the Bearings for a Crank Handle, which has a 1″ Pulley 2 mounted on it. The Crank Handle is retained in place by a second 1″ Pulley and a Spring Clip.

The Roundabout rotates on a 2″ Rod 3, which is held by a Spring Clip underneath the Flanged Plate. The Rod first passes through the centre end holes of the base and through a Reversed Angle Bracket. A 1″ Pulley is then fitted on the Rod.

Four $2\frac{1}{2}''$ Strips are bolted to a Bush Wheel 4 and two $2\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plates, two $2\frac{1}{2}'' \times 1\frac{1}{2}''$ Flexible Plates and two Semi-Circular Plates, which are bolted to the $2\frac{1}{2}''$ Strips, form the floor of the actual Roundabout. An Angle Bracket, one of which is seen at 5, Fig. 3, is then bolted to the end of each $2\frac{1}{2}''$ Strip and a $5\frac{1}{2}''$ Strip is bolted to each Angle Bracket.

The model aeroplanes are slightly different from each other in their details and the bodies are made from $2\frac{1}{2}'' \times 2\frac{1}{2}''$ Curved Plates of different radii. The wings of both planes are $5\frac{1}{2}''$ Strips with $2\frac{1}{2}'' \times 1\frac{1}{2}''$ Triangular Flexible Plates bolted to them. Other details can be seen quite clearly in Fig. 4.

The other two models represent what we like to think are a swan and a dog, but you may have other names for them! Although most of their details can be seen quite clearly in the illustrations it may be desirable to mention that the dog's back is represented by a Formed Slotted Strip, while his tail comprises a few short lengths of Cord tied at one end to the Strip.

When the models are completed a length of Cord is threaded through the holes of Angle Brackets, or any other suitable holes on the centre line of each model, and they are arranged in the positions shown. The whole structure is fixed to the 2″ Rod 3 by means of the Bush Wheel 4.

A length of Cord is passed round the 1″ Pulley 2 and round the 1″ Pulley that is fixed on the 2″ Rod 3.

(Continued on page 120)

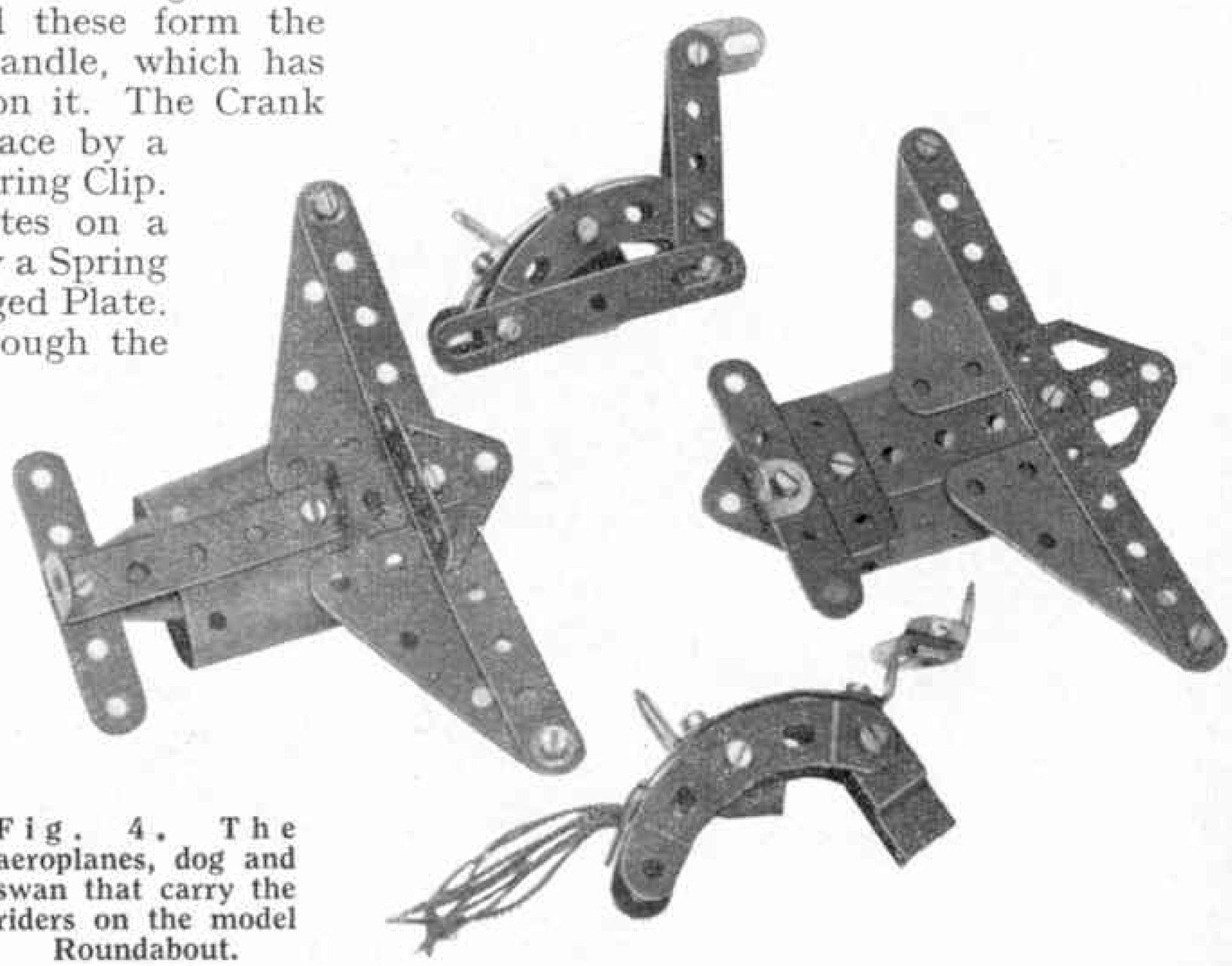


Fig. 4. The aeroplanes, dog and swan that carry the riders on the model Roundabout.

DINKY TOYS NEWS

By **THE TOYMAN**

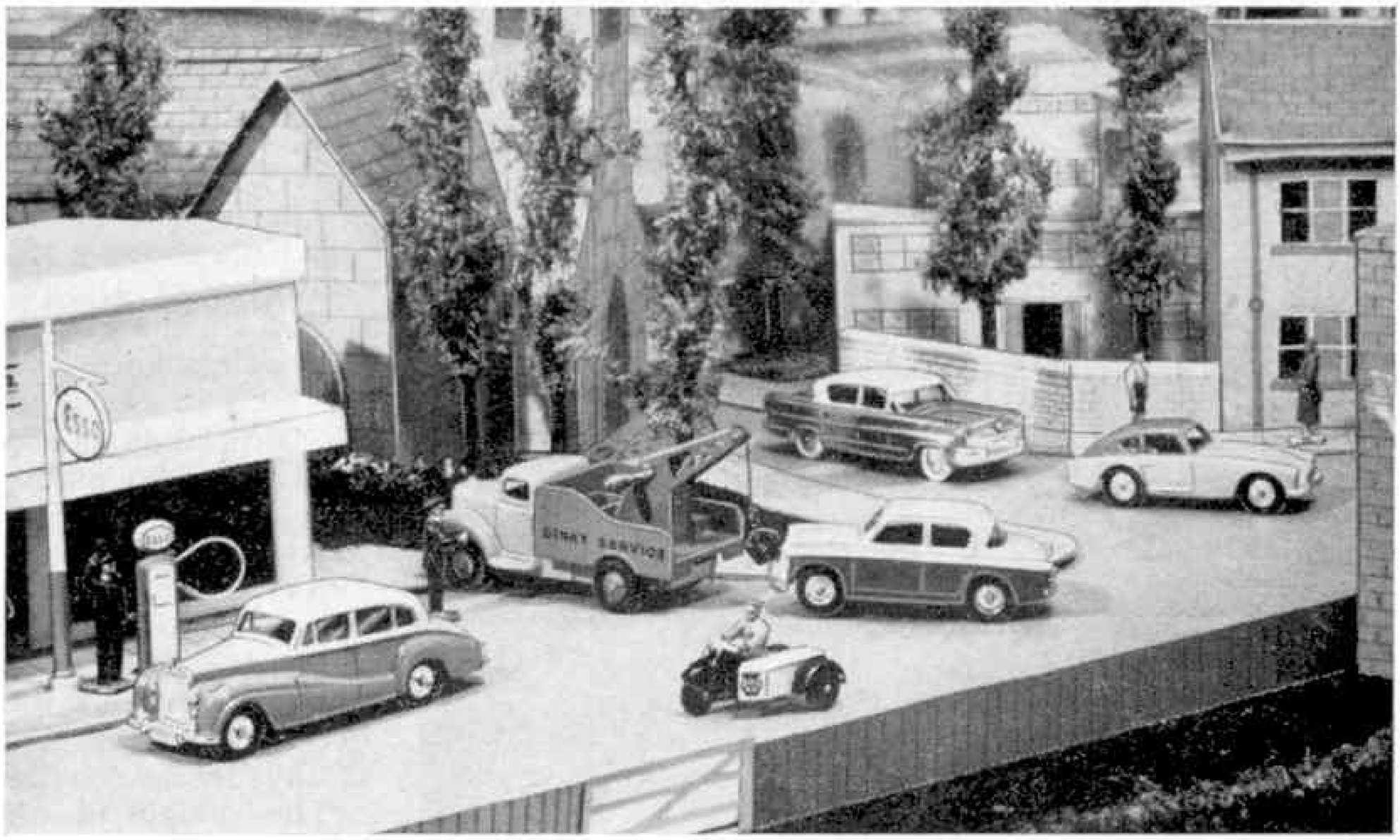
The new Dinky Toys Dodge Royal Sedan (No. 191).

THERE have been some exciting additions to the Dinky Toys range during recent weeks, culminating with the introduction of a thrilling miniature of the famous American Dodge Royal Sedan, and a fine version of the Austin Taxi, which have appeared in the shops this month.

The Dodge Royal Sedan is Dinky Toys No. 191, and from its twin headlamps to twin tail-lamps it is a typically modern vehicle. Its massive windscreen, wrap-around rear windows, white tyres and long sweeping tail make it one of the most attractive of the long list of American vehicles featured in the Dinky Toys range. It has a length of $4\frac{3}{8}''$ and is available in two bright two-tone finishes.

The Dodge Royal Sedan is shown in the illustration at the top of this page and it

In this busy section of a Dinky Toys town one of the new Dodge Royal Sedans is seen outside a filling station. Also in the picture are the London Bus "Exide" (No. 291) and the A.A. Motor Cycle Patrol (No. 270) introduced last month.



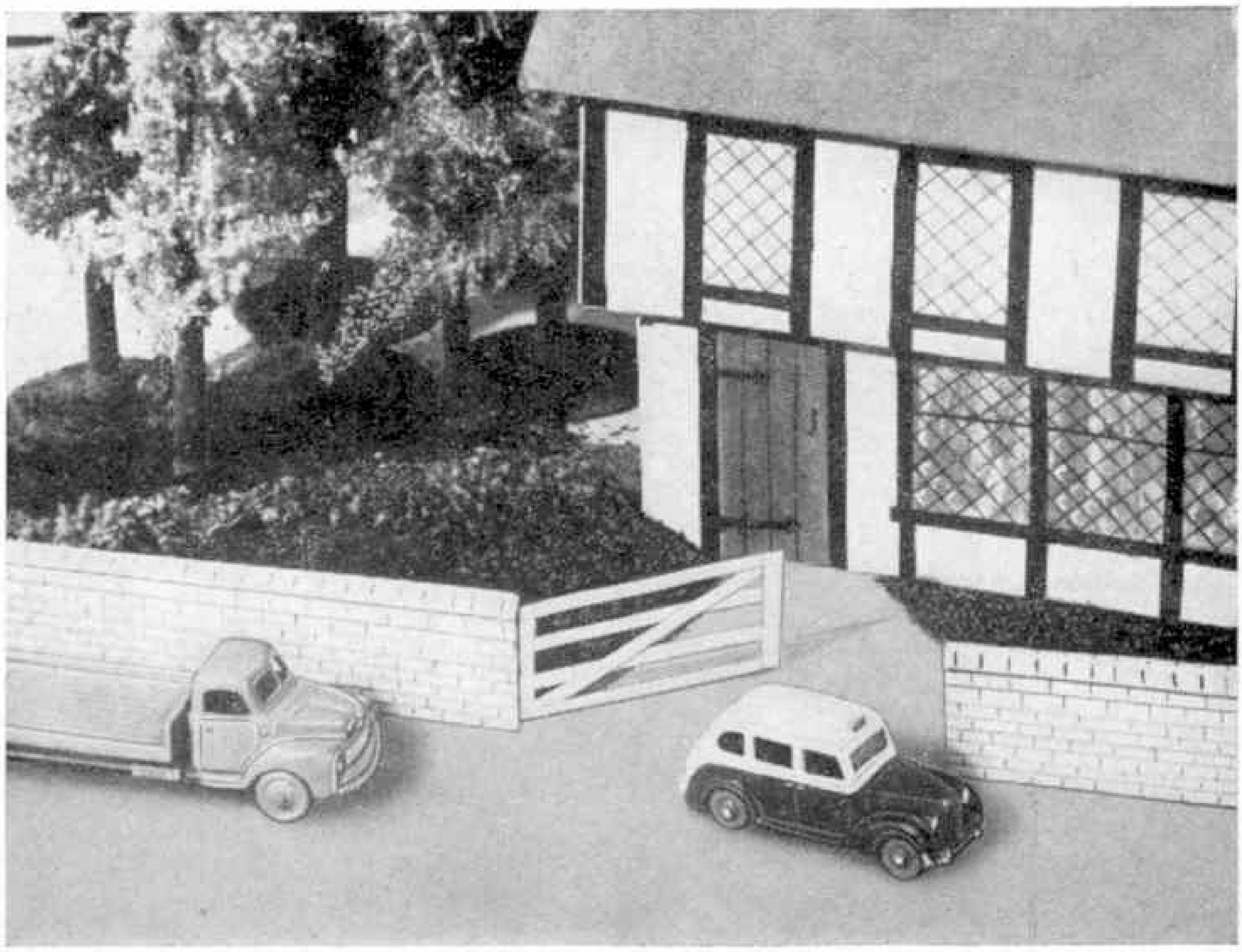
The beautiful Dinky Toys model of the Rolls-Royce Silver Wraith, which appeared in the shops last month, is seen in this picture leaving a filling station after a fill-up.

can be seen also outside the filling station in the layout reproduced at the foot of the page.

This month's other new item, the Austin Taxi is seen in the illustration below. It is one of those designed to the scale of Hornby-Dublo and is listed as Dublo Dinky Toys No. 067. Quite apart from its use on Hornby-Dublo railways, it is a miniature that appeals to collectors, as do other Dublo Dinkies, on account of the excellent finish and the amount of detail that is incorporated in it. It will be an attractive addition to any reader's collection.

Included in the illustration at the foot of page 134 you will notice two of the Dinky Toys that first appeared in your dealer's last month. They are the London Bus "Exide" and the A.A. Motor Cycle Patrol, mention of which I included in my chat with you last month.

Last month you will remember was noteworthy for the appearance in the Dinky Toys range of a remarkably beautiful miniature of the Rolls-Royce "Silver Wraith". I could not show you an illustration of the car then, but in the



The Dublo Dinky Toys Austin Taxi (No. 067) leaving a house after depositing its passenger.

This outdoor layout provides its young owner C. Doggett, Newbury, with lots of fun.

Dinky Toys town scene illustrated at the top of page 135 you will see it just pulling away from a filling station. Attractive as this picture is, it simply cannot do justice to the beautiful finish, dignified colour scheme and delightfully accurate moulding of this fine miniature of the world renowned Rolls-Royce. And of course, there is the springing, a splendid new Dinky Toys car feature, about which I told you last month. You must see the actual model to appreciate to the full the effort we have made to produce a model worthy of its famous prototype.

The lower picture on this page shows a splendid collection of Dinky Toys owned by the two boys in the background. They are the sons of Mr. J. Ward, of Rowlands Gill, Co. Durham, who assures me that they have great pleasure playing with their Dinky Toys and that he himself is so fascinated by these miniatures that he often enjoys himself too by helping his sons in their Dinky Toys activities!

The delightful outdoor layout shown in the upper illustration is the work of Colin Doggett, who lives in Newbury, Berkshire. The way in which the layout has been set out is very ingenious, and a fine air of spaciousness is given although the layout only covers some 8 square feet of ground. I am very pleased with the "old world" charm of the cottage and also the fences, which are made from small pieces of sticks and cotton or thin wire.

Although the scene is set out in the country, it is evidently on the route from a car factory to the docks.

These two proud owners of a Dinky Toys collection are the sons of Mr. J. Ward, Rowlands Gill, Co. Durham.

"Tommy Dodd" writes about:

This and That

LAST month we were talking about train formation, or in other words the way that trains can be made up. This concerns passenger trains, as we have already seen, as well as goods trains and the picture above illustrates one or two further points in connection with the latter that we may as well look into.

On the near track a No. 40 Tank is in charge of a neat and uniform train of No. 50 Goods Vans, with a No. 50 Goods Brake Van at the rear. You can just distinguish one of the side lamps carried by the latter, so you can be sure that the tail lamp is correctly in position at the rear end. On real railways the side and tail lamp indicate that a train is complete and you should not miss any opportunity of using them correctly in miniature. Hornby lamps are rather small, so in case you lose one or two of them you will be glad to know that replacements can be obtained. They are listed in the Hornby Gauge 0 Trains folder.

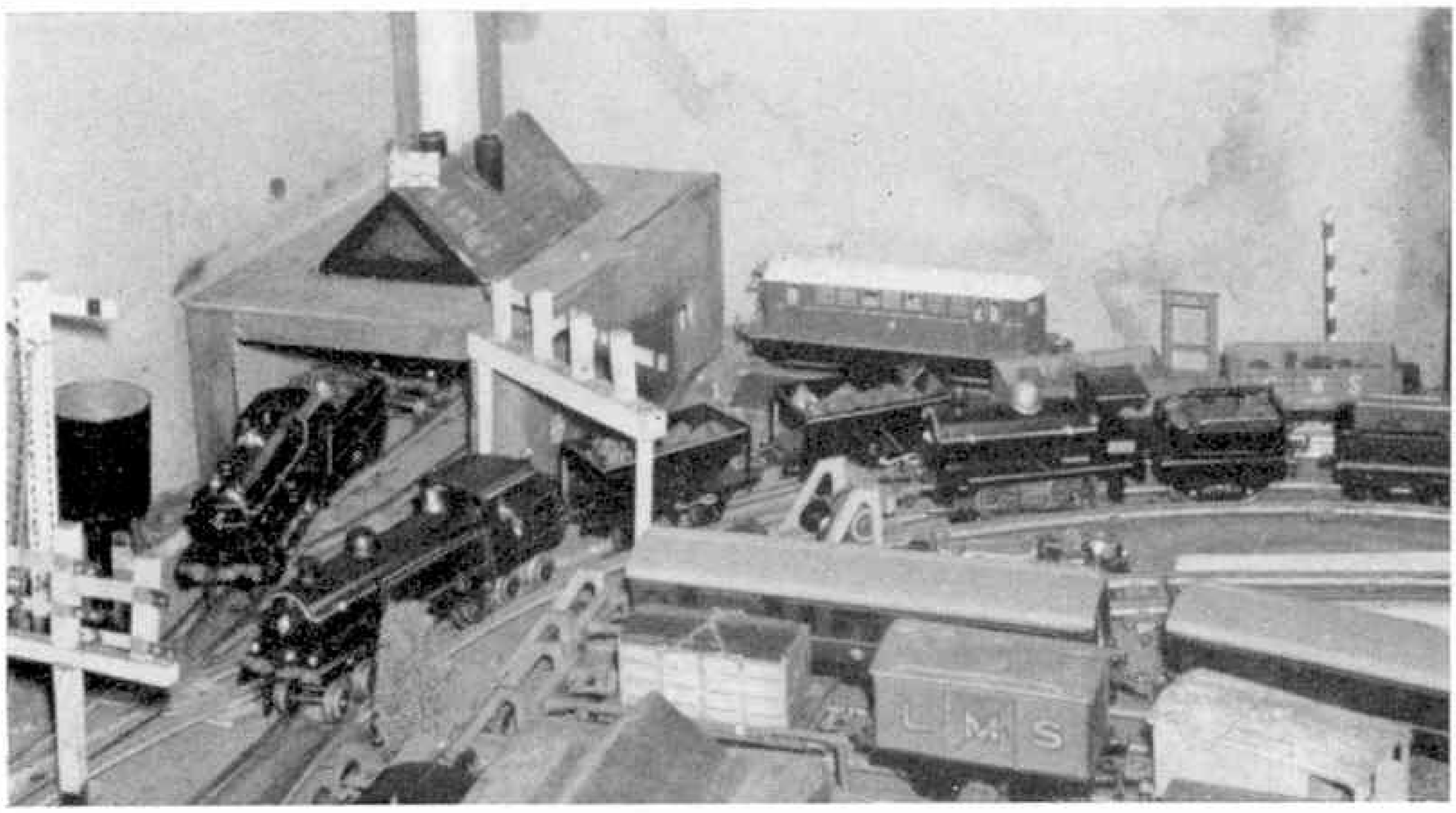
Above, a train of No. 50 Goods Vans has been marshalled ready for a main line run. The No. 40 Tank can be used for such shunting duties, and for working trains like the mixed goods on the siding in the background.

It is surprising what a lot of difference is made to the look of a train by attention to such items as the lamps and so on, but that is not the main point that I want to make regarding the trains shown above. The No. 50 Vans represent real ones that are brake fitted; so here we have a fast goods train ready for a main line engine to take over. Either a No. 50 or 51 tender engine can be used. An important train like this *can* be handled quite correctly by a No. 51 engine, although this is intended for passenger trains and therefore is finished in B.R. green. This sort of thing takes place regularly in real practice.

On the track beyond is another short train, waiting for an engine. This is a good example of a mixed freight of the type made readily possible by the variety of vehicles in the Hornby Gauge 0 range. As there are no loads to be seen, either in the Open Wagon or on the Lumber Wagon, I suspect that this is simply a train of mixed empties, something that can be seen quite often on real railways.

Providing lineside effects in the way of buildings and so on is something that most miniature railway owners like. I have no doubt that most of you have at one time or another built up an engine shed, either as a finished building or simply as a temporary effort made up from various oddments. A simple affair of this latter kind is seen in the lower picture on the next page. So long as you provide two stout walls and a roof, you have some sort of shed. The roof need not be like the one shown, which resembles the lid of a box. This was used just because it happened to be handy!

The blocks at the ends represent the kind of built-up front that many shed roofs have nowadays. There is no real need for you to include them. In fact, you can imagine that such a "lid" or roof is a tank for water storage, such as is sometimes



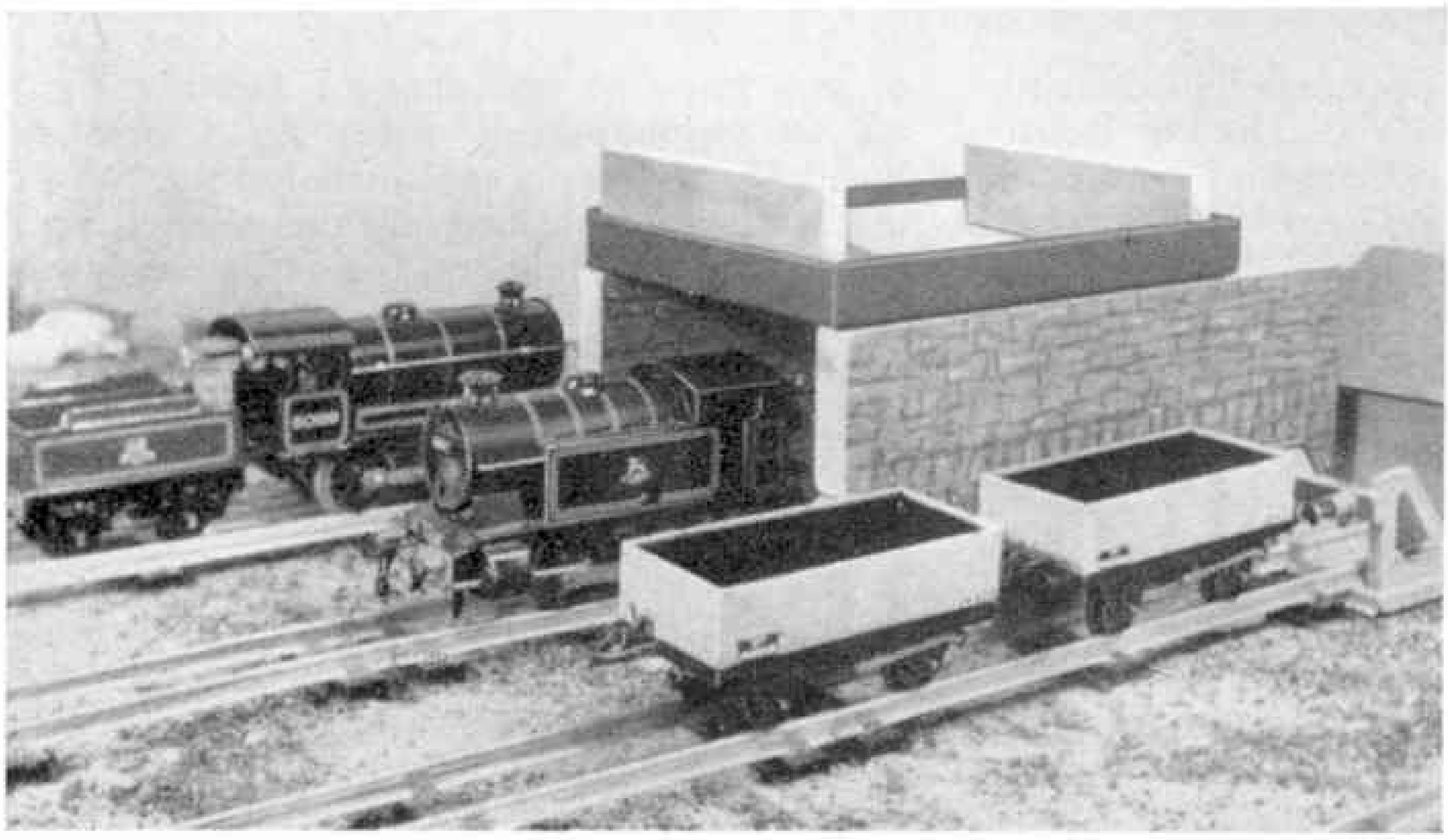
"Morton Vale," a corner of the layout of Mr. K. Adams, Gloucester, showing some of the remarkable collection of elderly Hornby equipment owned by that enthusiast. The home-built engine shed fills in this corner of the railway in an effective manner.

found at smaller sheds in country areas. So long as your engines have somewhere to go when they are not running trains, the exact form of shed construction need not matter a great deal. If you have a set of toy "bricks," so much the better, but in any case it will give you plenty of fun to fix up something on these lines.

A reader and enthusiast who has done so most successfully is Mr. K. Adams, of Gloucester, whose collection of vintage Hornby Locomotives and equipment I have mentioned before in these pages. In fact the corner of his layout shown above will probably be familiar to you already, as it appeared in the *M.M.* for June last year. I am repeating it here to draw attention to the engine shed, a home made one that fills the corner of the railway very nicely. Its simple but effective construction will be apparent.

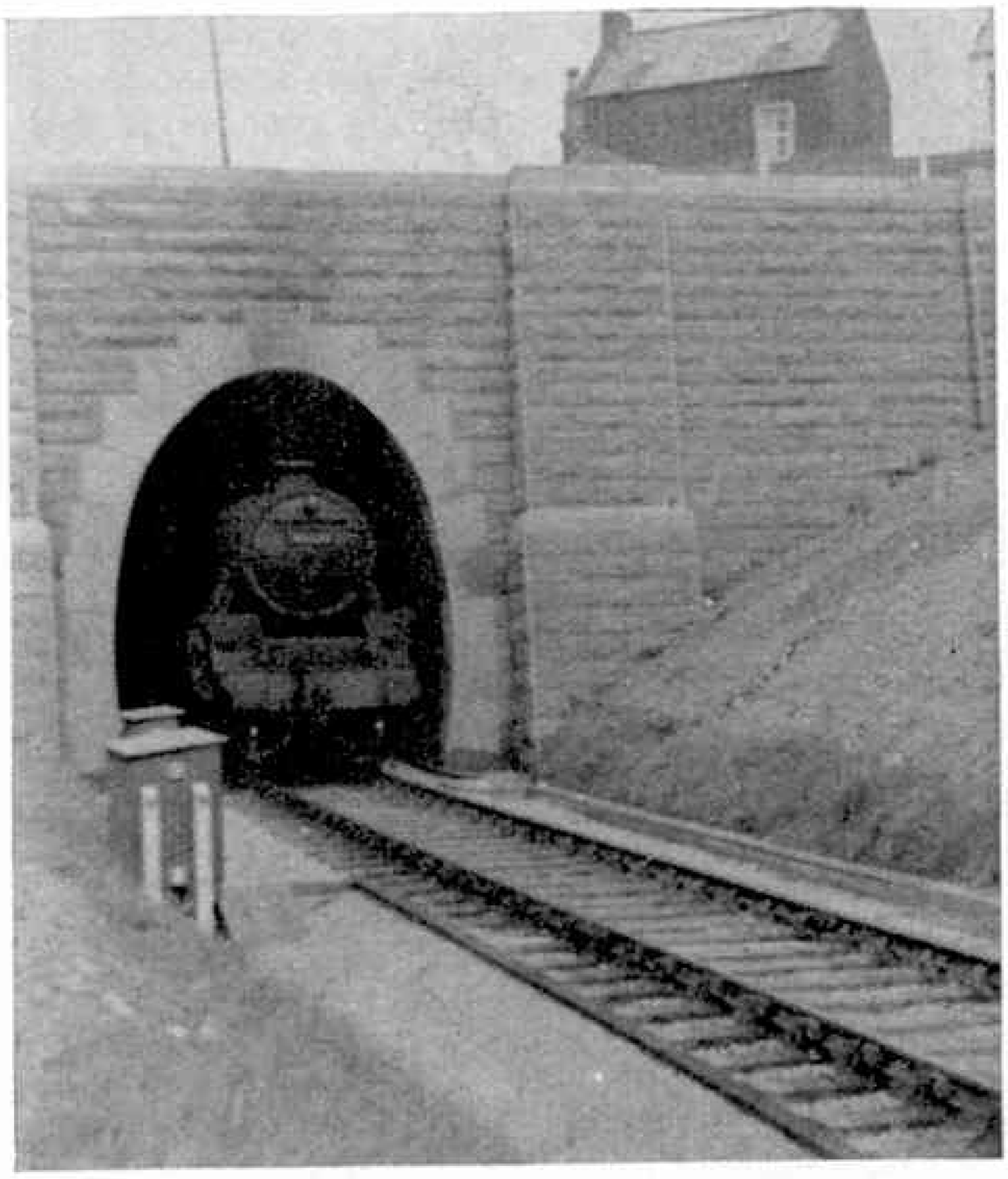
Apart from the veteran locomotives, there is splendid variety in the matter of rolling stock so that train formation on this railway is something that calls for particular attention. It is obvious that the same care that is given to the elderly engines is also devoted to operating matters. Thus the coal train of mixed stock in Mr. Adams' picture is marshalled so that the Hopper Wagons are next to the engine, the somewhat lighter and less capacious ordinary open Wagons following behind.

So whether a Hornby layout is an old one, or is comparatively modern, there is usually something that one can learn from it. This is one of the most interesting features of our miniature railwaying. There is always something fresh to engage our attention. Don't forget to let me know about any special idea that you use on your railway. Perhaps I can mention it in these talks for the benefit of other Hornby railway owners.



The simple engine shed seen in this picture is built up from oddments.

Of General Interest



TUNNELS can be interesting, and are always mysterious. There is one at Whitehaven into which trains between the two stations of Bransty and Corkickle plunge out of sight. This was built in 1851, T. D. Laycock of Whitehaven tells me, and has now had to be rebuilt. So the heavy firestone blocks at its portals, which had stood for nearly a century, have been replaced with bricks and mortar.

The men who did this worked at night to leave the tunnel open for daytime traffic. There were only 19 of them to start with, but the gangs were gradually increased until at length more than 50 men were at work. The official re-opening took place on 29th July of last year. A picture by T. D. Laycock of the new face at one end of the tunnel appears on this page.

Holland is a favourite resort for visitors from this country. Reader J. C. Allsop, of Halesowen, Birmingham, recently went there and has sent me the photograph of windmills that is reproduced on this page. He told me in his letter that several types of windmill are represented at the Dutch open-air museum at Arnhem, which is not very far from the site of the famous battle of the last war. His photograph is unusual in that four windmills can be distinguished in it on looking at it very closely. There had been a fifth in the scene, but this had been burned out.

The type of windmill in this picture is picturesque from the outside, but our reader did not find it as attractive within, for it was dark, with an ungainly companionway type of staircase. This reader added the comment that for most people in Britain Holland is a land of windmills, wooden shoes and bulbs; windmills and wooden shoes are fast disappearing in many parts, but bulb growing continues to be a very thriving industry.

Birds at Play

By Garth Christian

WAS it a race? Or a fight? A swift breath of wind ruffled my hair as a young great tit darted an inch or two from my face, followed a few inches behind by a small willow warbler, soon to set out on its long migration flight to Africa.

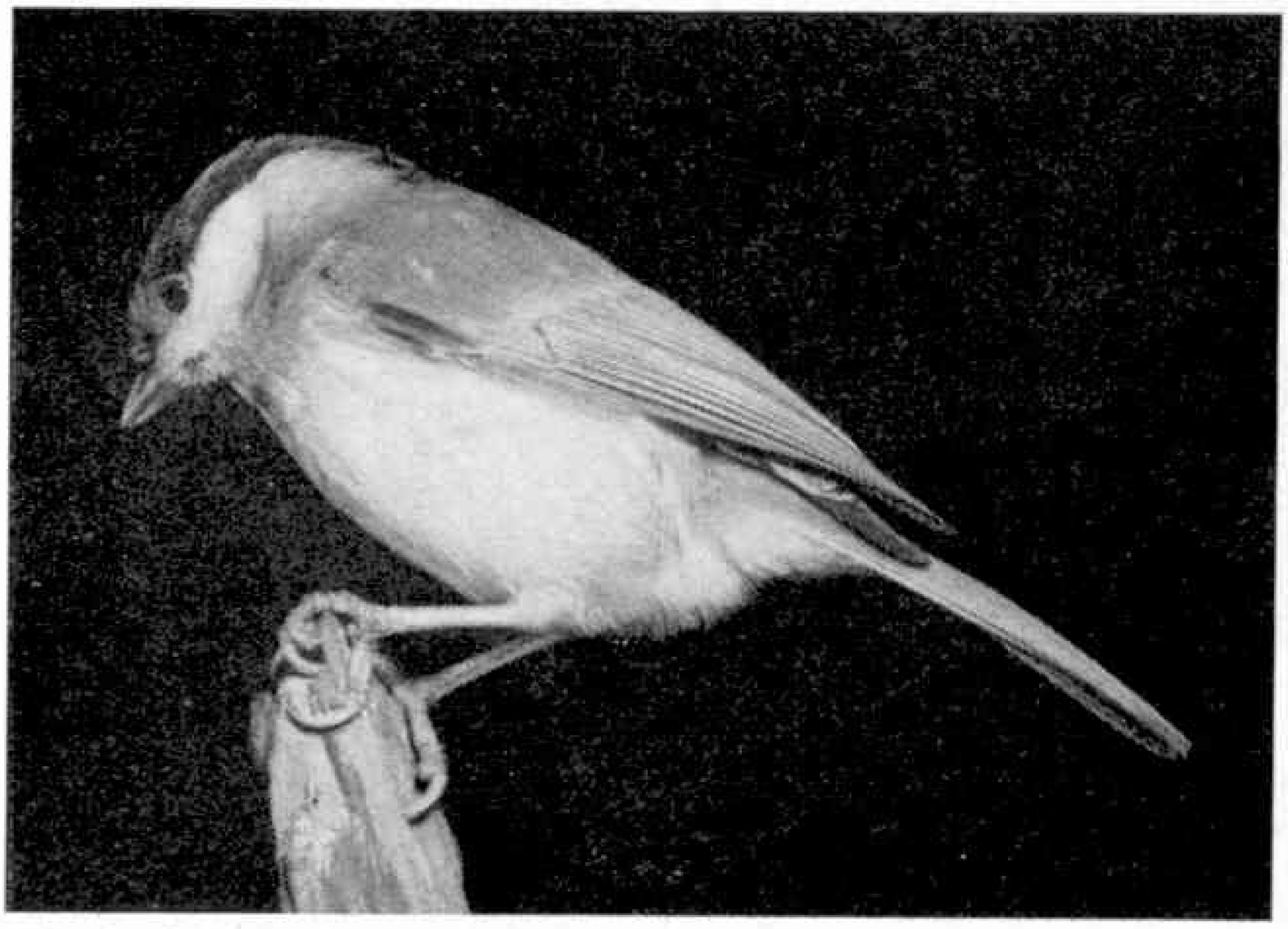
For a moment the odd couple vanished into the rambler roses, where tits commonly hunt for spiders. Next second they were off again, the two birds sweeping in fast low flight round the apple trees and through the silver birches, and then back across the lawn at a speed that could not have been much less than perhaps twenty-five miles an hour.

The chase ended as suddenly as it began, the great tit resting in the raspberry canes while the tiny willow warbler, no more than four and a half inches in length, watched him from the cover of the rose trees. Then the warbler took off into the wind, prompting the great tit to take evasive action by rushing into the wood. There I lost sight of them.

Early next morning as Feather, a favourite coal tit, came to my hand for nuts, a willow warbler, probably the same bird, fluttered down from the apple tree to hang in the wind as if catching flies; yet even as Feather left my hand the warbler set off in pursuit. And not for the first time I marvelled at the frequency with which we may watch birds at play.

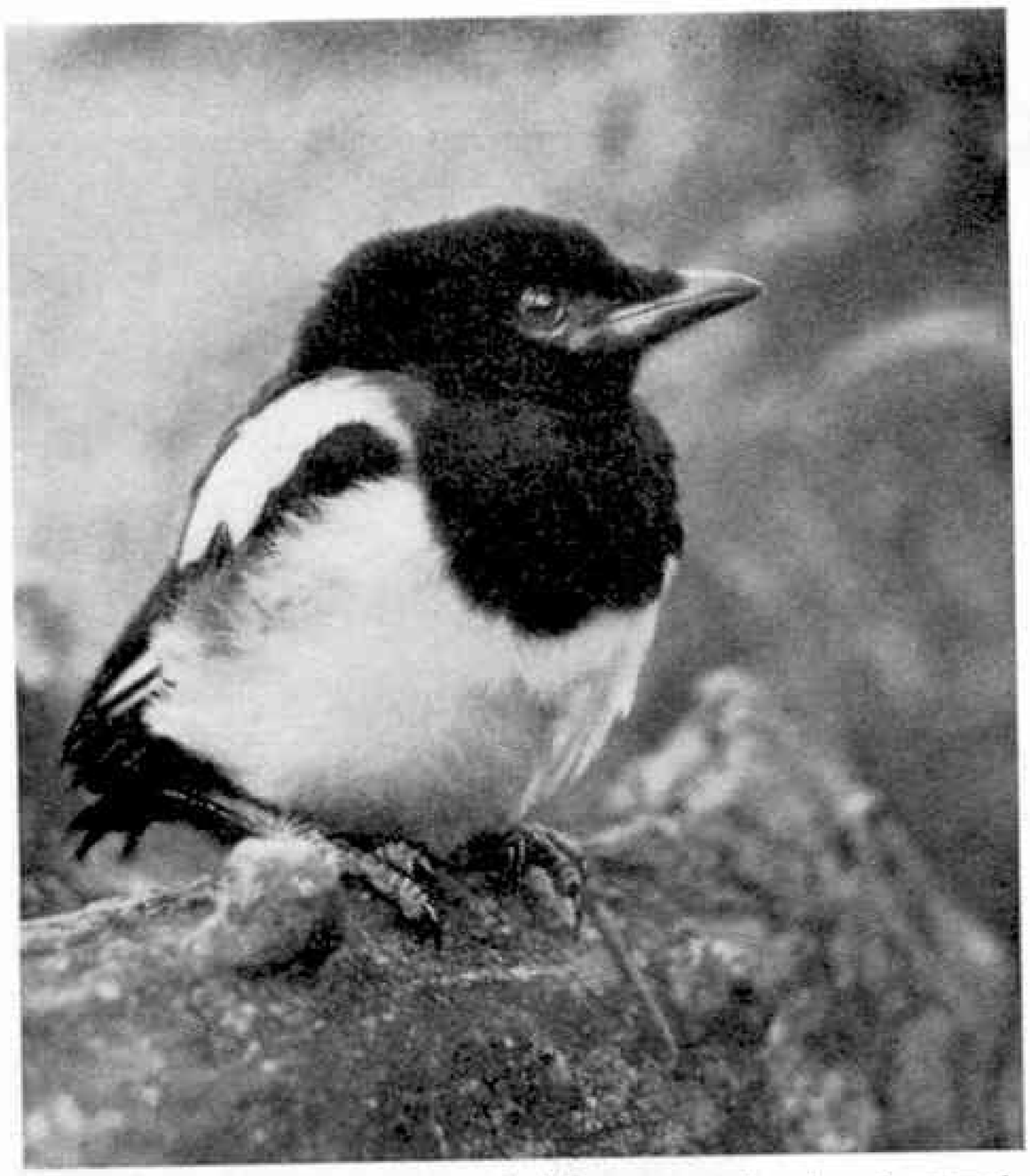
Only a few years ago anyone who dared to use such a phrase might well have had their knuckles rapped by the scientists. Birds were considered no fit subject for an intelligence test, their I.Q. being dismally low and their behaviour largely automatic —or so it was thought. To-day we know that wild birds may possess powers of learning fully equal to those of all but the highest mammals. Far from being stupid, they are often swift to learn from experience when free from fear, and they are blessed with good memories. There can be little doubt, too, that many of their skills in flight and when hunting for food benefit from the hours spent at play, just as badger cubs gain agility through playing leap-frog and other games, or fox cubs through wrestling.

Why the sudden change in the climate of scientific opinion? Maybe we have to thank the growing numbers of observers who are prepared to stand and stare, to watch and record the actions of wild creatures in the field rather than to air pet theories based upon pre-conceived notions. Many a naturalist watching rooks tumbling about in the fresh March winds, or ravens throwing themselves into a roll or diving display above their nest on some Cumbrian crag has been convinced that the birds were simply playing.



The tit tribe—this is a marsh tit—often indulge in fierce chasing with willow warblers. Photograph by Walter C. Murray.

Naturalists had long known that young gannets were as mischievous as puppies. Now scientists have discovered that young kestrels, after hunting for voles or mice or beetles, would return to the nesting territory and playfully hunt for pine cones or even roots of grass, though they had no intention of eating them. Frances Pitt



Young magpies are most mischievous, and a hand-reared bird may make a habit of biting a dog's tail. Photograph by C. Eric Brown.

owned a couple of tame ravens that mischievously teased the cat. While one raven would hop and jump and dance on the ground just in front of the cat, its companion would creep up behind and bite the animal's tail.

More recently I have known two pairs of jackdaws that behaved in a similar way. No one watching the birds at their sport could doubt that they were having a bit of fun.

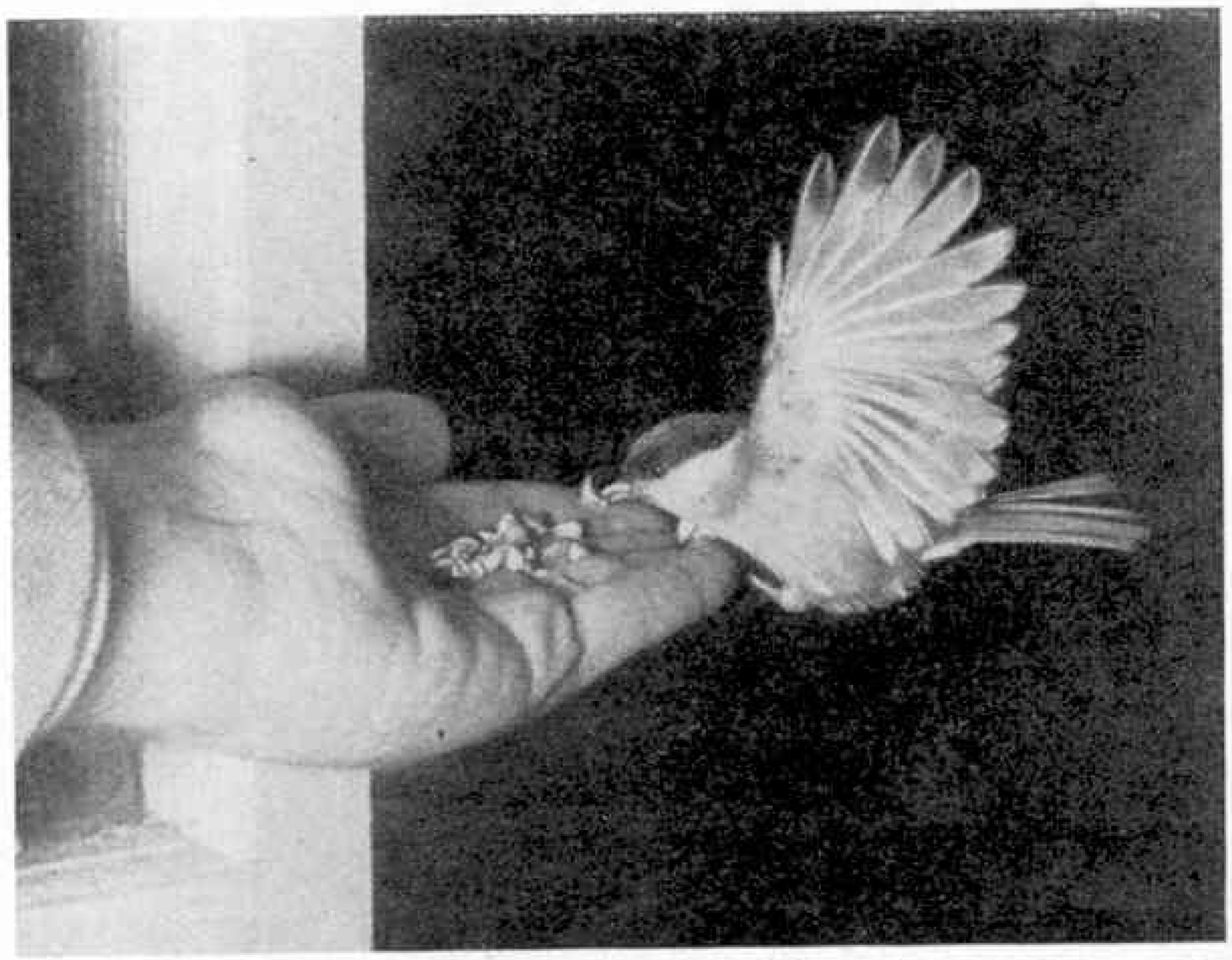
Meantime Len Howard, author of *Living with Birds*, spent a holiday in the uplands of Devon and found a large flock of swallows entertaining themselves one warm August day by feather-catching in mid-air. One of their number would rise above the other swallows with a duck's feather picked from the field in its bill; then the bird would drop the feather and as it neared the earth another swallow would swoop after the feather and catch it. Occasionally a feather would be allowed to drop into the grass, whereupon a second feather would be seized and carried above the circling swallows before being released into the wind and caught by some other member of the flock.

Miss Howard, as she records in *Birds As Individuals*, also found that her tame great tits liked to play with a toy elephant attacking it and pulling out the stuffing. The young great tits in my garden constantly play with the leaves of an apple tree, pulling and biting them, stamping on them and all but tearing them from the parent twigs.

Stamper is a young great tit who likes to perch on the end of a recently cut hazel bough and pretend to catch it. After pouncing on the tip of the branch, trapping it in his claws, he begins pecking and tapping it as if it were prey.

Last summer a tame pair of wild great tits brought their young into the garden, where the infant birds soon followed the example of their parents in perching on my hand. It was not long before Hansel and Gretel, as we called two of the youngsters, began to be dive-bombed by their brother, Humperdinck, who would swoop down and push them off my palm the moment they alighted there.

Was it a game? I was tempted to think so as Humperdinck drove his fellow fledgelings through the apple trees and round the silver birches in a mad chase that often ended with another dive bombing episode above my hand. One must be cautious, though, in labelling such examples of bird behaviour. Many small song birds go through an aggressive or bullying phase a few weeks after (Continued on page 130)



Spot, a marsh tit, who often found ingenious hiding places for the peanuts he took from the author's hand. Photograph by S. Bayliss Smith.

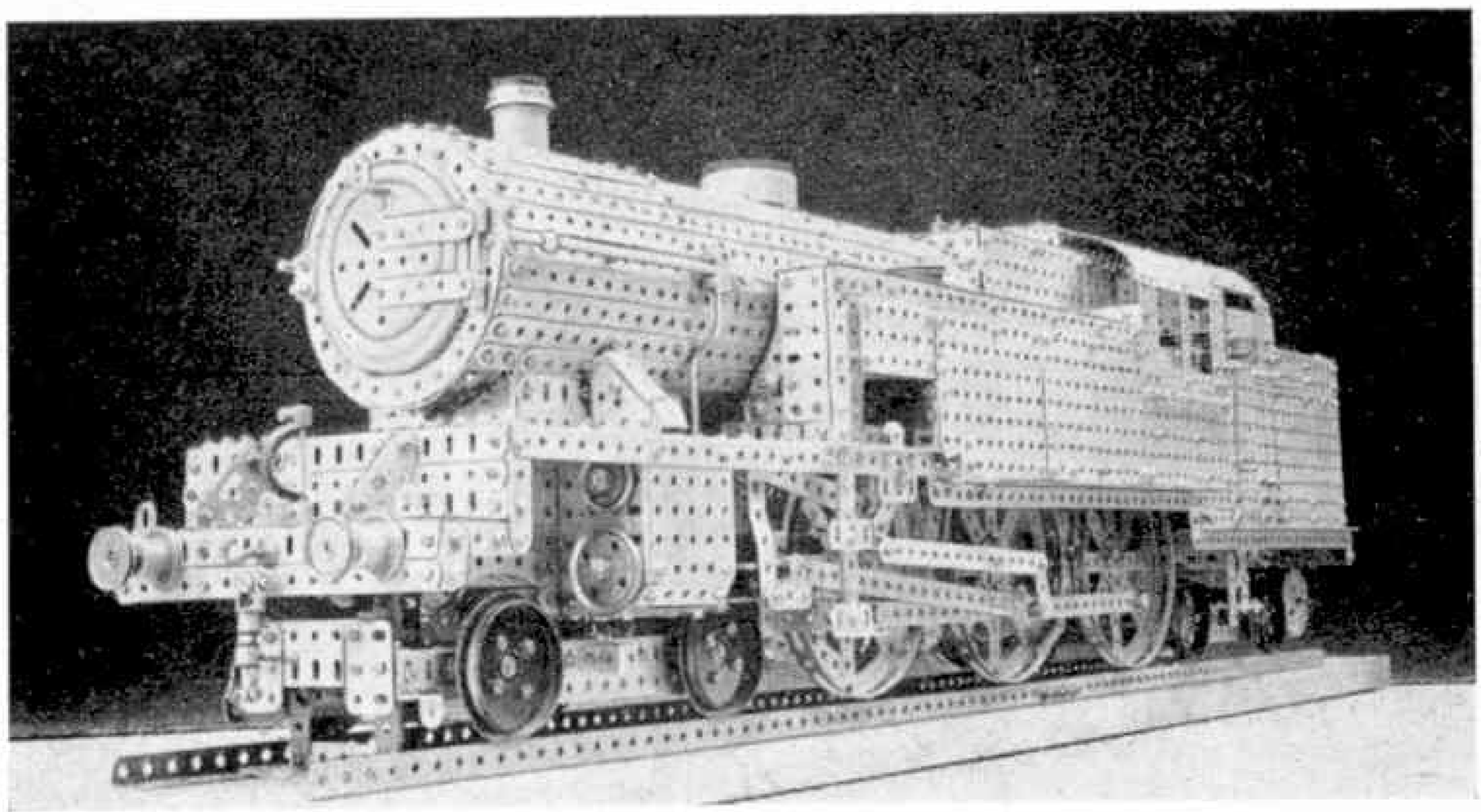
Parking Meters

THE appearance of parking meters in the Mayfair district of London last year created considerable interest. These devices seem to have come to stay. They have been introduced in thousands in European countries and the Commonwealth, and in America, and extension to other cities and towns in Great Britain are now being made or planned.

The parking meters installed in Mayfair are those designed and made by Venner Limited. On the right is a picture of the meter head, while below is a scene in Grosvenor Square, showing a car in its parking space alongside the corresponding meter.

Operation is quite simple. The first thing a motorist does on taking up a parking space is to insert a coin in the machine. As soon as he does this the "offence" and "excess charge" flags at the top of the meter are lowered. If the coin is a sixpence the pointer then indicates one hour, and if it is a shilling the indication is two hours, these being the times allowed for the sums concerned.

At the same time the timing device in the meter comes into action, and from thence onward the pointer on the dial shows, in five minute divisions, how much time the motorist still has available. If he leaves his car beyond the time for which he has paid, the excess charge signal appears, and if at the end of a further two hours he has still not taken it the offence flag is raised, indicating that he is liable to be summoned. The excess charge flag is yellow and the offence one is red, and both are readily visible from each side of the meter.



This fine model of a 4-cylinder Baltic Tank Locomotive was built by Mr. S. Croft Gray, Edinburgh, some years ago, and won a prize in a previous general model-building competition.

Prizes for Model-Building

Winter Competition Now in Full Swing

THE "Winter Model-Building Competition" that was announced in the *Meccano Magazine* last month is now in full swing, and model-builders all over this country and abroad are busily at work preparing their entries. The Competition will remain open until 30th May next and as there is still plenty of time for those who did not see the original announcement to take part in the contest, we are repeating the details here for their benefit.

The Winter Competition is so arranged that every owner of a Meccano Outfit, big or small, can take part, and Meccano models of any kind or size can be entered. It is very easy to prepare an entry for this Contest. The model itself must not be sent; all that is required is a photograph or a good sketch, with any notes required to explain special constructional features. On the back of each photograph or drawing a competitor prepares for sending in he must write his name, address and age, and his entry should then be forwarded to *Winter Model-Building Contest, Meccano Ltd., Binns Road, Liverpool 13.*

The Competition is open to readers of all ages and is divided into two Sections, A, for competitors under 14 years of age, and B, for those aged 14 or over. Cash prizes will be awarded in each section of the Contest to the builders of the models considered by the judges to be the most interesting and well-constructed received. Full details of these prizes are given in the panel on this page.

In addition to the actual prizes a number of Certificates of Merit will be awarded in recognition of their efforts to those competitors whose models fall just short of prize-winning standard. Prize-winners will be notified by letter as soon as possible after the closing date, and the complete lists of awards will be included in the *Meccano Magazine* in due course.

Competitors should note that the closing date in both Sections of the Contest is 30th May, 1959. Entries may be posted at any time before that date, but entries received after 30th May will not be eligible.

Photographs or drawings of unsuccessful entries will be returned to the sender only when a stamped addressed envelope is enclosed for that purpose. It should be noted, however, that photographs or drawings of prize-winning entries become the property of Meccano Ltd., and may be reproduced, if suitable, in the *Meccano Magazine.*

MECCANO WINTER MODEL-BUILDING COMPETITION

The following Prizes will be awarded in each Section of the Competition:

	£	s.	d.
First Prize, Cheque for	4	4	0
Second Prize, Cheque for	2	2	0
Third Prize, Cheque for	1	1	0
Ten Prizes each of		10	0
Ten Prizes each of		5	0

A number of Certificates of Merit will also be awarded.

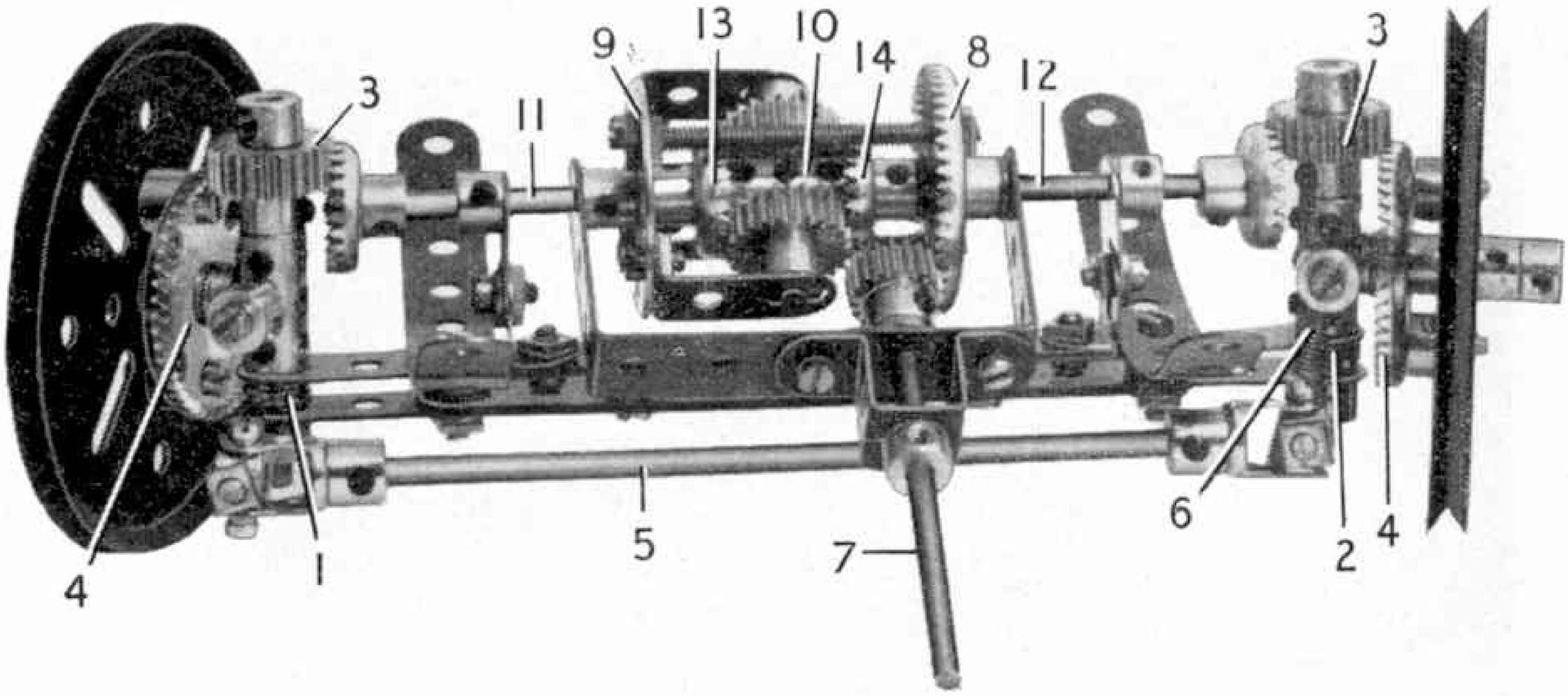


Fig. 1. A neat front wheel drive mechanism that can be built into suitable model motor vehicles.

Among the Model-Builders

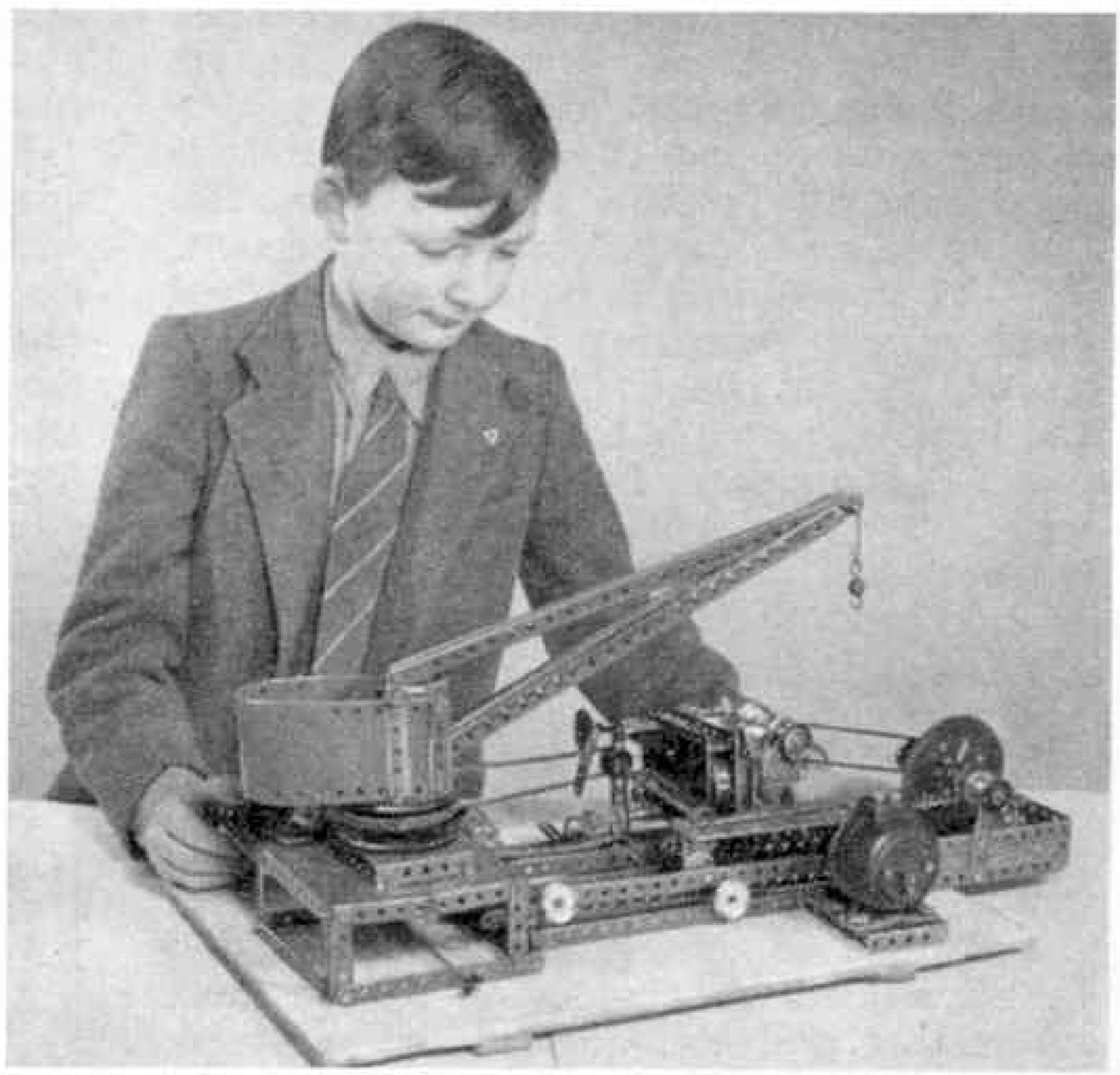
By "Spanner"

Front Wheel Drive for Meccano Motor Cars

I receive so many enquiries for a front wheel drive mechanism for vehicles that I have decided to repeat here details of a scheme that was illustrated in the *Meccano Magazine* some time ago. A picture of this mechanism appears on this page, and it will be found quite easy to assemble and to build into models of suitable type and size.

The front axle consists of two built up strips, each of which is made up from two $5\frac{1}{2}''$ Strips overlapped nine holes. The Strips are spaced apart by three Washers 1 and 2 on each of the Bolts that fix them to the front springs. The road wheels are mounted freely on short Rods, each of which is fixed in a Coupling that carries two 1″ Rods. A $\frac{3}{4}''$ Pinion 3 is free to turn on the upper 1″ Rod but is held in place by a Collar, and the lower Rod is supported in the end holes of the front axle and is also kept in position by a Collar. A $1\frac{1}{2}''$ Contrate 4, spaced from each road wheel by Collars on $\frac{1}{2}''$ Bolts, is driven by the Pinion 3. A 1″ Screwed Rod threaded into the Collar on each of the lower 1″ Rods is provided with a Swivel Bearing. The Swivel Bearings are connected by a Rod 5. Another 1″ Screwed Rod 6 is fixed in a Collar attached by a $\frac{3}{8}''$ Bolt to one of the Couplings. This Screwed Rod is connected by suitable links to the steering gear.

The driving shaft to the differential is a Rod 7 supported in a Double Bent Strip and a $2\frac{1}{2}'' \times 1\frac{1}{2}''$ Double Angle Strip. A $\frac{1}{2}''$ Pinion on Rod 7 drives a $1\frac{1}{2}''$ Contrate 8 that is connected to a Bush Wheel 9 by 2″ Screwed Rods. Two $1'' \times \frac{1}{2}''$ Angle Brackets are bolted to the Bush Wheel and in them is mounted a $1\frac{1}{4}''$ Rod fitted



Peter Jones, Eccleshall, Staffs., and the ingenious automatic sawmill plant he designed and built.

at its centre with a Coupling 10. Two ¾″ Pinions are *free to turn* on the 1½″ Rod.

The differential half shafts 11 and 12 are supported in Fishplates bolted to Angle Brackets, which in turn are bolted to the front axle, and are passed through the 1½″ Contrate and the Bush Wheel into the centre Coupling 10 of the differential. The ¾″ Contrates 13 and 14 on the half shafts are meshed with the ¾″ Pinions.

A ¾″ Contrate fixed to the outer end of each half shaft is arranged so that it drives one of the Pinions 3, which in turn drives the Contrate Wheel 4.

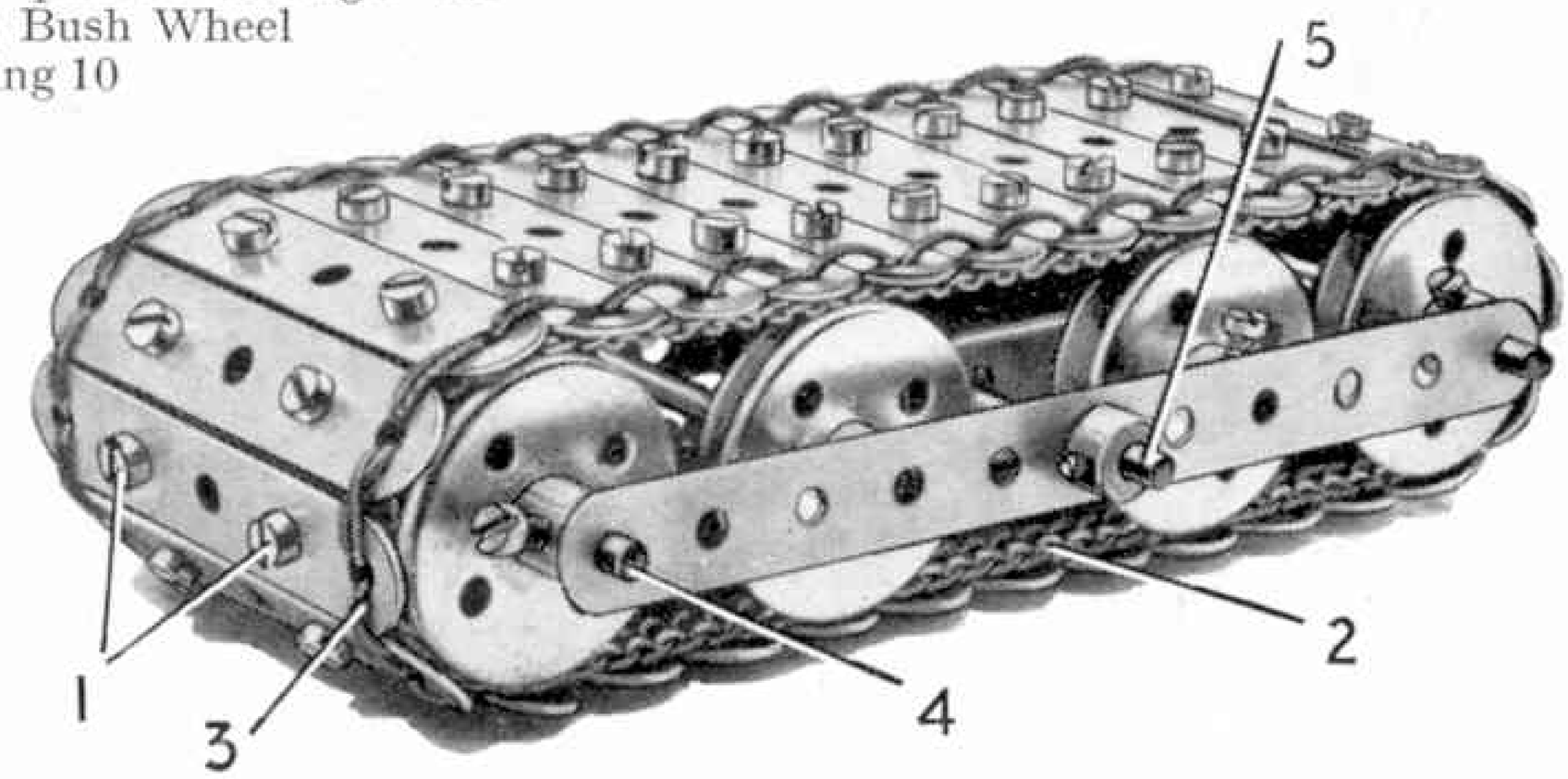


Fig. 2. Creeper track consisting of Strips linked by Cord to lengths of Sprocket Chain.

A Model Automatic Sawmill

A few months ago I had the pleasure of meeting at Binns Road a young model-builder who had travelled from Staffordshire specially to show me a fine model automatic sawmill plant he had built. Peter Jones is his name and he lives on a farm at Eccleshall, Staffordshire. Peter is seen with his model in the lower illustration on the previous page, but the ingenuity he has shown in building it can only be appreciated when the model is actually seen in operation. The model has two power units—an Electric Motor and a Clockwork Motor. The sequence of operations is as follows. First the crane swivels round so as to be in a suitable position to pick up a piece of timber from a pile near the side of the plant. By juggling with the appropriate levers Peter is able to make the crane pick up the timber, swivel round again, and deposit the timber on to the conveyor of the sawing unit at the right-hand end of the plant. Further manipulation of the controls then sets the conveyor in motion and the timber is carried forward to the saw, which is driven by the Electric Motor. After sawing is completed the conveyor reverses.

Peter told me that in order to cope with a possible breakdown in the electric supply he has provided an emergency system under which the entire plant can be worked by the Clockwork Motor alone!

Congratulations, Peter, on your ingenuity in arranging the various mechanisms, and also on the original nature of your model.

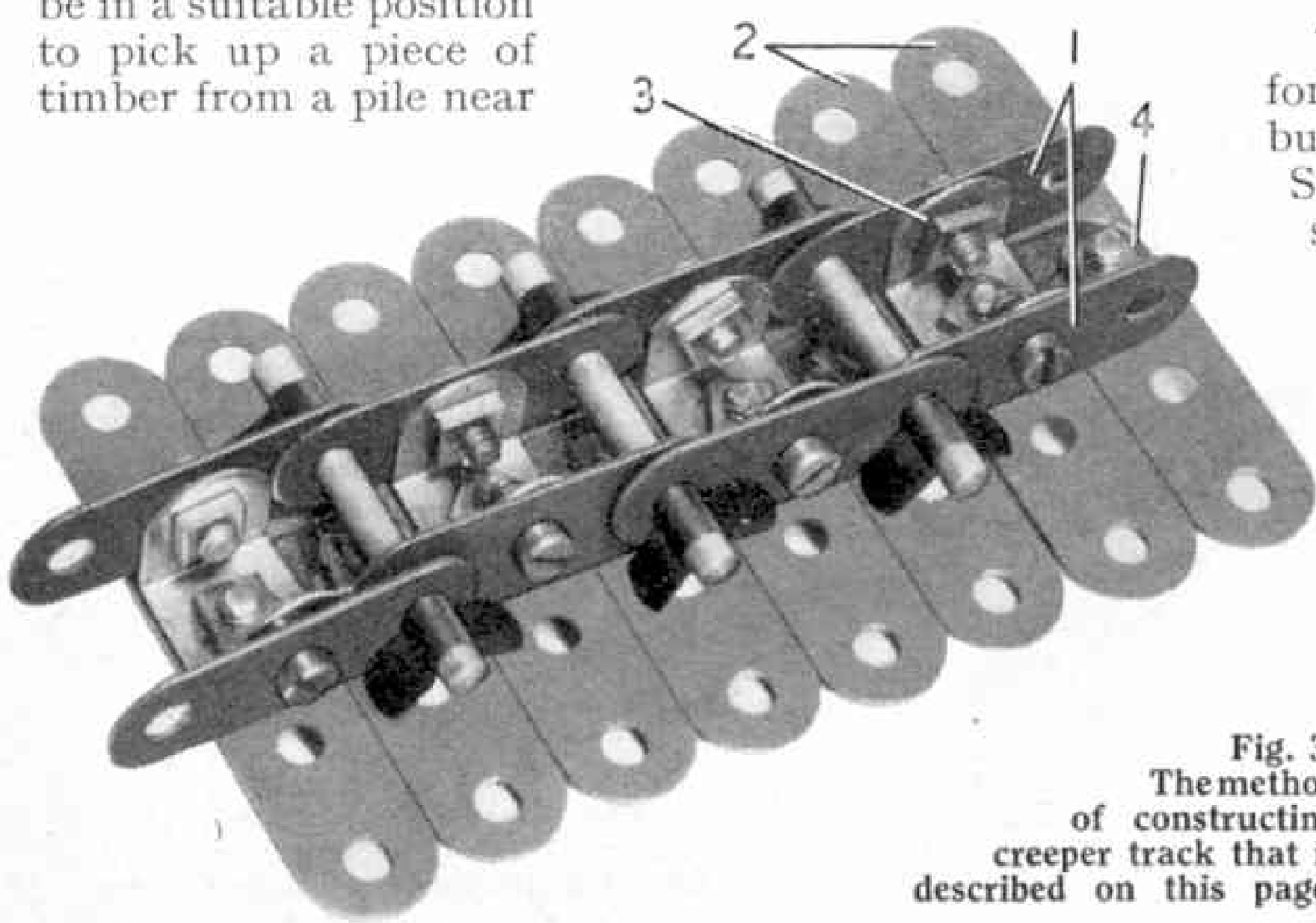


Fig. 3. The method of constructing creeper track that is described on this page.

Another Idea for Creeper Track

The making of creeper track for tracked vehicles is not easy, but for those who have plenty of Strips, Angle Brackets and similar constructional parts available there are many possibilities for experiment. One of these is shown in Fig. 3, which illustrates a method of track construction devised by Clive Greenall, Gisborne, New Zealand. In this example each section of the track consists of two 1½″ Strips 1, two 2½″ Strips 2, one Double Bracket 3, and one

(*Continued on page 120*)

MODEL OF THE MONTH

"Penny-in-the-Slot" Gift Machine

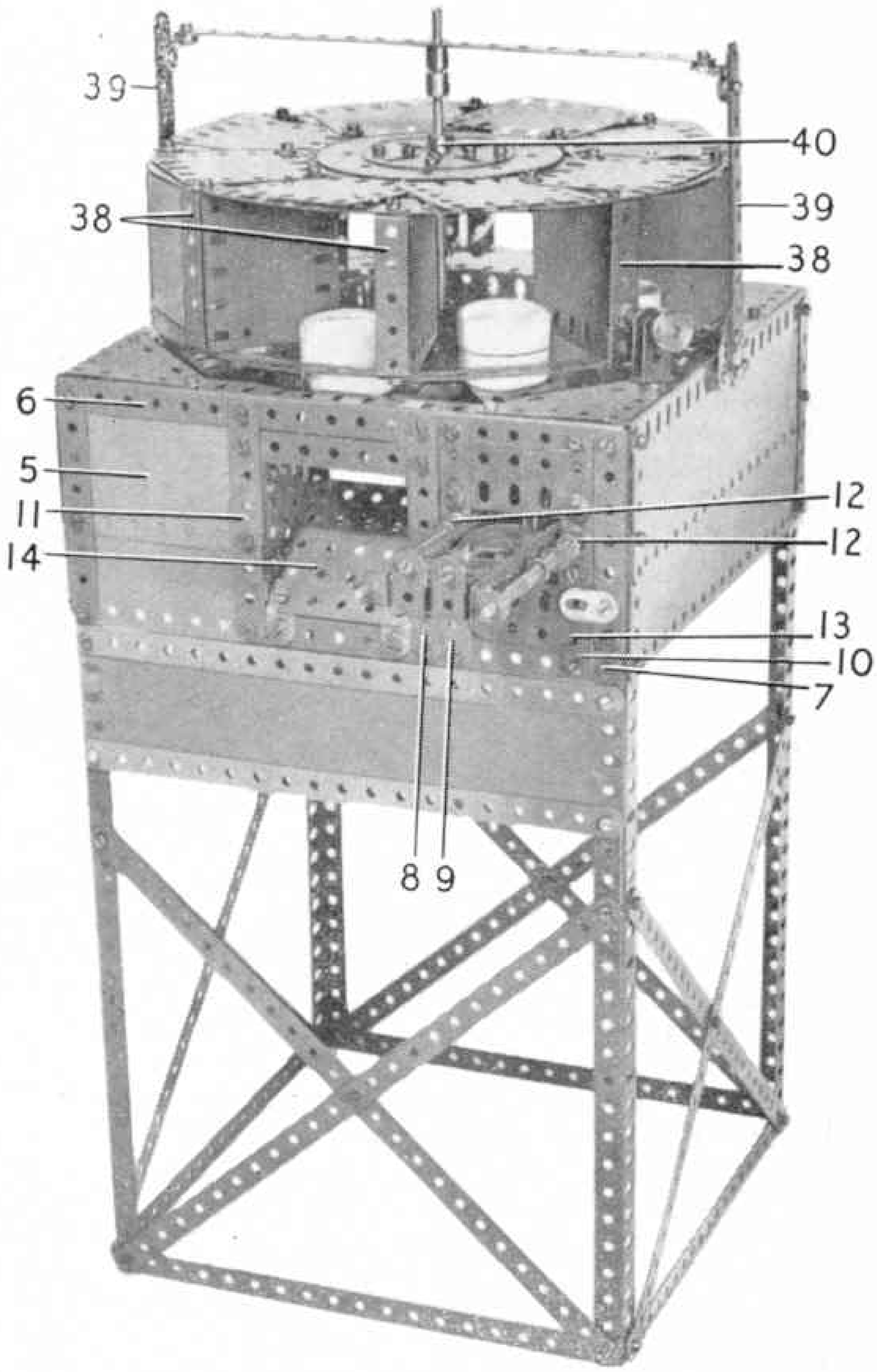


Fig. 1. The Model of the Month —a "Penny-in-the-Slot" Gift Machine.

FOR the March "Model of the Month" we have chosen a really novel subject. It is a model based on one of the many different types of "penny-in-the-slot" automatic machines installed at many seaside resorts, and will be found most interesting in construction and capable of providing fun for the younger members of the family when it is completed.

The finished model is shown in Fig. 1. It consists essentially of a rotating container mounted on a framework pedestal and divided internally into a number of compartments, in each of which a gift, such as a box of matches, packet of sweets, etc., is placed. Any of these

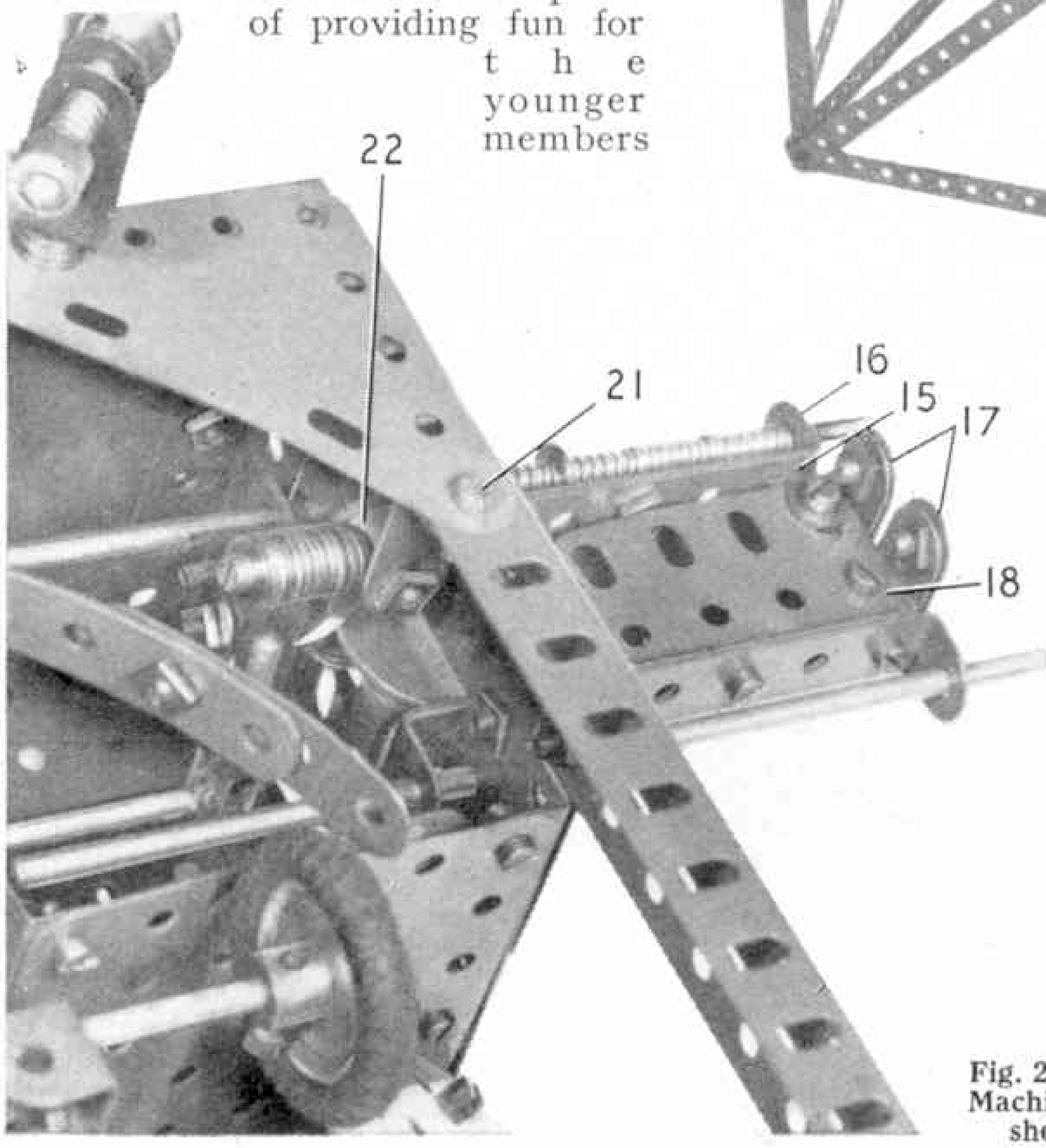
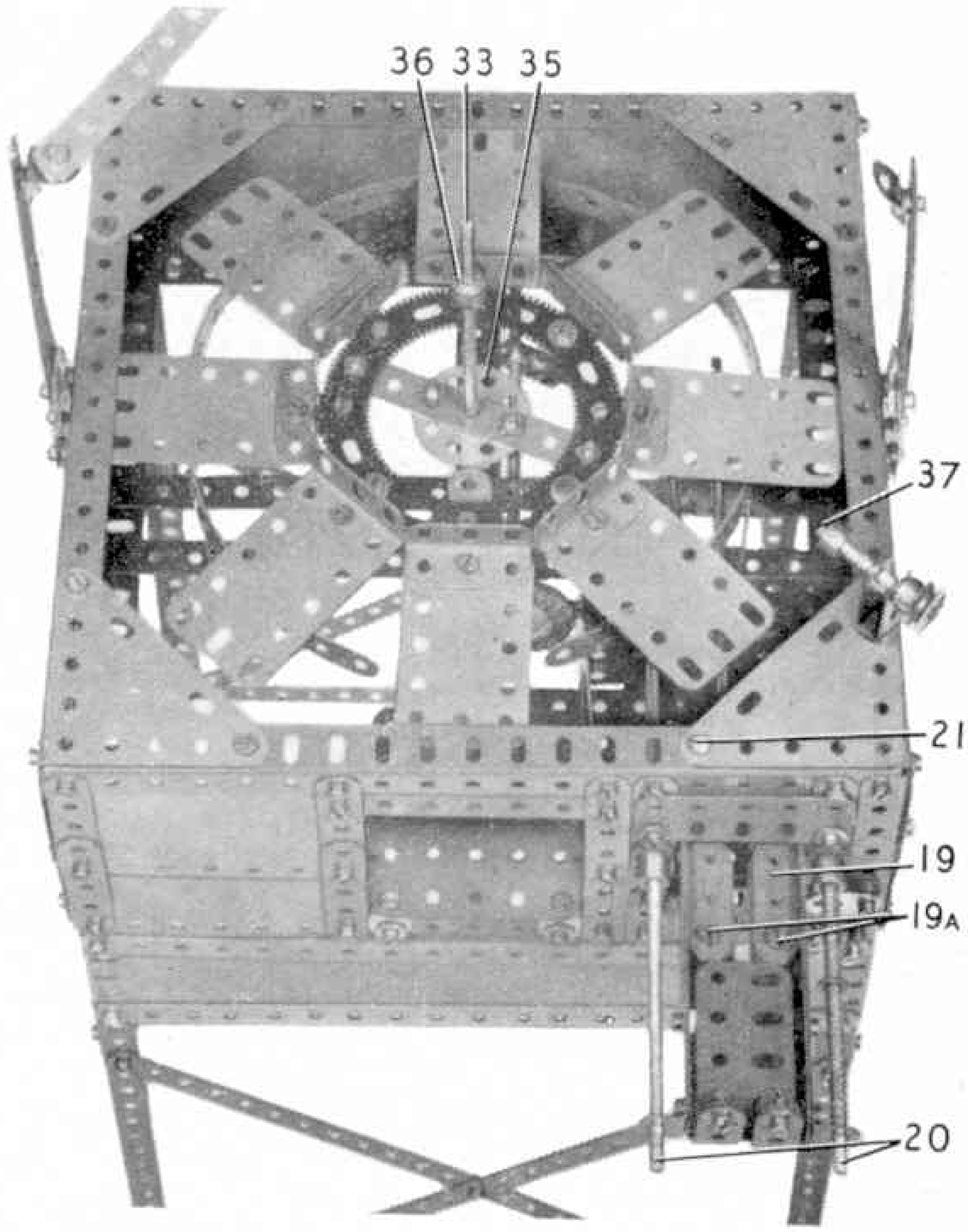


Fig. 2. This view looking on top of the Gift Machine with the gift container removed, shows the details of the coin drawer.

Fig. 3. A semi-plan view of the Gift Machine, with the container removed to show the eight trays that carry the gifts, and the coin drawer.



gifts can be extracted from the machine simply by first selecting the gift required, rotating the container to a pre-determined point and then placing a penny in a "push-in" drawer provided. When the drawer is pushed in, a release mechanism is set in action and the chosen gift is delivered down a chute at the front of the machine.

The construction of the coin drawer and release mechanism is not difficult and is quite attractive in principle, and the assembly of the model should offer no problems even to young constructors.

As usual full constructional details for building the Automatic Gift Machine can be obtained by any reader and to get them it is only necessary to write to the Editor, Meccano Magazine, Binns Road, Liverpool 13, enclosing a 2d. stamp for postage.

Readers living in Canada, Australia, New Zealand, South Africa, Ceylon, Italy, Rhodesia and the United States of America, should write to our main agents in those countries for their copies of the current "Model of the Month" instructions, also of course enclosing suitable stamps for postage. Write at once and make sure of *your* copy.

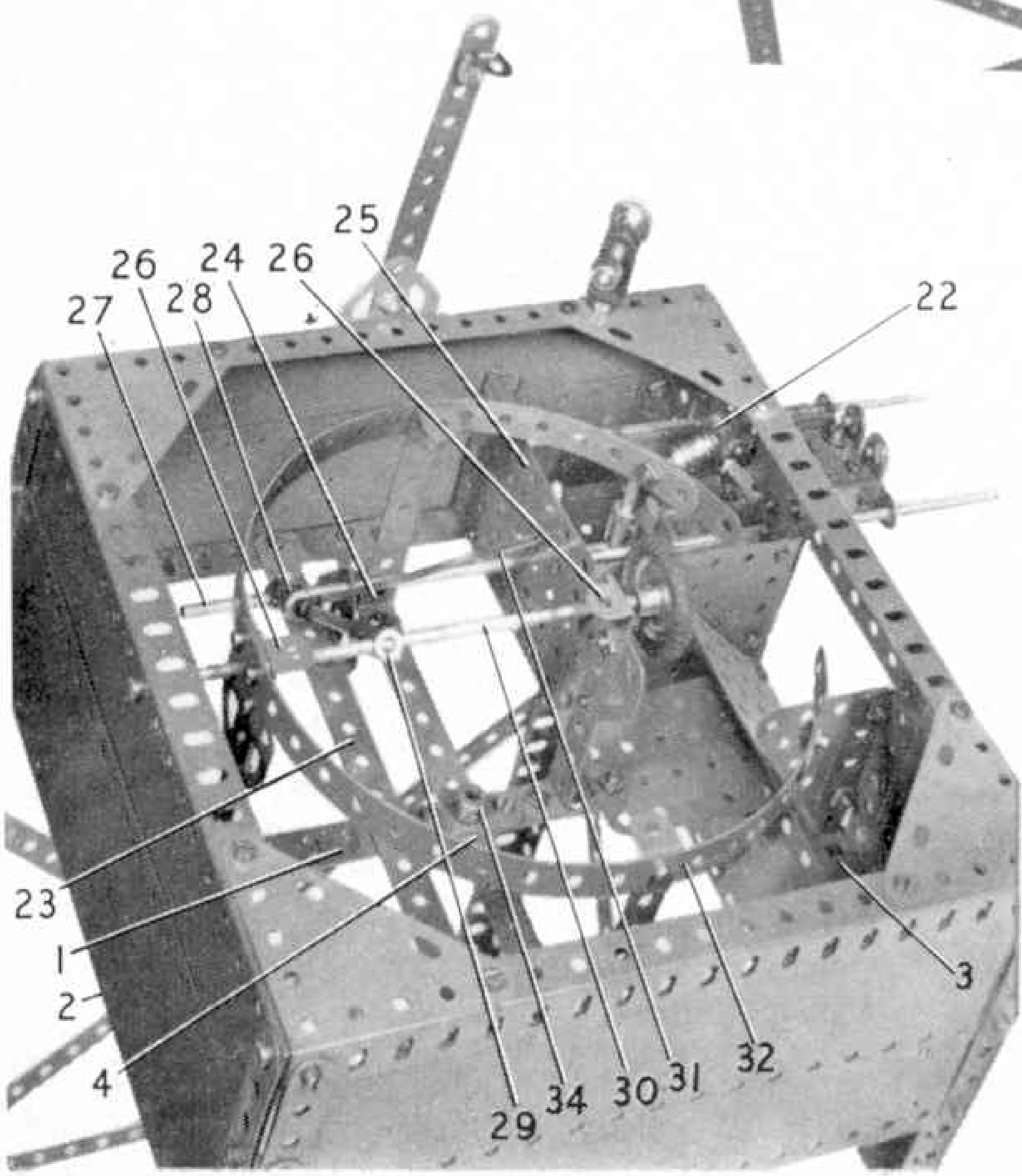


Fig. 4. Here can be seen the ring that supports the trays and the release mechanism.

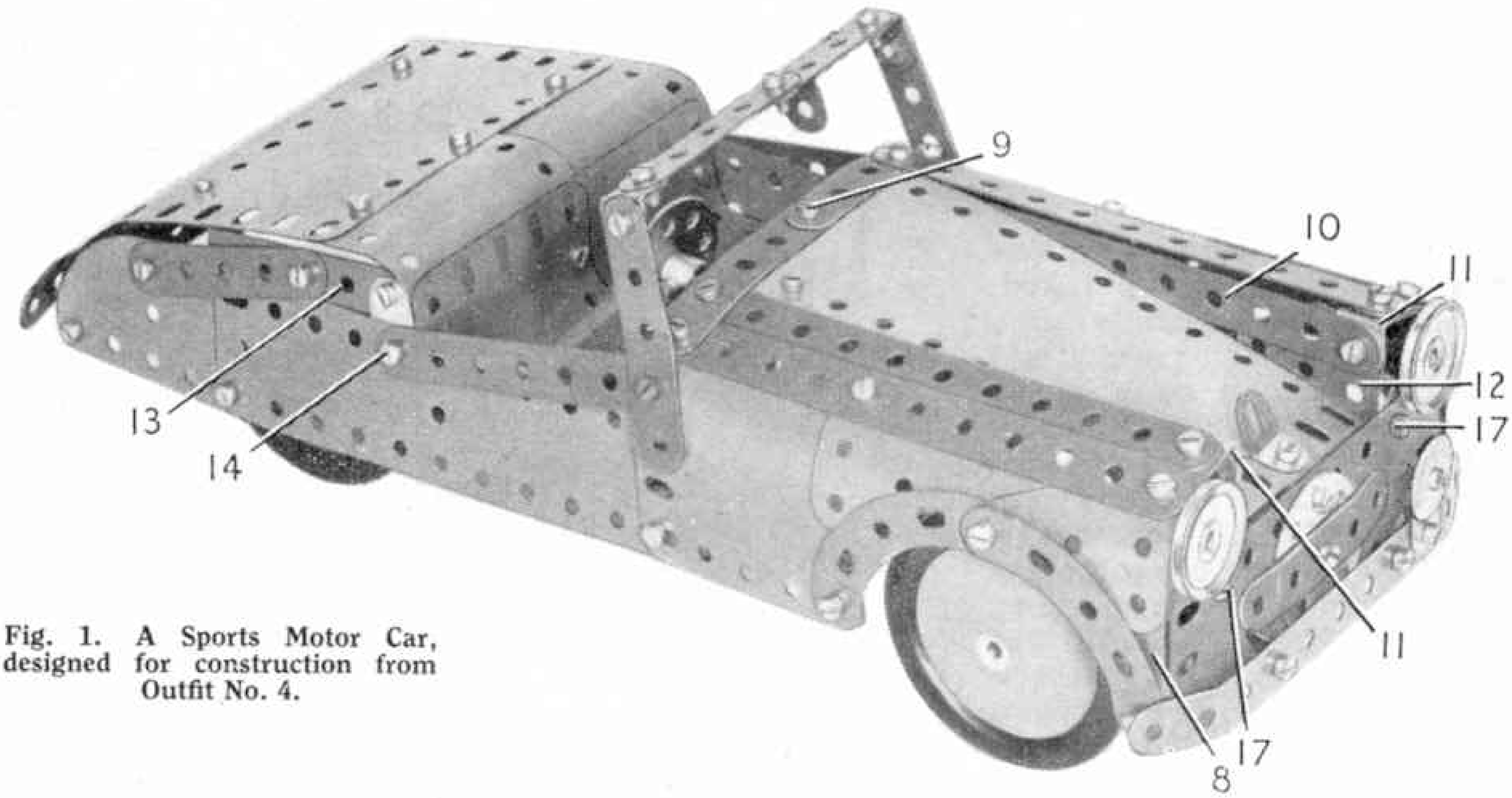


Fig. 1. A Sports Motor Car, designed for construction from Outfit No. 4.

A Sports Motor Car

Attractive Subject for Outfit No. 4

IF you own an Outfit No. 4 or one larger you will have all the parts needed to build the attractive Sports Car shown in Fig. 1.

To commence construction, start with the chassis, which consists of two 12½″ Strips joined at each end by 2½″ × ½″ Double Angle Strips 1 and 2.

The front end of the car is made up from two 2½″ × 1½″ Flexible Plates 3 and 4, with a Wheel Disc and a 2½″ Strip to represent the radiator grille. An Angle Bracket is held by a bolt 5, which also fixes the Wheel Disc in place. Angle Brackets 6 and 7, which are bolted to the lower corners of the 2½″ × 1½″ Flexible Plates, each have a slightly curved Formed Slotted Strip, one of which is seen at 8, and a 2½″ Stepped Curved Strip bolted to them to form part of the front wheel arch.

Each wing of the car is made up from two 2½″ × 1½″ Triangular Flexible Plates and one 2½″ × 2½″ Flexible Plate. These are arranged as shown and two 5½″ Strips are then bolted in the two upper end holes of the Formed Slotted Strip. The front wheel arch on each side of the car is completed by a second 2½″ Stepped Curved Strip as shown.

The top of the bonnet is a 5½″ × 2½″ Flexible Plate. This is bolted at the front end to the Angle Bracket held to the front Flexible Plates by bolt 5. At the rear end this 5½″ × 2½″ Flexible Plate is edged by two 2½″ Strips bolted end to end, the bolt 9 passing through a 2½″ × ½″ Double Angle Strip. To the lugs of the latter are bolted the inner ends of two 5½″ Strips, one of which is marked 10 in Fig. 1. The other ends of these Strips are bolted to the Double Brackets 11. The holding bolts fix in place also a Flat Trunnion 12 on each side of the model. The sides of the windscreen frame are 2½″ Strips and they are bolted to the sides of the Sports Car, the same bolts holding a 3½″ Strip in place. Angle Brackets are bolted to the upper end holes of the 2½″ Strips, and the top of the windscreen frame consisting of two 2½″ Strips bolted together overlapping two holes, and a 1½″ × ½″ Double Angle Strip, are bolted to the Angle Brackets as shown.

The sides of the body are completed with a 5½″ × 1½″ Flexible Plate and a 2½″ Semi-Circular Plate at the tail.

On the inside of the body, on each side, a 2½″ × ½″ Double Angle Strip 13 is bolted to a Fishplate, which in turn is attached to the side of the car by a bolt 14. This bolt holds also the 3½″ Strip that is bolted across the upper edge of the Sports Car door as shown. A streamlined effect is given by a 2½″ Strip that is bolted to the centre hole of the 2½″ × ½″ Double Angle Strip 13 and to the rear 2½″ radius Curved Plate on each side.

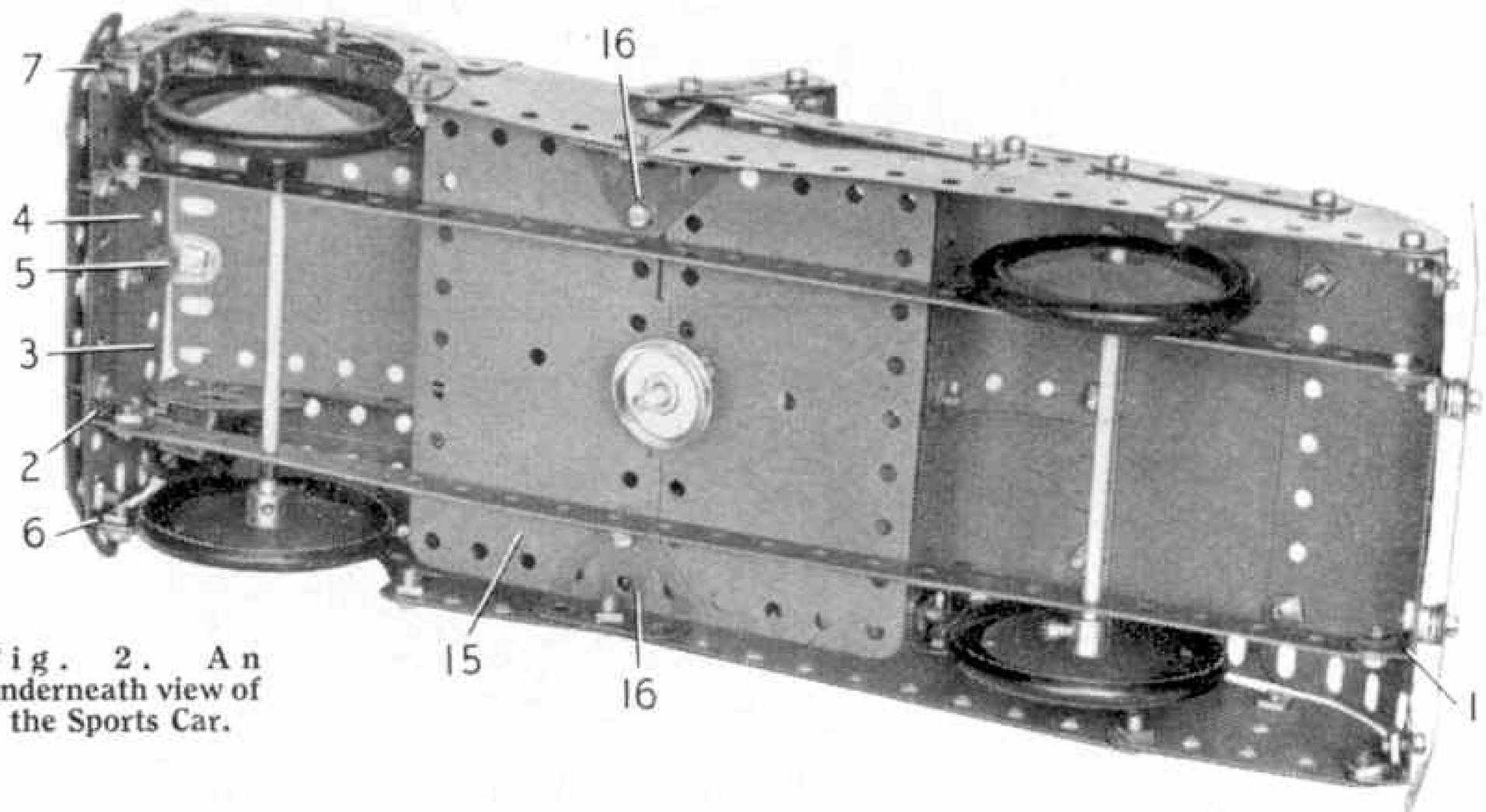


Fig. 2. An underneath view of the Sports Car.

The floor of the car is a Hinged Flat Plate 15 bolted to two Trunnions 16 that in turn are attached to the side plates of the body.

The tail and boot of the body are made up from two $2\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plates and two $4\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plates. The lower corners of the tail are fixed at each side to Angle Brackets bolted to the sides of the car. The driving seat consists of two further $2\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plates curved as shown. The headlights are 1″ Pulleys fixed on $1\frac{1}{2}''$ Rods mounted in Reversed Angle Brackets, which are held by the bolts 17. The steering wheel is fixed on the end of a $3\frac{1}{2}''$ Rod passed through the lugs of a $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip bolted underneath the bonnet. A short Rod held in two 1″ Pulleys placed above and below the floor represents the gear change lever.

The rear wheels are mounted on a $4\frac{1}{2}''$ Rod that is journalled six holes from the rear of the $12\frac{1}{2}''$ Strips of the chassis. The front wheels are mounted on a $4\frac{1}{2}''$ Rod and spaced from the $12\frac{1}{2}''$ Strips by Spring Clips.

The bumpers are $5\frac{1}{2}''$ Strips and they are bolted to the $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strips 1 and 2 by $\frac{3}{8}''$ Bolts, which also serve to fix the body in place. The rear bumper is spaced from the body by Washers on the shanks of the $\frac{3}{8}''$ Bolts, and the front bumper is also spaced from the body by two Spring Clips. The bumpers are curved slightly.

The fog lamp at the front consists of a $\frac{3}{4}''$ Washer bolted to a Fishplate that in turn is bolted to the front bumper.

Parts required to build the Model Sports Car: 2 of No. 1; 8 of No. 2; 2 of No. 3; 9 of No. 5; 3 of No. 10; 2 of No. 11; 3 of No. 12; 2 of No. 12c; 2 of No. 15b; 1 of No. 16; 1 of No. 17; 2 of No. 18a; 4 of No. 22; 1 of No. 24; 1 of No. 24a; 6 of No. 35; 72 of No. 37a; 68 of No. 37b; 8 of No. 38; 1 of No. 48; 6 of No. 48a; 4 of No. 90a; 4 of No. 111c; 2 of No. 125; 2 of No. 126; 2 of No. 126a; 4 of No. 187; 2 of No. 188; 2 of No. 189; 2 of No. 190; 2 of No. 191; 1 of No. 192; 1 of No. 198; 2 of No. 199; 2 of No. 200; 2 of No. 214; 2 of No. 215; 4 of No. 221.

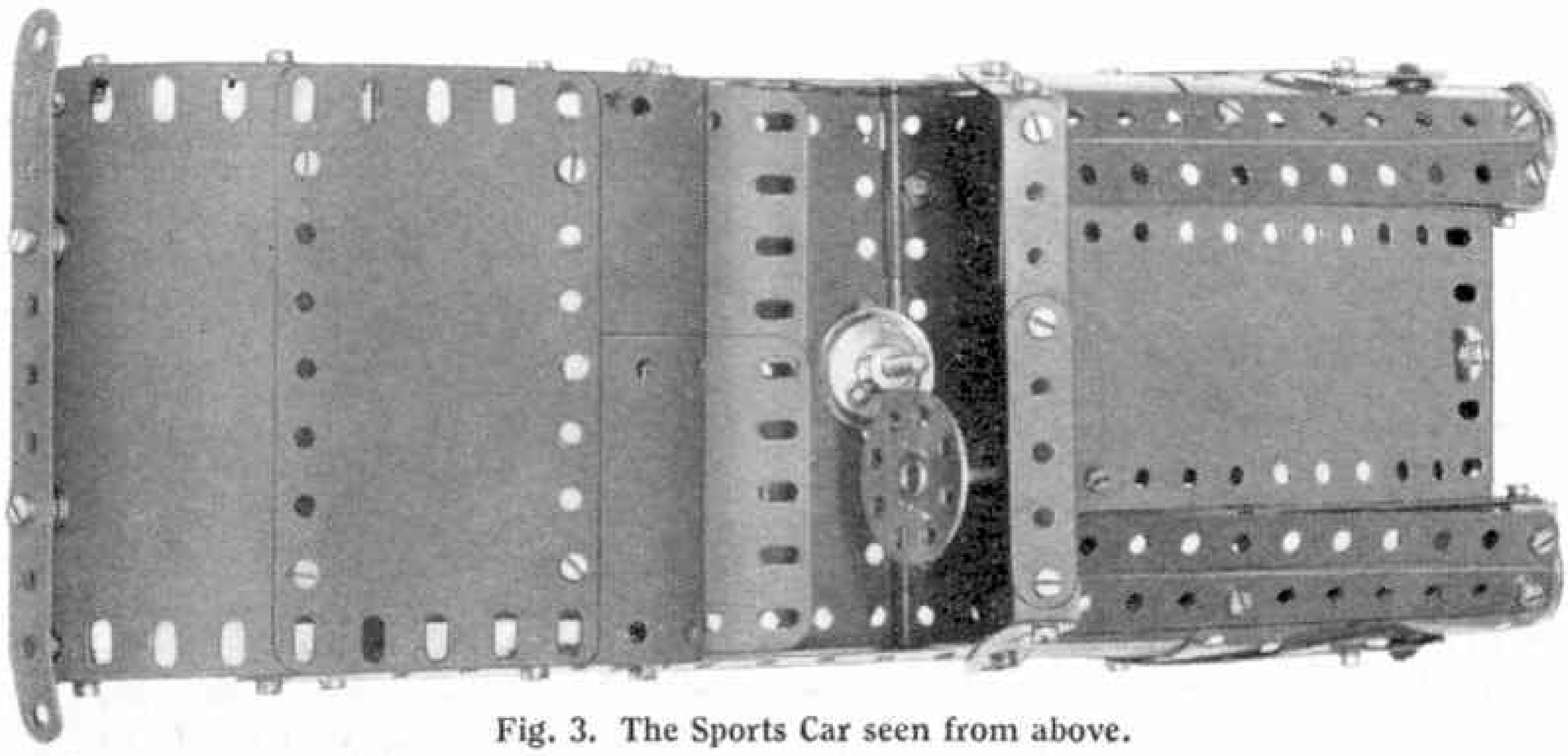


Fig. 3. The Sports Car seen from above.

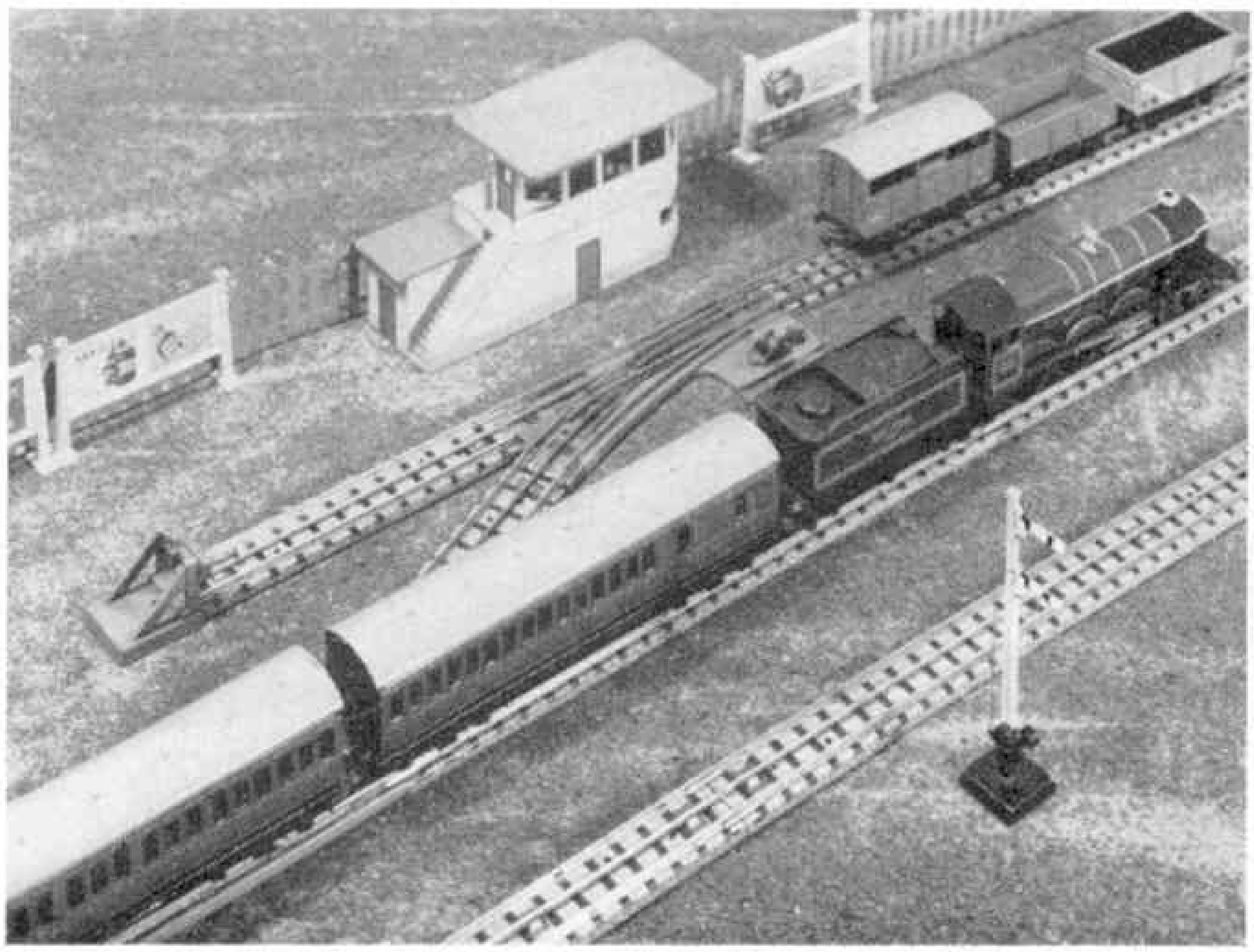
HORNBY

RAILWAY

COMPANY

By

the Secretary



"Western Loco"

A STRANGE title you may think, but one that you will find covers what we are going to talk about this month. It is some time since we had a chat about the representative of the Western Region in the Hornby-Dublo system. This is a very interesting locomotive indeed, and I hope I may have something to say that will be stimulating to those Hornby-Dublo enginemen who have been running Castles for some time as well as those who have recently acquired one.

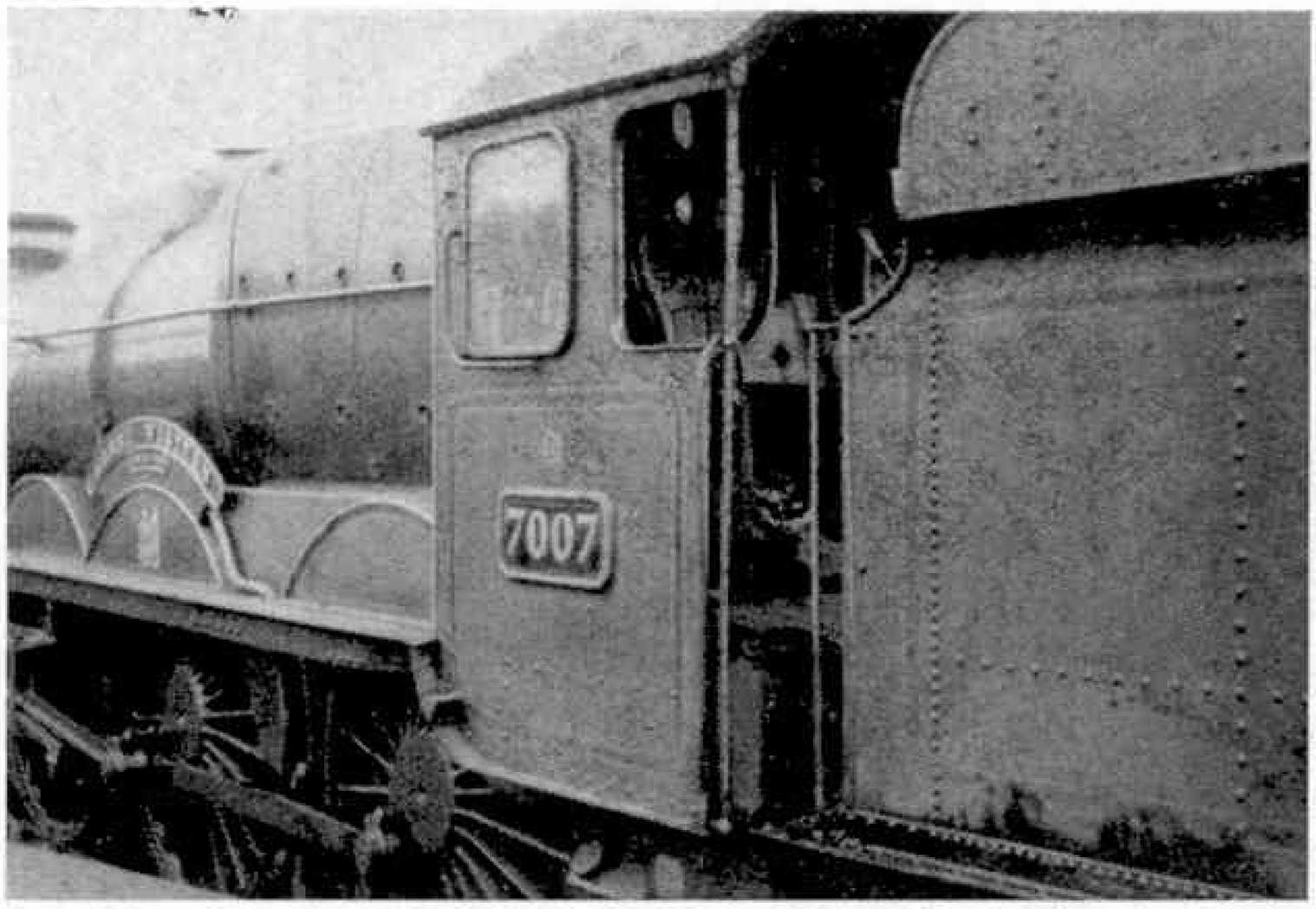
I think sometimes that there are Castle owners who do not fully appreciate the importance of lubrication of their engines, particularly of the armature shaft, which revolves at quite a high speed. If this is attended to regularly and the general condition of the motor and engine part of the locomotive is looked over at the same time, their locomotives will not fail to give them good service.

Sometimes I get enquiries about brushes. Not that there is any difficulty in replacing them when necessary, as Castle owners learn to do this very quickly. A few deft movements as detailed in the instruction booklet and the job is done. But this brings me to a frequent question about the life of the brushes. You can expect these parts to provide for about 30 hours running time. Unless the engine is used really heavily it takes a fair while for the average Castle to clock so much time, so here again is good service.

Some Hornby-Dublo owners have suggested larger brushes, or harder ones, or both, but for various reasons these suggestions cannot be carried out. In point of fact harder material than originally specified *is* now used for the brushes and the performance is quite satisfactory, having regard to the small size of these components and of the motor generally. The proportions of these have been dictated by the general style of the Castle, which as a Gauge 00 engine does not have a tremendous amount of space "inside" in which the motor can be accommodated.

Above, "Bristol Castle" does a turn on a stopping train. Work of this kind is often performed in between faster and heavier main line duties.

A still harder brush material could cause excessive wear on the commutator and it could quite easily give rise to interference with Television reception, which is a serious matter nowadays. All Hornby-Dublo locomotives are fully suppressed of course, actually to a greater degree than is required by regulations, and normally the equipment



A striking view forward of No. 7007 "Great Western", showing clearly the cab side window referred to on this page. Photograph by C. A. Gostling.

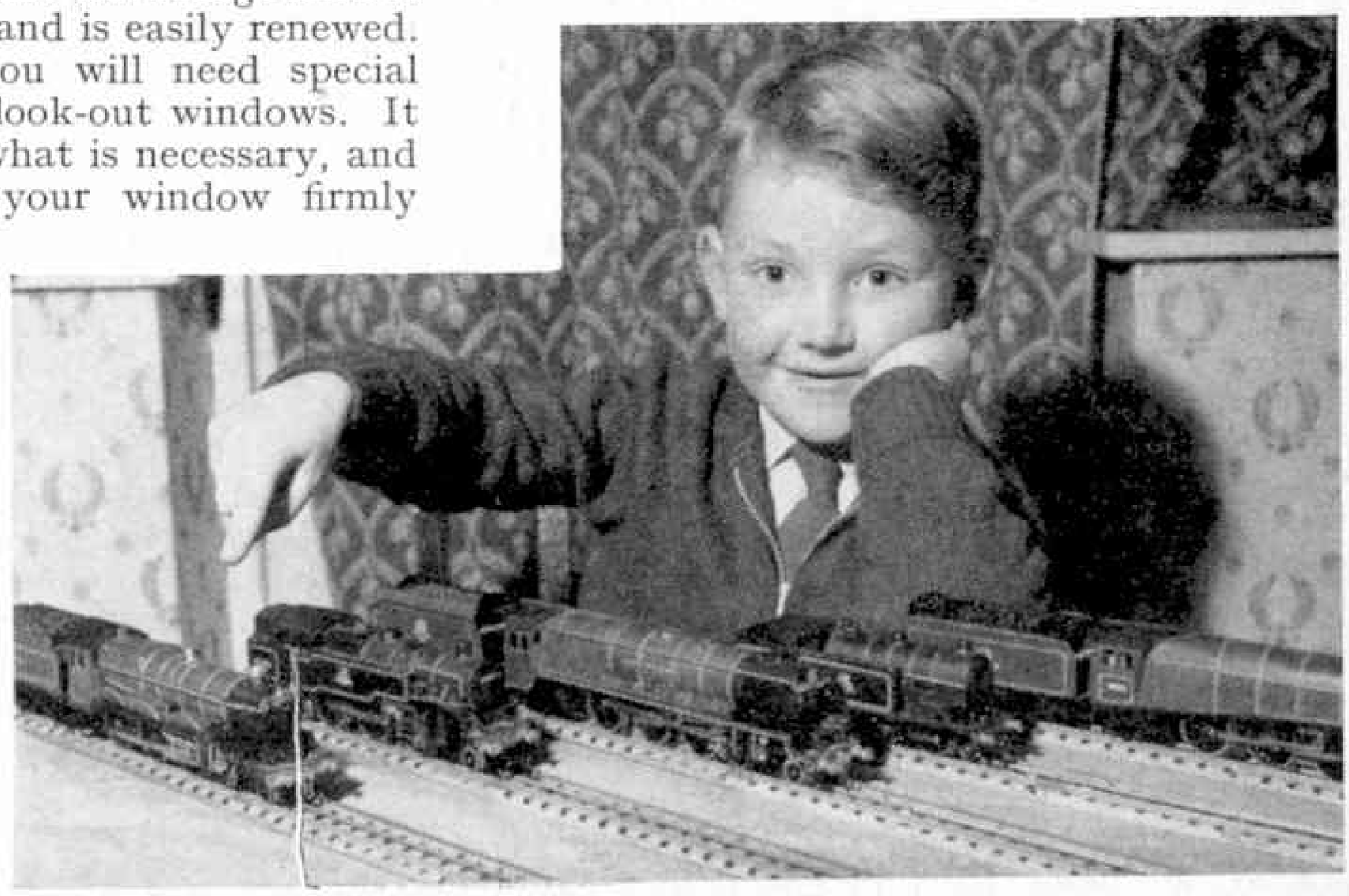
fitted gives complete satisfaction. Brush material and pressure, spring strength, and armature diameter and speed are all carefully related to one another in order to give the best possible results.

The photograph reproduced above of No. 7007 reminds me of a scheme that several enthusiasts have written about. Notice how clearly the glazed window in the real cab side shows up. Now, it is possible to provide this effect in the cab windows of Hornby-Dublo locomotives in several ways.

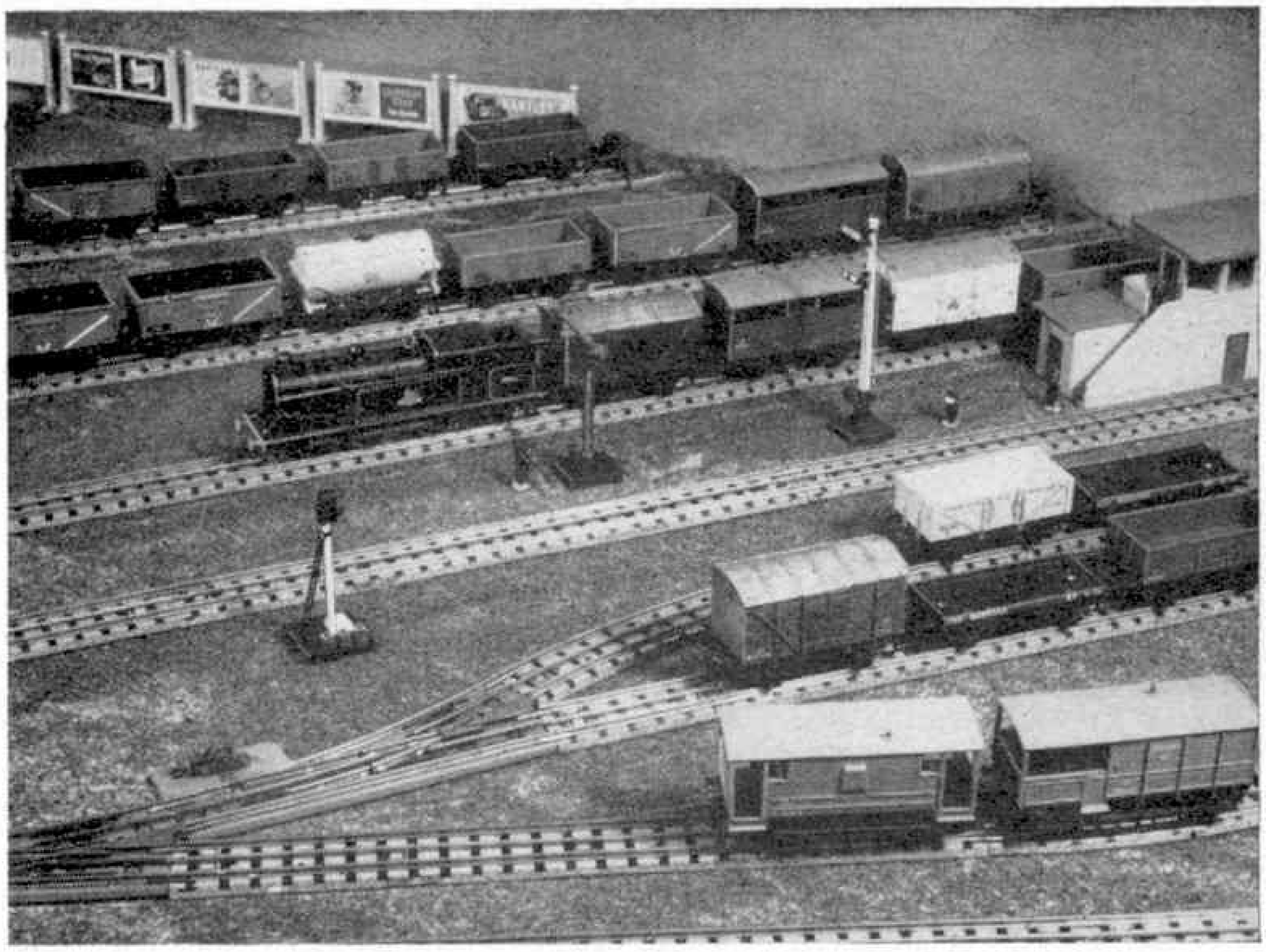
Mr. S. J. Thorne, now in Cyprus, a keen Western enthusiast, favours the use of transparent self-adhesive tape of the kind that you often see used for sealing parcels and so on. This has the advantage that it sticks easily in place and is easily renewed. Don't forget that you will need special shapes for the front look-out windows. It is easy to work out what is necessary, and take care to have your window firmly attached inside to the roof as well as to the cab front. A pair of small tweezers is very useful here, particularly when manipulating the cut shapes into position.

Some of you may prefer another method, suggested by Anthony Everson, of London, that you may find easier than the use of sticky sealing tape. For this pieces of cellophane are cut to the right shape and size and attached by means of a suitable adhesive to the inside of the locomotive cab, just around the windows. The type of covering found round some cigarette packets nowadays should do quite well, although those of you who are aircraft kit constructors will probably have something ready to hand, as well as a suitable cement for mounting the pieces in position.

Many Castle fans have taken advantage of the fact that the tender of their favourite engine has the channel alongside the coal space on the fireman's side in which the long fire-irons are stored on the real Castles. With some fine wire and the aid of a pair of pliers you can bend up one or two miniature bars or prickers of the type that are usually stowed on real tenders. Sometimes a big tender appears to carry a remarkable collection of these implements, but if you provide a straight bar or dart, with a slightly oval handle, and a bent pricker, with the business end at right angles to the shaft and a triangular handle, you will have done fairly well.



King of his "Castle"! Brian Mountford proudly points to his latest engine, "Bristol Castle".



Here the 0-6-2 Tank is at the Water Crane, on a section of layout incorporating semaphore and Colour Light Signals.

About Signals and Points

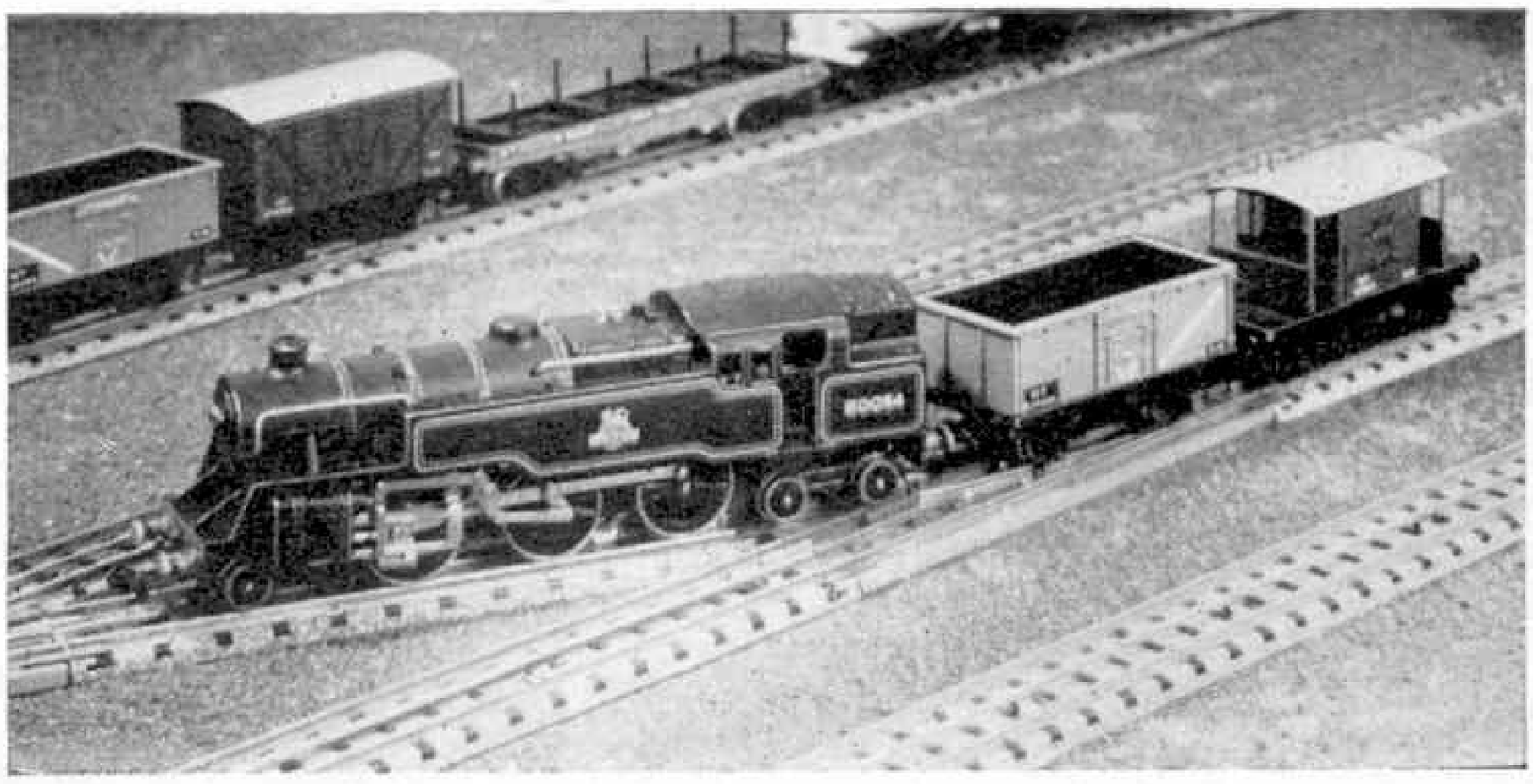
AMONG the earliest things to be added to a Hornby-Dublo layout in its first stages of development are Points and perhaps then one or two Signals. We always tend to associate points and signals with one another, which is natural enough because the relation between them in real practice is very close. Points must be set to make the road for a train movement before the necessary signals can be cleared.

Hornby-Dublo Points are of two kinds: these are respectively the Electrically-Operated Points and the hand-operated Isolating Switch Points. The special feature of the latter is that current is fed only to the route for which the Points are set. This sometimes appears to be rather a mysterious business to beginners, but matters will become much more clear to them after going through the useful booklet *Hornby-Dublo 3-Rail Layouts*, copies of which are readily obtainable from dealers or direct from Meccano Limited, price 6d. If we follow the correct order of things in operations we should move our Isolating Switch Points and so make the route to be followed live electrically and ready for the train before the Signal giving it the right of way is moved.

Where Electrically-Operated Points are used matters are slightly different because these Points do not incorporate the isolating switch feature, nor can they be made to do so. Where isolation of a route or section electrically is required when Electrically-Operated Points are used, Isolating Rails are called for. The electrical connections are simple enough and except in special circumstances each Isolating Rail is connected to its own individual isolating Switch D2. This is the Switch with the black case that will be familiar to you all. Sometimes the Isolating Rails can be used in association with Insulating Tabs.

It is a good plan to make the necessary isolating Switch movement before the Electrically-Operated Points are set and the Signals cleared. Even if you do not follow this particular routine, because you may prefer to move the Points first and then the isolating Switch, the same order of things should be observed each time a movement is made and the smooth working obtained will be a pleasure.

It is possible to wire together Electrically-Operated Signals and Points that are



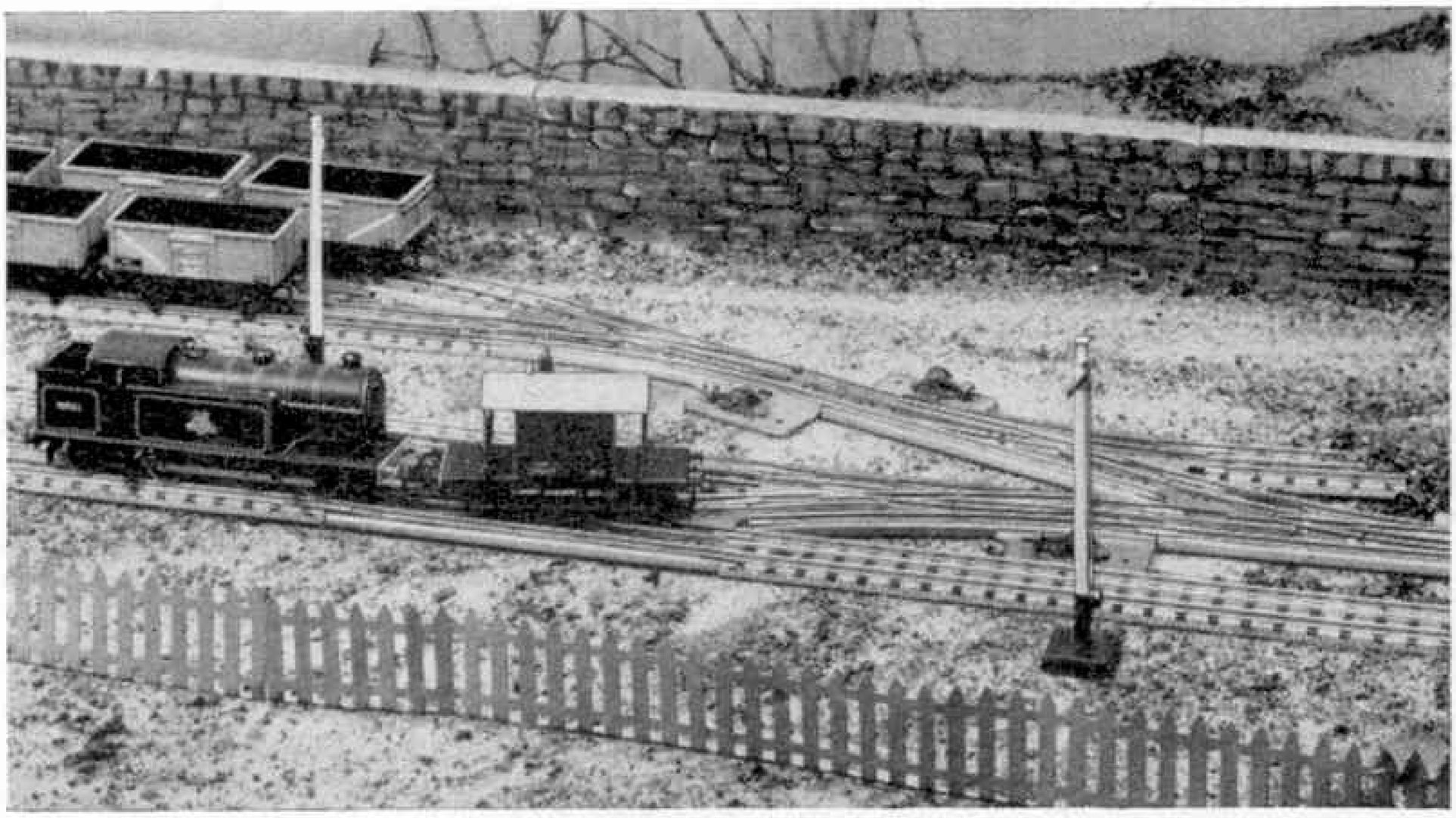
The Points form a crossover, leading the 2-6-4 Tank from one track to another.

associated in working. Strictly speaking, this is not correct from the point of view of real practice, but it is a form of miniature railway licence that is of special benefit to the operator. It saves Switch movements for one thing, and of course you do not need quite so many Switches as when all Signals and Points are independently controlled. In addition, the Signal arms give a visual indication to the operator of the setting of the Points, which is appreciated when the Points being worked are some distance away from the control site and the switch blades not readily visible.

Needless to say all connections should be good and tight and they should be kept that way. It is possible for the vibration from the running of the trains to slacken the terminal screws a little, so that you should carry out a little signal lineman's work now and again in order to make sure that things are in good working order. Remember, too, that a steady, deliberate movement of the Switch lever ensures satisfactory operation.

Newcomers to the Hornby-Dublo range are the Colour Light Signals that are available as single-head "Home" or "Distant" types, or as twin-head Junction Signals of the "Home" pattern only. Full details for the wiring of these are given in the instruction leaflet that goes out with every Signal, but it is important to remember, as has already been stated in these pages, that the Colour Light Signals cannot be wired to work together with Hornby-Dublo Electrically-Operated Points.

The Switches necessary for working the Colour Light Signals are of a special type and are not interchangeable with the D1 Switches necessary for Electrically-Operated Points and the semaphore type of Signals, or the D2 isolating Switches.



Crossover Points connect two running lines and there are sidings formed by the use of Isolating Switch Points in the background. One of these Points leads to a "sand drag" at the right-hand side of the picture.

Table Talk

By "Layout Man"

ONE thing I am sure all Hornby-Dublo owners agree upon is that a good firm level baseboard is essential if a model railway is to be a success. Where a layout is permanently installed, the board on which the track rests may often have its own specially made supporting posts or trestles and so on, the form of construction depending to a certain extent on the situation of the railway, the ideas of the owner, and the materials available.

Several kinds of construction have been shown in illustrations of readers' layouts that have appeared in the *M.M.* from time to time. Even wooden boxes of uniform size have their points as board supports! If stood on end you can even build a shelf or two inside them, on which you can keep "stores" such as oil, tools, cleaning equipment and so on.

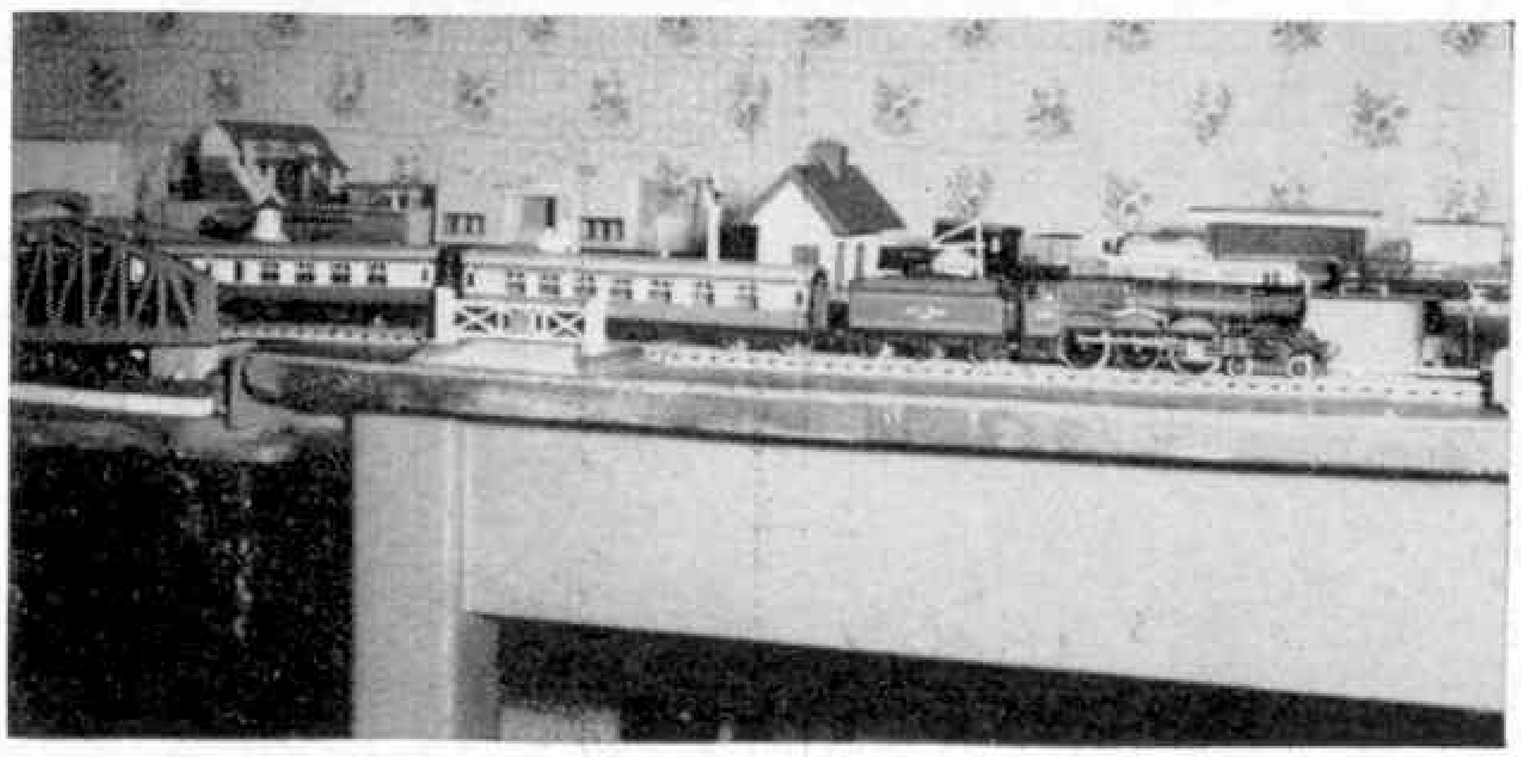
Supporting posts, etc., should be firm and sound in construction. Allowance may have to be made for any inequalities or slope of floor surfaces, but as a rule a little packing under the board itself will look after such things. But watch this point or the general level of the board may be upset.

In the upper picture on this page you see part of a typical layout board on which is situated the Hornby-Dublo system of reader W. R. W. Sampson, of Salisbury. Notice how the control site is at the end of the railway, a position that has some advantages. It is evident from the picture that Mrs. Sampson, our reader's mother, sometimes lends an interested hand in working the trains. Under her careful control a 2-6-4 Tank is just drawing its train away from the Island Platform, and we can be sure that the "passengers" will have no complaints about rough starting and stopping.

Mrs. Sampson lends a hand in running the Hornby-Dublo layout of her son, W. R. W. Sampson, Salisbury.

The lower picture shows part of a layout that is arranged on several tables, a good scheme if these happen to be available for the job. Tables like those shown are invariably firm and stout and you will notice that advantage has been taken of the use of tables of differing heights to install the Hornby-Dublo Girder Bridge in an effective manner. This is the railway of Christopher Roberts, of Wem, in Shropshire, who is to be congratulated on the realistic scene that he has produced with his "Bristol Castle" and W.R. train.

It may not always be possible to arrange the whole railway in this way, but very often a line can be partly laid on a baseboard structure and partly on a small table or two not required for household purposes. With careful management good results can be obtained, as is clear from the illustration that we have been talking about. There the smaller table provides a low-level site for town and road effects, for Christopher is a keen Dinky Toys owner as well as Hornby-Dublo operator and he has recently added to his collection.



Tables of different levels provide a realistic setting for the Girder Bridge on the layout of Christopher Roberts, Wem.

Club and Branch News

WITH THE SECRETARY

CLUB LEADER FOR 30 YEARS

The picture that appears on this page this month is of unusual interest. Mr. R. W. Shooter, whom it portrays, has been Leader of a Meccano Club for almost 30 years, a record with few rivals.

The Club concerned is that at Hornsea, which Mr. Shooter founded. It has been remarkable for the intense friendliness that has prevailed in all its proceedings, a characteristic owed to Mr. Shooter, who is always ready to help those around him. The Club has followed other pursuits besides model-building, and many of those who have come under the guidance of Mr. Shooter have achieved distinction in their careers.

Mr. R. W. Shooter, Leader of the Hornsea Meccano Club, which was affiliated in April 1930, with a membership of 19.

MECCANO CLUB RECENTLY AFFILIATED

ASHTEAD FREE CHURCH M.C. —*Leader:* Mr. G. W. Price, 32 St. Stephens Avenue, Ashtead, Surrey.

PROPOSED NEW EXETER MECCANO CLUB

Readers in the Exeter district will be interested to hear of a proposed new Meccano Club, which will also include Hornby-Dublo activities. It is intended that the Club shall also cater for older boys from 13-14 years upwards. The organiser is Mr. Harold Lyon, 71 Birchy Barton Hill, Exeter, to whom *M.M.* readers interested should apply. His telephone number is Exeter 66307.

CLUB NOTES

MILE END (PORTSMOUTH) M.C.—At the time of writing this report, preparations are well under way for the Club party. It is hoped to hold the first 1959 Open Night during March. The Dinky Toys Club section has been very active, and members have been bringing their own layouts, pavement sets, etc., to the meetings. Work on completing the new quarters has been going forward, and the electrical Section have been busy fixing the wiring for the layout used by the associated Mile End Branch. *Secretary:* Mr. A. J. Nicholson, 213 Sultan Road, Buckland, Portsmouth.

AUSTRALIA

MAYLANDS M.C.—The main event of November last was the parents' Christmas Social, when a record number of members' parents attended. Many of the visitors took part in games on the lawn or in the Club room, while others listened to records or gossiped in the library. The evening concluded with a magnificent supper provided by the mothers. Some really ambitious model-building is in hand for the Presentation Night. The emphasis is on railway models, and the display will include a streamlined Pacific and a Baltic tank locomotive. Two railway breakdown cranes were completed recently, and two more are being built. A beam bridge and a wire covering machine are under construction, and the latter promises to be one of the most popular models in the Club. The 1959 schedule is based on an intensified model-building programme, the usual games nights being omitted, as there are now several clubs in the district catering exclusively for games and sports. *Secretary:* T. Down, 16 Kennedy Street, Maylands, W. Australia.

NEW ZEALAND

CHRISTCHURCH M.C.—The display staged by the Club at the Christchurch South Intermediate School was a great success and there was a record attendance of visitors, and a good variety of models for them to see. At two subsequent meetings members brought home-built models for competition; all of them were well built. There was a good attendance at the final 1958 meeting, which was held at the studio of Mr. Cheeseman, a professional photographer, who has always been interested in the Club. He showed slides depicting the development of Christchurch since early times. The evening ended with refreshment and competitions. By the time this report appears in the *M.M.* the Club's summer recess will be over, and regular meetings again being held. *Secretary:* R. Boundy, 25 McBratneys Road, Dallington, Christchurch, New Zealand.

BRANCH NEWS

POTTERS BAR (MIDDLESEX). —Work on the Branch layout is continuing, and the interest of train operations has been increased by members kindly lending their Hornby-Dublo SD6 series trucks, all of which are greatly admired. *Secretary:* R. Woods, 120 The Walk, Potters Bar, Middlesex.

AUSTRALIA

ST ALBANS AND NORTH PORT RAILWAY (KOGARAH). —Two new signal boxes have been installed, one controlling the whole of North Port operations and the other functioning similarly at St. Albans. All the locomotives and rolling stock used on this extensive layout are Hornby-Dublo, and the latest addition to the equipment is a Hornby-Dublo horse-box. Members have turned "town planners" and are rebuilding the townships of North Port and St. Albans, using better types of buildings. They have installed "telephonic" and "telegraphic" communication throughout the System. *Secretary:* Mrs. A. M. Skiller, 101 Chandos Street, Haberfield, N.S.W., Australia.

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By F. E. Metcalfe

RIGHT AHEAD FOR INDIA

For those who wish to select a particular country that will not involve spending too much money, and will give them some chance of being able to reach completion, I suggest the stamps of India. This country has already celebrated its stamp centenary and has issued not only a multitude of stamps, but some that would cost a not very small fortune to acquire—if you could find them. So what I propose is that only Indian stamps from 1949 be taken. You may say that this will not provide many stamps to go after, but if these issues are collected with due regard to philatelic differences, plenty of fun will be provided.

The first point to decide is whether both mint and used stamps are to go into one's collection, or just one or the other? Here I think the question of the pocket will probably be the ruling factor, so I will just assume that some will take both and others perhaps only used, which in most cases are much cheaper than mint. But if used are chosen, don't overlook the condition factor for a minute. See also that you mount only stamps with light cancellations. The question of centering will not be important, for most modern Indian stamps are well centred.

The first stamps to be included are those of the first 1949 definitive set, showing architectural gems of great Mother India. These are well worth study. Apart from the fascinating objects depicted in this set, the 1a. value will make some collectors, not in the know, wonder if they are seeing straight. When this set first appeared Bodhisattva, the figure shown on it, had the left arm outstretched. This was wrong and a re-issue showed the right arm pointing out.

Stamps of this 1949 issue were overprinted first for use of Indian Custodian Forces in Korea—this is a quite rare set, which is worth every penny of its catalogue value—and then for the use of the International Commission in Cambodia, Laos and Viet Nam. In this last lot there are three overprints in Hindi, which can be sorted out with the aid of the illustrations in the Commonwealth QE and Gibbons Catalogues.

The 1949 issue was litho, but the next definitive issue, that of 1955, was photogravure. Here I would urge collectors to be up and doing, for all the anna values have been changed to the new currency, and the 10a, 14a, 1r/2a and 1r/8a of the original set are particularly good, both mint and used. The change in the currency brought a new design for what were the anna values, the new stamps depicting a map of India, and now the currency was shown as n.p. (naye paise, later to be changed to naye Paise). A further change of this set is in the watermark, which had been stars, but has now been altered to what is called the Lion Capitol of Asoka.

That disposes of the definitive ordinary stamps to date, but not of the special issues and the official stamps. The former are growing more popular all the time, and sets like the Indian Saints and Poets issue should be bought just as soon as they can be found at a reasonable price, for the increasing popularity of modern Indian stamps is affecting all Indian stamp prices.

Another set that I like very much is that issued as recently as 1957 to commemorate the Indian Uprising, which we call the Mutiny. The 90nP seems quite difficult to get hold of already Yet another set, going back a bit to 1954, that is also going up quickly in price is the Centenary First Indian Postage Stamps issue. Indian stamps issued since independence have just as good a future as have had the older Indian stamps of the past, and those interested in a good country to collect should waste no time.

Normally service or official stamps would only interest the specialist, but the official stamps of India on issue since 1950, with the Lion Capitol of Asoka design, are well worth the attention of all collectors. The first set with this design appeared in 1950 and went up to the 8a value.

These stamps remained current until 1957. There have been shade varieties of the 1r, 2r and 10r values. Incidentally, the watermark was that of stars, the design of the period. The first change occurred in 1957 when 1np, 5np, 20np and 50np values were issued showing the new currency. Equivalent values in the old currency had been printed typographically, but the new stamps were lithographed. Almost immediately a typographical printing was made of the five values, plus several others.

And things didn't end there either, for in June 1958 a 15 nP stamp appeared—note the change from np to nP. This came out lithographed, and it has been replaced by a typographed stamp.

In the case of used stamps, unless they have a bit of margin attached, it will not be easy to tell one class of printing from the other. With mint there is no problem, for type stamps have the design pressed somewhat into the paper, and the impression can be noted quite easily on the back.

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For other Stamp Advertisements see also pages 156 and xviii

Stamp Gossip

A CHANGING WORLD

None will deny that the world is changing rapidly. Collectors know how these changes are reflected in their stamp albums, and this may be one of the reasons why stamp collecting is so popular.

I have previously mentioned African stamps in this connection and the stamp from French West Africa illustrated here shows what I mean about a changing world. Just fancy, buildings of the latest design and of gigantic size where yesterday there were only wattle huts. Incidentally, isn't the stamp a beauty? French stamps get finer every day. What would we think if our Post Office regaled us with such specimens?

THE CAOBA FLOWER

Collecting stamps with floral designs grows apace. Some of these stamps are elaborate indeed, and perhaps have designs that are more attractive than the one illustrated, which is the 2c. value of the Dominican Republic. This is modest in both design and colour, yet a most interesting flower has been depicted.

I wonder how many know what caoba means in English? You would never guess, if you don't read Spanish, that caoba means mahogany and that this smallish bloom comes from a mighty mahogany tree. Our own British Honduras is a great country for the production of this fine timber for furniture—but we put spiny lobsters on its stamps.

£18 10s. 0d. FOR A CATALOGUE!

If some of us could spend that tidy round sum on our stamps we would think that we had got quite a nice collection. Yet there are many who will be paying out as much as that to buy bound auction catalogues, with prices realised, of the Caspary sales about which I wrote some time ago.

The sales are over now and I may remind you that over £1,000,000 was made out of the stamps sold. The prices that the various items brought, some of which were records, will be standard valuations and that is why rich collectors desire to have an account of such things. And the auction catalogues are also bringing a record price! There will be three volumes. They will be nice to have, but I think I'll have stamps when I have nearly twenty pounds to spend on my hobby.

A DELIGHTFUL STAMP

Recently when looking at a number of new stamps I picked up one and remarked what a delightful design it had. Immediately a friend who imagines that stamps are merely bits of paper, useful only for the pre-payment of postage, promptly asked me how a postage stamp could be delightful. Well, what do you think about the West German stamp illustrated? The fresh bright colouring will not show up in black and white, but I feel sure that those who have a copy find it quite delightful.

The stamp forms part of a set of four issued last October to help gather "Humanitarian Relief and Welfare Funds." Each of the stamps has a small surcharge, which is devoted to relief, so collectors not only get a nice set of stamps, but have also the satisfaction of knowing that they have contributed to a quite good cause. This is delight all round.

VATICAN STAMPS

During the past few weeks two readers have written asking what I think about the investment possibilities of Vatican stamps. Both referred to the big rises that had taken place in the earlier issues, and seemed to doubt whether these rises would hold.

In reply I mentioned first that I do not recommend any stamps as an investment, for it would not be stamp collecting at all if one merely bought a stamp here and there just because it might increase in value. Early Vatican stamps have gone up in price because of their increased popularity and, while there may be a slight reaction, I feel that they will more or less retain their present value and some may even rise further

Stamps released recently appear to have been hoarded latterly, for few are available although the numbers printed have not been large. If those put away come on the market, as they undoubtedly will, then I feel sure that prices will drop.

So do not pay fancy prices for them, but buy them as they appear at *current rates.*

THE TIP OF THE MONTH

Of the Q.E. Turks and Caicos Islands 5d. and 8d. stamps, numbered CW 28 and 29, and S.G. 235 and 246, that were replaced in November 1957 by the two stamps now on sale, only 31,545 and 61,116 stamps respectively were sold before they were withdrawn. This means that they are quite scarce, and should be bought at once if you collect this country.

From Our Readers

This page is reserved for articles from our readers. Contributions not exceeding 500 words in length are invited on any subject of which the writer has special knowledge or experience. These should be written neatly on one side of the paper only, and should be accompanied if possible by original photographs for use as illustrations. Articles published will be paid for. Statements in articles submitted are accepted as being sent in good faith, but the Editor takes no responsibility for their accuracy.

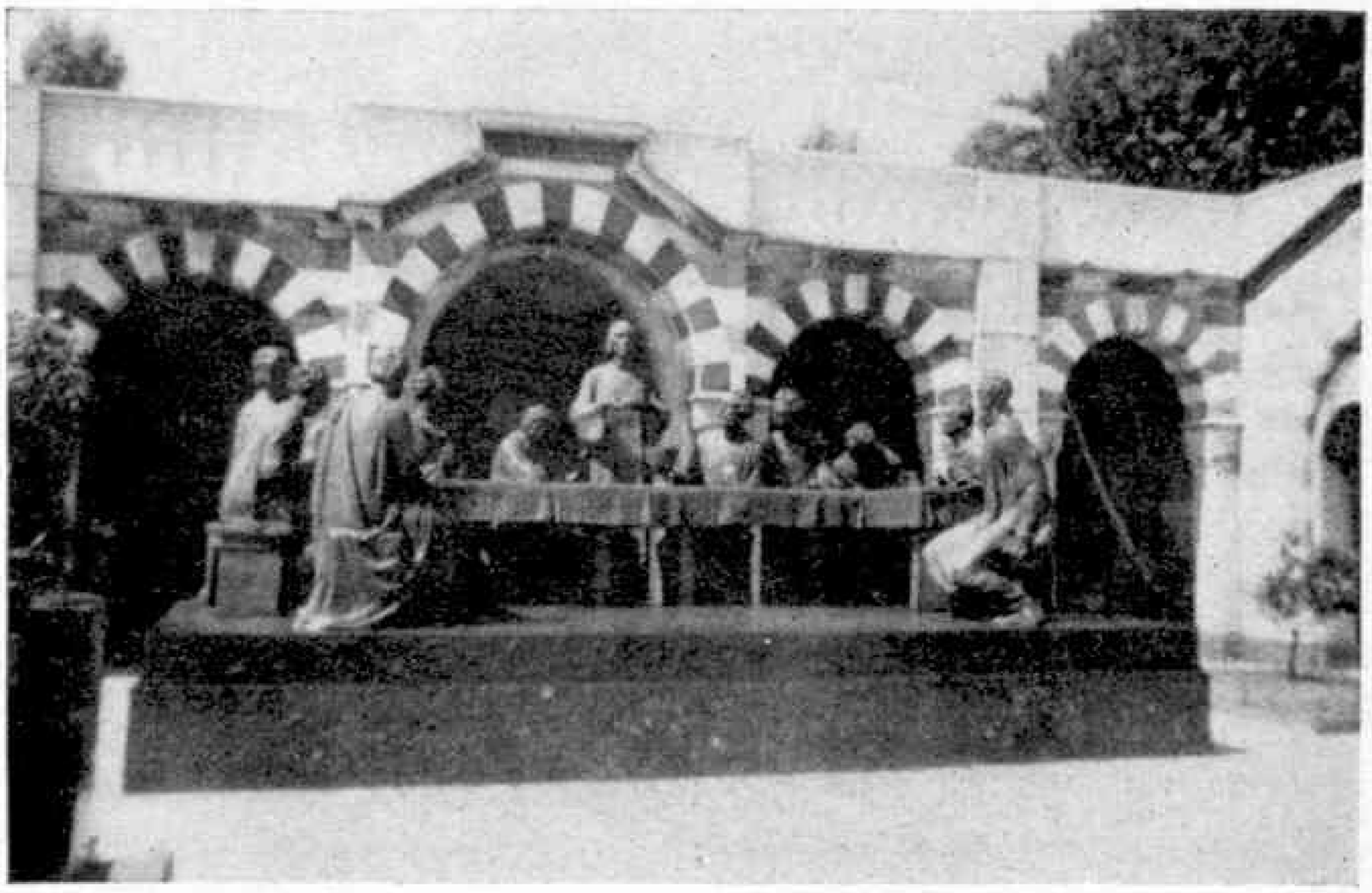
The "Sounding Arch"

I. K. BRUNEL is famous as a bridge builder, but the railway bridge that he built over the River Thames at Maidenhead is probably not so well known as others he designed and constructed. It is a two-arch bridge, with one pier in the centre of the river, and is built entirely in brick. Each arch is 128 ft. wide and 24 ft. high.

The flatness of the arches was the subject of much criticism when the bridge was built in 1838. Many prophecies were made to the effect that it would collapse, but it is still standing firm although over 120 years old, and today it carries trains of more than five times the weight of those in the days when it was built.

The bridge is known locally as the "Sounding Arch," because of the pronounced echo effect produced by any sounds made while one is under the bridge—in a boat, naturally!

E. W. ISLETT (Maidenhead)

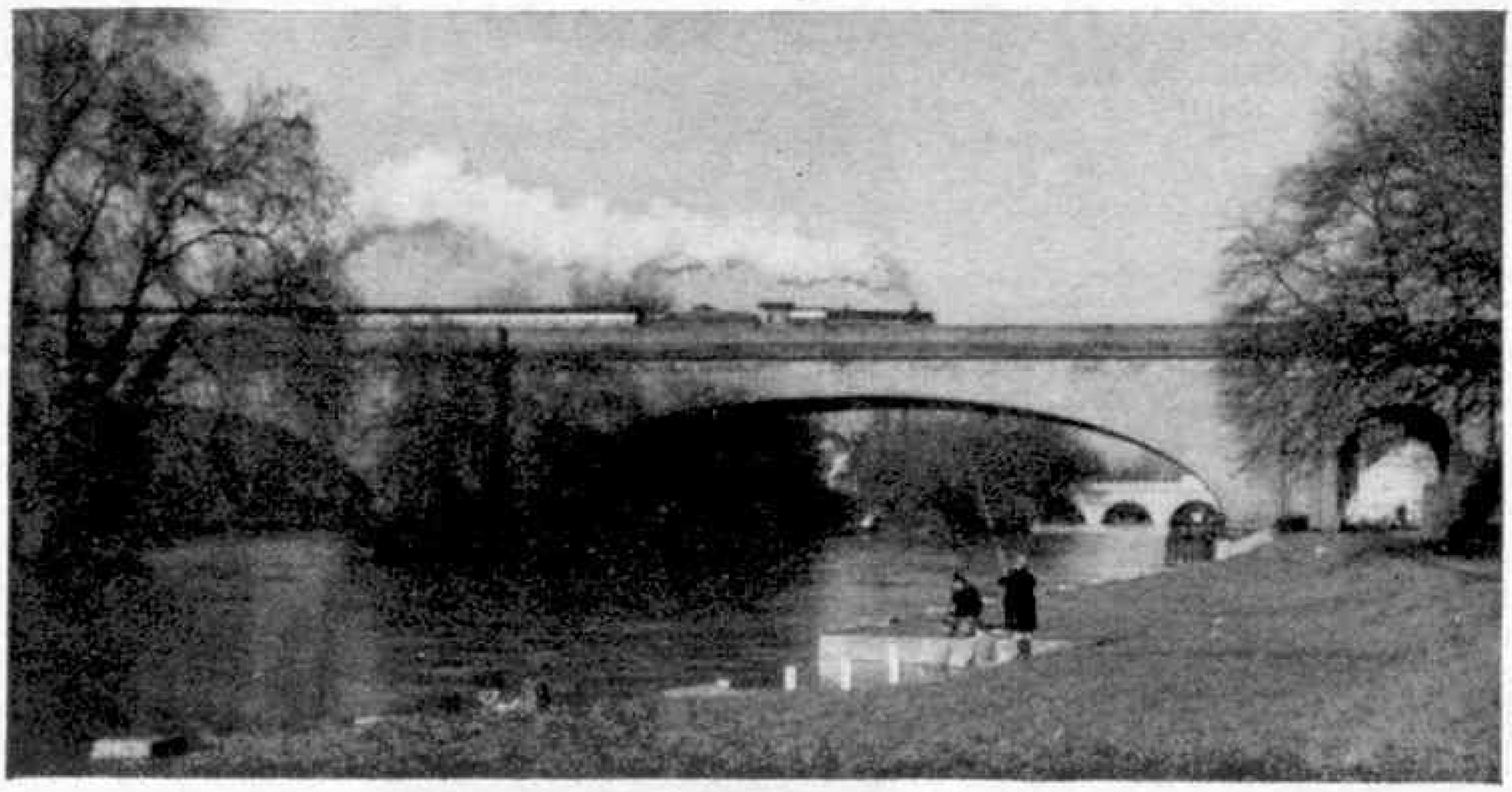


A representation in bronze of a famous picture by Leonardo da Vinci. Photograph by D. Roth, Bexleyheath.

A Wonderful Model

During my visit to Lugano with the school last summer, we made a trip into Milan. One of the sights that specially interested me there was the life-size model, in bronze, of Leonardo da Vinci's famous picture of the Last Supper. This remarkable work is in the Municipal Cemetery of Milan.

D. ROTH (Bexleyheath)



Brunel's railway bridge at Maidenhead, completed in 1838. Photograph by E. W. Islett, Maidenhead.

"Please don't fill me full of lead—I weigh twenty stone already."

Fireside Fun

During a scripture examination a young pupil was faced with the query: "What can you say about Ahab?"

The boy was almost completely ignorant of Ahab's history, but he had a hazy notion that the king was not all he should have been. So he disposed of the question by writing: "The less said about Ahab the better!"

* * * *

"Look here," stormed Smith at the estate agent. "About that river-side bungalow you sold me."

"Anything wrong, sir?" asked the agent.

"Wrong!" exclaimed Smith. "The other morning we woke up and found the place had floated two miles down the river."

"H'm," said the agent. "That's a stroke of luck, sir. The rates are much lower down there."

"Well, little boy, and what is your name?"

"Shadrach Nebuchadnezzar Brook."

"Who gave you that name?"

"I dunno, but if I find out when I grow up they'll be sorry for it."

* * * *

Murphy: "What's that in your pocket, Pat?"

Pat: "Dynamite. I'm waiting for Casey. Every time he meets me he slaps me on the chest and breaks my pipe. Next time he does it he'll blow his hand off."

* * * *

Old Lady (to policeman): "I've lost my canary. Will you please notify the Flying Squad at once?"

* * * *

A man dropped his watch from the top of a high building, rushed to the elevator, rode down, walked out on to the pavement, just in time to catch his watch.

Explanation? The watch was ten minutes slow!

* * * *

The city boy was being led through the swamps of Georgia.

"Is it true," he asked, "that an alligator won't attack you if you carry a flash-light?"

"Well, now," drawled the guide, "it all depends on how fast you carry the flash-light."

* * * *

A small boy was boasting of the skill he had acquired at last year's summer camp.

"And I suppose you learned to swim like a fish," his uncle remarked.

"Oh, better," the boy replied. "I can swim on my back!"

* * * *

A hunter, exhausted and weary, stumbled into the arms of a fellow hunter.

"Am I glad to see you," he gasped, "I've been lost for two days."

"Don't be too happy," the other said, "I've been lost for a week."

BRAIN TEASERS

WORD CHANGING

In each of the examples given below proceed in four steps from the first word to the last by changing only *one letter at each step*. Each line must give a word that can be found in any good dictionary.

Change BIRD to WANT, TORN to BALE, HURL to COPE and BITE to TONS.

* * * *

OH WHAT!

What should be added to each of the following to make sense? CTRN, RATRI, PRTCL, VD, SNRUS, RTHDX.

* * * *

ANSWERS TO LAST MONTH'S PUZZLES

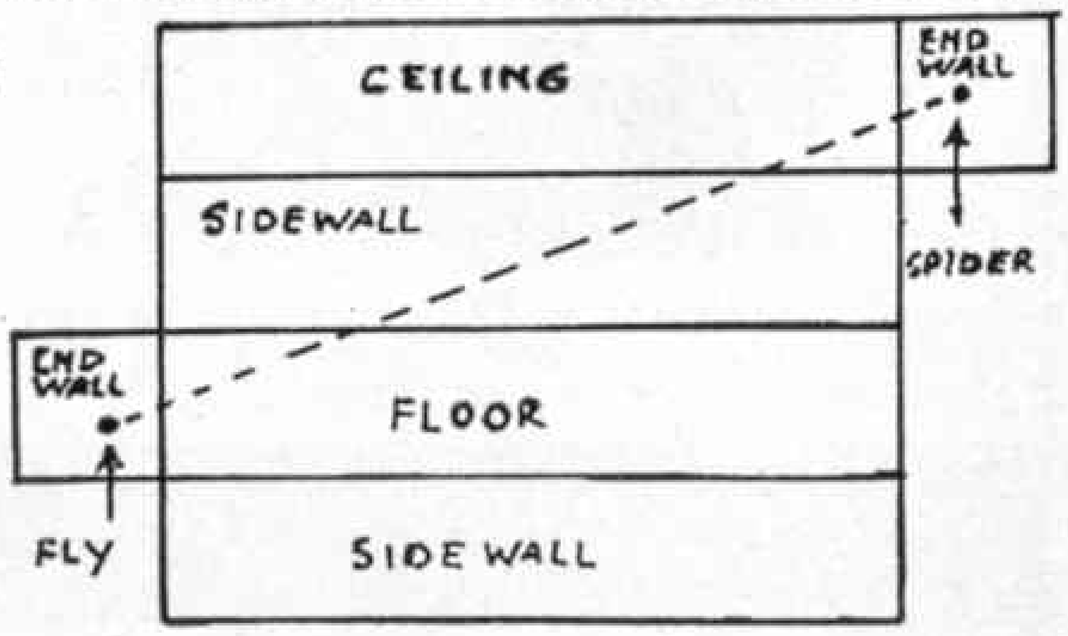
A Question of Age

The grandmother's age is 81, and the ages of the father and mother are 41 and 40 respectively.

* * * *

The Spider and the Fly

We give below a sketch of the room if it was flattened out. The route the spider took to reach the fly in the shortest possible time is shown by the dotted line.



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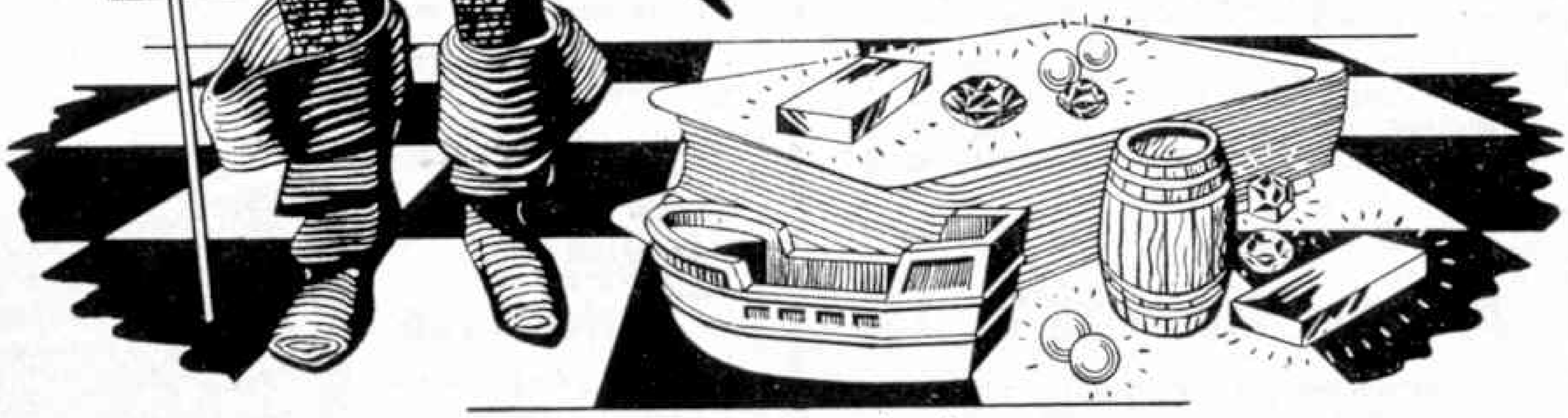

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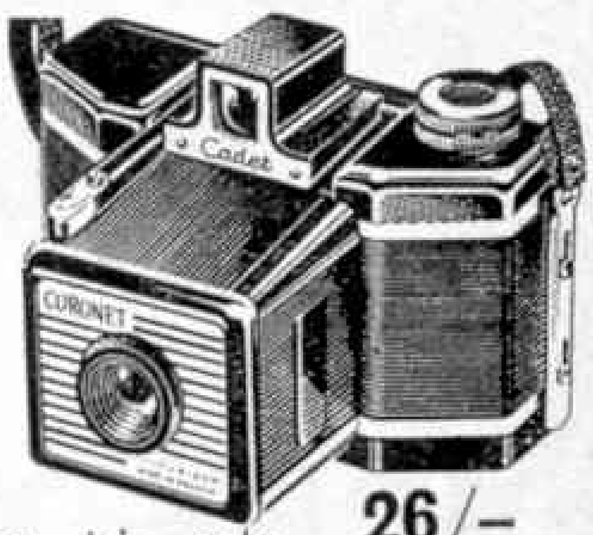

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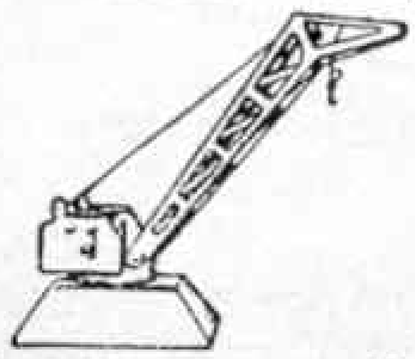

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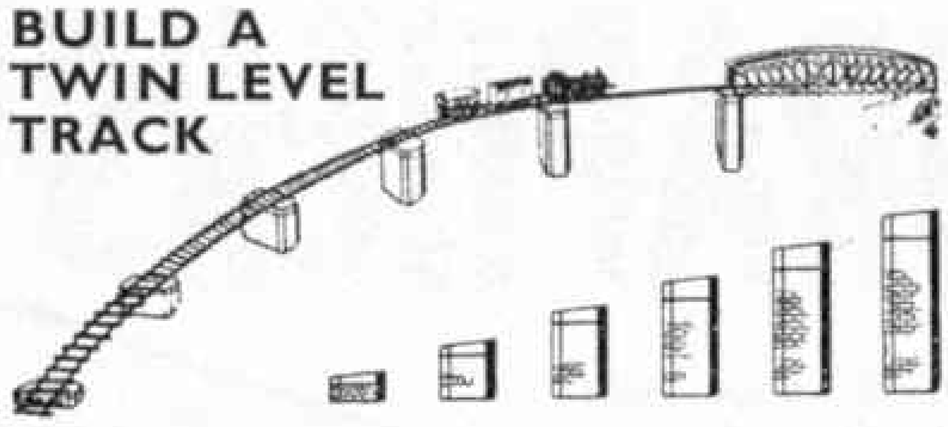

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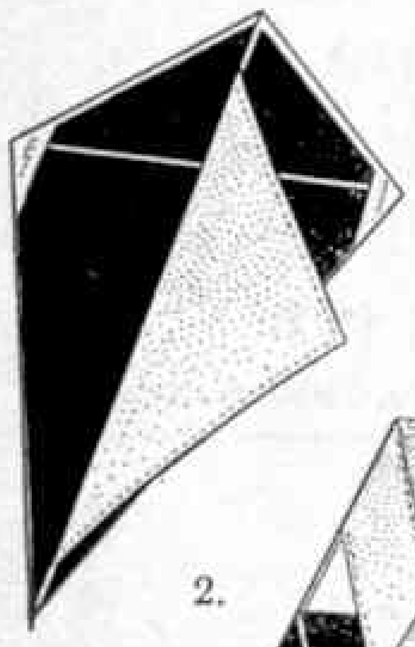
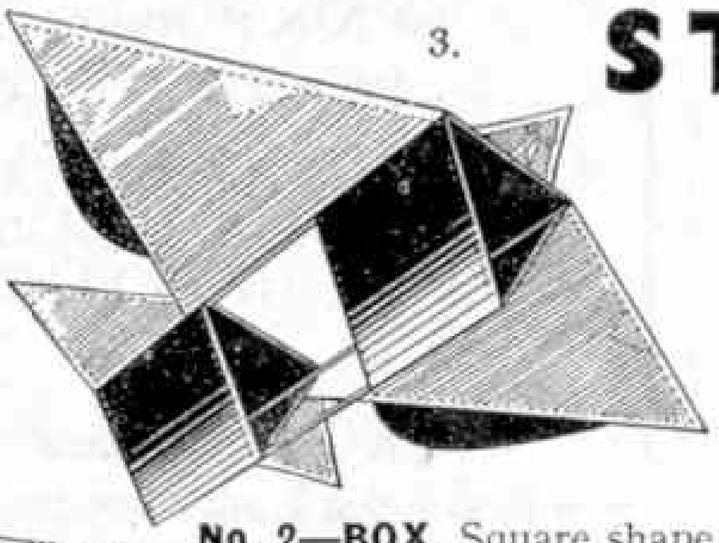


3.



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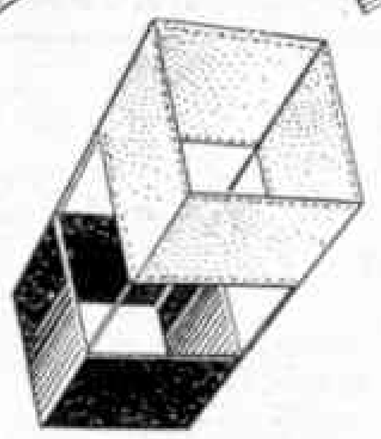
2.



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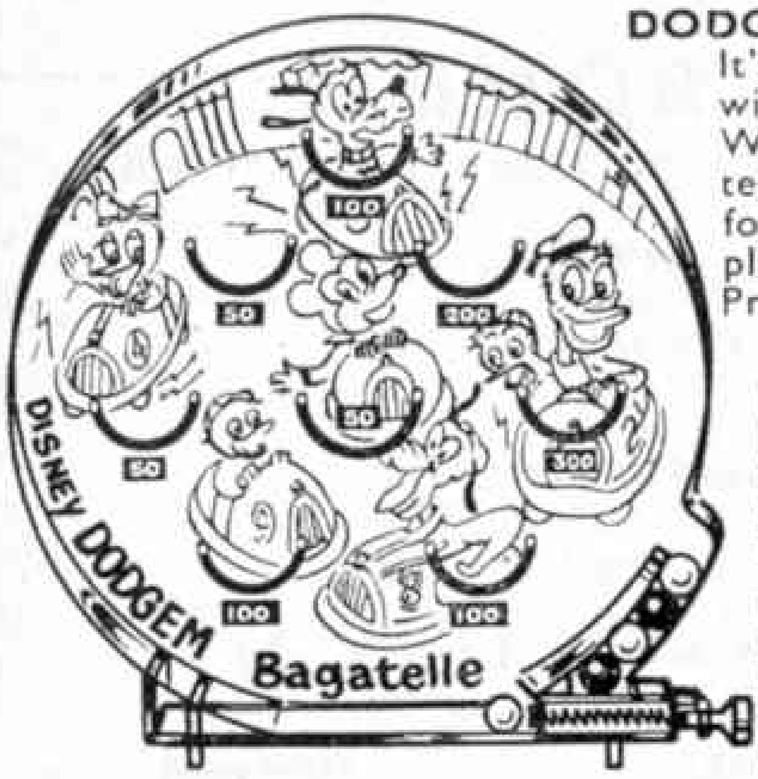

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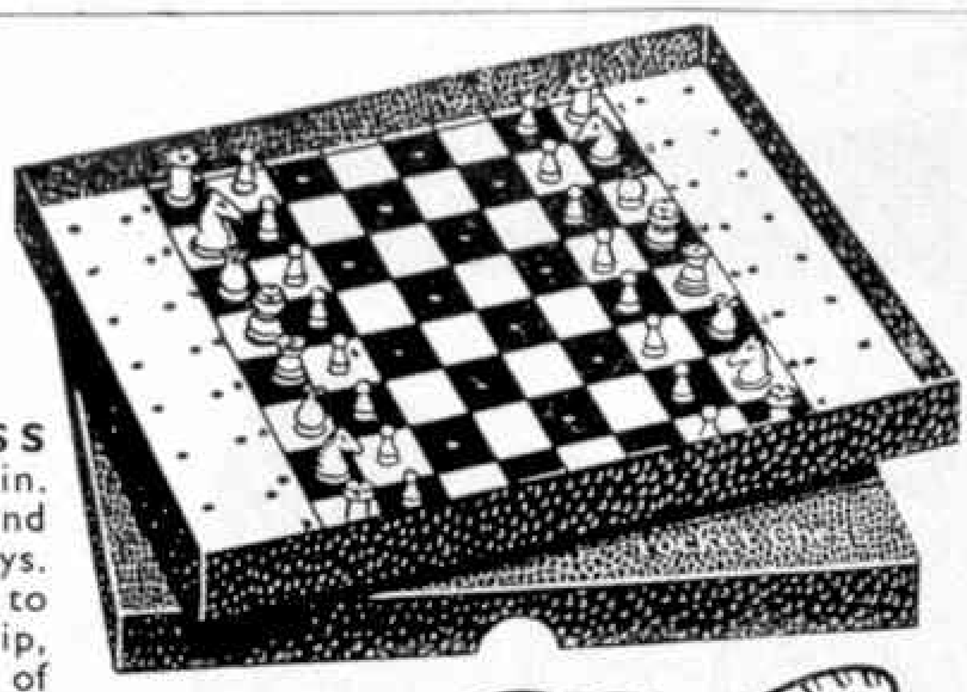

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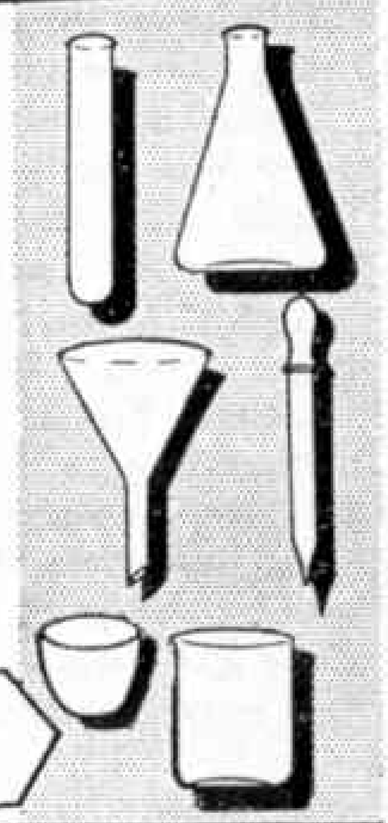

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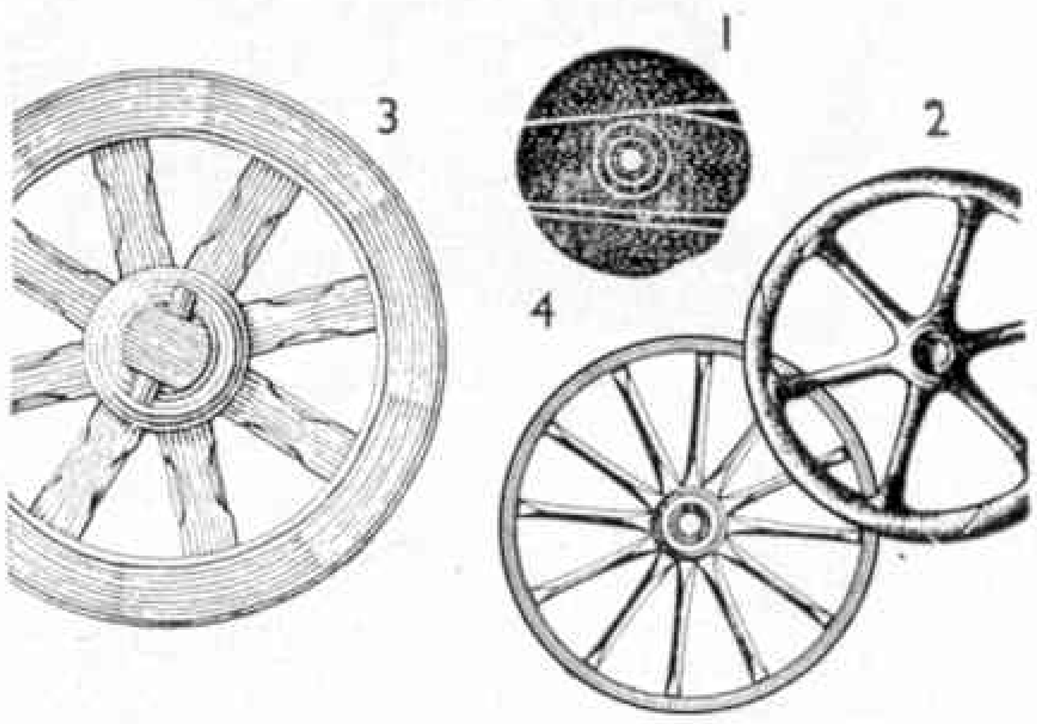

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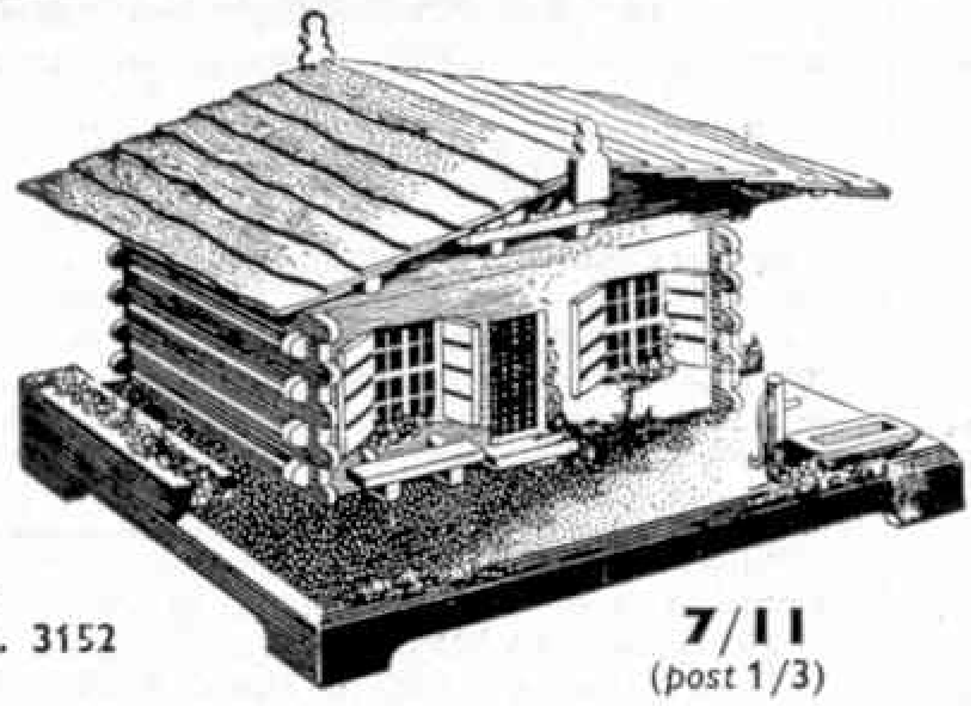

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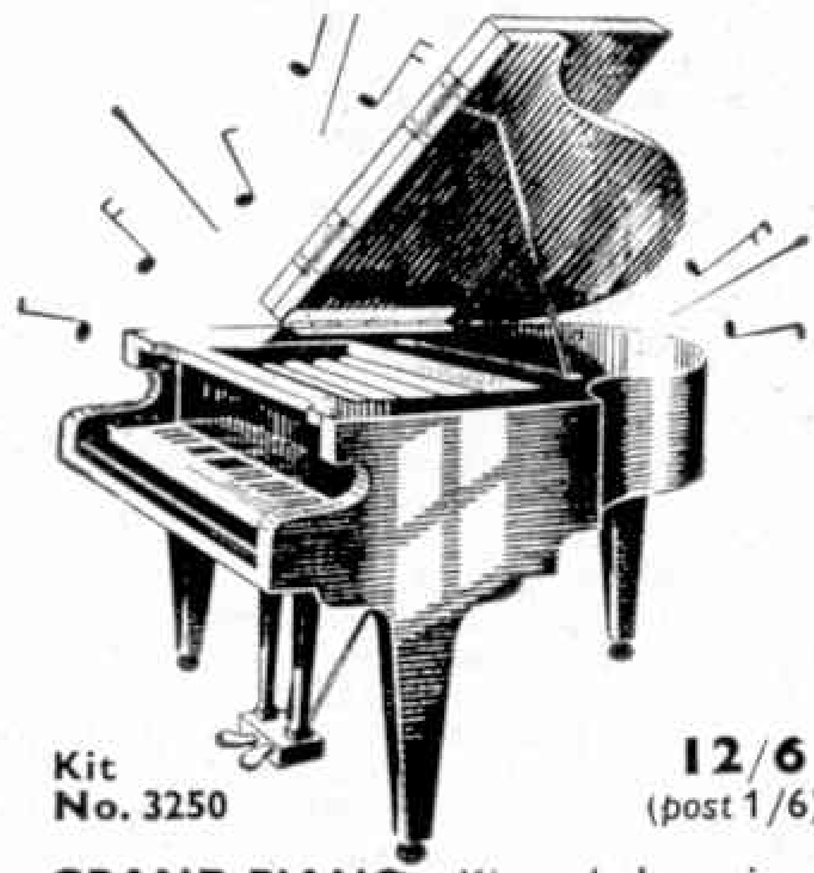

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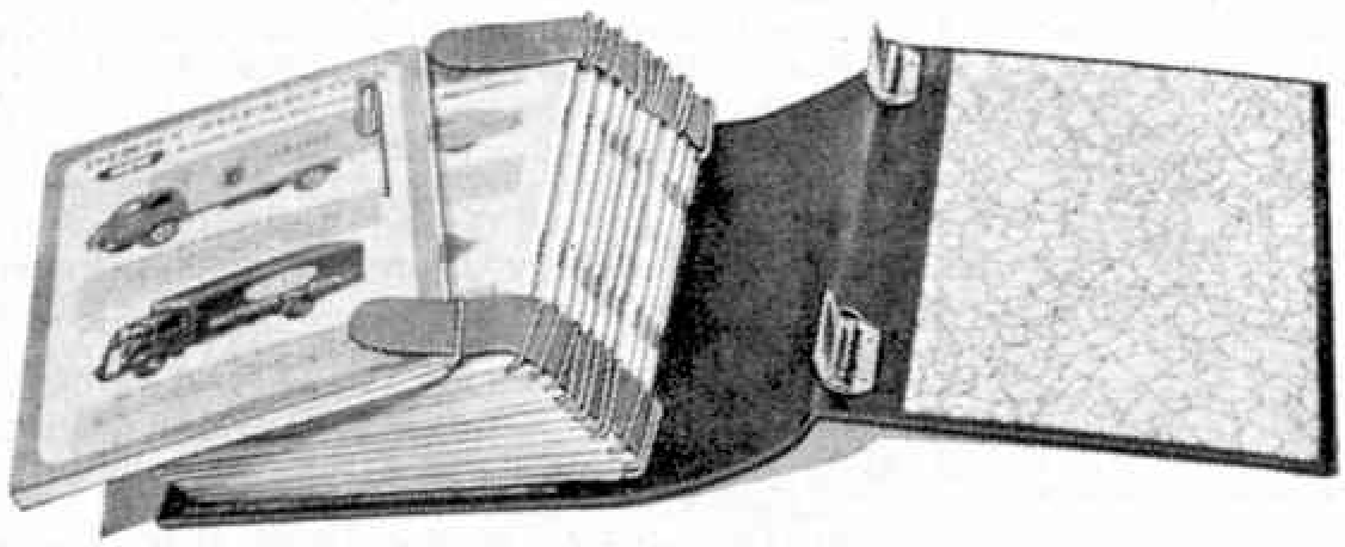

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MECCANO MAGAZINE

Registered at the G.P.O., London, for transmission by Canadian Magazine Post.

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LIVERPOOL 13, ENGLAND.
Telegrams: "Meccano, Liverpool."

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"M.M.s" January 1943 to October 1950, good condition, also 11 copies 1932 to 1935. Offers to—A. McFiggans 14 Major's Place, Falkirk.

"M.M.s" January 1949 to March 1956 and May 1956 Offers.—Turner, 12 Barlows Road, Birmingham 15.

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WANTS

Obsolete Dinky Toys Aircraft, also Mercury Model Aircraft.—N. Wilson, 58 Marygate, York.

Exchange: Pre-war Marklin Instruction Books, Vertical Meccanograph Instructions (draws 200 wonderful patterns). Old Leaflets Nos. 4 and 22, for old "M.M.s", Supermodel Leaflets, obsolete Parts, etc.—Andreas Konkoly, Katona Ju 28, Budapest, Hungary.

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Hornby 0 Gauge "*The Bramham Moor*", and Tender, Clockwork, in reasonable condition.—Worker, 12 Bishopswood Road, Tadley Basingstoke, Hants.

Obsolete Hornby-Dublo, G.W.R. Goods Vehicles, L.N.E.R. Brake/3rd Coach. Also obsolete Engine Shed and other Buildings. State type, condition, price. All letters answered.—Jauregui, 247 College Road, Whitchurch, Cardiff.

Would exchange other obsolete Meccano Parts for two 167a Roller Races.—Rodway, 2 Heathcote Road, Whitnash, Warwickshire.

"Eagle" back numbers in good condition of vols. 1-4 wanted urgently for binding. Best offers. Please write—163 Jervois Road, Auckland W.1, New Zealand.

Dinky Tramcars and obsolete Buses. Urgently required. Any condition, state price.—Rogers, 29 Castle Street, Oxford.

Hornby Gauge 0 Clockwork 4-4-0 Loco and Tender, also Clockwork 4-4-2 No. 2 Special Tank Loco, and Clockwork Metropolitan Loco. State price and condition.—P. Cooling, 27 Co-operative Terrace, Sunderland, Co. Durham.

"*Sir Nigel Gresley*" Tender. Send details.—Chadbourne, 12 Truro Avenue, Stretford, Manchester.

PHOTO-CARDS SHIPPING

including vintage famous liners, Clyde steamers. Send **1/6** List specimen.

ELDER, 38 Westview Road, Barrow-in-Furness

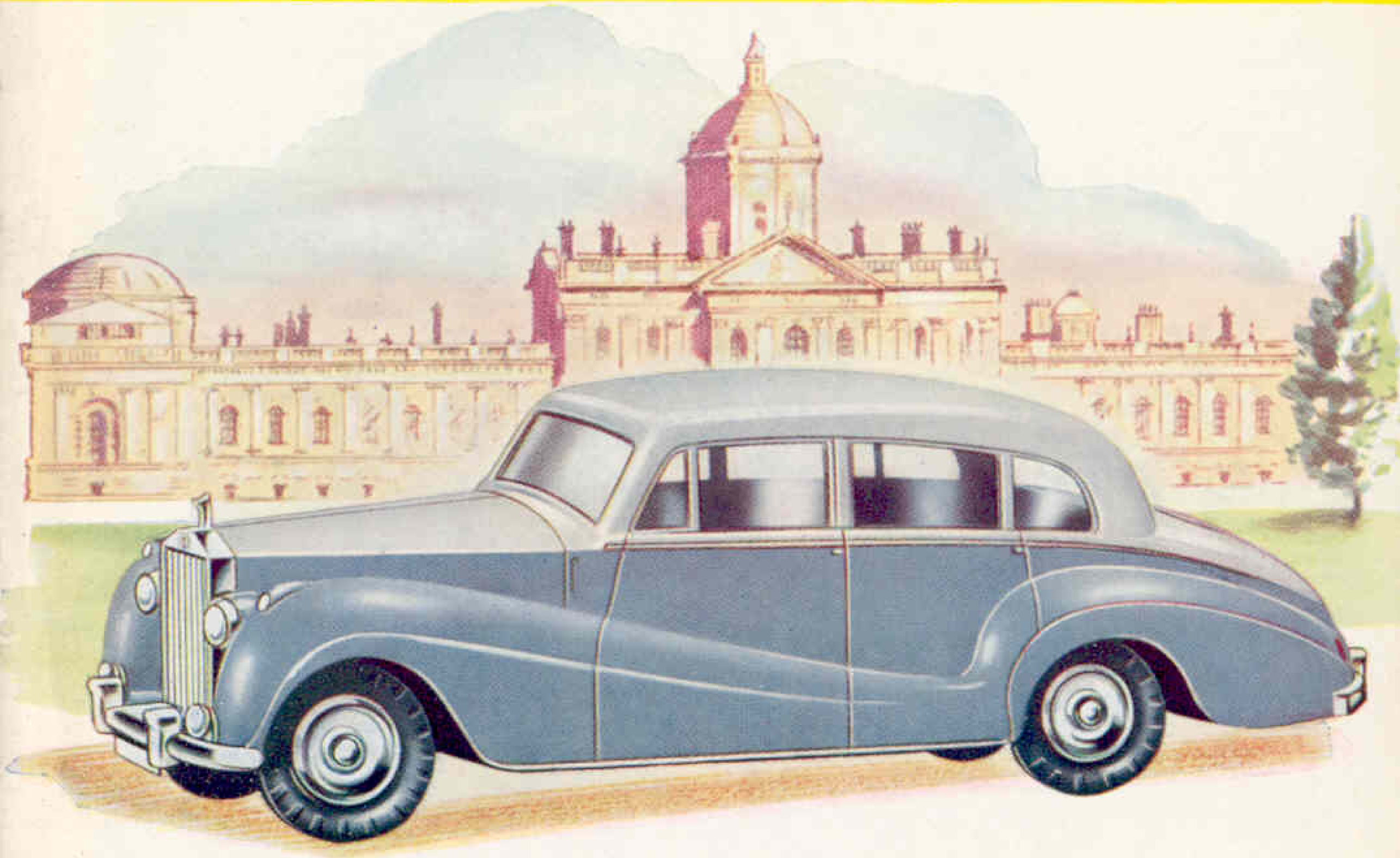
EXCITING NEWS!

A wonderful NEW model

INDEPENDENT SUSPENSION*

PLATED FITTINGS

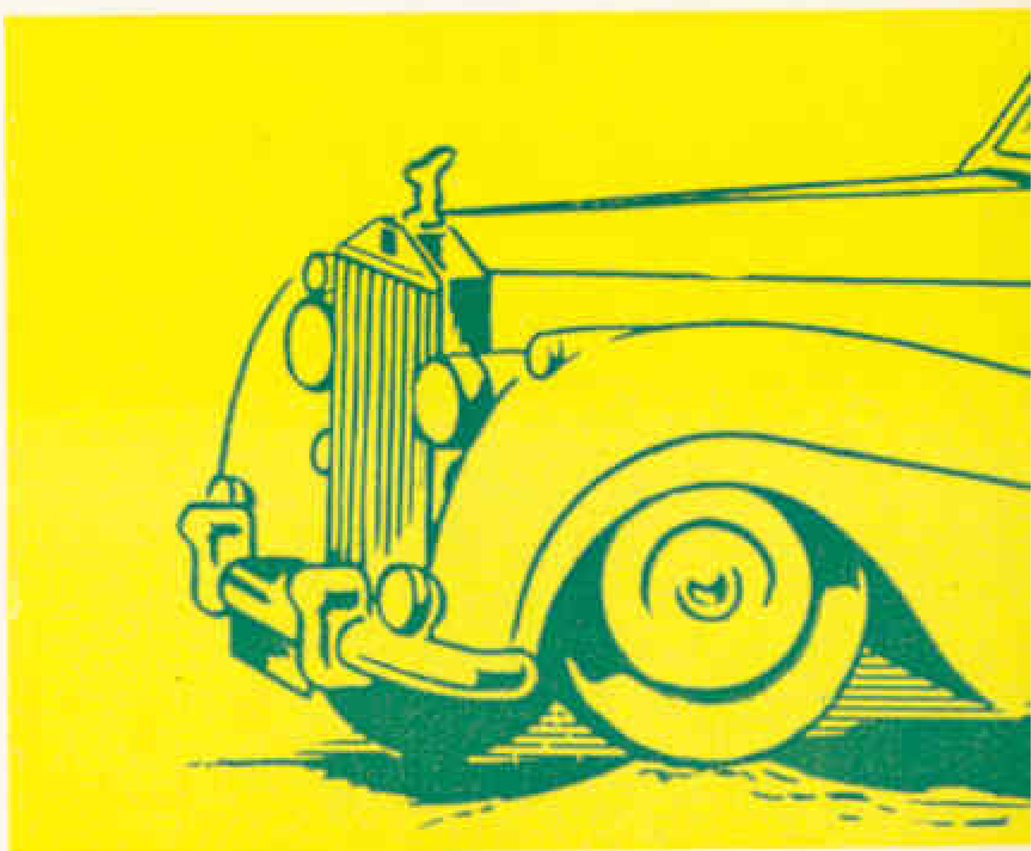
TRANSPARENT WINDOWS



DINKY TOYS No. 150 ROLLS-ROYCE SILVER WRAITH

Yes! Independent suspension is a revolutionary feature of this classical model. See each wheel ride smoothly over the roughest surfaces, just like the famous prototype. And that's not all. The model has sparkling plated bumpers, lamps, wheels and radiator grille. Fitted with black rubber tyres and transparent windows, this miniature is stylishly finished in duotone grey.

Length: $4\frac{3}{4}$ in. U.K. Price: **5/6** (inc. tax)



They've got everything . . .

DINKY TOYS

TRADE MARK REGISTERED

*(Prov. Pat. Nos. 1026/59, 1165/59)

DINKY TOYS

TRADE MARK REGISTERED

New Ready during March

DINKY TOYS No. 191 — DODGE ROYAL SEDAN

From twin headlamps to twin tail-lights this model is a thrilling miniature of the modern-as-tomorrow Dodge Royal Sedan . . . with "control tower" windscreen, wrap around rear windows, white tyres and swept tail. Available in bright duo-tone finishes.

Length: $4\frac{7}{16}$ in. U.K. Price: **3/6** (inc. tax)

Keep on collecting **DINKY TOYS**

TRADE MARK REGISTERED

DUBLO DINKY TOYS

TRADE MARK REGISTERED

No. 067 — AUSTIN TAXI

Here's another fine new model — to Hornby-Dublo scale — which will look ideal in any railway scene. Die-cast in solid metal, the model has moulded, non-scratch wheels.

Length: $2\frac{5}{16}$ in.

U.K. Price: **2/6** (inc. tax)

MADE IN ENGLAND BY MECCANO LTD., LIVERPOOL

PUBLISHED BY MECCANO LTD., BINNS ROAD, LIVERPOOL 13, ENGLAND
Printed by John Waddington Ltd., Leeds and London

MODEL OF THE MONTH

AUTOMATIC PENNY-IN-THE-SLOT GIFT MACHINE

ILLUSTRATED IN THE MARCH 1959 ISSUE OF THE "M.M."

Framework

First build up a square frame with 9½" Angle Girders, and then connect this to a similar square using four vertical 3½" Angle Girders, which are attached to the lower frame with Angle Brackets. A 9½" Angle Girder 1, is bolted to the centres of the Angle Girders 2 and 3, and a 9½" Strip 4 is fastened in the centres of the other Angle Girders of the lower frame. A Double Arm Crank is now bolted at the point where the Angle Girder 1 crosses the Strip 4. Two 3½" x 2½" Flexible Plates 5 are secured to 9½" Angle Girders 6 and 7 with 2½" Strips overlapped two holes.

Three built up strips are fixed in positions 8, 9, 10. A 3½" Strip is secured between the strips 8 and 11. To the Strips 9 and 10 a 2½" Flat Girder and two Cranks 12 are bolted. A 2" Flat Girder 13 is hinged to the built up strip 9, and a 2½" x 2½" Flat Plate 14 is attached to the Angle Girder 7 by Obtuse Angle Brackets. On each side of this Plate 14 a 2" x 2½" Flexible Triangular Plate is secured to a 2" Angle Girder, and bolted to the strips 8 and 11. The other three sides of the framework are filled in with 9½" x 2½" Strip Plates, edged by 2½" Strips. To each bottom corner of the top frame a 12½" Angle Girder is attached. These are braced with crossed 12½" Strips and four 9½" Strips are bolted to their lower ends. Two further 9½" Strips, and a 9½" x 2½" Strip Plate are fixed in place as shown at the front of the machine.

The Coin Drawer and its Mechanism

To a 3½" Angle Girder 15 a 3½" x ½" Double Angle Strip 16 is bolted and this is joined to a similar unit with a 2" Flat Girder and two 1" x 1" Angle Brackets 17, leaving a space of 3/16" between the bottom of the Angle Girders 15. Another 2" Flat Girder 18 is bolted to the 1" x 1" Angle Brackets 17 with ½" x ½" Angle Brackets. Nine 1½" Strips 19 are bolted to each side of the 3½" Angle Girders with ½" Bolts 19a. Two 6½" Rods 20 are placed in the Cranks 12, with the drawer in position, having one lug of the 3½" x 2½" Double Angle Strips <u>inside</u>. Five Compression Springs with Washers are placed as shown on one of the Rods 20, to bring the drawer back into place. A ½" x 1" Angle Bracket is fixed to the 9½" Angle Girder with Bolt 21 and to it is secured a Pawl and Pivot Bolt 22, which has a ¾" Bolt, loaded as shown with Washers, in its boss. When a coin is inserted in the drawer and the drawer is pushed in the coin will push the Pawl forward. When the drawer is completely in, the Pawl will swing behind the coin, thus dragging it off the slide when the drawer is released. The Pawl can be adjusted in the slot of the ½" x 1" Angle Bracket.

Now bolt a 9½" Strip 23 to the 9½" Angle Girders and a Trunnion 24 in the position indicated. A 3½" x 2½" Flanged Plate 25 is attached to a 5½" x 2½" Flat Plate with a 2½" Angle Girder, and a 2½" x 2½" Flat Plate is bolted to the 3½" x 2½" Flanged Plate to form the coin box. Four 3½" x ½" Double Angle Strips are secured to the 9½" Angle Girders and the 9½" Strip 4 and two Flat Trunnions are bolted to the Double Angle Strips 26. A 6½" Rod 27 is passed through the Trunnion 24 and the Flanged Plate 25. A Coupling and a 1" Rod are secured to the Rod 27, and a further Coupling 28 attached to Rod 27 is connected with a 3" Rod to Coupling 29 on Rod 30, which has a 1" Pulley with Tyre secured on its inner end. The Rod 30 is pulled back into position with a Driving Band 31 fastened to the 3" Rod. A 1½" Rod anchors the end of the Driving Band after passing through the Plate 25. Two 9½" Strips 32 extended by 2" Slotted Strips, are bent to form a circle with a gap at the front as shown and are then bolted to the 3½" x 2½" Double Angle Strips.

The Hinged Gift Trays

To a Gear Ring, eight Hinges equally spaced apart are bolted, and each Hinge has a 1½" Angle Girder and a 2½" x 1½" Flexible Plate bolted to it. Across the centre of the Gear Ring a 3½" Strip carrying a Bush Wheel 35 is attached. The tray unit is mounted on an 8" Rod 33 passed through the Double Arm Crank 34. When it is in place the hinged trays are held horizontal by the circular strip 32, except the one at the front which is located over the gap in the circular strip and is held up by the 1" Pulley with Tyre. When the drawer is pushed in carrying a coin, the Pulley slides to the centre, allowing the tray to drop on the Plate 14 and deliver whatever gift it may be carrying down the chute.

The gift container part of the machine is completed by bolting to a Face Plate four 4½" and four 3½" Angle Girders alternately, and then fixing to their ends eight 4" Curved Strips and eight 2½" x ½" Double Angle Strips 38. The top of the gift container is a similar unit built from a Face Plate, a 4" Circular Plate, four 4½" Angle Girders and four 3½" Angle Girders. Eight 4" Curved Strips are bolted to the top lugs of the Double Angle Strips and eight 2½" x 2½" Flexible Plates are then bolted to the vertical flange of the top Angle Girders to form eight gift compartments. Another eight 2½" x 2½" Flexible Plates bolted in place on the top of the gift container complete this section of the model with the exception of a strip of thin plastic or celluloid sheet 2½" wide and 30" long, which is placed around the container between the Double Angle Strips and the outer edges of the 2½" x 2½" Flexible Plates forming the compartment walls.

A Collar 36 is secured to the Rod 33 in such a position that it will support the container at such a height that the spring loaded Rod 37 will project into the second hole up the Double Angle Strips 38 of the container.

The Face Plate 40 is secured to the Rod 33 with the hinged trays in the centre of the compartments between the Double Angle Strips 38. The Rod 33 is extended by a Rod Socket and an Adaptor for Screwed Rod. A 9½" Strip is bolted to the 5½" Strips 39 with Hinges. Flat Trunnions support the Strips 39 and are spaced away from the 9½" Angle Girders by Washers. To operate the machine, first withdraw the Rod 37 from the Double Angle Strips 38 and then turn the gift container until the selected gift is at the front of the machine. The Rod 37 is then released and placed in the hole of the Double Angle Strip opposite the Rod 37. A coin is placed in the coin drawer, the drawer is pushed right in and then released. The selected gift will then fall down the discharge chute, and the machine is ready for another customer.

Parts required to build the Automatic Penny-in-the-Slot Gift Machine:-
8 of No. 1; 11 of No. 1a; 4 of No.2; 4 of No.3; 20 of No. 5; 18 of No. 6a;
4 of No. 8; 9 of No. 8a; 4 of No. 9a; 7 of No. 9b; 1 of No. 9d; 2 of No. 9e;
8 of No. 9f; 1 of No. 10; 11 of No. 12; 2 of No. 12a; 1 of No. 12b; 2 of No. 12c;
1 of No. 13a; 4 of No. 14; 1 of No. 16b; 2 of No. 18a; 1 of No. 18b; 1 of No. 22;
1 of No. 23a; 1 of No. 24; 208 of No. 37a; 196 of No. 37b; 72 of No. 38;
8 of No. 48a; 6 of No. 48b; 1 of No. 53; 2 of No. 55a; 4 of No. 59; 2 of No. 62;
1 of No. 62b; 3 of No. 63; 1 of No. 70; 2 of No. 72; 16 of No. 89b; 1 of No. 102;
1 of No. 103f; 3 of No. 103g; 1 of No. 109; 4 of No. 111a; 6 of No. 111c;
1 of No. 111d; 11 of No. 114; 6 of No. 120b; 1 of No. 126; 4 of No. 126a;
1 of No. 142c; 1 of No. 146a; 1 of No. 147; 1 of No. 173a; 1 of No. 179;
1 of No. 180; 1 of No. 186a; 8 of No. 188; 16 of No. 190; 2 of No. 190a;
7 of No. 196; 2 of No. 222; 4 of No. 223.