

VOL. XXXIII. No. 7

JULY 1948

MECCANO

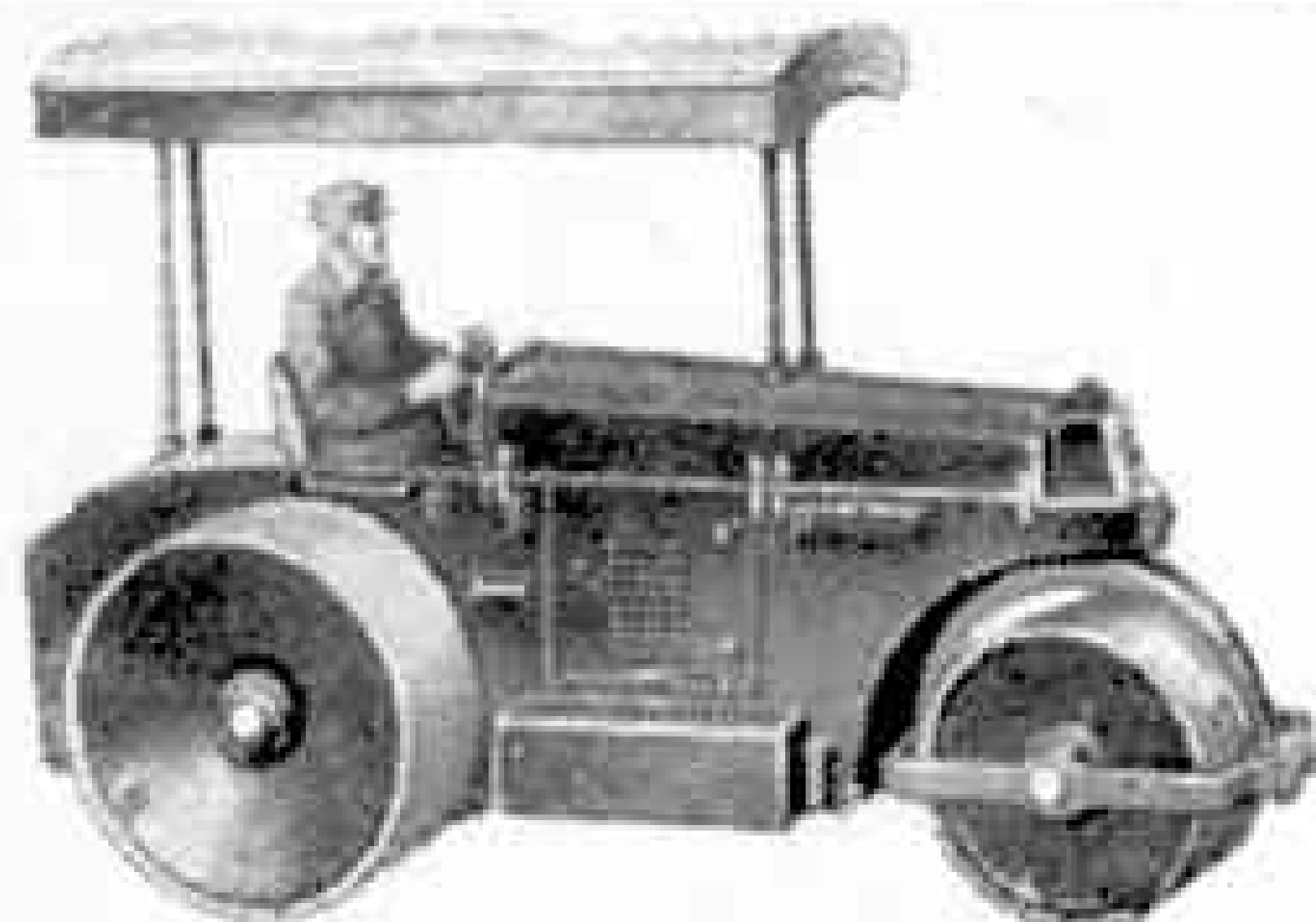
MAGAZINE



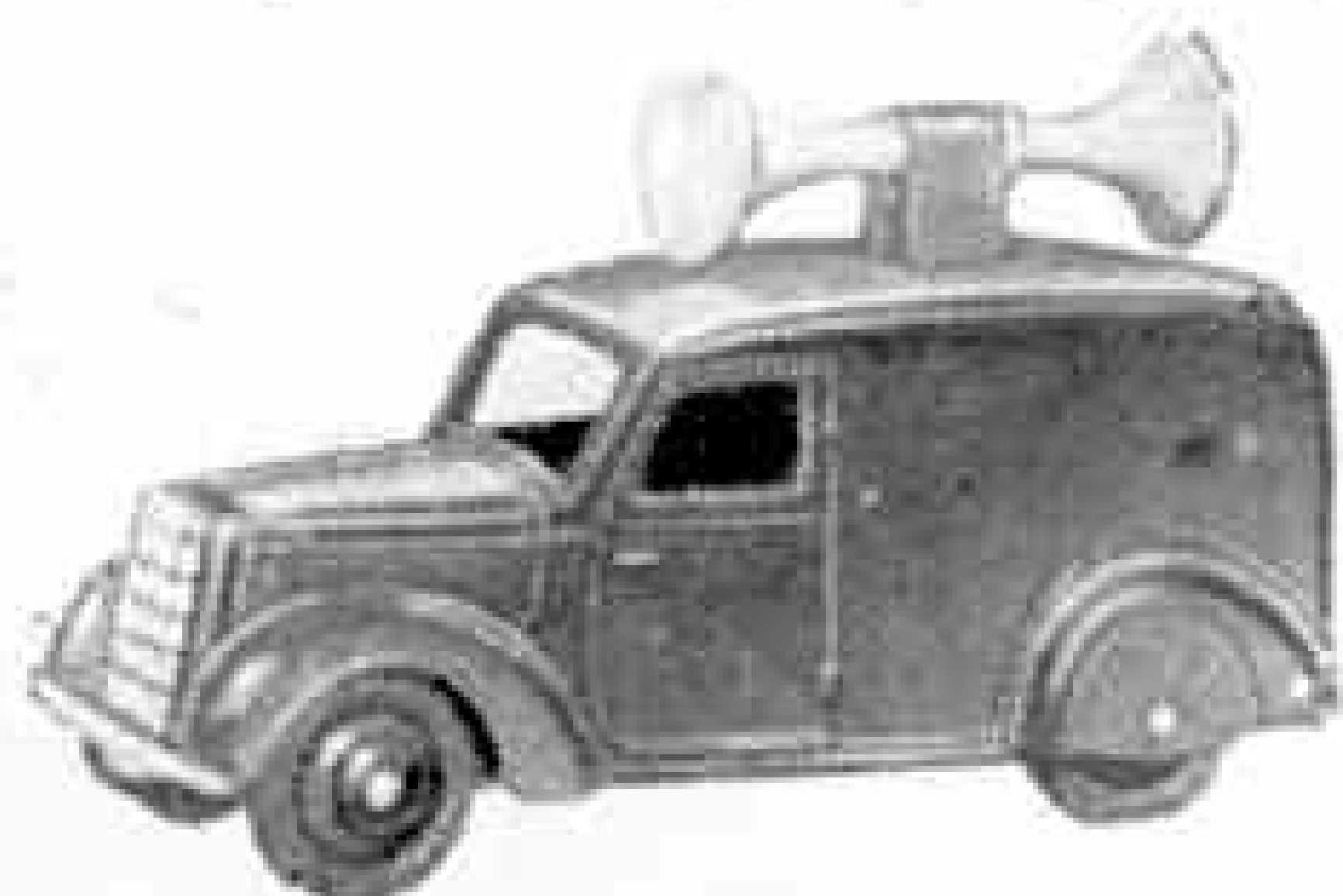
THE BLACKSMITH'S CLOCK

6^D

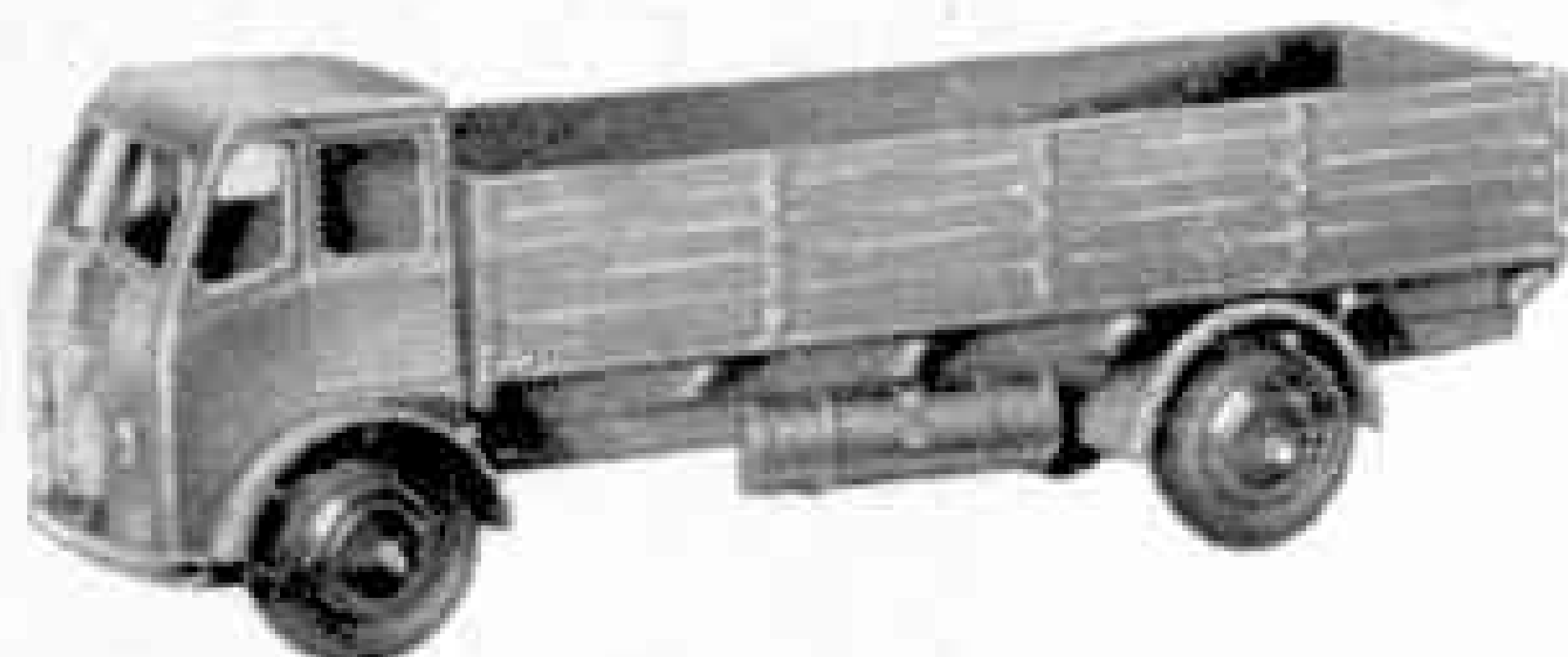
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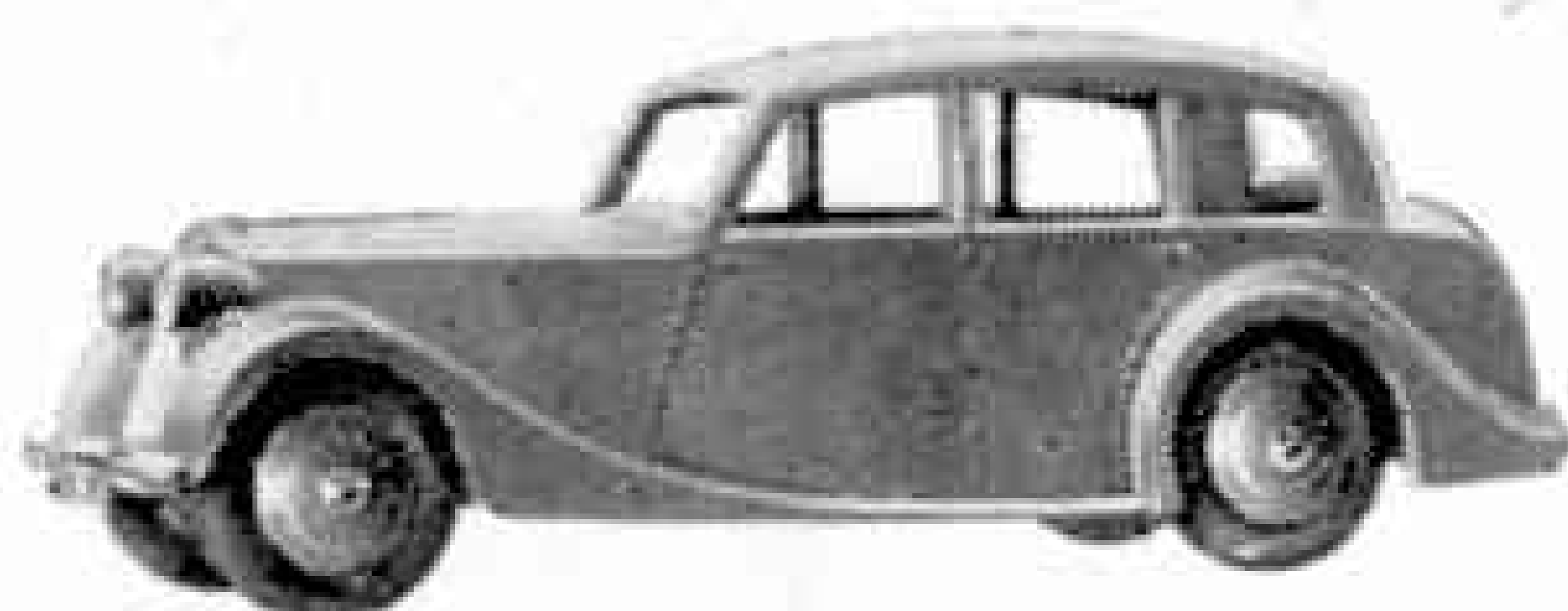


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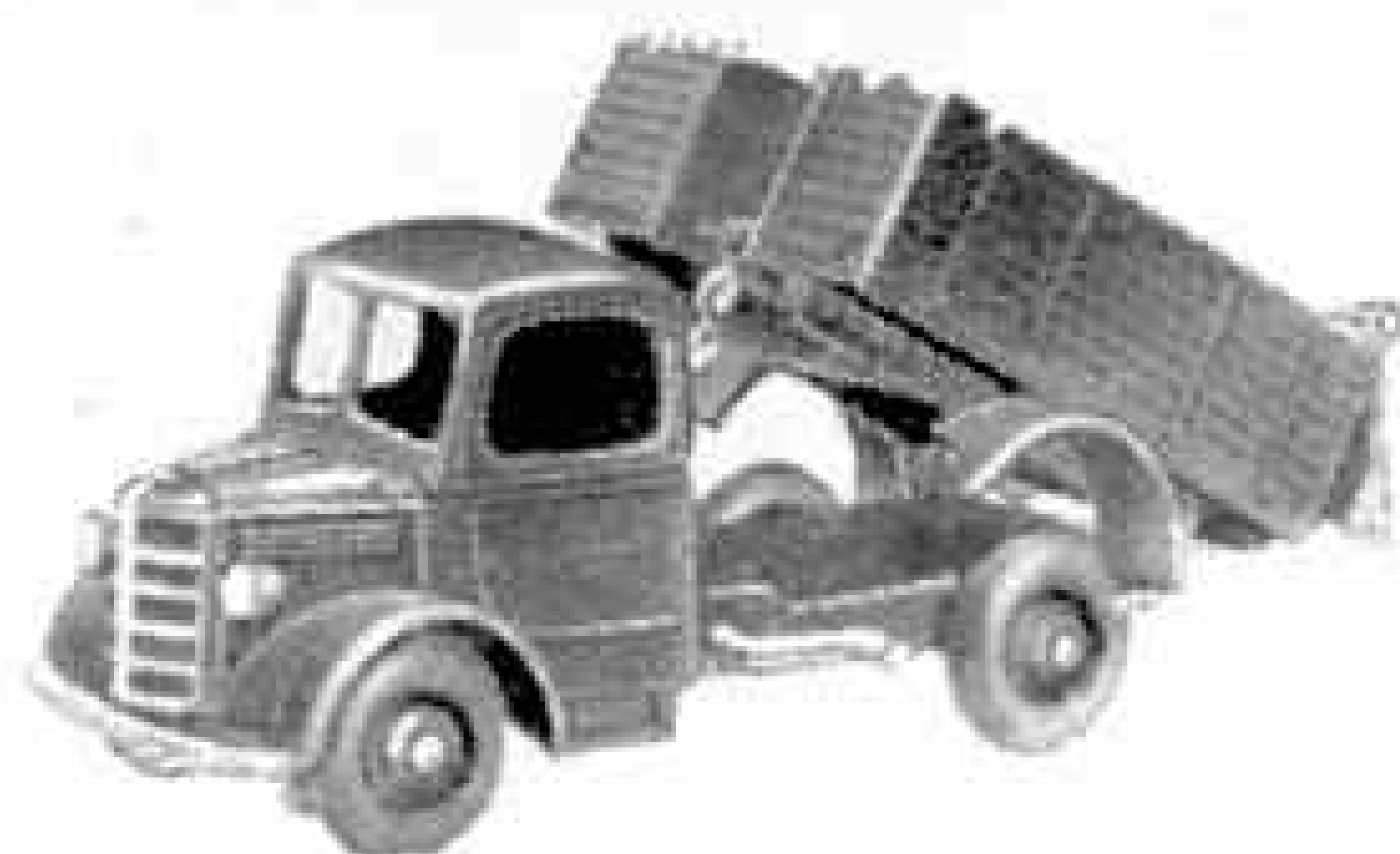
NEW THIS MONTH



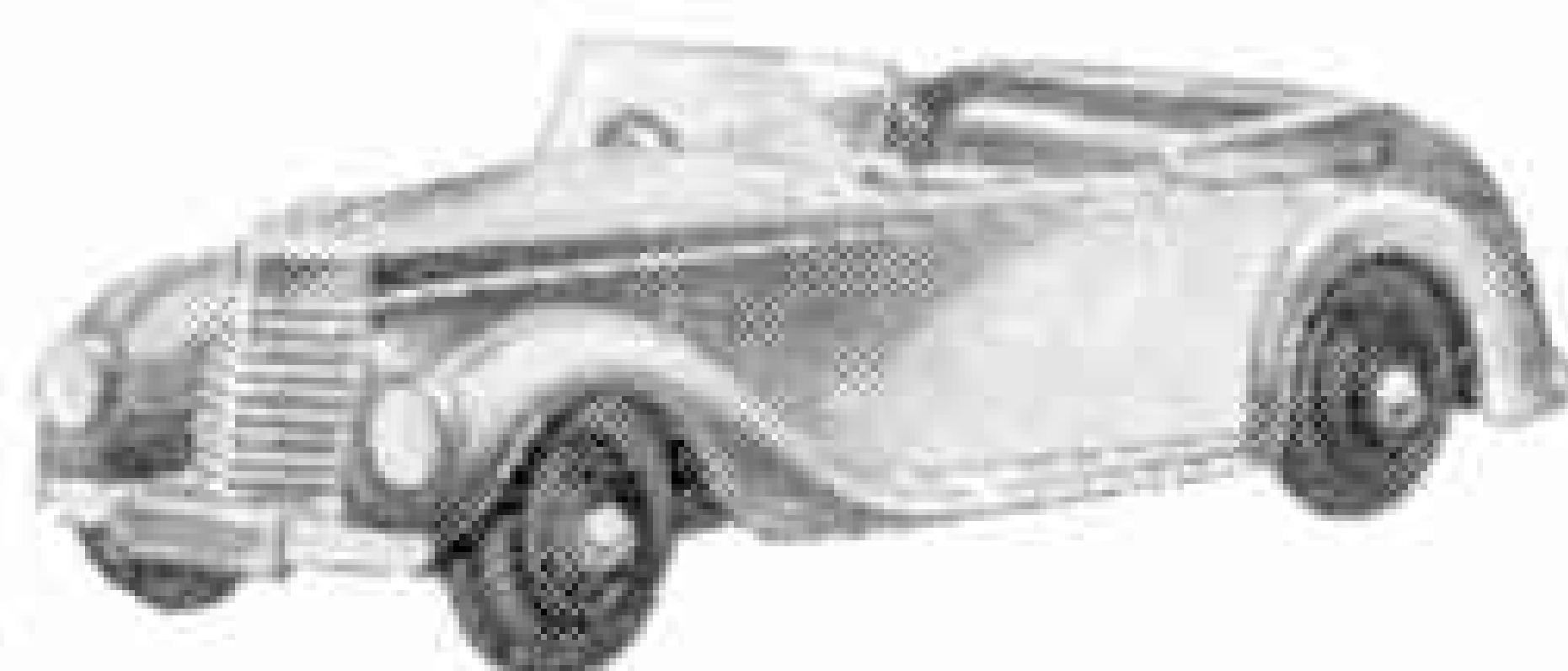
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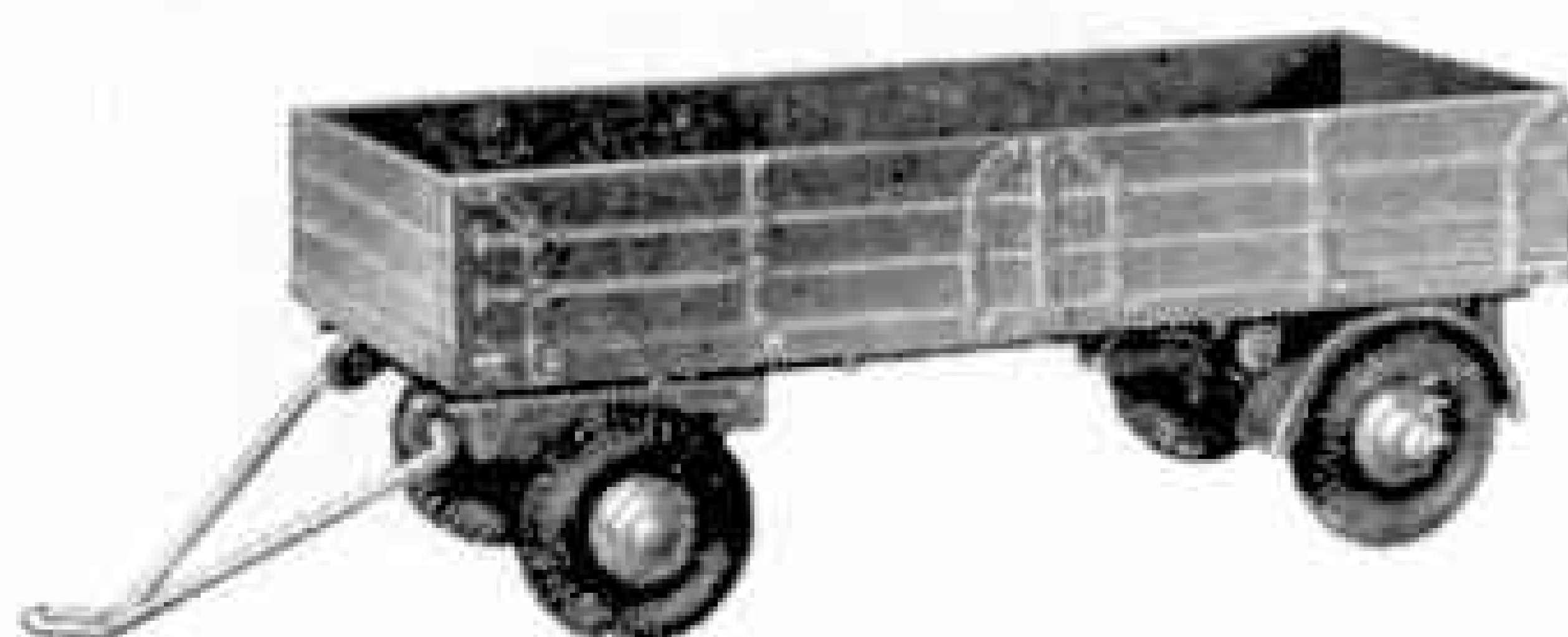


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Price 6/9 each (including tax)



**Dinky Supertoys No. 551
Trailer**
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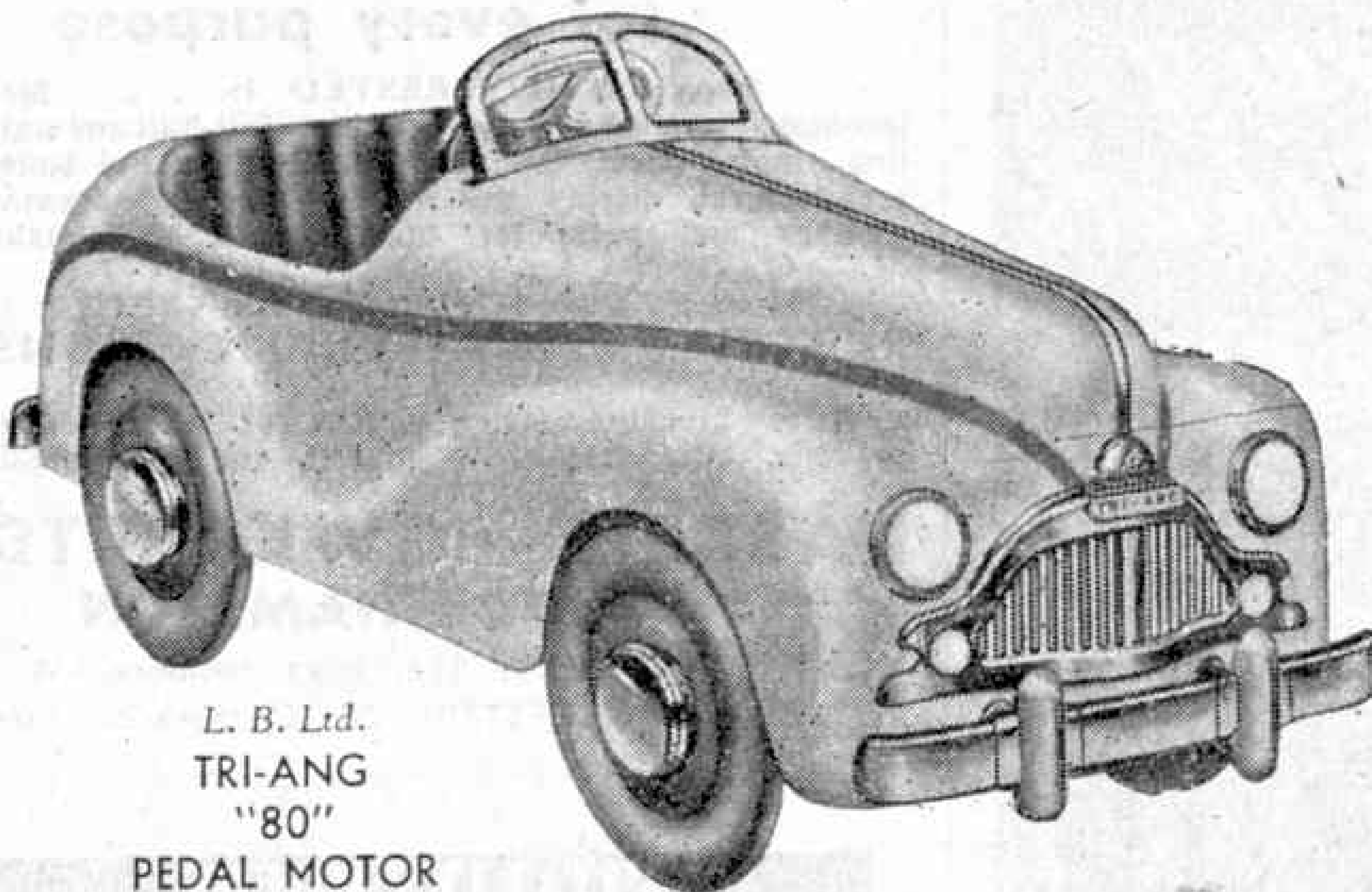
**Dinky Supertoys No. 521
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Price each
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No. 503	Foden Flat Truck, with Tailboard	..	9/6
No. 511	Guy 4-ton Lorry	..	6/9
No. 512	Guy Flat Truck	..	6/9
No. 513	Guy Flat Truck, with Tailboard	..	6/9
No. 521	Bedford Articulated Lorry	..	6/9
No. 551	Trailer	..	3/6
No. 701	Shetland Flying Boat	..	6/9

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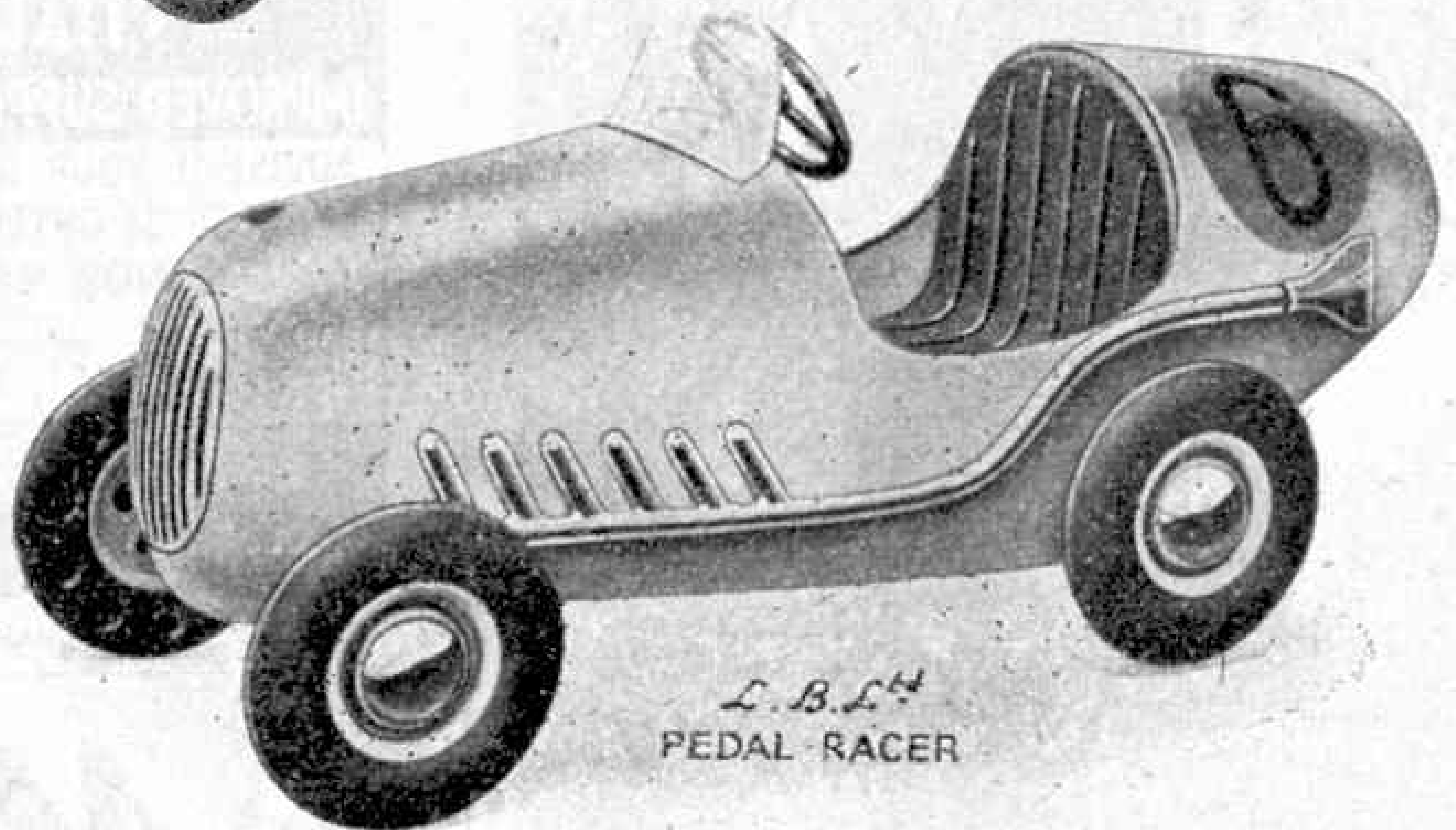
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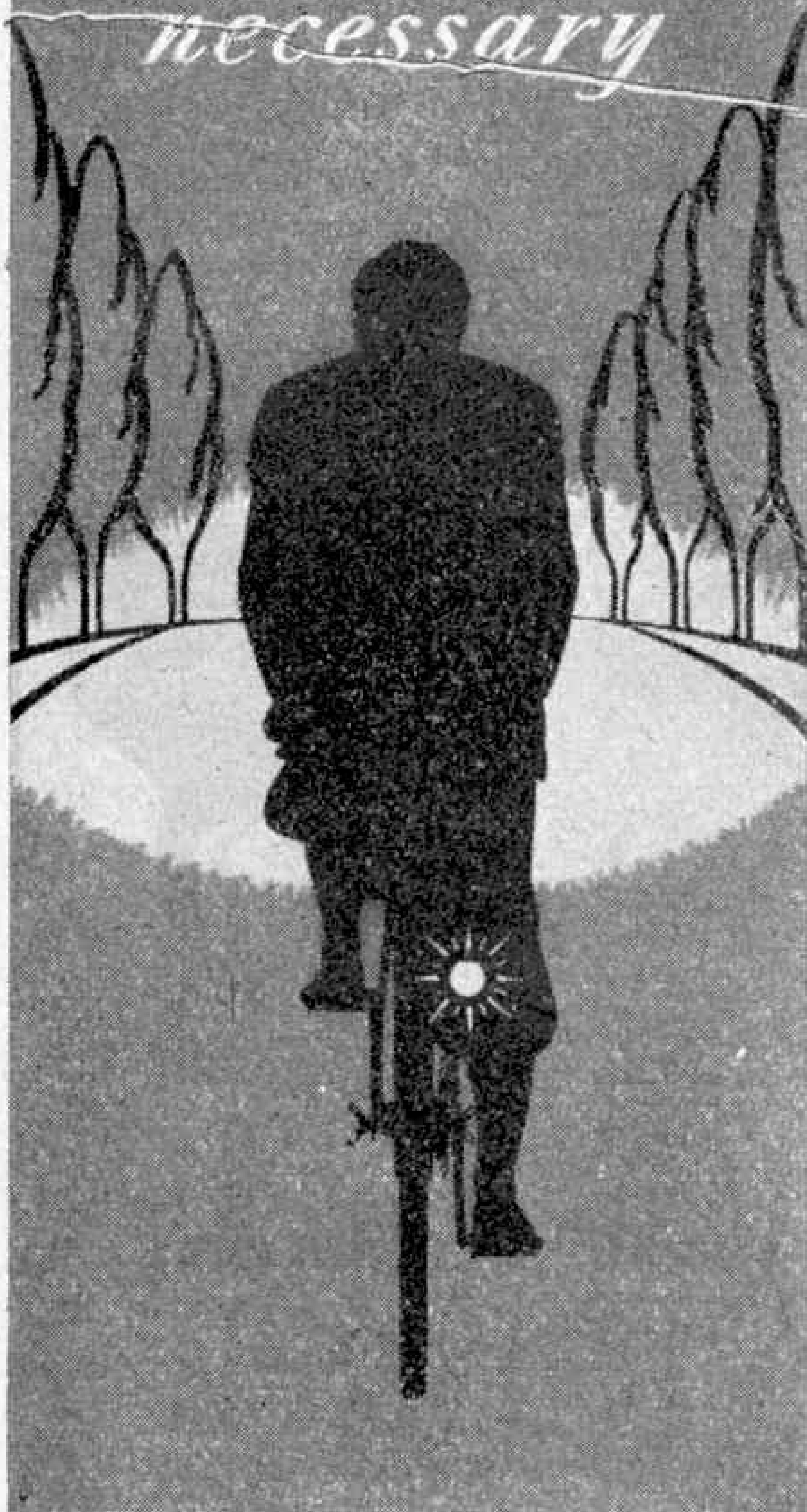
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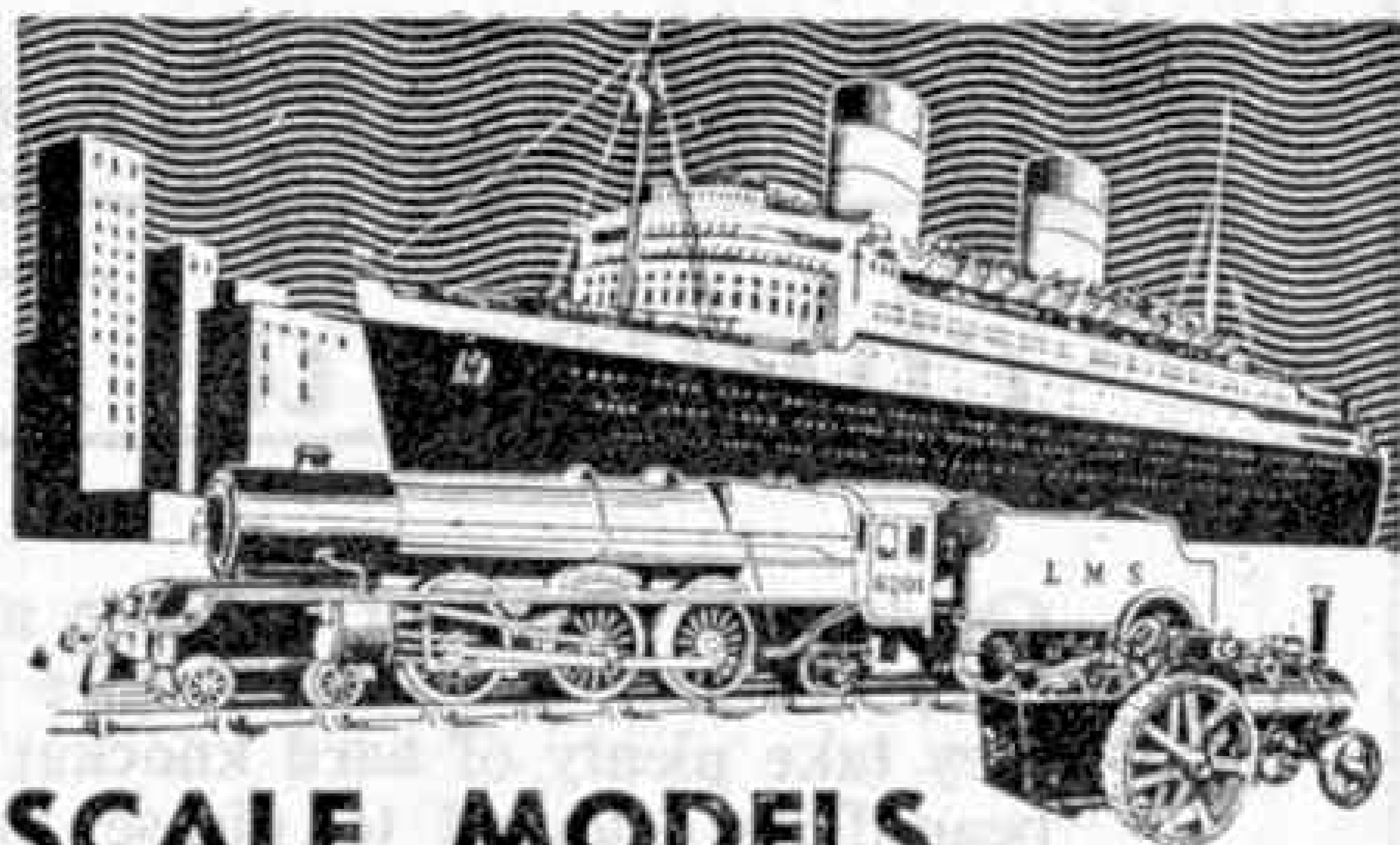
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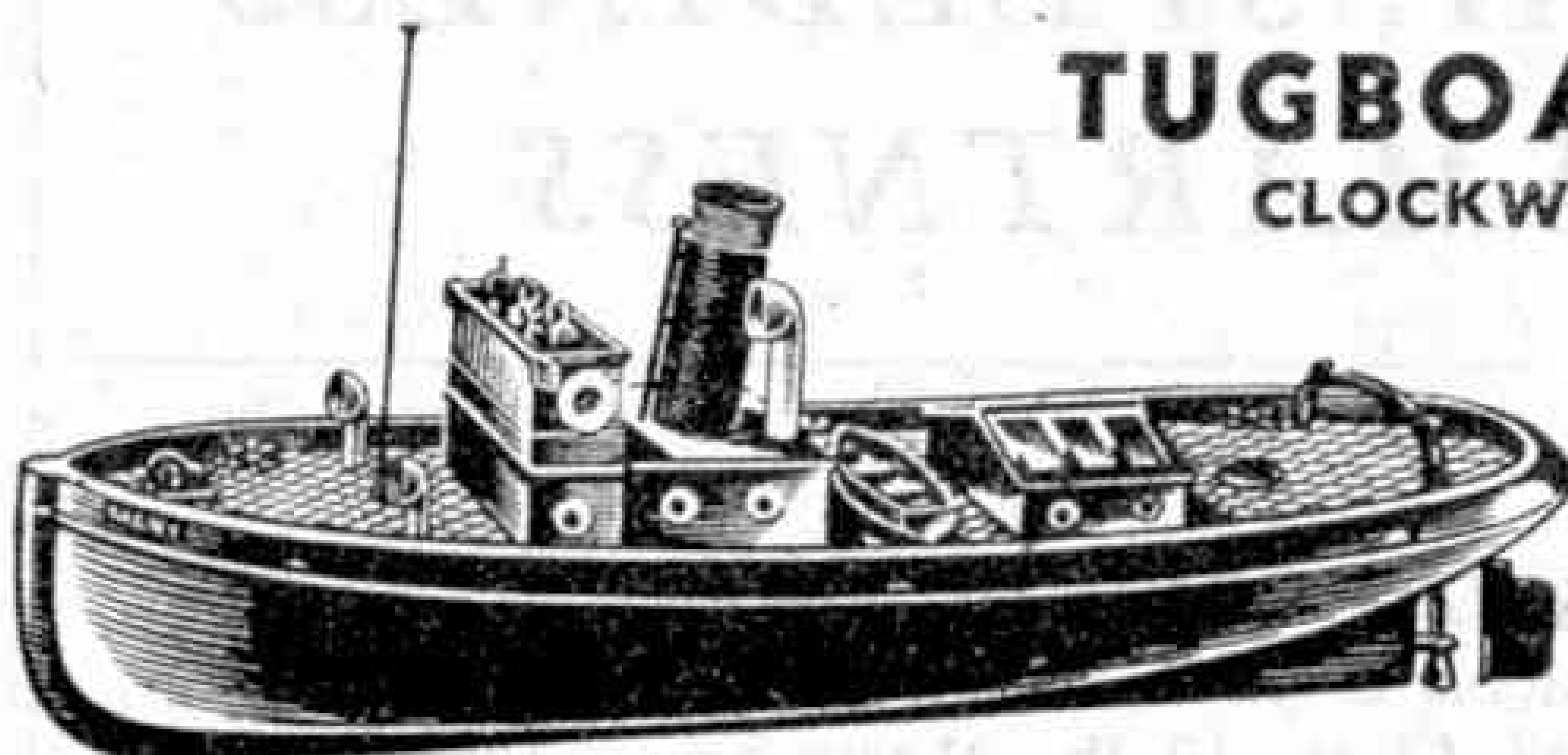
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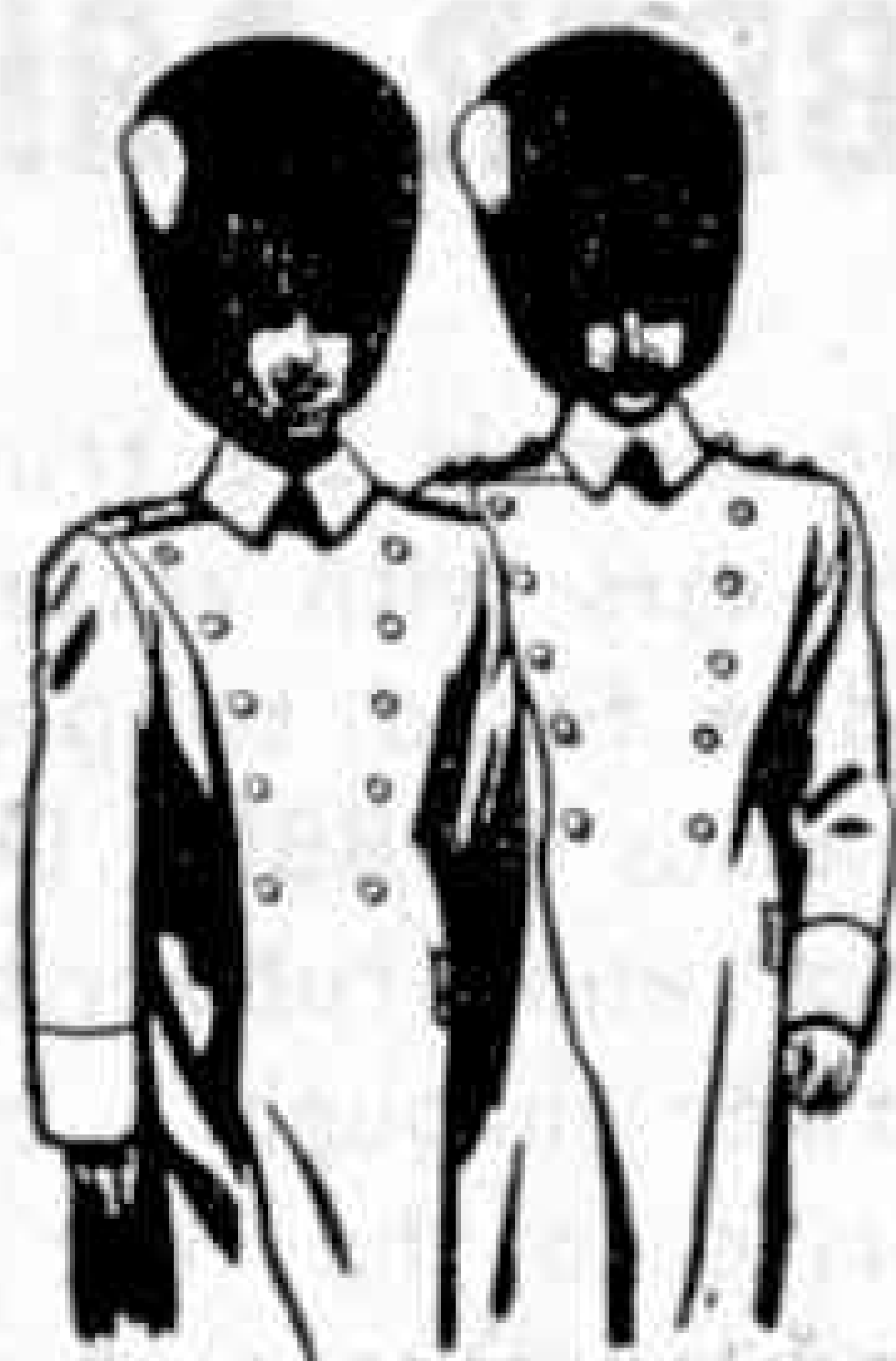
BSA *facts on* **STRENGTH, SPEEDINESS AND SMARTNESS**



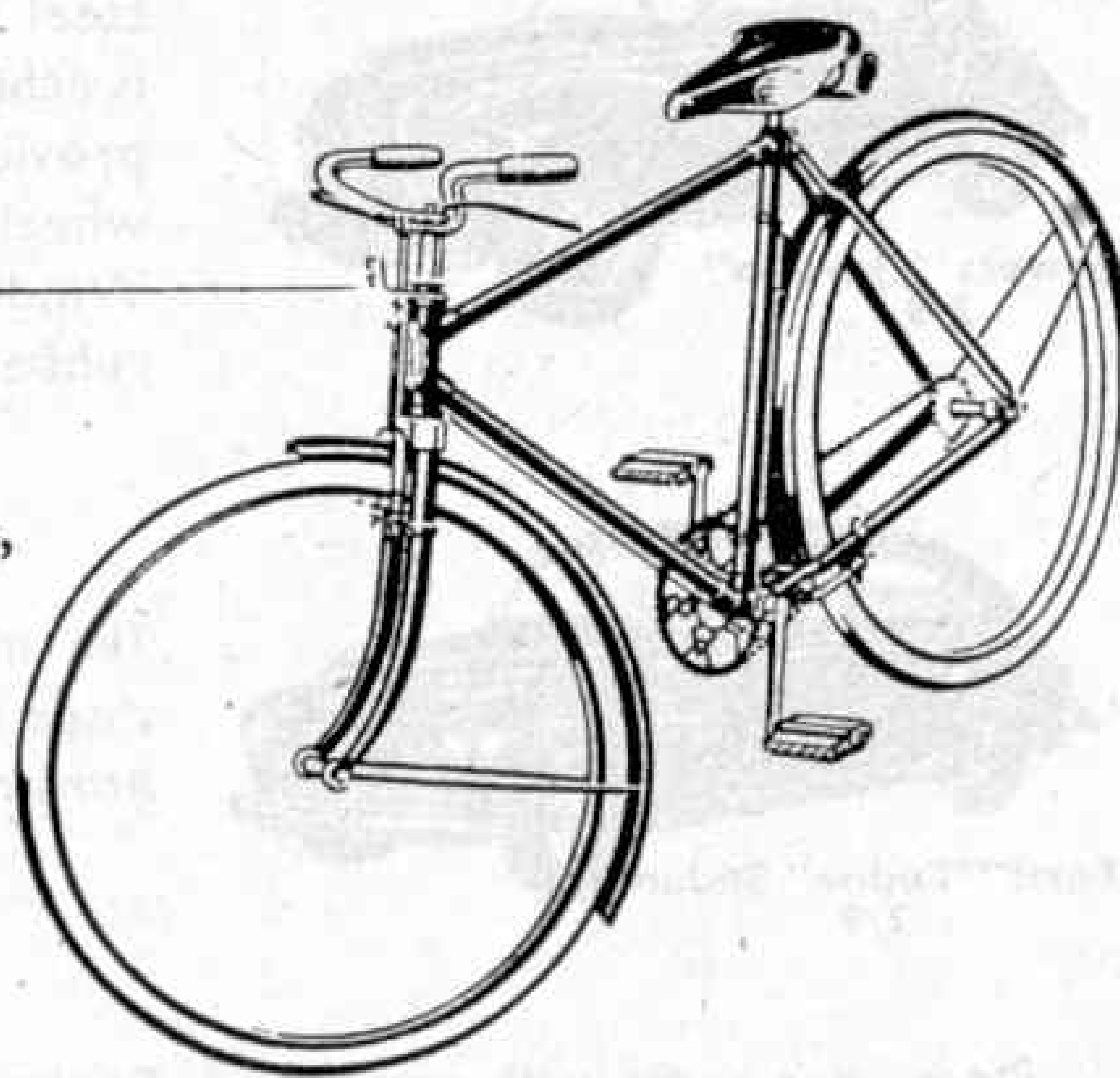
STRENGTH Matt McGrath, who stood 6 ft. in height, and weighed 17 st. 10 lb., threw a 56 lb. weight 40 ft. 6 $\frac{3}{4}$ in.!



SPEED In 1937, S. C. Wooderson (Great Britain) ran the mile in 4 minutes, 6.6 seconds!



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MAGAZINE

Editorial Office:
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Vol. XXXIII
No. 7
July 1948

With the Editor

Famous Station That Was a Joke

One does not readily associate a British main line railway station with humour, but "*Waterloo*," the famous London station that celebrates its centenary this month, has caused jokes and humorous comments innumerable.

"*Waterloo*" provides a splendid example of the British capacity for seeing the funny side of things that are intensely irritating. It was opened on 11th July 1848 with three platforms, and it grew in the most extraordinary fashion. I do not know of any other station that has been developed simply by tacking on to it other stations without any attempt to fit the pieces together. The result was that "*Waterloo*" became one of the most difficult of all stations in which to find one's train. It was so bewildering that over a long period it provided the light-hearted Press with jokes galore, culminating in the announcement by "*Punch*" in 1904 that the station was to be presented to France and that the French Government was going to erect it in the *Champs Elysées*!

Presently the old London and South Western Railway took the station in hand and began to rebuild it; and in 1922 the fine new "*Waterloo*" was completed, with 21 platforms. A recent check showed the arrival of 514 trains and the departure of 591 during the course of 24 hours, in which period 97,747 arriving and 94,428 departing passengers were dealt with.

The Little Men who Strike the Hours

When I was a small boy one of my greatest delights was watching stalwart figures arrayed in armour ringing out the quarters with battle axes on the bells of a well-known clock in an arcade in Leeds.

I could scarcely be torn away from the scene of their exploits, and I was not the only one entranced by the men in armour, who always performed their duties before an admiring and wondering crowd.

This was my first introduction to clock jacks. As I grew up I found that there were other figures in various parts of the country that struck the passing hours or quarter chimes, and that many of these were to be seen on ancient clocks in cathedrals and other famous buildings. Most of them have names, and interesting stories are told about them; and I am sure that everybody will enjoy the account of them contributed to this issue by Mr. T. R. Robinson, who is an authority on clocks and their histories, a subject in connection with which he has given several radio talks. No doubt many readers will see some of these "little men who strike the hours" when on holiday this year.

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Mapping By Air

By John W. R. Taylor

SINCE the dawn of history man's thoughts and dreams have ranged far beyond the limited horizon of his eyes, over the hills and beyond the seas. Early adventurers returned from their voyages with strange tales of fabulous cities, rich beyond imagination, and of terrible sea monsters which could crush their frail boats with one sweep of their tails. Sometimes they illustrated these stories with crude charts of their journey drawn with far more imagination than accuracy, and often, no doubt, produced for the sole purpose of impressing their less adventurous friends at home.

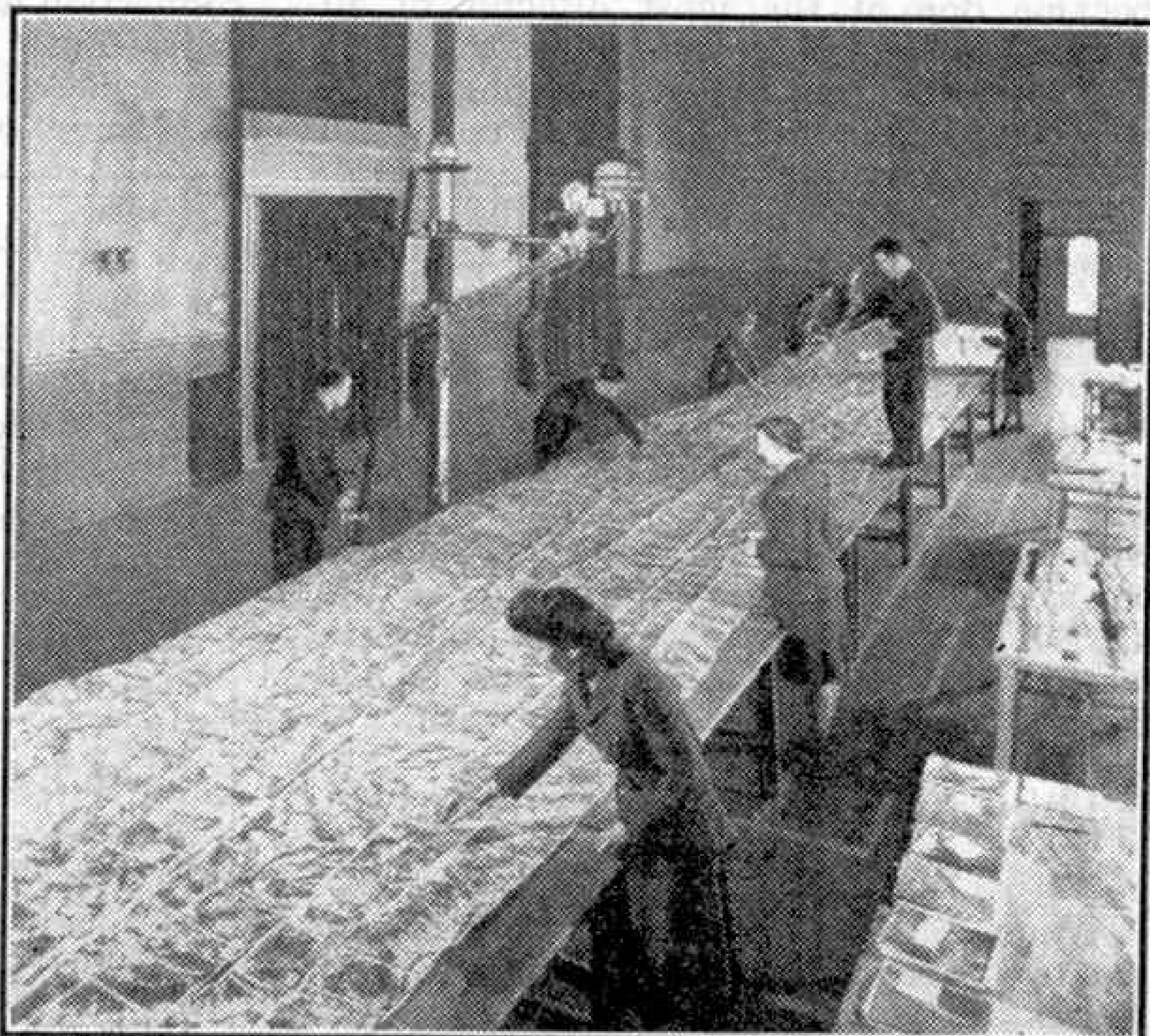
By the time of the Roman Empire maps had become a little more accurate, although it was many more centuries before people could be convinced that the world was not flat and that anyone who ventured too far would not fall off the edge. The Elizabethan era saw the hey-day of the sea rovers and later came the pirates, and who has not thrilled to an exciting story of a hunt for pirate gold, following the instructions given on a map with "X" marking the buried treasure?

From such beginnings the science of map-making has grown in importance until to-day a large part of the world's surface has been charted with varying degrees of accuracy. Sea monsters have changed into jagged rocks that can rip the bottom out of the stoutest ship in a few seconds, treasure maps are rare and buried treasure-chests even rarer. The old myths have gone, but not the romance; there is still treasure to be found beneath the earth's surface—coal, oil, rich ores and other deposits—and the surveyor and map-maker still play a big part in finding them.

But the twentieth century map-maker does not trudge wearily over mile after mile of bleak countryside armed with a theodolite and painted pole, month after month, year after year. Instead he has taken a leaf out of the book of the

R.A.F.'s wartime photo-reconnaissance pilots, who daily brought back accurate photographic maps of enemy territory "over the hill," beyond the range of ground observation posts. Until survey and photography from the air became practicable there was no way of surveying and mapping such areas as the dense forests of Burma or the icy wastes of the Antarctic, but the air survey camera is unbounded by the narrow horizons of the human eye and unhampered by the most formidable of nature's barriers.

Aerial survey scores over ground survey in speed as well as on the grounds of accessibility. It is easier to keep maps up to date and, in fact, many British Ordnance Survey maps are being revised in detail by means of air photographs. During the debate on the Air Estimates in the House of Commons in March 1947 the Secretary of State for Air said that some 380,000 square miles of the Colonial Empire had been surveyed by air in only 12 months. Surveys of war-damaged areas and of undeveloped land in Britain which would have occupied ground survey parties for six weeks had been accomplished by air in five days.



"Waafs" making up a "mosaic" from hundreds of air photographs. Crown Copyright photograph.

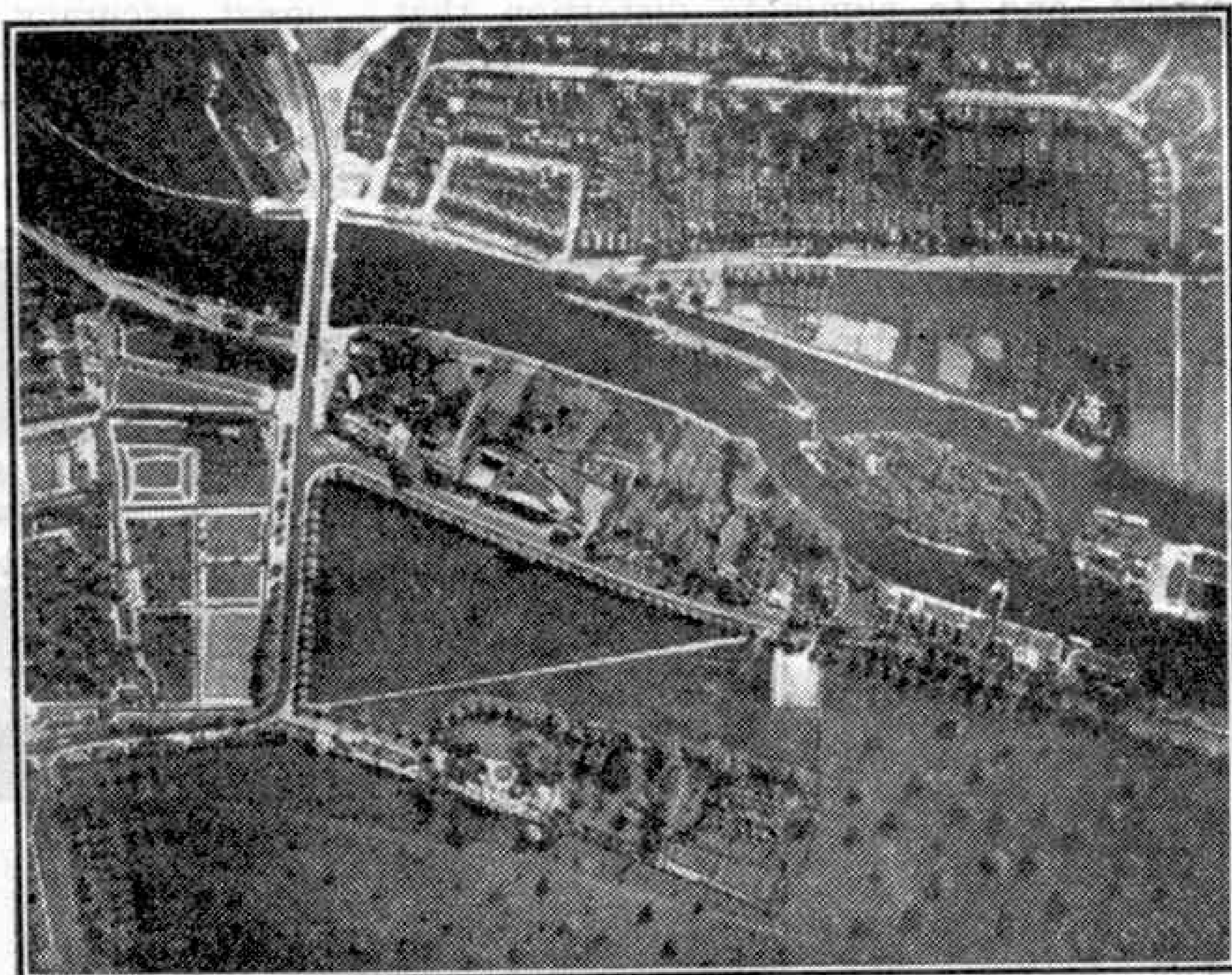
This does not mean that aerial surveying will completely supplant ground methods. On the contrary, a ground survey team is an indispensable part of any air survey field party, which will include also pilots, navigators and ground personnel for the aircraft, drivers for the surface transport, photographic assistants to process the films, and perhaps even cooks, radio operators and a medical orderly if the job is a big one out in the wilds.

The actual air photography represents only some 15-20 per cent. of the total time needed for the preparation of a map by aerial survey methods, but it is naturally a very important part of the job, for any serious inaccuracies at this stage will be reflected in the finished maps, however carefully the cartographers may work. Consequently, the first essential is to choose an aircraft sufficiently stable and free of vibration to permit flying on a precise course at a steady speed during the runs over the "target" area.

The choice of aircraft suitable for this work is wide, ranging from an "Auster" to a "Freighter," and will usually depend on the location of the area to be photographed and the height at which the runs will be made. Photography from 8,000 ft. obviously will produce larger detail than photography from 20,000 ft.; but such detail may not be necessary, in which case it is well to remember that photography at the higher level would result in an 84 per cent. saving in film over a given area. What this means is shown by the fact that, even by photographing at 20,000 ft. with a 6 in. lens camera, some 38,855 exposures would have to be made to cover an area of 100,000 square miles (approximately the size of Great Britain). This saving in expense is offset by the fact that a larger and more expensive aircraft, complete with oxygen and heating equipment, would be needed for high-altitude work, and that more fuel and time would be needed to reach the higher ceiling. But of course, the larger the

aircraft the more useful it is as a transport to carry supplies to the base camp. So "you pay your money and you take your choice"!

A typical aerial survey expedition was recently carried out in the Middle East



Vertical air photograph of Hampton Court, London, suitable for map-making. This illustration and that on the next page are reproduced by courtesy of Air Survey Company Ltd.

by the Air Survey Company of London. An area of some 800 square miles, chiefly desert, was surveyed and mapped in preparation for a new irrigation scheme. The flying party consisted of two pilots, a ground engineer, three photographers and an executive of the company, who was in charge of the expedition and shared the work of navigating with one of the photographers. The party flew to its operating base in the "Anson" and "Oxford" that were used for the air photography.

The ground party of five surveyors was supplied by an associate company, Aero-graphic Surveys Ltd., and was supplemented on site by a large number of native workers. They used almost every conceivable type of transport from camels to half-track lorries to carry in the supplies needed by such a highly-specialised community miles from anywhere. Their job was to locate very accurately a number of ground points that would be plainly distinguishable in the air photographs, so that these could be precisely orientated.

While this was being done the flying party worked out its flight plan and

began the photography of the area. The flight plan shows the path to be followed by the aircraft during the actual photographing and usually allows for an overlap of 60 per cent. longitudinally and 20 per cent. laterally on each negative, to permit stereoscopic "interpretation" of the finished prints, and to eliminate distortion that would otherwise appear on the finished "mosaic" when all the prints had been pieced together.

The job of the pilots is to follow this flight plan, which sounds easy but is not. The aircraft's course has to be carefully calculated to ensure that it is not blown off course by wind; the pilot has to make sure that it remains precisely on this course at a steady speed and height and with no variation in lateral trim, which would produce "tilt" in the photographs. The actual runs over the target are normally controlled by an automatic pilot, but the pilot still has to ensure that conditions are just right when the auto-pilot is cut in.

In the case of this particular expedition, photography was carried out at heights varying from 6,000 ft. to 12,000 ft., giving scales of from 1:2,500 to 1:10,000 for the finished photographs.

The films were processed on the spot, but the remainder of the work was done in the Aerographic Survey Company's laboratories in Britain—a complicated and highly-skilled process. Briefly what happens is that each pair of adjoining negatives is placed in a "Multiplex," which consists basically of two projectors which can be set to reproduce exactly the relationship of the cameras in the aircraft to the ground at the moment each negative was exposed. The negatives are projected on to a special tracing table, on which an operator can view through coloured glasses a three-dimensional "model" of the area photographed. He

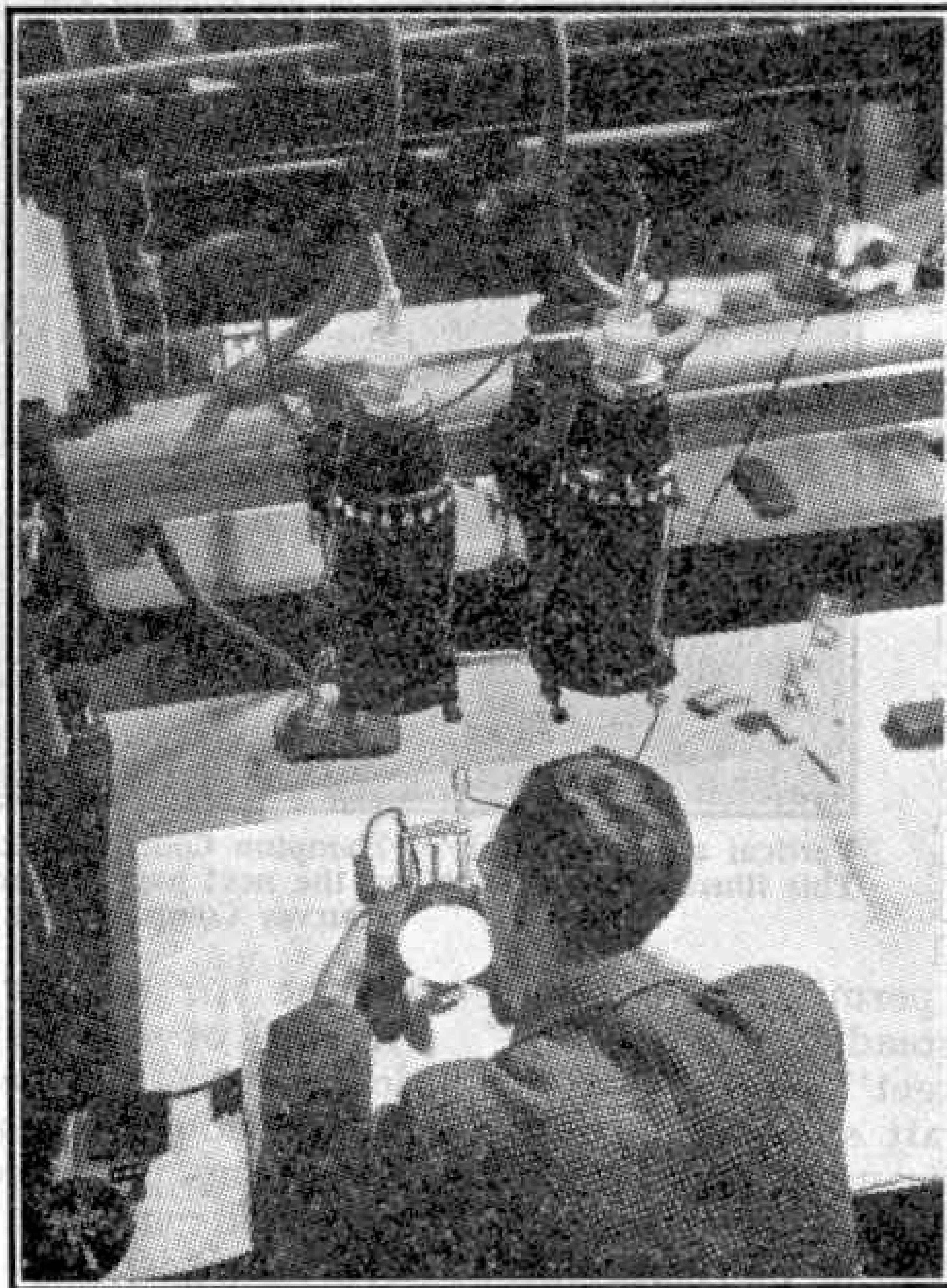
is thus able to trace out an accurate contour map of the area, using two negatives at a time.

The map is positioned precisely by means of the ground control chart produced by the surveyors, after which the interpreters take over, adding all details with great accuracy from prints of the air photographs. Finally, a finished "Fair drawing" is made, photographed on to a zinc plate (or series of plates if more than one colour is to be used in printing) and printed.

Sometimes a printed map may not be required, a photographic map or "mosaic" being sufficient. For example, by studying air photographs a geologist can predict the probable existence of oil or mineral deposits under the Earth's surface. Whatever is required aerial survey can produce the results quickly and with a high degree of accuracy. As a result it is being used more and more for such jobs as choosing sites for new towns or the best routes for new roads and railways; for searching out new sources of

raw materials; for forestry and irrigation work and for a vast number of other purposes.

Aerial surveying is an exact science, but it is far from being dull and unromantic. For instance, as photographers were developing some of the Middle East negatives, they saw a series of regular lines appearing across the face of what should have been parched, empty wilderness. Prints were made and the outlines of a long-lost city became visible, complete with a palace, gardens and houses. Nothing was visible from the ground; in fact camel tracks passed over the foundations of once-proud walls. Only the all-seeing eye of the aerial survey camera had been able to wrest the secrets of the lost city from the timeless sands of the wilderness.



The "Multiplex" machine described on this page.

A Fast Clyde Excursion Steamer

By Denis Rebbeck, M.A., M.Sc., B.Litt., M.I.N.A.

THE photograph on this page depicts a very fine example of a Clyde excursion steamer which was built by Harland and Wolff Ltd. in 1932 for the London, Midland and Scottish Railway Company. The impression of speed which the camera so effectively portrays is no "fake," for this sturdy little vessel is driven by three propellers and has a service speed of $20\frac{1}{2}$ knots.

The three propellers, each on a separate shaft, are driven by steam turbines without any intermediate gearing. Steam is generated in a large double-ended cylindrical boiler which burns coal under

the steam to two separate low-pressure turbines which are also direct-coupled to their respective wing propellers. The steam then passes to two individual regenerative condensers, one for each low-pressure turbine. So much for going ahead; as regards power for going astern, an astern turbine is incorporated in each low-pressure turbine casing and these astern turbines develop about 60 per cent. of the ahead power.

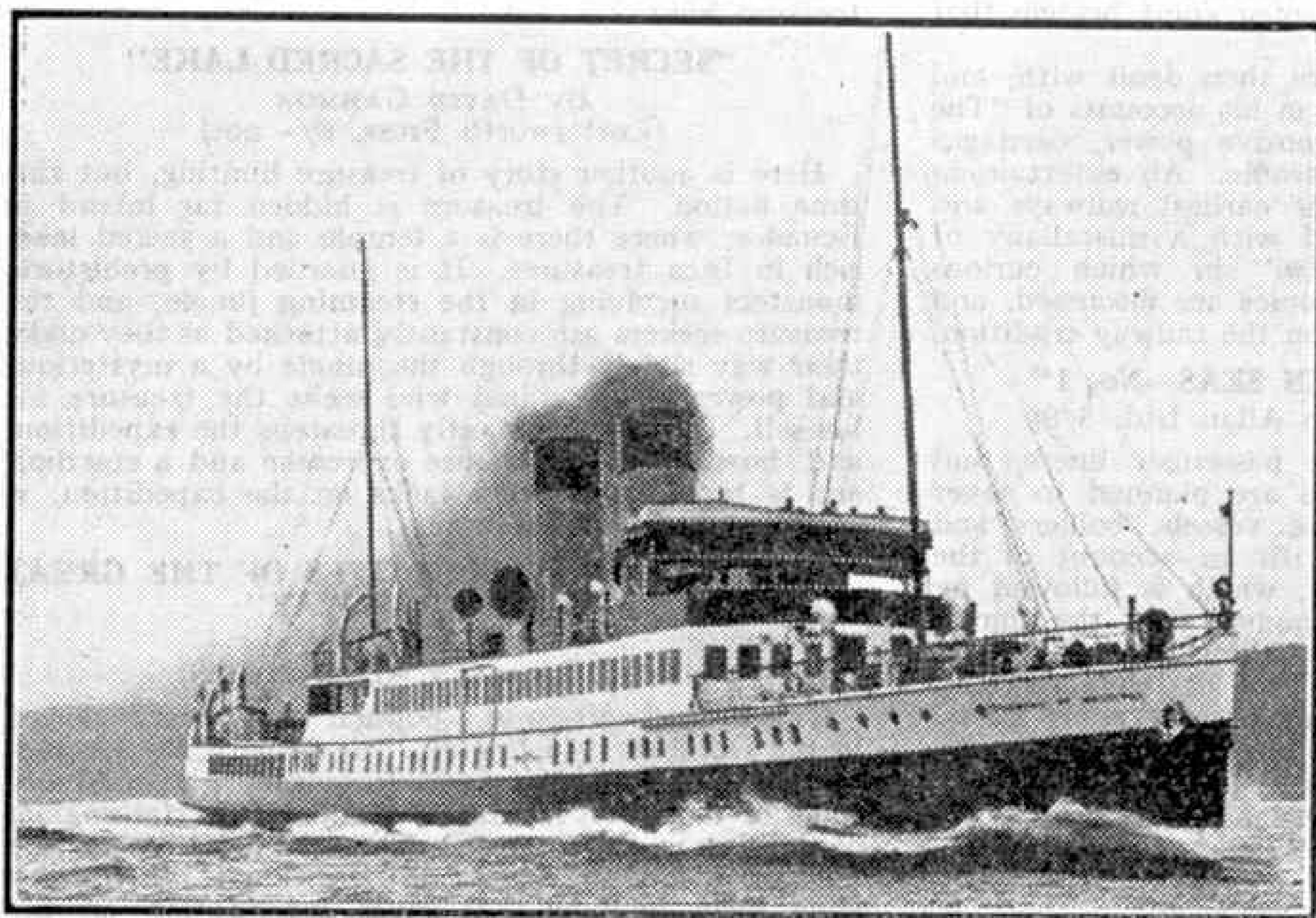
The "*Duchess of Hamilton*," as this vessel is called, has the following dimensions: length between perpendiculars 260 ft., breadth moulded 32 ft., depth moulded

10 ft. 7 in., draught 7 ft. 6 in. The particularly shallow draught should be noted, it is, of course, an essential feature of this type of vessel. Harland and Wolff Ltd. have accumulated a great amount of experience in the design and construction of vessels with shallow draught, for they have built a veritable fleet of ships of moderate draught for service on South American riverways.

The "*Duchess of Hamilton*" incor-

porates many interesting features in her sleek black and white hull. She has a semi-balanced rudder aft, and in addition she has a bow rudder, which allows her to be manoeuvred with the greatest ease in narrow and restricted waters. There are four spacious decks for passengers; two enclosed, one partially enclosed and one fully open.

There are many stout little vessels steaming up and down the rivers and estuaries of our islands and around our coasts, and this one-class passenger steamer may well claim to be one of the outstanding examples of her class. There are certainly no more discriminating passengers than the people who travel on Clyde excursion steamers.



forced draught on the enclosed stokehold principle. It is very natural for railway companies to burn coal in their steamers, just as they do in their locomotives, because they are very large coal owners and for this reason prefer coal to oil. The only disadvantage, as can be seen from the photograph, is that the forced draught through boiler furnaces is apt to cause rather a "smoke-screen," but if the coal can be bought at a low price and obtained without difficulty, the smoke problem may be of little importance.

The machinery is certainly interesting and rather unusual. The steam from the boiler is passed through the high-pressure turbine which is direct-coupled to the centre propeller. This turbine exhausts

BOOKS TO READ

Here we review books of interest and of use to readers of the "M.M." With the exception of those issued by the Scientific and Children's Book Clubs, which are available only to members, and certain others that will be indicated, these should be ordered through a bookseller.

"THE RAILWAYS OF BRITAIN"

By O. S. Nock, B.Sc. (Engl.)
(B. T. Batsford Ltd. 15/-)

Mr. Nock needs no introduction to our readers, many of whom will recall his numerous articles in the "M.M." and previous books by him that have been reviewed in our pages. His latest book forms one of the "British Heritage" series, and is distinguished by its many excellent illustrations, four of them in colour and more than 100 from prints and photographs old and new.

Mr. Nock begins with a general survey of the state to which British railways had developed by 1939. This provides a background for the remainder of the book, in which we see the extent of the railway system and how it came into being, and follow the epic achievements of the Stephenson, Brunel and other later engineers in carrying their iron roads across country, in deep cuttings and on lofty embankments, through notable tunnels and over giant bridges that are still in use to-day.

Equipment and working are then dealt with, and the author is here at his best in his accounts of "The Road" or permanent way, motive power, carriages and wagons, and control of traffic. An entertaining contrast is drawn between the earliest railways and those of to-day, and we end with a miscellany of "oddities, anecdotes and fiction" in which curious incidents and many diverse topics are discussed, and there is an appreciative note on the railway tradition.

"SHIPS OF THE SEVEN SEAS—No. 1"

By CHARLES GRAY (Ian Allan Ltd. 3/9)

Mr. Gray deals here with passenger liners, and further booklets in this series are planned to cover cargo liners, tramps, coasting vessels, colliers and tankers. The story begins with an account of the transition from sail to steam, which is followed by brief notes on the parts of a modern ship, the officers and crew, navigation and signalling, and bells and watches. Then we have details of 12 famous British passenger ship companies and their present fleets. Much information is packed into small space, and there are many excellent illustrations.

Copies can be obtained from Ian Allan Ltd., 33, Knollys Road, Streatham, London S.W.16, 4/- post free.

"RAILWAY MEMORIES"

By RIXON BUCKNALL and DR. T. F. BUDDEN
(15/-)

A remarkable collection of 204 photographs by Dr. T. F. Budden, arranged and written up by Rixon Bucknall, occupies the pages of this book. The pictures lay before the reader the railway scene between 1889 and the early years of the present century, and with the admirable descriptive summaries they provide a fascinating supplement to the Bucknall publication "Our Railway History" that was reviewed in the "M.M." in January 1946.

Reproduction of the photographs on the whole is excellent, considering the time that has passed since the negatives were first made. There are 20 sections, each dealing with a separate company of the great age of railways except the last, in which we stride forward into modern times, to meet engines in striking contrast with those of the earlier period. The railway enthusiast, young or old, the professional railwayman, active or retired, and the model maker will all find much to interest them in this fine collection.

Copies of the book can be obtained from the authors at 48, Woburn Place, London W.C.1, price 15/9 including postage.

"LET'S FIND HIDDEN TREASURE"

By TREVOR HENLEY
(Venturebooks Ltd. 8/6 net)

Nothing arouses greater interest and excitement than a story of hidden treasure, and here the most ardent seeker of thrills will find all that he desires in treasure hunting in all parts of the world. We plunge into the jungles of Central and South America in search of fabulous hoards guarded by savage tribes, hunt for lost gold and silver mines in California and elsewhere, drain a lake in the hope of finding millions in gold and jewels, and dive to salvage bullion from sunken liners. Smugglers and pirates, privateersmen and Indians, prospectors and buccaneers, all these throng the pages of Mr. Henley's book, and every boy in the world would revel in the many strange and exciting stories told in it.

This fascinating series of true tales is well illustrated, and includes a map marking the scenes of treasure hunts.

"SECRET OF THE SACRED LAKE"

By DAVID GAMMON
(Lutterworth Press. 6/- net)

Here is another story of treasure hunting, but this time fiction. The treasure is hidden far inland in Ecuador, where there is a temple and a sacred lake, rich in Inca treasures. It is guarded by prehistoric monsters surviving in the steaming jungle, and the treasure seekers are constantly attacked as they make their way slowly through the jungle by a mysterious and powerful individual who seeks the treasure for himself. Disaster constantly threatens the expedition, and how all difficulties are overcome and a startling end is brought to the attacks on the expedition, is vividly told by Mr. Gammon.

"THE ROBINSON LOCOMOTIVES OF THE GREAT CENTRAL RAILWAY"

(New Edition)

By C. LANGLEY ALDRICH (4/6)

This second edition of a popular book, first reviewed in the October 1946 "M.M.," deals with the locomotives designed by Mr. J. G. Robinson, who produced some of the finest-looking, yet most powerful engines of the day in this country. The text has been revised and corrected to date, and additional illustrations have been included. It gives information on the various classes of Robinson engines, with names, numbers and other details, and there are also a table of dimensions, details of various renumberings, latter-day history and withdrawal dates. A special chapter covers the famous Pollitt 4-2-2s that were rebuilt and modernised by Mr. Robinson.

Copies of the book can be obtained from the publisher, E. V. Aldrich, 104, Grove Crescent, Kingsbury, London N.W.9, price 4/10 including postage.

"CAMERA TIPS FOR BEGINNERS"

(Fountain Press. Price 9d.)

This interesting little booklet gives in very concise and easily followed form good advice on the use of the camera for portraits and groups, landscapes and seascapes, and open street scenes. In each case valuable guidance is provided by excellent illustrations in photogravure that serve as examples of what can be done with ordinary cameras, and there are also details of focusing, exposure and choice of subject, with hints on ways and means of giving sparkle to photographs and making them tell stories of interest. Every page of the booklet will help photographers to get the best results with the equipment at their command.

Have You Ever Thought About This?

How Does a Locomotive Safety Valve Work?

By "Shed Superintendent"

THE locomotive safety valve is an example of an apparently simple piece of mechanism which has given generations of engineers much food for thought, and which has been the subject of numerous improvements and patents.

A safety valve consists, basically, of a valve loaded by a spring. The valve covers an aperture in the boiler and the spring weights down the valve against the steam pressure. The compression of the spring is adjusted by a screw to allow the valve to lift at a given maximum pressure. From this description it would not appear to be particularly complicated.

However, if we examine the manner in which such a valve is expected to behave in practice, we shall find out why so much study has been given to its design. Firstly, the valve must never stick or fail to operate. Free working depends upon the right combination of metals for the valve and for its seating, in view of the high temperature of operation, and upon the correct clearance of the valve stem in the guide. Early designs were imperfect in this respect and were provided with handles to enable the drivers to try them when running. Unfortunately, the opportunity was often taken of wedging the handles down or hanging weights upon them to provide some extra pressure in order to climb heavy gradients. So henceforth the safety valves were enclosed and placed out of reach. Enclosing the mechanism led to trouble at first with the springs, which must retain

their tension under continuous load, without losing their strength under conditions of varying temperature.

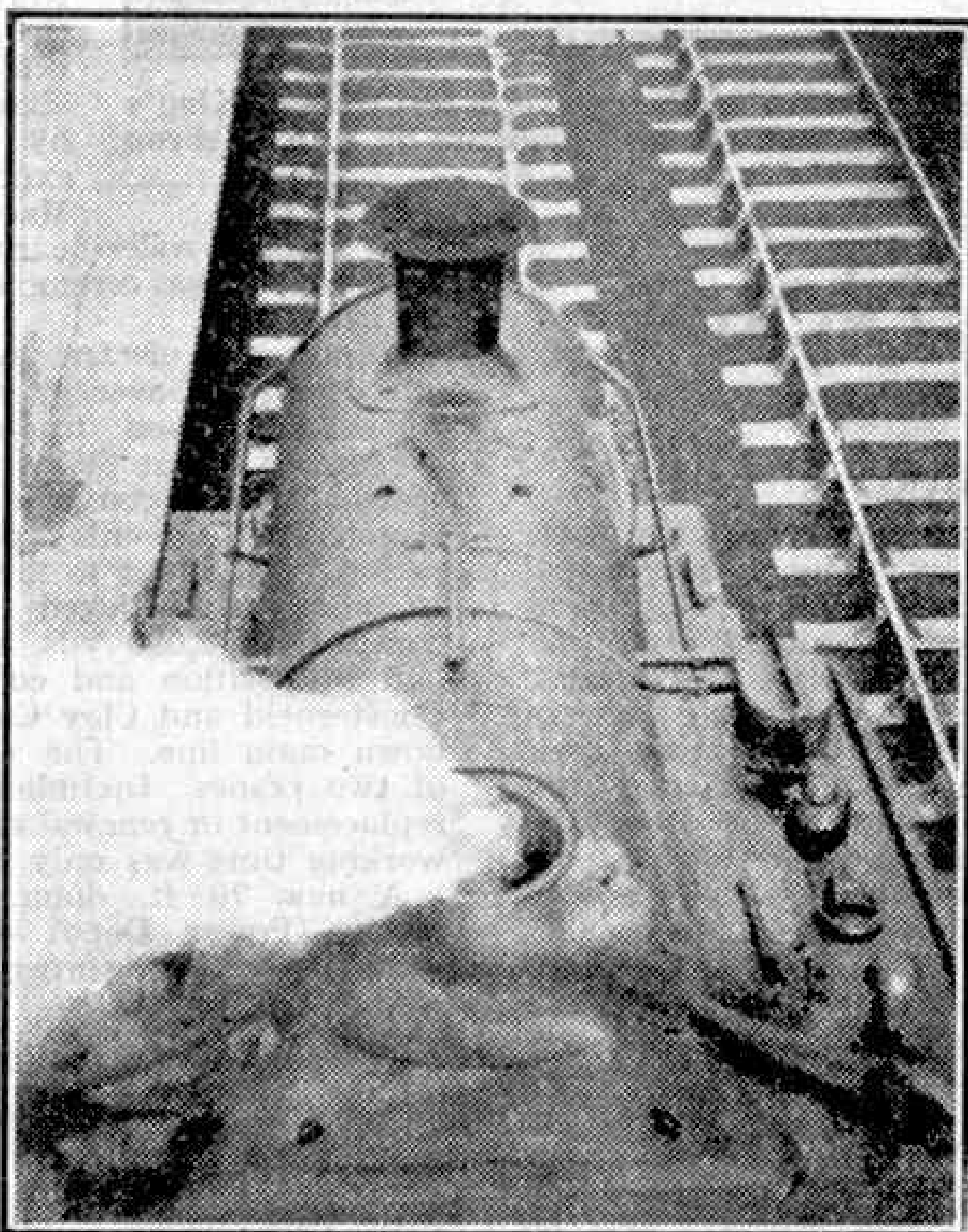
Secondly, the valve when open must permit free discharge of steam; but when it lifts it compresses its own spring, increasing its tension. This in turn limits the lift of the valve and the rate at which steam can escape! This might appear to

be an argument for simply increasing the size of the valve, but there are certain limitations, particularly as to overall dimensions and to the size of the aperture that can be cut in the boiler without weakening the shell. As an alternative several valves are provided, their total discharge capacity being proportional to the steaming capacity of the boiler. The sizes for various types of boiler are prescribed by Board of Trade Regulations.

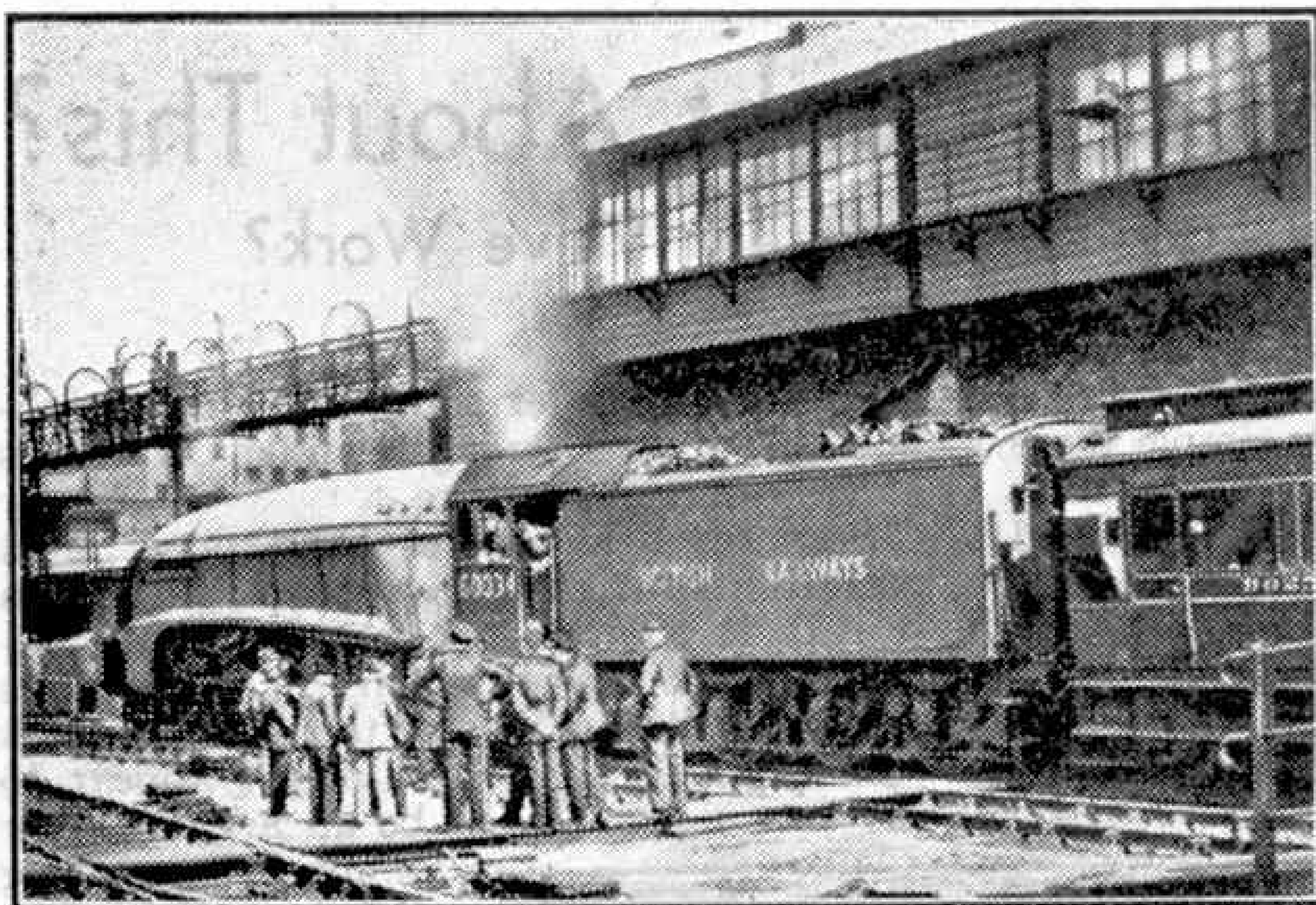
Lastly, the ideal safety valve should lift exactly at the point when the maximum permitted pressure is reached, and should

shut down directly pressure falls below it. It should not "dribble" nor allow steam to go on escaping until pressure has fallen 10 or 15 lb. per sq. in. below maximum, as did some earlier types.

The standard valve fitted nowadays is the well-known Ross "Pop" valve. It is neat in size, is sealed against tampering, and opens and closes smartly within a narrow margin of pressure at the limit mark. The sudden rush of steam from a Ross valve is startling if you are not used to it, and then it stops with a satisfying "pop," hence the name.



G.W.R. safety valves are of the Swindon spring-loaded pattern. Here is one in action. Photograph by R. Russell, Winscombe.



"Lord Faringdon," a Doncaster "Pacific" at the head of a test train at King's Cross. This and the upper photograph on the next page are by F. R. Hebron

Railway Notes

By R. A. H. Weight

National News

During this summer certain express trains will be running on selected services covering the principal trunk and cross-country routes of each Region in England and Scotland, painted experimentally either in "pale and spilt milk" or "chocolate and cream" with differently coloured linings, with the idea of giving the public an opportunity of stating their preference before permanent colour schemes are decided upon. A recent announcement from the Railway Executive stated that certain local steam train sets may be painted maroon, lined with golden yellow and black, and multiple-unit electric coaches may be green.

During the experimental period at any rate, some of the most powerful express passenger engines will be blue, other express passenger locomotives green, mixed traffic engines black with red, cream and grey lining, and freight locomotives plain black. Some "A3" former L.N.E.R. 4-6-2s have been painted blue, while other surprising colour schemes may be noted by readers.

The locomotive exchange trials are proceeding and creating much interest. They have demonstrated that engines and men are capable of excellent and economical work with heavy trains over completely strange routes on duties sometimes involving much longer runs than customary on home metals.

With the introduction of the "Queen of Scots" Pullman expresses between King's Cross and Harrogate, Newcastle, Edinburgh and Glasgow, as well as additional holiday trains for the high season, full summer services of an improved nature will be operating by 5th July. Over 300 main line trains more than in the summer of 1947 are running on weekdays, with over 100 more restaurant or buffet car services than a year ago. The latest timetable books are of standard pocket size with distinctively coloured covers for each Region. These colours as far as possible follow the practice of the old companies.

London Midland Region

Among the latest locomotives placed in service are class "5" 4-6-0 mixed traffic engines with Caprotti valve gear and roller bearings. Nos. 4753 and 4754,

stationed at Leeds, 20A; class "4" 2-6-0 freight engine No. 43011, 17A, Derby; Nos. 43012-3, 22A, Bristol; class "4" 2-6-4Ts, built at Derby, Nos. 42198-9 allocated to 31B, Stirling, Scottish Region, but loaned to the Southern Region at the time of writing.

The last of the former Glasgow and South Western Railway engines, "3F" 0-6-2T No. 16905, has been withdrawn. No less than 528 locomotives were taken over by the L.M.S. from that system in 1923, so scrapping has taken place on a large scale. There has been a similarly complete elimination of the locomotive stock of the former North Staffordshire Railway.

In April last there occurred the centenary of the first railway through the Potteries, connecting Stoke-on-Trent with Norton Bridge on what is now the Western Division main line, L.M.R. This leads to the through alternative route now followed by certain Euston-Manchester expresses by way of Stoke, Macclesfield and Stockport.

A second roller-bearing "Pacific" No. 46257 is in service. It was ceremonially named "City of Salford" on 3rd June.

A powerful electric lighting installation has been introduced at Coventry (Coundon Road) goods depot, whence Ferguson tractors are dispatched at an average of about 60 per day, mainly for export; 47 special trains conveying 4,133 tractors in 2,151 wagons left Coventry during a recent three-month period in addition to many ordinary freight services. In what was believed to be a record for speed of completion, 2,090 yds. of pre-fabricated track were laid in position and connected up for use between Chesterfield and Clay Cross on the Midland Division down main line. The work was done with the aid of two cranes. Including removal of old track and replacement or renewal of 475 tons of ballast, the total working time was only five hours!

A new 70 ft. diam. turntable at Crewe South Motive Power Depot enables 4-6-2 or any type locomotives to be turned without recourse to running round a triangle.

Eastern and North Eastern Regions

The following new "A2" 4-6-2s have been placed in service: No. 60535 "Hornets Beauty," No. 60536 "Trimdush," and No. 60537 "Bachelor's Button," with Nos. 60538-9 due to follow soon, probably carrying the names "Velocity" and "Bronzino" and completing the series. There is plenty of variety as regards coaching stock, as the handsome silver or blue train sets used for the named high-speed train services before the war, which are not being restored at present, have been adapted for use in ordinary expresses, providing additional accommodation very comfortably without supplementary charge.

Among good runs reported by readers we learn of an occasion when "A1" No. 113 "Great Northern," hauling a 13-coach express from Leeds to London, came to a stop at Holme, Huntingdonshire, owing to a mechanical defect which temporarily prevented the locomotive from proceeding further. So she shunted her train into the siding. Within 21 min. of the first stoppage No. 983, a "V2" 2-6-2, arrived from Peterborough, 7½ miles away, and 5 min. later the new engine was under way with the train up Abbots Ripton bank. By covering the 59 miles from Huntingdon to King's Cross in 62 min., 7 min. were regained and the final arrival was only 26 min. late although the train had actually stood exactly for that period at a remote spot. This was smart work by all concerned.

On another occasion the night sleeping car and postal express from King's Cross to Edinburgh, formed of 14 vehicles hauled by an "A4" 4-6-2, was stopped for three min. by signals before reaching Hatfield, afterwards speeding along to such purpose that the arrival at Grantham was 6 min. early, so that the net time, allowing for a permanent way slack, cannot have been more than 111 min. for 105½ miles. Most timekeeping recently has been good; welcome improvement has also been noted on other lines.

Western Region Locomotive Notes

New engines have been placed in service as follows: 4-6-0 modified "Hall" No. 6990 "*Witherslack Hall*," stationed at Bristol, Bath Road; 0-6-0 diesel electric shunting engines Nos. 15101-2, respectively allocated to Paddington and Banbury; 0-6-0T Nos. 9662-9666 inclusive, at least two of which are shedded at Newport.

Nameplates affixed include No. 1006, "*County of Cornwall*," No. 6942, "*Eshton Hall*," and No. 6951, "*Impney Hall*." An oil burning 2-8-0 of the "Austerity" type transferred from the Eastern Region, L.N.E.R. No. 3152, now 63152, is among the freight engines on loan from the Ministry of Supply. Several well known express locomotives have been withdrawn. The latest list includes 4-6-0s No. 2905 "*Lady Macbeth*" and No. 4004 "*Morning Star*," 4-4-0s Nos. 3408 "*Bombay*," 3417 "*Lord Mildmay of Flete*" and 3452 "*Penguin*" of the "Bulldog" class.

One of the "Grange" series of 5 ft. 8 in. 4-6-0 mixed traffic engines was recently noted working a relief express right through from Shrewsbury to Paddington and gaining time by running from Birmingham to London in 2¼ hrs., including Leamington stop.

Southern Tidings

Many locomotives have recently returned to traffic renumbered and repainted, usually with "British Railways" lettering, ready for the summer services. "*Battle of Britain*" light 4-6-2 engines numbered 34071 up are coming into service, while it is understood that more of the larger "Merchant Navy" type are under construction." Steam as well as electric holiday trains are being run with remarkable

frequency on summer Saturdays. On Sundays a Victoria-Eastbourne non-stop Pullman service is provided, reminding older readers of the special steam train of this type which ran in L.B.S.C.R. days, at one time hauled by 2-2-2 "singles."

This month will see the centenary of the opening of the original Waterloo terminus in London. The London and Southampton Railway began operations along part of the route in 1838. The northern terminal at first was at Nine Elms, some distance out



London Midland 4-6-0 "*Queen's Westminster Rifleman*," a converted "*Royal Scot*" working an Eastern Region test train.

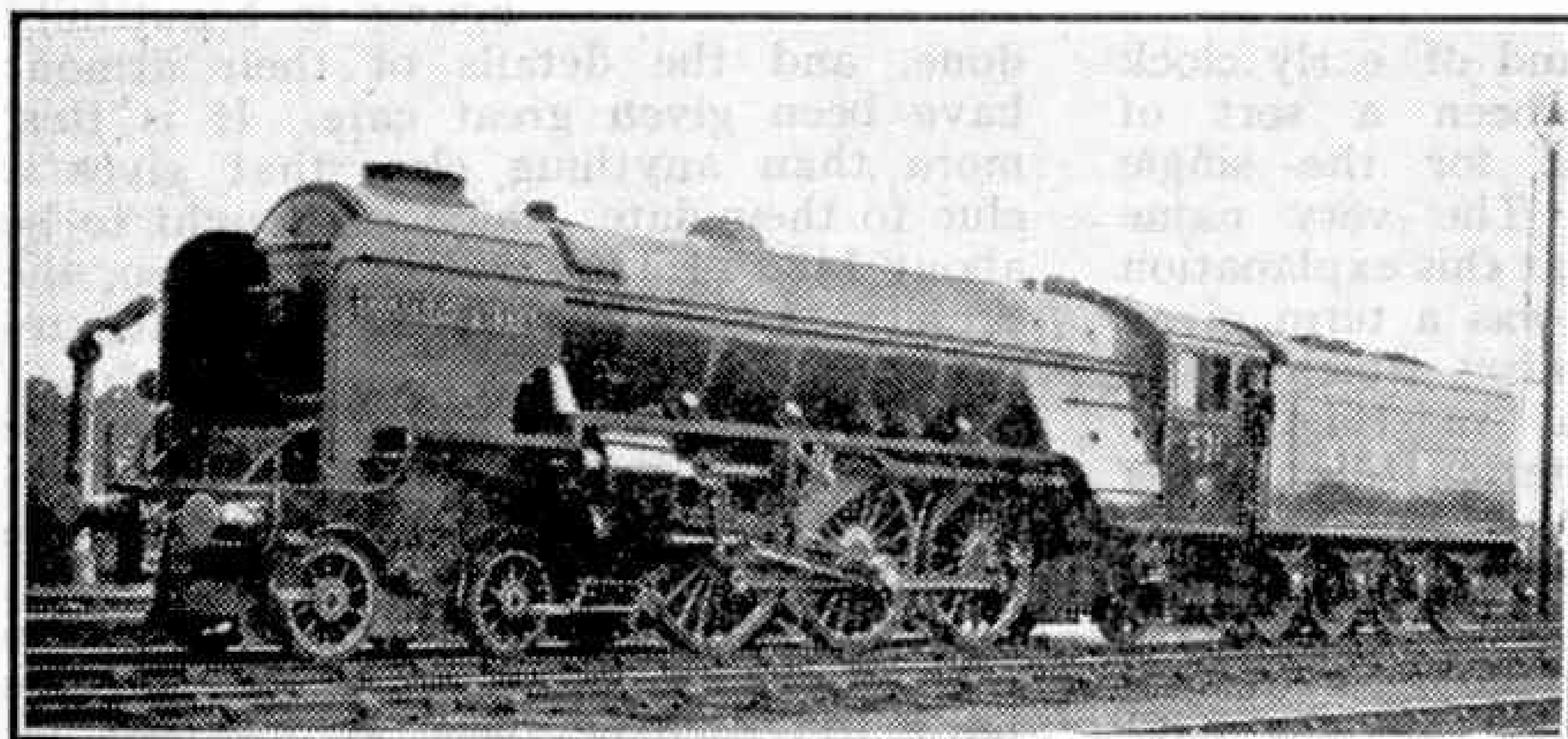
of the city and near the present site of the goods and locomotive depots. Upon extension the name of the system was altered to London and South Western Railway, now Southern Region Western Sec.

The first Waterloo station grew by stages in a somewhat detached and sectional manner, so that it became inadequate and inconvenient for the extremely heavy traffic. It was to the credit of the former L.S.W.R. that the present imposing station, which is regarded as the largest and finest in Britain, was planned before 1914 and brought into complete use by the beginning of 1922, when a formal opening of the whole pile of buildings, including a War Memorial Arch, took place ceremonially in the presence of H.M. Queen Mary. The station covers 24½ acres, has 21 platforms and handles well over 1,000 trains per day.

Some very fast travel was recorded behind No. 21C 165 "*Hurricane*," running up without a stop with a light winter load of 9 coaches from Folkestone to London. Following a rapid start, Ashford, 13½ miles, was passed in 15½ min., speed soon rising to 80 m.p.h. at Headcorn, so that the first 30½ miles were covered in 29 min. Tonbridge, 40½ miles, was passed in 38½ min. with an easing inward from Paddock Wood, as the train was running ahead of time. Signal checks occurred along the hilly route through suburban Kent, though there was still time in hand at Waterloo (Eastern Sec.).

New Irish Express

Following the success of the "*Enterprise*," a similar additional non-stop train is running between Belfast and Dublin on the G.N.R. (I). Schedule is 2¼ hrs.



Thompson "Pacific" No. 521 "*Watling Street*," showing the characteristic front end with smoke-deflectors and plain chimney. Photograph by T. G. Hepburn.

The Little Men who Sound the Hours

Clock "Jacks" and Their Story

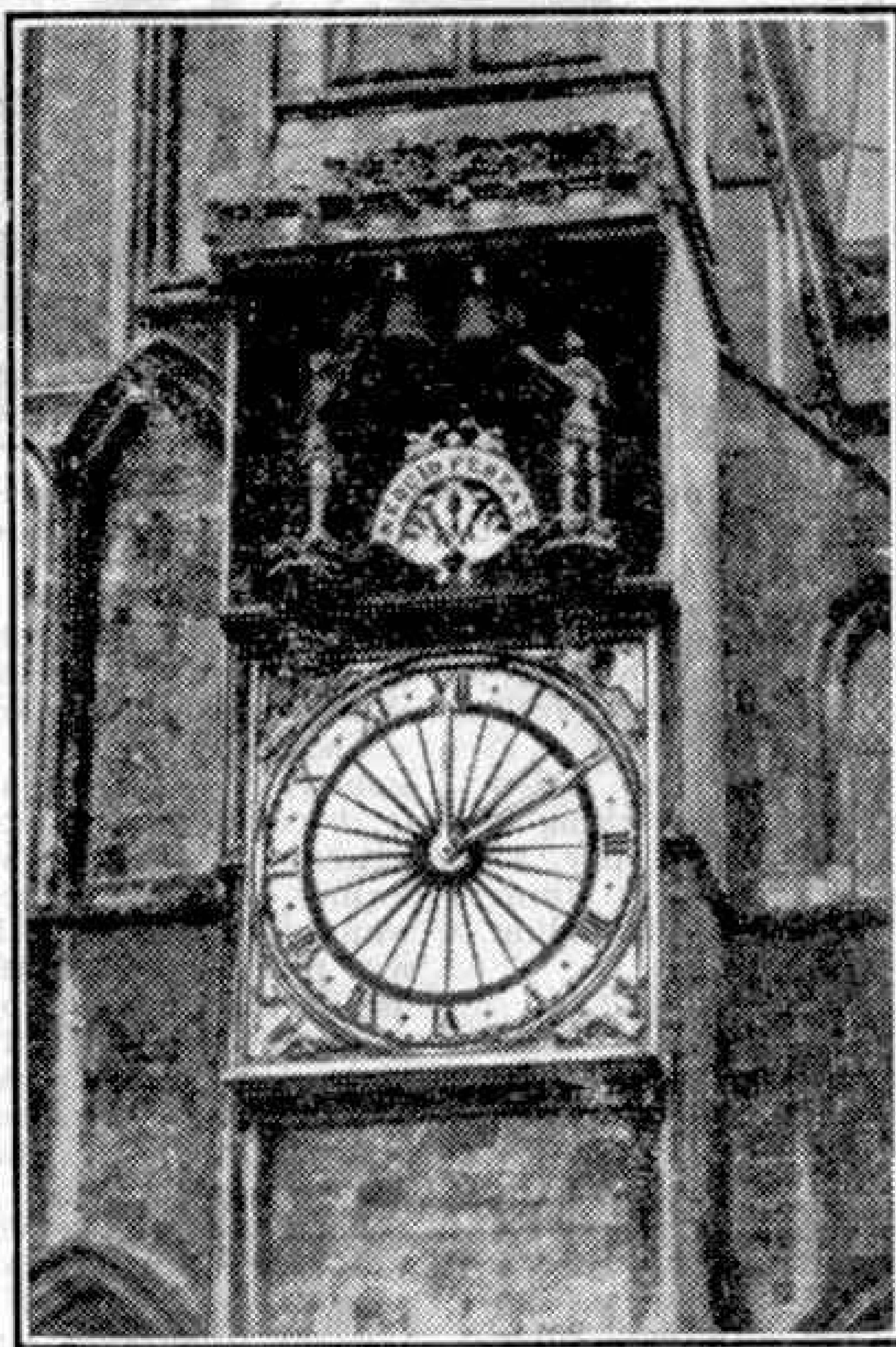
By T. R. Robinson, F.B.H.I.

THERE is something strangely fascinating about the little figures, or "jacks," as they are often called, by which some public clocks sound the quarters and hours. At places where these figures are to be seen, a group of people will nearly always assemble to watch them announce the time, and even those who are familiar enough with clocks to realise that jacks are really only very elaborate striking hammers will still pause to see them at work.

Just when and where clock jacks were first used is not known, but it seems that in very early times men were employed to watch sundials, water clocks, or sand glasses, and to strike on a bell as each hour passed. When clocks were invented, it is likely that the striking hammers were made to resemble human figures, just because they were substitutes for the real men who formerly struck the bells, in very much the same way that the single hour hand of early clock dials seems to have been a sort of mechanical replacement for the single shadow of a sundial. The very name "jack" seems to show that this explanation is the right one, for it was a term given to any piece of mechanism which did a man's work, such as a "roasting jack," or a "lifting jack," a term still familiar to motorists.

That the little figures must have been familiar sights in Elizabethan days is shown by their mention in Shakespeare's works. In *"King Richard II,"* the King says, "My time runs postings in Bolingbroke's proud joy, while I stand fooling here,

his Jack o' the clock." Another mention is to be found in *"King Richard III,"* where the King says, "Because that, like a Jack, thou keep'st the stroke betwixt thy begging and my meditation." All this sounds as if Shakespeare quite expected his audiences to understand his meaning.



The external dial and clock jacks of Wells Cathedral.

The oldest jacks still in existence in this country are probably those in Wells Cathedral. There are three of these little figures, two being above the external dial of the clock, and the other inside, high up in the triforium. The external jacks represent men in armour, and are carved from solid oak. They are about four feet high, and are arranged to swing bodily on vertical pivots at their heads and feet when they strike their bells. These bells are quite small and announce the quarters only, the hour being struck on a large bell in the Cathedral tower.

The carving of the figures is beautifully done, and the details of their armour have been given great care. It is this, more than anything else, that gives a clue to their date, which is thought to be about 1480 or 1500, and if this is so, the preservation of the figures is quite remarkable.

The other little man, who has the traditional name of "Jack Blandifer," probably dates from about the same time as the others, but he is not in armour. He leads a much busier life than his two friends outside, for he not only sounds both the quarter bells at his feet by kicking them with his heels, but also strikes the hour on a bell which hangs in

front of him. This he does with a kind of twin hammer which he raises by lifting his forearms. The joints of both his arms and legs are covered with leather to conceal the hinges, and the figure looks astonishingly lifelike as he solemnly kicks his quarter bells and then smites with his hammer.

He appears to have undergone some changes since he first started to sound the quarters and hours, for his face, with its large moustache, and the shape of his shoes, seem to suggest a man of the time of Charles I. It seems that the face may have been repainted and parts of the legs renewed about this period, and when this was done the figure was probably "modernised" by the repairers, and made to look like a man of their own time.

A remarkable feature of the Wells jacks is that they are all worked from the one clock movement, which also drives the great astronomical dial in the north transept. The clock is probably the only one in existence which operates two separate kinds of jacks from one mechanism; and the levers and linking wires which give just the right movements to the

two armoured figures and the legs of Jack Blandifer at the same time, and the other arrangement, equally ingenious, which lifts the great striking hammer in the tower and the much smaller hammer in Jack's hands, must have called for much careful planning.

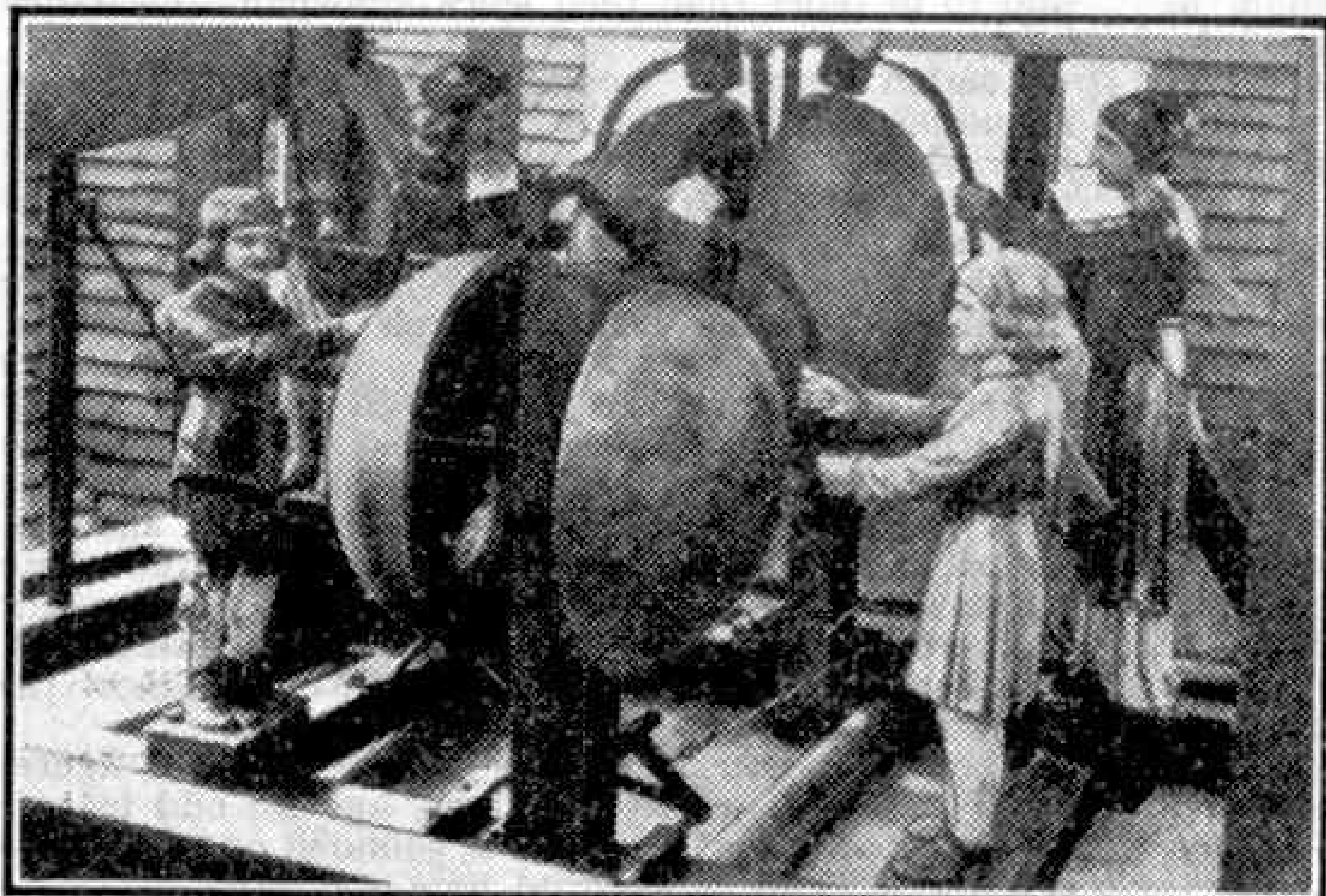
There are, of course, other figures connected with the clock, for it is above the great astronomical dial that the four knights charge round each hour in mimic tournament; but these figures are not really jacks, and in any case are not worked by the mechanism which sounds the quarters or hours. Instead, they have a separate wheel-work which is released by the clock, and rotates the knights for a fixed period at each hour. The present Wells Cathedral clock is a modern one, which was put in some time back to replace the ancient mechanism that formerly actuated the jacks.

Rather different from the warriors of Wells are the two "quarter boys" of Rye Church, Sussex. These jacks are tubby little cherubs and, like the Wells exterior jacks, they swing bodily when they strike their bells. They also are mounted just

above the clock dial. Between them is a panel which bears the inscription "*For Our Time Is A Very Shadow That Passeth Away.*" Like the Wells jacks, the two quarter boys sound only the quarters, the hours being struck on a bell in the church tower. The clock to which they are connected may be the oldest still going in England; it was purchased by the churchwardens in 1560 or 1561. Some of the details of the jacks suggest that they are of later date, and they may have been altered, possibly when the clock was fitted with two hands and a pendulum, features which it could not have had when it was



Jacks on St. Mary-at-Steppes, Exeter. The bells they strike are below the figures.



Father Time's family chime the quarters at Silchester House. Father Time himself, in the left background, strikes the hour.

originally put up, for they did not come into use until about 1650. It may even be that the chimes were added at that time, for their wheelwork is in a small frame attached to the side of the main mechanism, and seems decidedly an "extra." If this is so, the chiming part, and the cherubs it operates, may both have come as additions about the middle of the 17th Century.

Another group of interesting jacks is to be seen at the church of St. Mary-at-Steppes, Exeter. Here there are really three figures, though the central one does not strike on any of the bells, and merely bows at each stroke of the hour. Exeter people know them as "Matthew the Miller and his two men," but they are really intended to represent King Henry VIII and two javelin men. They are in a recess, and surmounted by an elaborate canopy. Below them is a small dial, which still has only an hour hand. The bells on which the javelin men strike the quarters are oddly placed below their feet, and they hold long-handled hammers which hang downward in rather ungainly fashion. When they have finished their "ting-tang" quarters, the figure of the king, seated on a kind of throne, bends gravely forward as each stroke of the hour sounds on the bell in the belfry above, and then sits bolt upright again, staring in front of him with a very formal and wooden expression that is decidedly comic.

Southwold, Suffolk, has another man in armour as its jack, and his local name is "Jack the Smiter." He is a really fine specimen, and was very carefully restored some years ago by Mr. R. P. Howgrave-Graham, F.S.A., who removed layers of dirt and revealed the little figure in his original fine colouring. He now stands in the church with drawn sword in one hand and clock hammer in the other, his face wearing a somewhat startled expression, as though the sound of his bell had greatly surprised him.

Only four miles away from Jack the Smiter is another armoured jack, who lives at Blytheburgh. He resembles the Southwold jack in several ways, but is decidedly an older man, for he has a beard and moustache, and is of more dignified appearance. His expression of face is rather sad, as if he had seen the passing of too many hours, as indeed he well may, having been on duty for several centuries! During recent times he has been pensioned off, for the clock no longer sounds the hours by his aid, and his bell is only heard occasionally.

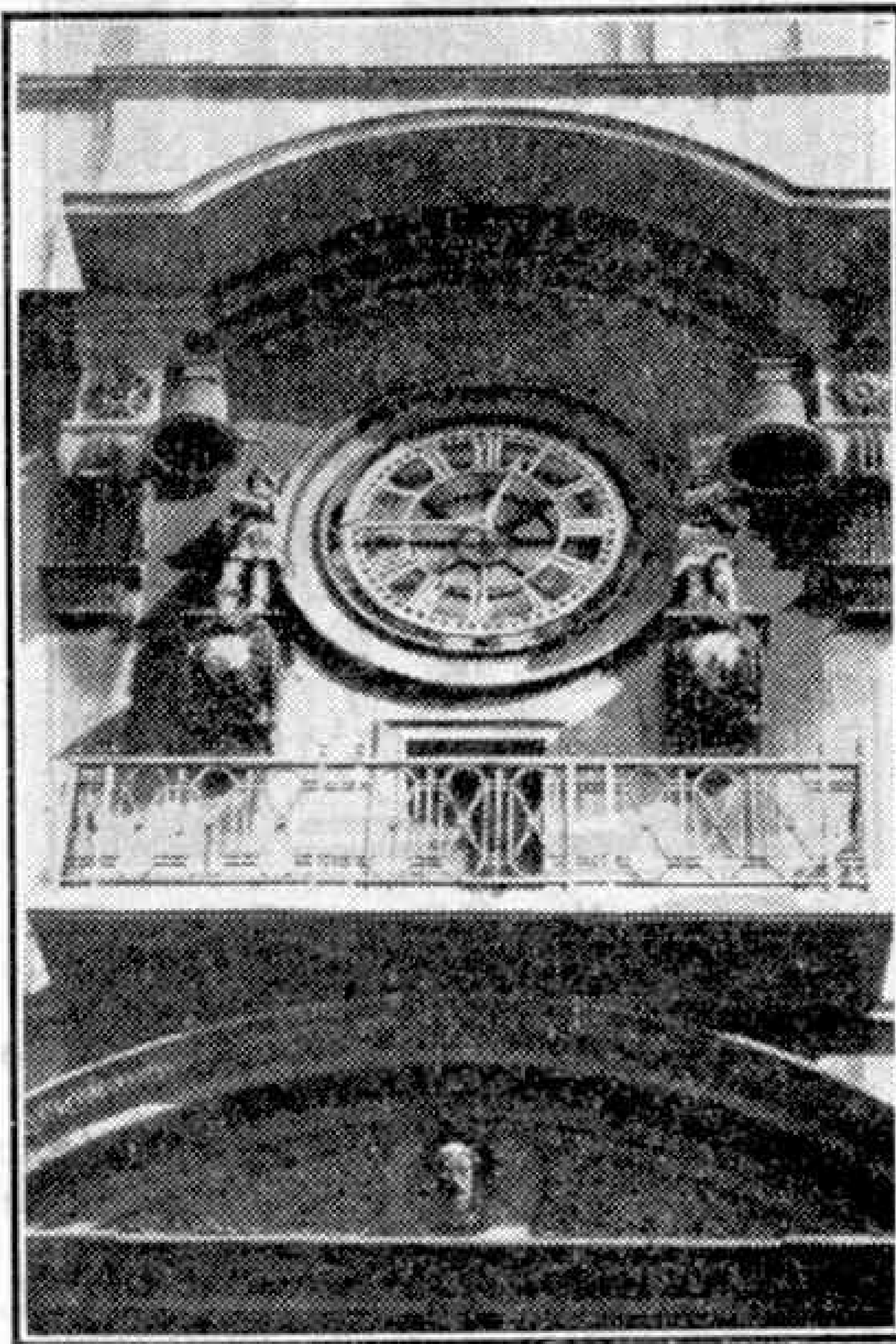
In the next county of Norfolk are two more jacks, this time in Norwich Cathedral. They are of later date than the others, for they wear Jacobean costume. They are not the only ones so attired, for two more of very similar kind are still at work at All Saints' Church, Leicester. These last two are now operated by a modern clock mechanism, but they remain very old-fashioned in appearance, carrying small shields, and having rather superior, not to say scornful expressions.

Wimborne Minster, in Dorset, has a very interesting jack, who stands with his back to the central pillar of a window opening high up on the western tower.

This queer little figure, which the records tell us was made in 1613 for the sum of ten shillings, has apparently changed his profession since he started to tell the time for the people of Wimborne. At one time he was dressed as a parson, but he has been much altered since then, and now wears the uniform of a British Grenadier. The way in which this little jack sounds the quarters is unusual, for his two bells are hung in the belfry window openings behind him, and he strikes them by moving each arm in turn sharply backward. The clock which makes him move his arms, and also works the quaint old orrery, or astronomical dial, inside the church, was long supposed to be very ancient, but has now been dated about 1750, and so is more recent than the jack.

Another queer little jack, a cheerful looking little fellow dressed in a green cap and jerkin, is to be seen in the church at Minehead, Somerset. In some ways he resembles the Exeter jacks, for his bell is at his feet, and he strikes it with a long-handled hammer; but he is by no means a warlike person, and he smiles pleasantly at his visitors. His days of sounding the hour are over, and he lives in honourable retirement on the top of the fine chancel screen, just in front of the organ.

In Bristol city are two jacks of a very ornamental kind. Warriors both, and dressed in tunics of elaborate design, they stand on each side of the clock dial of Christ Church in Broad Street, and smite the quarters with their battle-axes, swinging at the hips to do so. To give them this movement the figures had to be made in two parts, with joints at the hip lines, but they are so neatly constructed that they seem to turn quite naturally. The clock which moves them is modern, though the figures themselves are



Jacks on the Christ Church clock, Bristol.

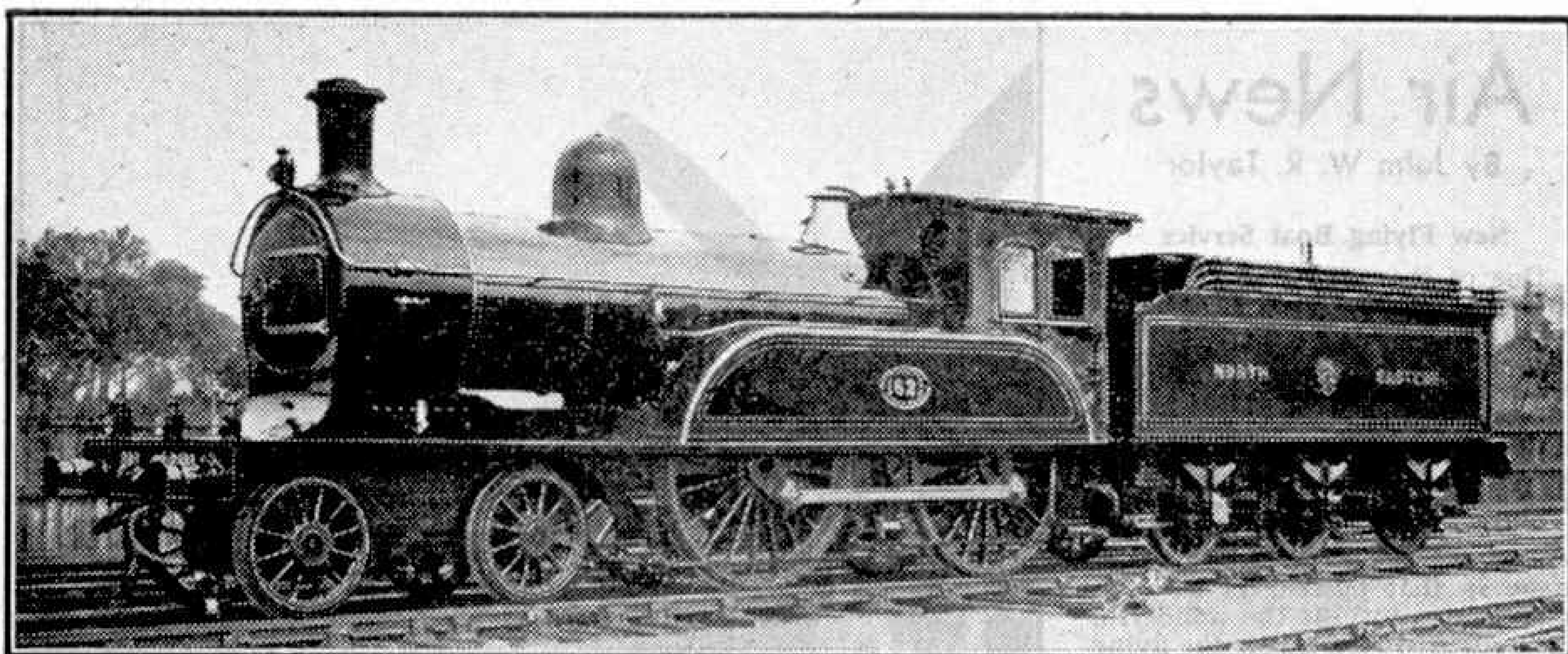
said to be older than their spick-and-span appearance suggests.

London formerly possessed a number of jacks, including those on old St. Paul's, lost in the Great Fire of 1666; but now the only examples are the two "Giants" who can be seen on the church of St. Dunstan-in-the-West, Fleet Street. The history of these two figures is interesting, for they were originally on the earlier church of St. Dunstan, which stood on the same site. Made by Thomas Harrys, of Water Lane in the City, in 1671, they and their clock remained in Fleet Street until the demolition of the old church in 1830. They were then bought by the Marquis of Hertford, and put up on St. Dunstan's Lodge in Regents Park, where they worked for many years. In 1935 Viscount Rothermere presented them to the present St. Dunstan's Church, and re-erected them in almost the position that they originally occupied.

The two rather forbidding looking bearded figures strike the bells with their clubs, and an odd feature of the clock is that the hour is sounded on one of the quarter bells by a separate hammer.

Many other towns and cities, both in this country and abroad, possess jacks. Some are to be seen in York Minster, at

(Continued on page 248)



No. 1621 as restored to the former North Eastern style and livery before entering the York Railway Museum. Photograph by courtesy of the L.N.E.R.

North Eastern No. 1621

THERE has recently been added to the historic collection of locomotives in the Railway Museum at York, now happily returned from their war-time billets, North Eastern engine No. 1621 illustrated on this page.

After wearing the sober black that has long been the lot of all L.N.E.R. engines except the principal passenger types, No. 1621 once more sports the gay green livery that distinguished the engines of the old North Eastern. On the tender sides, as of yore, the coat of arms with its multi-coloured heraldry appears between the words "*North Eastern*." With the original type of number plate restored to the centre of the typical continuous splashers, and the smart black and white lining, No. 1621 is a reminder of days gone by.

It was one of a series built at Gateshead in 1892-3 to the designs of Wilson Worsdell, the second of the two brothers who in succession reigned over North Eastern locomotive affairs from 1885 to 1910. During that time the externals of North Eastern locomotive design were moulded into a style that continued throughout the independent existence of the company. The tapered chimney, the handsome brass safety valve cover, the large continuous splashers, the straight footplates and a neat but substantial tender have remained part of the North Eastern locomotive scene for years in spite of successive increases in the size of engines.

Most characteristic of all was the large side-windowed Worsdell cab, the first of its kind to be applied as a standard feature

in British locomotive practice, giving ample shelter to the enginemen.

No. 1621 is one of the locomotive survivors of the 1895 "Race to Aberdeen," as it was called. The story of this contest makes remarkable reading to us now. Fierce competition between the rival East Coast and West Coast routes between London and the north, never far below the surface, broke out in the summer of 1895. Acceleration by each route in turn was countered by the other in a real long-distance competition with the Granite City as the objective of the respective "night sleepers" from Euston and King's Cross.

The record run of the East Coast was made on the night of 21st/22nd August 1895, and No. 1621's share was to cover the 80½ miles from York to Newcastle at an average speed of 61.5 m.p.h. Some sprightly engine changing must have been done on this occasion at Newcastle Central, where reversal was then necessary, for it is recorded that No. 1621 had not brought her train to rest alongside the platform before the tender buffers of the sister engine No. 1620 were already touching those of the last coach. The total time for the whole journey over the 523½ miles from King's Cross to Aberdeen was 520 min.

This was virtually the end of the racing, although on the next night the West Coast made what they called an exhibition run, in the course of which the 540 miles from Euston to Aberdeen were covered in 512 min. Times for each route were then settled by an agreement.

Air News

By John W. R. Taylor

New Flying Boat Service

One of the most fascinating air routes in the world is now being operated by B.O.A.C. between the United Kingdom and South Africa with the new 34-seat Short "Solent" flying boats. This *Springbok* route is from Southampton to Augusta (Sicily), where the first night stop is made, and from there to Cairo and historic Luxor, where the second night stop is made so that passengers have an opportunity to visit the wonderful antiquities. From Luxor the flying boats cross the Sudan via Khartoum to Port Bell on the north shore of Lake Victoria. After a night stop there the flight continues southwards for 1,300 miles across Lake Victoria, Tanganyika and Northern Rhodesia to the next alighting place, near the famous Victoria Falls on the Zambesi River. The last stage of the flight is across Southern Rhodesia to Vaaldam, the Johannesburg terminal.

At present B.O.A.C. operate two "Solent" services and one "York" service a week in each direction, but in due course the "Yorks" will be entirely replaced by "Solents."

First All-Jet Air Liner

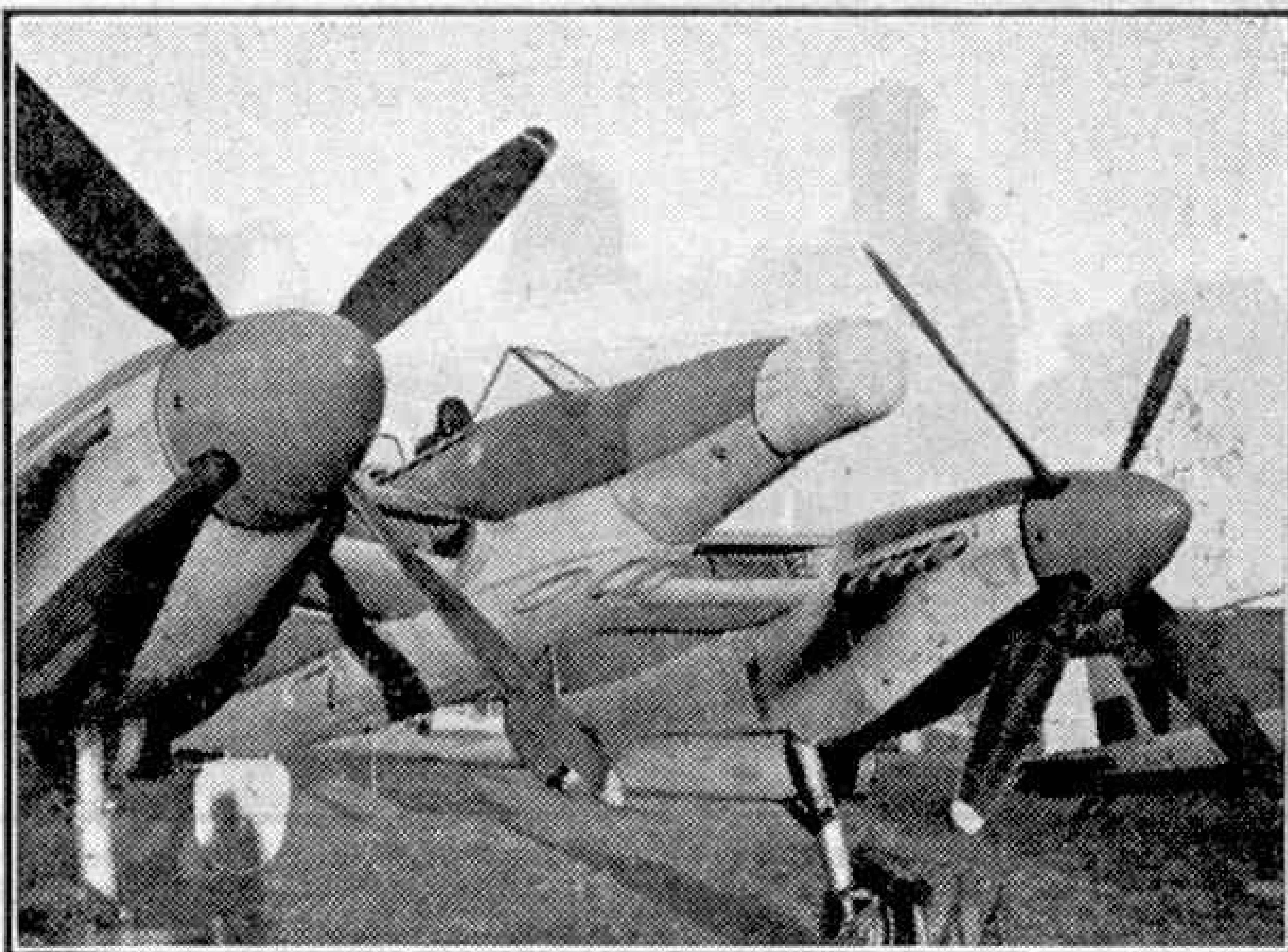
The first flight of the world's first all-jet air liner was made at Wisley Aerodrome, Surrey, on 6th April last by Capt. J. Summers, Vickers Armstrongs' chief test pilot. The aircraft is a standard Vickers "Viking," except that it is powered by two Rolls-Royce "Nene" jet engines instead of its usual two "Hercules" radial, piston engines. The conversion was made experimentally for the Ministry of Supply, and it is unlikely that the "Nene-Viking" will go into production.

An interesting fact is that Captain Summers piloted the prototype "Spitfire" on its first flight just over 12 years earlier.

Two-Seat "Meteor"

Another British aircraft that recently made its first flight is the Gloster "Meteor" VII Trainer, the world's fastest training aircraft. It is a two-seat dual-control version of the famous "Meteor" twin-jet fighter and has almost identical flying characteristics.

The Trainer retains the Rolls-Royce "Derwent" engines of the fighter, but as it carries no operational military equipment its all-up weight is less, which gives it an even more spectacular rate-of-climb—nearly 8,000 ft. per min. at lower levels. During the first flight, Sq. Ldr. Bill Waterton took the machine



The de Havilland "Sea Hornet" Mk. 21 for the Royal Navy, a two-seat night fighter with a radome in the nose. It is the latest version of the D.H. "Hornet." Photograph by courtesy of the de Havilland Enterprise.

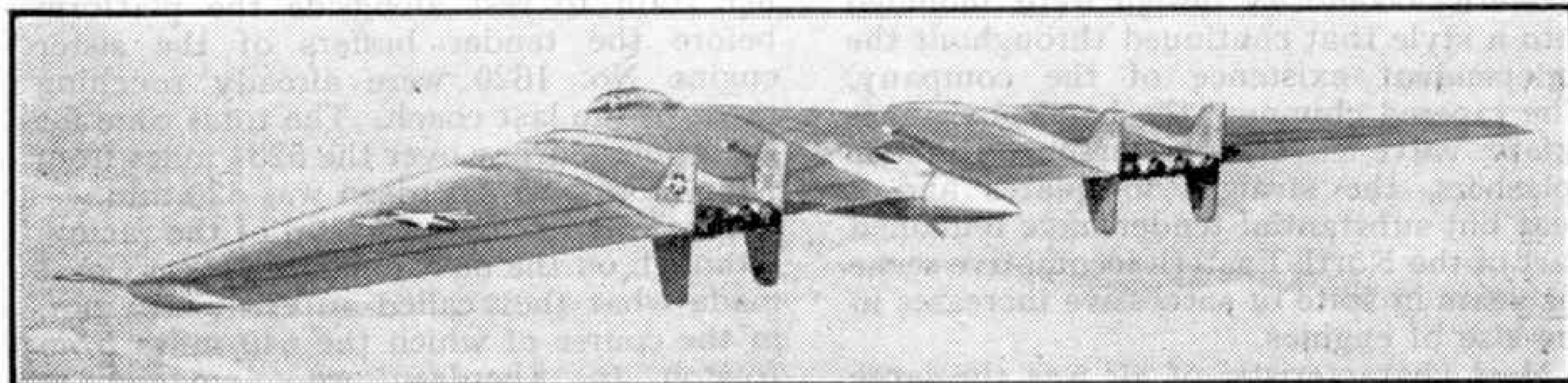
up to 520 m.p.h., about 65 m.p.h. less than its maximum speed. Apart from the extra seat and the longer nose and cockpit cover, the "Meteor" Trainer is almost indistinguishable from a standard Mk IV fighter.

International Aeradio

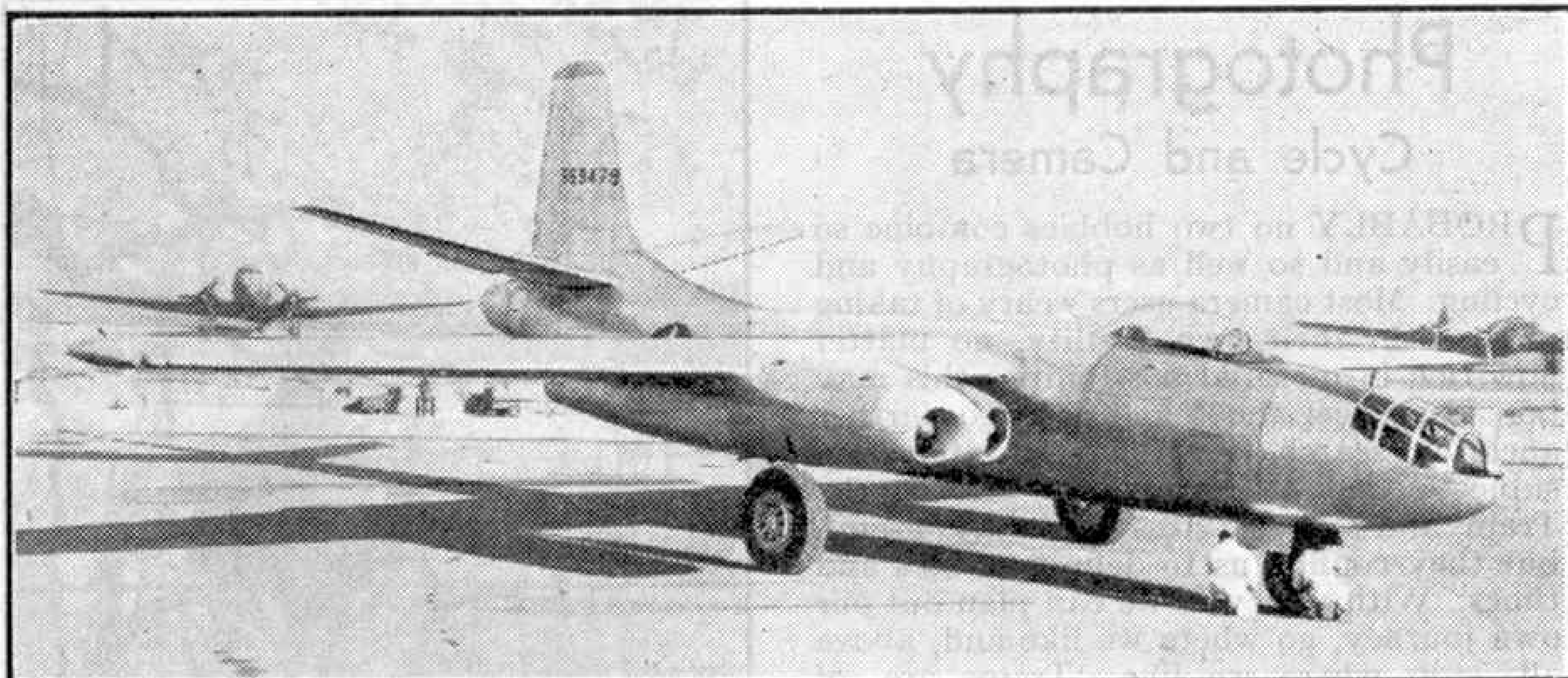
Several foreign airlines have now agreed to give financial support to International Aeradio, which was formed some 18 months ago to instal and operate telecommunications and radio aids to air navigation wherever they were badly needed throughout the world. The three British airline corporations put up the initial capital for the venture, inviting Commonwealth and foreign operators to add their support when the scheme got under way. Trans-World Airlines of America, Air France, Sabena, K.L.M., Alitalia and the Scandinavian Airlines System are now participating, and probably will be joined soon by operators from India, Iran and Syria.

British Lightweight Helicopter

Side by side with their giant 24-seat "Air Horse" helicopter, the Cierva company are building at Southampton Airport a light, two-seat helicopter which will sell for well below £2,000, the price of a 16 h.p. car. Known as the W.14 "Skeeter," the new machine weighs only 1,200 lb. with "two up," and has a well-tried British engine. The original purpose behind the "Skeeter" project was its usefulness as a trainer—a stepping stone to bigger helicopters—but Cierva officials believe that the simplicity of its design and the ease with which it can be flown will appeal to the private flyer and to flying club members.



First photograph of the huge Northrop "Flying Wing" YB-49 jet bomber in flight. Its eight jet engines provide the equivalent of 32,000 h.p. Photograph by courtesy of Northrop Aircraft, Inc., U.S.A.



The North American B-45 jet bomber described on this page. Photograph by courtesy of North American Aviation, U.S.A.

New North American Jet 'Planes

Three of the finest and fastest military aircraft now flying in the United States are the North American P-86 and FJ-1 jet fighters and the B-45 jet bomber. All three are in production for the U.S.A.F. and the U.S. Navy.

First of the new machines to fly was the FJ-1 "Fury" single-seat naval fighter, which has a 4,000 lb. thrust General Electric TG-180 engine. Its tubby fuselage quickly earned it the nickname of "Flying Milk Bottle," but air intake, engine and fuel tanks are all housed in that fuselage, which enabled N.A.A. to fit thin, high-speed wings. These wings help to give the FJ-1 a speed of "over 500 m.p.h." The "Fury" is fully equipped for operation from America's large aircraft carriers, its small span of 38 ft. enabling it to use the hangar-deck lifts without recourse to folding wings. Two "Furies" have, in fact, already been operated experimentally from the U.S. Carrier "Boxer."

The P-86 is America's first swept-wing fighter and also is the first fighter for which a top speed of "over 650 m.p.h." has been claimed, a performance that is combined with a range of over 1,000 miles and service ceiling of 40,000 ft. This machine has been developed from the FJ-1, and has a similar engine. It is known to have a pressure-cabin complete with ejector-seat, but no details of its armament are available.

The North American B-45, illustrated above, is the only jet bomber in series production in America or Britain, and 100 of these two-seater machines are being built for U.S.A.F. medium bomber squadrons. The B-45 has a span of 89 ft. 6 in. and its four TG-180 engines are mounted in pairs under each wing. With a loaded weight of nearly 37 tons and a tactical radius of more than 800 miles, it compares in size and range with wartime heavy bombers, and its 10-ton bomb load is considerably more than that of American wartime "heavies." In common with other new American jet bombers, the B-45 is considered fast enough to operate without gun-turrets, although a cabin for a "sting" tail-gunner is provided.

R.A.F. Gliding in Germany

R.A.F. gliding clubs in Germany now have a total membership of over 600. There are nine clubs which are entirely self-supporting and depend on membership fees, which are graduated according to rank—30s. a month for officers, 17s. 6d. for senior N.C.O.'s, and 7s. 6d. for Corporals and other ranks. There is an initial entrance fee of 10s. for all ranks, and a launching fee of 1s. per flight to cover the running costs of launching winches and vehicles. Membership is open to all the Services and there are no restrictions as to rank and trade.

Scharfoldendorf, a typical club, has 17 gliders, ranging from primary trainers to a Weihe advanced sailplane. Since this club opened two years ago it has trained about 150 pilots and last year its members flew 1,115 hrs. One of the members is the Chief of the Air Staff, Lord Tedder, who paid his membership fee during a recent visit to Germany.



A D.H. "Dove" converted into a seaplane by the Canadian factory of the de Havilland Enterprise, by whose courtesy this photograph is reproduced.

U.S. Attaché Chooses "Spitfire"

Bearing the American civil registration number N-74138, a pale-blue "Spitfire" is quite a common sight at Hendon aerodrome these days. It is the personal "flyabout" of Mr. Livingstone Satterthwaite, the U.S. Civil Air Attaché in London. Mr. Satterthwaite is an experienced pilot and completed a special course of instruction on "Spitfires" before taking over the machine.

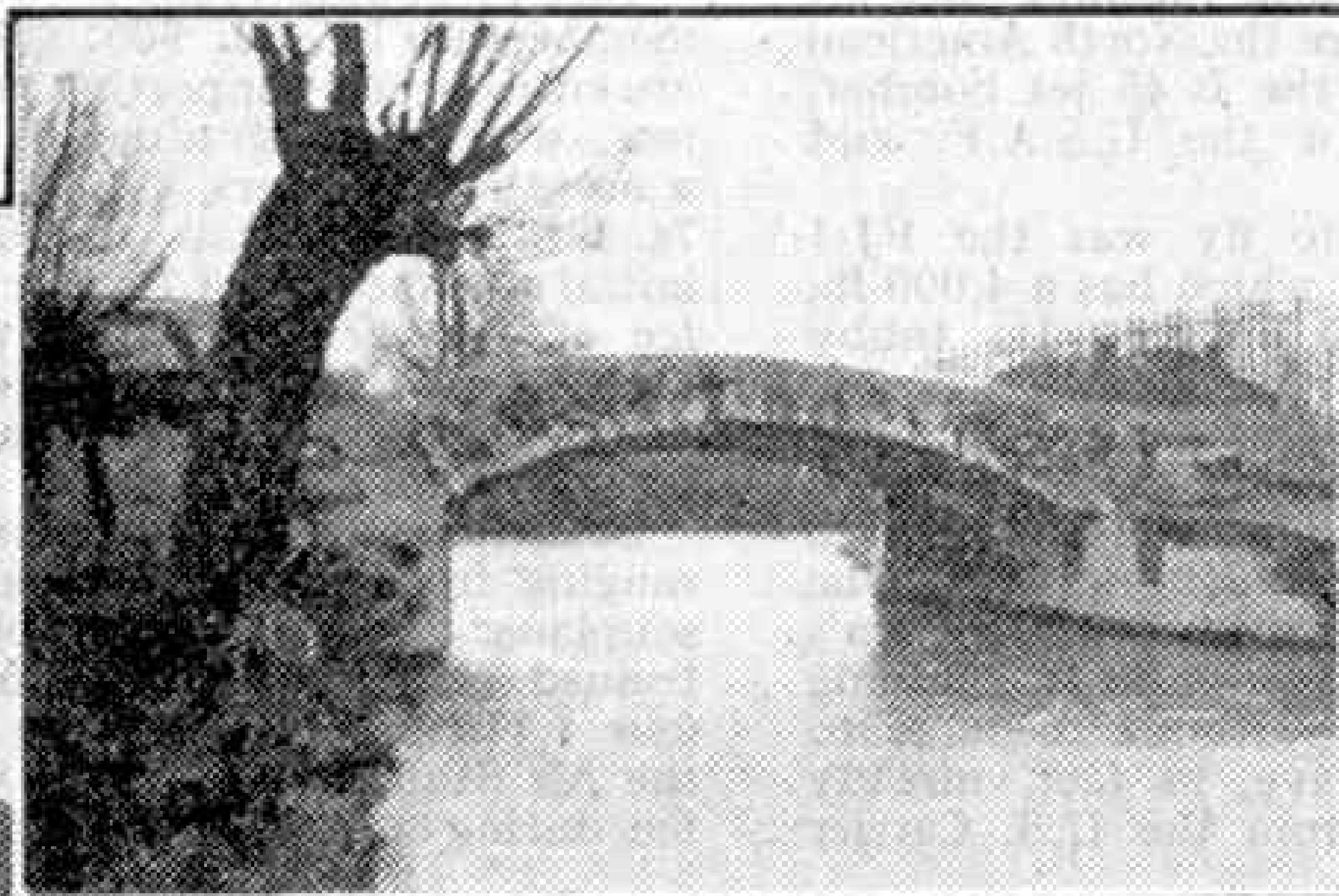
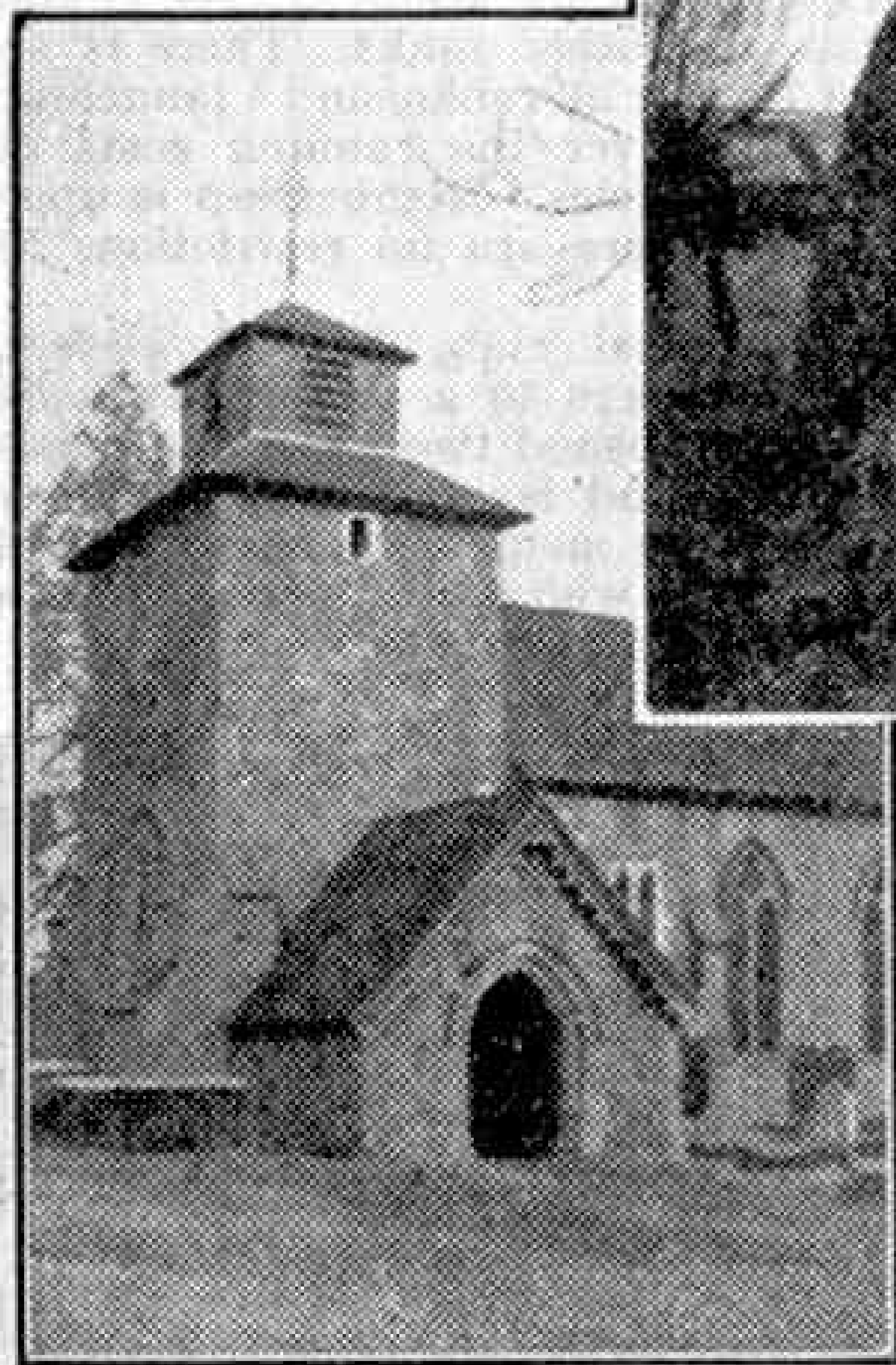
Photography

Cycle and Camera

PROBABLY no two hobbies combine so easily and so well as photography and cycling. Most camera users weary of taking pictures in their own locality, no matter how rich in pictorial possibilities this may be. They feel the longing to go further afield in search of fresh and interesting subjects, and here comes in the bicycle. Train and bus services are very useful, but they confine us to definite routes and times. With a bicycle we can plan out our own journey, go where we like and, above all, stop where we like. Trains are, of course, often very helpful in conveying the photographer and his bicycle quickly through a district that may be uninteresting.



Early summer at Loch Awe, Argyllshire. Photograph by G. Ogilvie, Edinburgh 4.



(Above) Harold's Bridge, Waltham Abbey. (Left) John Evelyn's resting place, Wotton Church, Surrey. Photographs by P. Milne, Whyteleafe.

and setting him down at a really

many specially good things being missed. An interesting and useful evening can be spent with a guide-book and a good map in preparing for an outing in a new district. One important point is to put a strict limit on the number of miles to be covered. Plenty of time should be allowed for browsing around.

The accompanying illustrations, which range from Argyllshire to Somerset, are typical examples of pictures that can be made on a cycle trip.

good starting point.

It is often possible to get a really perfect photographic holiday by a carefully planned combination of cycle and train, but it is a big mistake to start out in a casual haphazard way without any definite programme. This invariably results in a lot of time being wasted over uninteresting places, and in

Lorna Doone Farm, Doone Valley.
Photo. by J. Samworth, Rutland.



On Road and Track

The British Empire Trophy Race

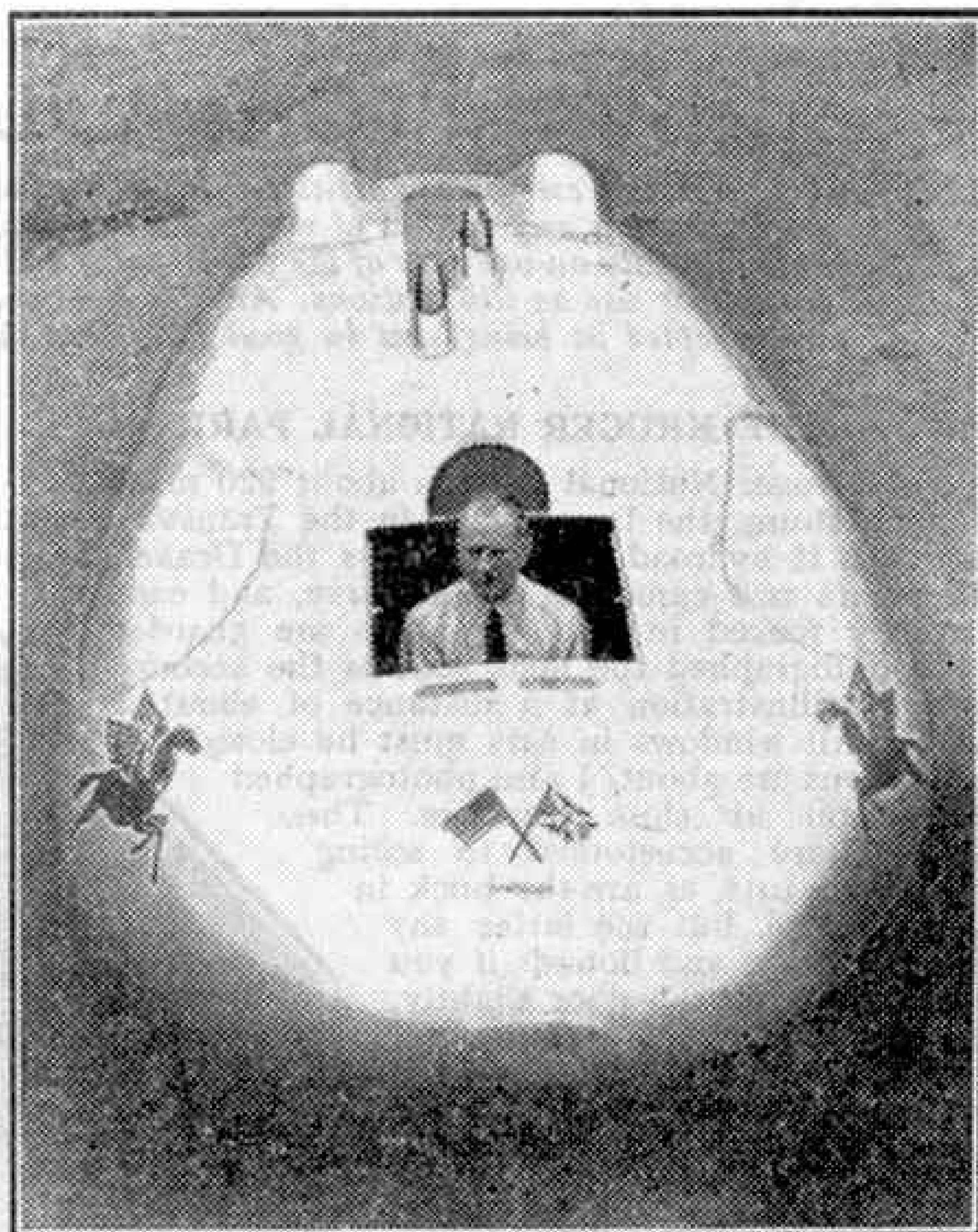
In this year's British Empire Trophy Race, run on 22nd May over the 3.88 mile Isle of Man circuit, there were 21 starters. Parnell driving a Maserati soon pushed his way into the lead, closely followed by Rolt (Alfa-Romeo), Gerrard (E.R.A.) and Bob Ansell (Maserati). A first lap retirement was the fate of Raymond Mays, whose E.R.A. snapped a super-charger drive. Abecassis went out early with a gear-box fault in his brand new G.P. Alta, and Gerrard, the winner of the Jersey Road Race early this year, also retired when his E.R.A.'s brakes failed after nine laps. Bob Ansell took the lead on the 13th lap and kept it until the 21st, when Parnell again nosed his way in front.

The two leading Maseratis had now established a good lead over the three nearest E.R.A. cars, but Ansell did not complete his 29th lap. His brakes failed, and after bumping Brooke's E.R.A. he broke a connecting rod when engaging low gear after the slight mishap. Parnell continued in the lead, and then in the last lap he ran out of petrol, and failed to get supplies from his reserve tank because his main tank had split and there was in consequence no pressure in either tank. This let in the three E.R.A.s that had been steadily following, first, second and third place being taken by Geoffrey Ansell, D. A. Hampshire and L. Brooke, respectively. The winner's time for the 139.7 mile course was 2 hrs. 3 min. 25 sec. and his average 67.71 m.p.h.; the fastest lap of the race was run by Parnell at a speed of 72.35 m.p.h.

British Racing Successes in Italy

This year's Italian Mille Miglia or Thousand Mile race provided the thrills usually associated with this famous event. Although the race was won by Biondetti in a Ferrari at an average speed of 75.8 m.p.h., a Healey saloon driven by Count Lurani and his co-driver Sandri won first place in the Standard Touring Car category at 64.7 m.p.h. Heavy rain made the roads exceedingly treacherous, especially over the mountain passes where high speeds had to be maintained, and many cars were forced to retire.

Count Lurani's Healey was also first in its class in this year's Tour of Sicily event. Two further Healeys



John Cobb at the wheel of the Railton Mobil Special, in which he created the land speed record of 394.196 m.p.h. at Bonneville Salt Flats. On one run he reached a speed of 415 m.p.h.

were entered in the Mille Miglia, forming the only foreign team to compete. One was a saloon, driven by Haines and Haller, which had to retire with gear-box trouble at the La Futa Pass. The other was a roadster driven by Donald Healey and his son, which finished 9th in the Open Sports category, a creditable performance against the formidable Alfa-Romeo, Maserati, Ferrari and Cisitalia cars in opposition.

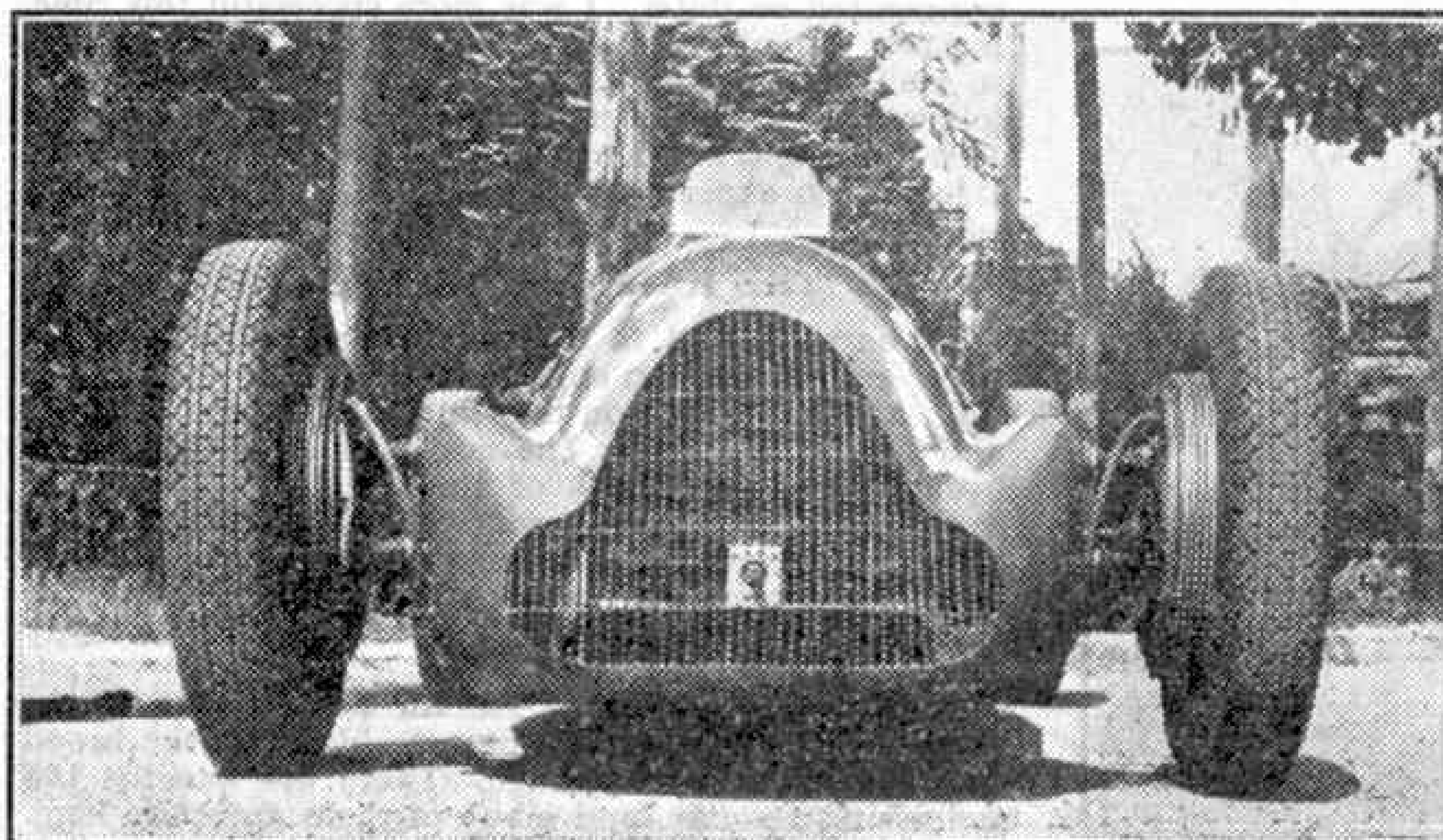
A Rover Gas Turbine

A gas turbine suitable for road vehicles has been built by the Rover Motor Company. In it there are two independent turbines, one driving the air compressor, the other running on a separate shaft to supply the power output. The unit develops 100 h.p.

The 5 in. diameter turbine wheel of the engine is designed to run at 55,000 r.p.m., but the colossal speed of 70,000 r.p.m. has been recorded in tests.

The 1948 Indianapolis 500

On 31st May Mauri Rose, driving a Blue Crown Spark Plug Special, won this year's Indianapolis 500 Mile Race, his second win in succession and his third altogether in this famous event. His average speed was 119.81 m.p.h., and he finished only a few seconds in front of his team mate Bill Holland in a similar car. At 400 miles Duke Nalon in a Novi Grooved Piston Special was regarded as a certain winner, but with only 15 laps to go he had to stop for refuelling and lost ground. All three beat the existing record of 117.2 m.p.h. set up by Floyd Roberts in 1938.



The 1½-litre Italian Alfa-Romeo type 158 G.P., the 8-cyl. engine of which develops 260 b.h.p. at 7,500 r.p.m. Photograph by courtesy of Alfa-Romeo, Milan.

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 KRUGER NATIONAL PARK

The Kruger National Park is about 220 miles from Johannesburg, the largest city in the Transvaal, and to reach it by road I had to cross the Drakensberg. There are rest camps in the Reserve, and each is strongly fenced in and the gates are guarded.

I photographed the lions seen in the accompanying illustration at a distance of about 15 ft. All windows in cars must be closed when lions are about. I also photographed a baboon at close quarters. These animals are accustomed to seeing visitors in cars, as are the buck in the Reserve, but the latter shy away in leaps and bounds if you so much as open a door slightly, which is against Park rules. Blue wildebeeste, which abound in hundreds of thousands in the Reserve, venture to within 100 ft. of the Rest Camps.

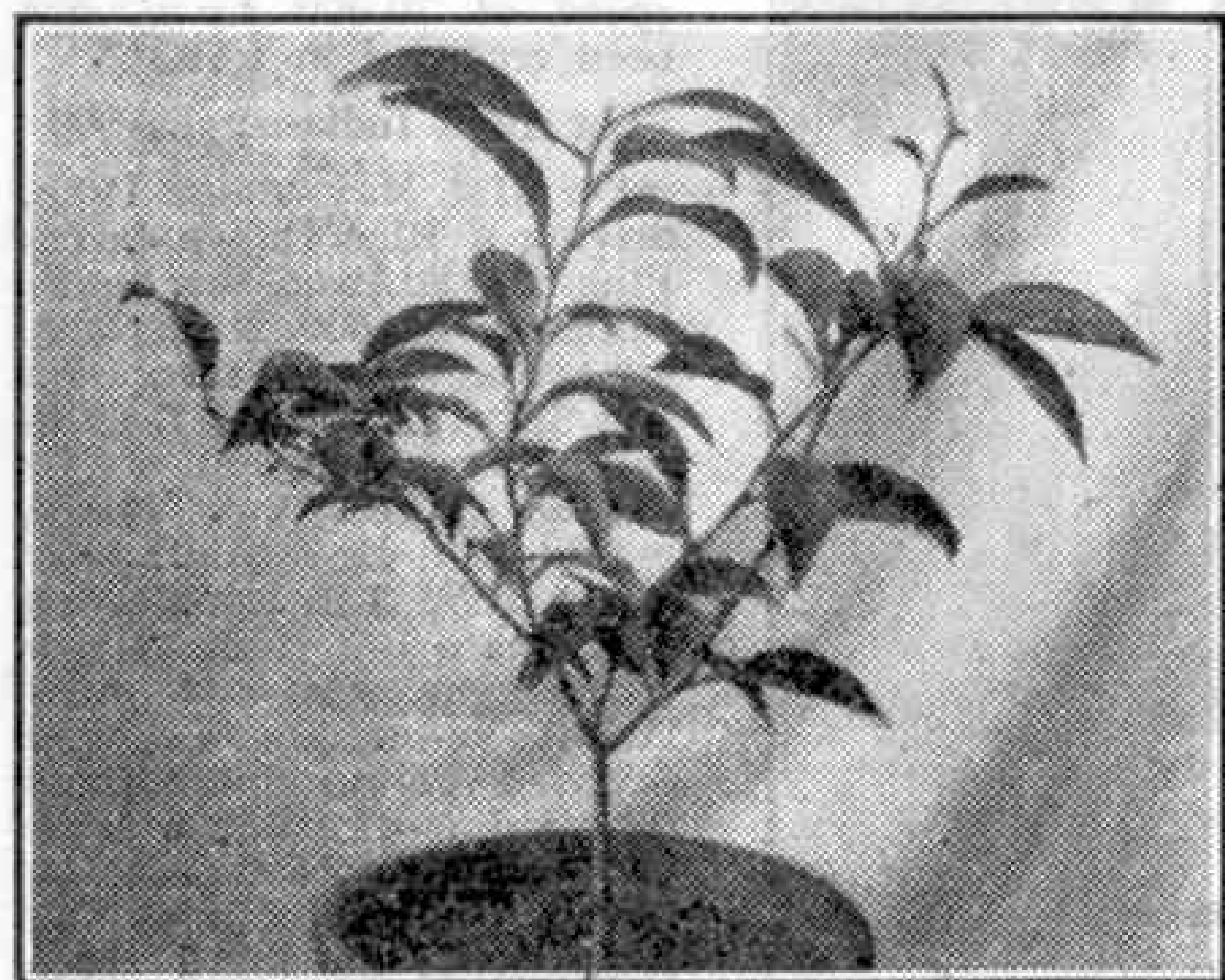
There are many hundreds of species of birds in the Reserve, from secretary birds to canaries. In the rivers are crocodiles and hippopotami. Zebras abound, and are always on the move, and sometimes you find giraffes, which refuse to budge from the centre of the road.

Elephants are not readily found in the southern part of the Reserve, but in the far north they can more often be seen. Buck such as kudu, klipspringer and springbok are always in herds. Sometimes these herds are together, but they seldom fight each other.

D. SCHAFFNER (Heidelberg, Transvaal).

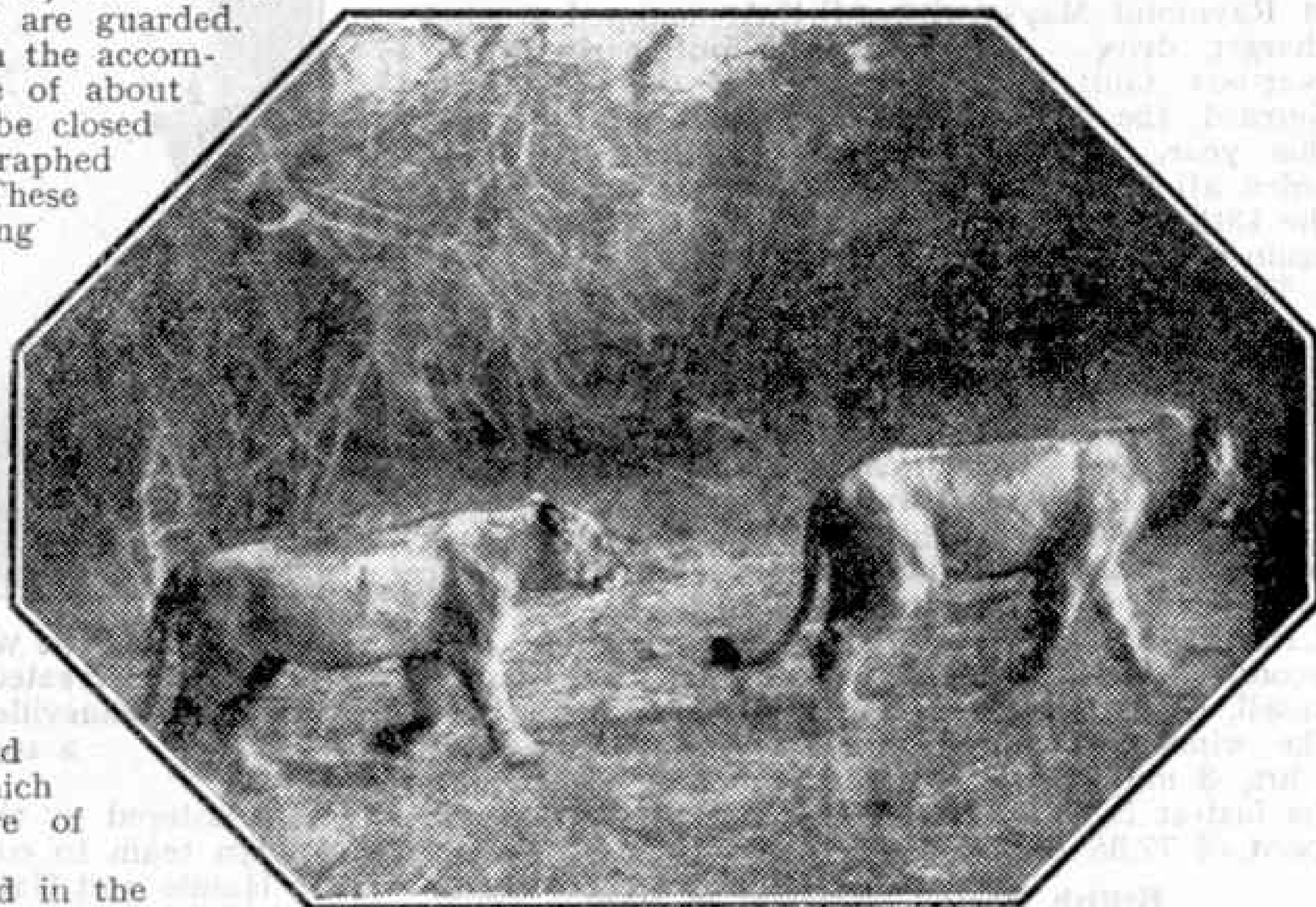
GROWING AN ORANGE TREE

Orange trees, date palms and other tropical plants grow very well in hot countries, but will they grow in England under ordinary conditions in an ordinary home? That is the question which I set out to answer in the spring of 1942. I prepared three small flower pots with ordinary soil from the garden, and



An orange tree grown at home. Photograph by F. Heilborn, Leeds.

in each I placed a good-looking orange pip about an inch under the surface. The soil was watered regularly, and after waiting impatiently for two months I observed the first sign of life in one of the pots. The tiny plant that showed itself grew steadily throughout



Lions in the Kruger Game Reserve, in the Transvaal. Photograph by D. Schaffner, Heidelberg, Transvaal.

the summer, but nothing ever came out of the other two pips.

After two-and-a-half years the plant had grown into a fine healthy-looking one, much too big for the pot it was in at that time. So I transplanted it into a larger pot and it continued to grow and had many more leaves, until in five-and-a-half years it had reached a height of well over a foot. It looked then as shown in the accompanying photograph.

Two years after planting the orange pips I experimented on dates. I was more successful this time, for two out of three germinated. One of these grew so well and rapidly that I had to transplant it the following year into a much larger pot. It is now over 18 in. in height and looks a really marvellous spectacle. I have also experimented with bananas, but without success.

F. HEILBORN (Leeds).

THE KALKA-SIMLA RAILWAY

I was very glad to see on the November "M.M." cover a picture of an engine of the Kalka-Simla Railway, as I have been on this line many times going to and fro from school. The cover illustration at once brought back memories of the line.

The railway is one of marvellous engineering and it took many years to build. As mentioned in the article, there are not many steel bridges on it. The masonry viaducts are many feet in height in many places.

Kalka is a very large station at the foot of the Simla hills, where one changes trains from the broad gauge to the narrow gauge. There are exactly 103 tunnels on the line, and many of them are quite long. The longest is one after a station called Barag, and is nearly a mile in length. The trip to Simla takes about six hours.

R. J. REED (Taunton).



Club and Branch News



WITH THE SECRETARY

CO-OPERATION

I am glad to see that certain Clubs are beginning to take an interest in the work of other organisations. At the moment the outstanding example is provided by the Norbury M.C. This never ceased activity entirely during the war, and in consequence it was able to start off well when those officials and senior members who were called into the Services returned. It was strengthened by re-organisation under the Presidency of Mr. W. J. Wyse, B.Sc., with Mr. C. B. Chapman as Leader, and its members became very busy indeed, following an excellent programme that is splendidly varied in character. Then the Club became interested in the Maastricht M.C., a pre-war organisation in the Netherlands that of course had to suspend operations during the war and has been revived. The two Clubs are in regular correspondence; members of the Maastricht M.C. have already visited this country and have seen their friends of the Norbury M.C. at work, and an exchange of visits is planned for October next.

The Norbury M.C. has also found opportunities for co-operation in its own district by establishing relations with the Croydon Youth Council, and a further development of unusual interest is the formation of a neighbouring Meccano Club at Morden by Mr. H. B. Moyer, who is an Assistant Leader of the Norbury M.C. as well as Leader of the new Club. Naturally the double role keeps Mr. Moyer very busy indeed, but there is no doubt of the great advantage that his position will bring to both Clubs. Their co-operation will be to the advantage of both.

Mr. Wyse, President of the Norbury M.C., has prepared a novel photographic membership card for his Club, with a reproduction of the Hornby Railway Company badge imprinted on it. The effect is certainly very fine indeed, and Mr. Wyse has very kindly offered to give details to the officials of other Clubs and Branches, and also to prepare negatives. Leaders or Chairmen who are interested should let me know, so that I can put them in touch with Mr. Wyse.

Mr. J. Kirby, Leader of the Belvedere (Didcot) M.C., tells me that his Club are organising camps at various dates during July, August and September. A full programme of various outdoor activities will be followed at each of these camps, and other Meccano Clubs who would like to join with the Didcot M.C. in these should let me know, so that I can pass the information to Mr. Kirby.



Members of the Weymouth and District Branch, No. 503, Chairman, Mr. H. J. Brown, Secretary, A. J. Brown, who in our photograph is on the Chairman's right. The Branch was incorporated in July 1947, and its members have enjoyed time-table operations on a layout that has been expanded almost continuously. Swimming, fishing and cycling are among the outdoor pursuits followed.

CLUB NOTES

CUDDINGTON CROFT SCHOOL (CHEAM) M.C.—Meetings are held regularly in one of the school rooms which has been kindly placed at the disposal of the Club. Model-building Contests are the chief feature of the programme, attracting eager entries. Cricket also is played. Club roll: 10. *Secretary:* R. V. J. Chadder St. Davids, 16, Sandy Lane, Cheam, Surrey.

MERCHANT TAYLORS BOYS' SCHOOL (CROSBY) M.C.—A splendid Exhibition of models was organised in the School Hall. Other attractions included stamp and coin collections, photographs, a model village and a working puppet show. Prizes were awarded for the best Meccano, ship and aircraft models. Club roll: 94. *Secretary:* C. Domville, 3, Sefton Road, Litherland, Liverpool.

AUSTRALIA

MAYLANDS M.C.—A splendidly varied programme has been followed. Model-building, Fretwork and a Table-Tennis Tourney have been the chief attractions in the Club room. Outdoors Cricket has been played, Picnics have been organised and Cycle Runs have been enjoyed. The Club's Thirteenth Birthday was celebrated by a splendid Party, followed by Games and Amusements. Club roll: 30. *Secretary:* V. C. Preston, 16, Kennedy Street, Maylands.

BRANCH NEWS

SLOUGH—A large layout is operated at Branch meetings. Experiments are continually being made to improve running and to speed up operations. More members have been welcomed. A new station is being built. *Secretary:* W. Eisele, 335, Farnham Road, Slough, Bucks.

WEYMOUTH AND DISTRICT—The Branch layout now includes a Turntable and Buffers, and other accessories are being added. All necessary repairs have been carried out and the Branch Track has been thoroughly overhauled in order to ensure smooth running. Two locomotives have been added to the stock. *Secretary:* A. J. Brown, 68, Wyke Road, Weymouth, Dorset.

WITLEY AND GRAYSWOOD—The chief recent event has been a visit to Guildford Station, where signal cabins, various engines, a breakdown crane and the station offices were inspected. Preparations are now in progress for the Branch Exhibition in August. *Secretary:* T. Ash, Lower Birtley Farm, Witley, Surrey.

CRAIGWEIL (BOGNOR REGIS)—Running operations keep members busy. Each has an appointed position, and plans for working are drawn up in advance. Colour light signals are now in regular use. A trip to the Isle of Wight is planned. *Secretary:* J. S. Evans, Two Orchard, Aldwick Bay, Bognor Regis, Sussex.

Among the Model-Builders

By "Spanner"

HOW TO USE MECCANO PARTS— (FISHPLATES—DOUBLE BRACKETS)

The Meccano Fishplate (Part No. 10) is only $\frac{1}{2}$ " wide and $\frac{3}{4}$ " long, but it is one of the most useful of the structural parts. It is produced with one round hole and one elongated hole, the latter enabling various adjustments to be carried out that are not possible with short Strips and other similar parts. It is extremely useful when slight adjustment for length is required on a Strip or Girder, and also when a circle of small radius has to be obtained. Circles made in this manner and fitted with Angle Brackets are used in the construction of cylinders and ships' funnels. The oval shape of a ship's funnel can be readily obtained by this means.

Excellent endless belting and heavy gauge chain can be constructed by using Threaded Rods in conjunction with Fishplates. Two of these parts also form an excellent substitute for a 1" Triangular Plate or a small Corner Bracket. This latter use is illustrated in Fig. 2. In this example two Fishplates are used to form a small triangular plate, and each slotted hole of the two Fishplates carries a Strip. The slotted holes are used here in order to allow longitudinal adjustment for the Strips.

In Fig. 3 two Fishplates are shown representing one of the anchoring shackles of a motor chassis spring. A Double Bracket is bolted to the outer extremity of the spring, and each upturned lug of this carries a pivotally mounted Fishplate. These in turn are attached by lock-nutted bolts to the frame of the model.

Another very adaptable part is the Double Bracket

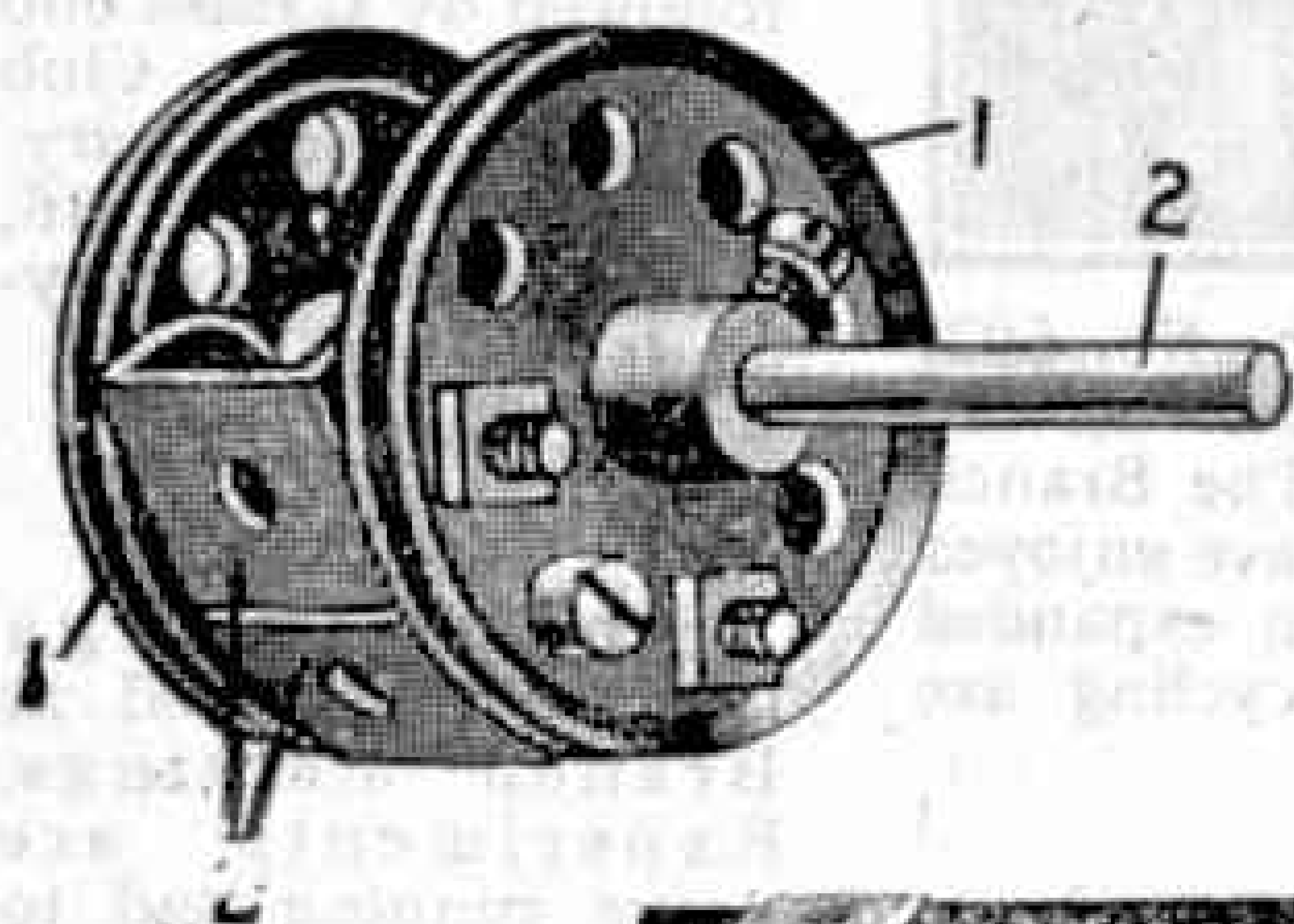


Fig. 1.

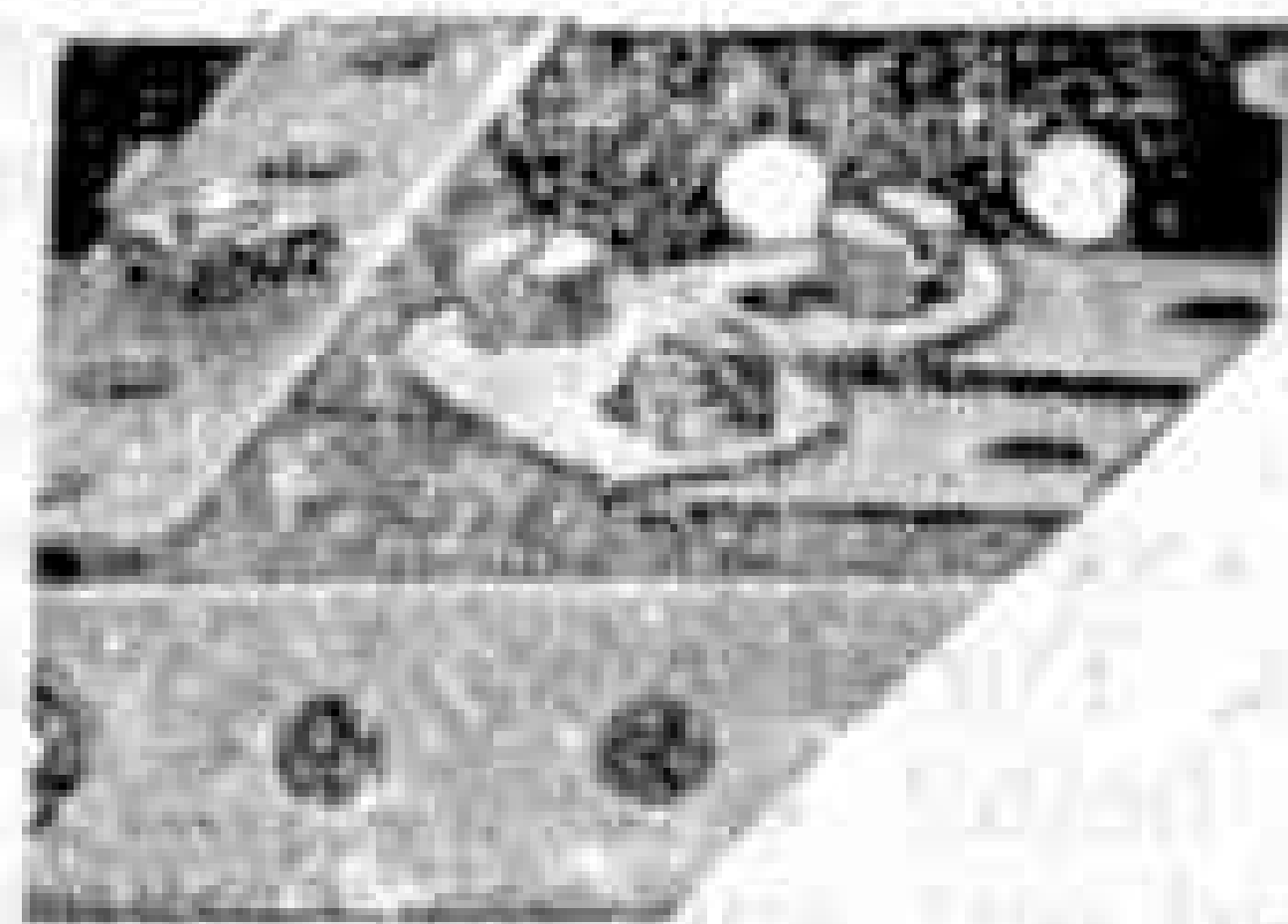


Fig. 2.

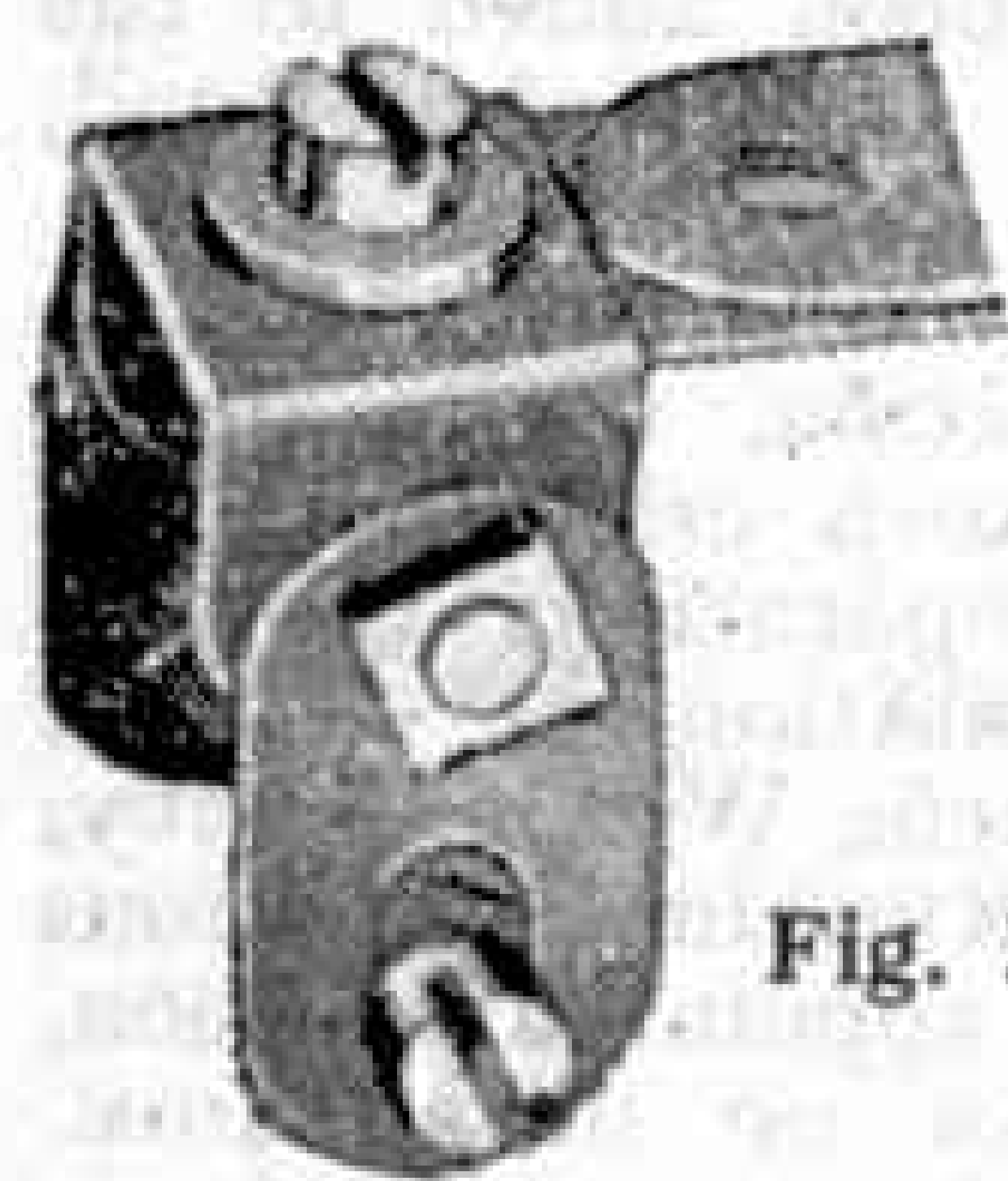


Fig. 3.

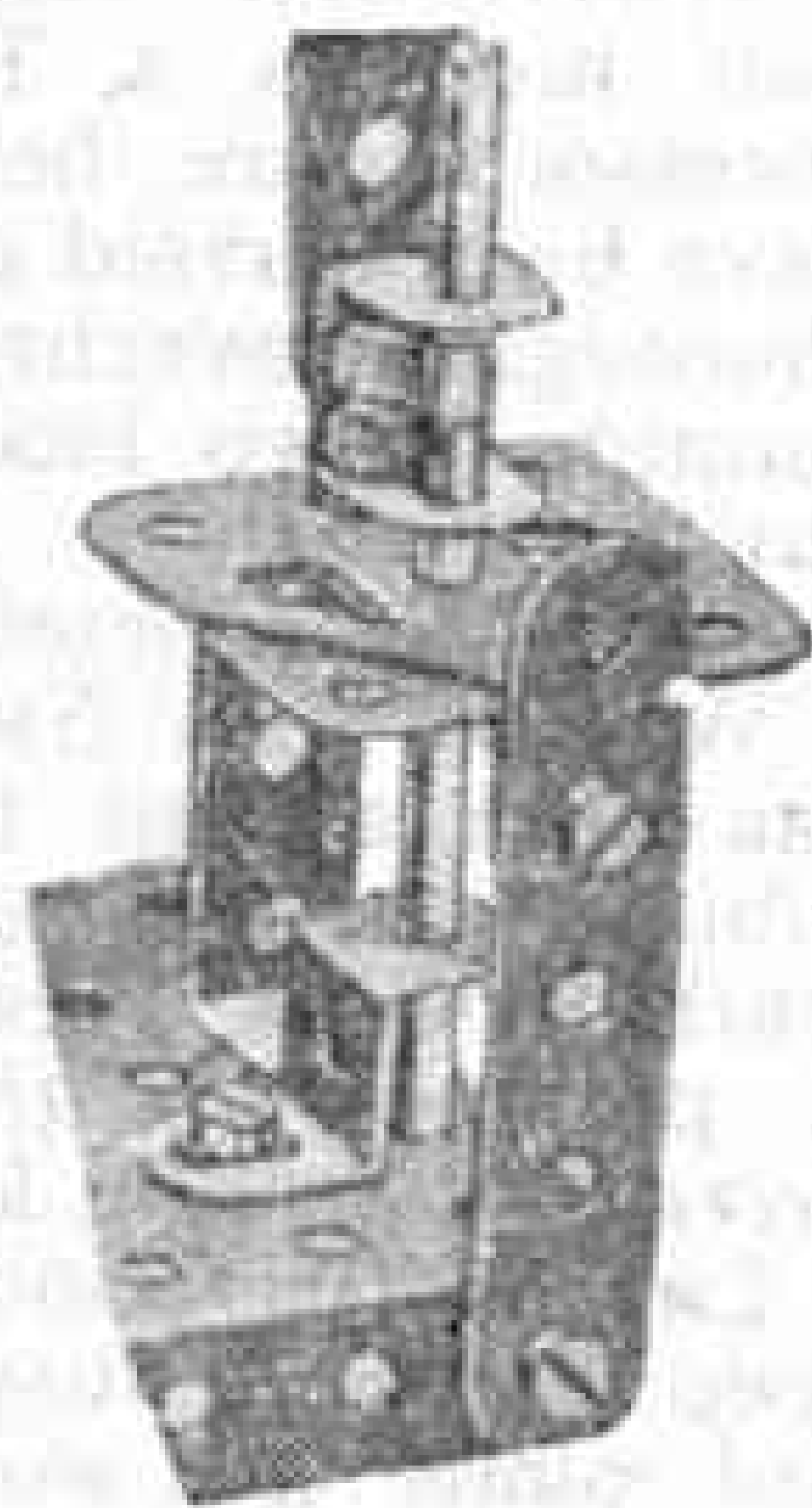


Fig. 4.

These illustrations show typical uses for Meccano Fishplates and Double Brackets.

(Part No. 11).

The most general use to which this part is put is that of a short Double Angle Strip. It is shown used in this manner in Fig. 3.

There are also many occasions, especially

in smaller Outfits, when it can be used as a substitute for a Slide Piece. In this case the Double Bracket is pivotally attached at its centre hole to a Bush Wheel, and carries between its two turned-up ends a Strip of any suitable length. This Strip slides to and fro on the bolt head, forming the connection between the Bracket and the Bush Wheel; and it is prevented from excessive vertical movement by a short Rod held in place by Spring Clips.

This part is often used as a connection between a Strip and a Rod. The manner of accomplishing this is shown in Fig. 4, where the Bracket forms the necessary connection between the connecting rod and the piston rod of a small model beam engine. The Double Bracket is pivotally attached at its centre hole to the Strip forming the connecting rod, and in its two outer holes is carried a short Rod that is prevented from sliding in the Double Bracket by means of two Spring Clips.

A special use often found for Double Brackets is seen in Fig. 1. In this illustration three Double Brackets are shown bolted in position between two $1\frac{1}{2}$ " Pulley Wheels and in this way forming a useful cam. This example has been used on Meccano looms with great success for many years.

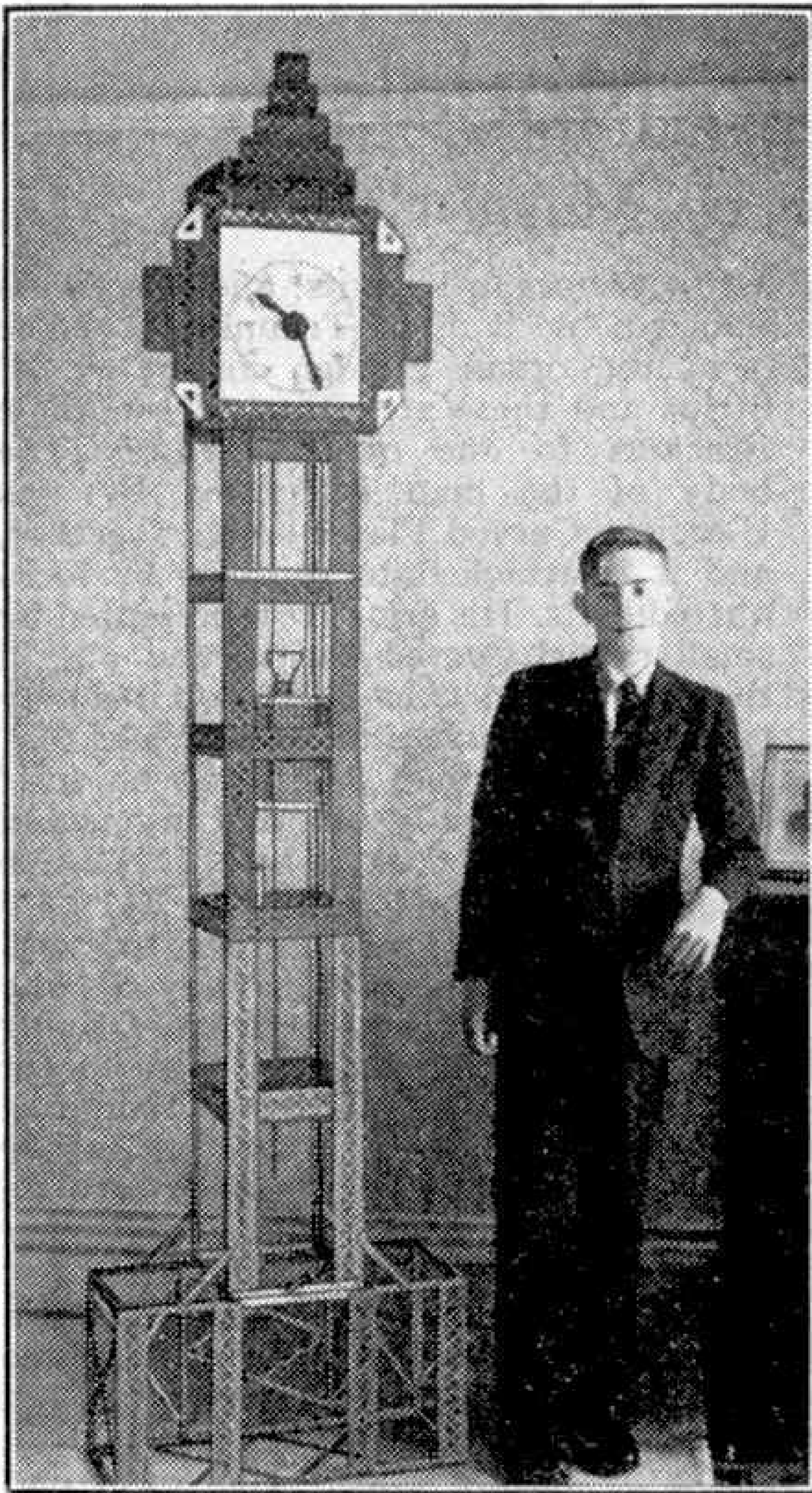
A MECCANO GRANDFATHER CLOCK

A. C. Doxford, St. Bees, has built a fine grandfather clock. The model and its builder are shown in an illustration on the following page. The model is 9 ft. in height and runs for over 24 hours, continuously, and I understand that it is quite accurate in time-keeping. The pallet mechanism was designed by Doxford, and it consists essentially of two Face Plates to which eight 2" Strips are bolted radially. This forms the pallet wheel. The pallet is a $2\frac{1}{2}$ " x 1" Double Angle Strip fixed horizontally to Cranks so that its lugs engage the 2" Strips on the Face Plates. The cranks are fixed on the pendulum Rod.

The clock mechanism is wound by means of an Electric Motor operating through gearing, and can be fully wound in three minutes. Clocks make very interesting subjects for Meccano models, and I am always glad to hear from readers who experiment in this kind of model-building. There are many different types of clocks and the scope for originality in designing and assembling the various mechanisms is very wide.



David Barrie, London N.20, a keen model-builder and an enthusiastic reader of the "M.M." He won Second Prize in the recent "Simplicity" competition, for a realistic model bicycle.



Anthony C. Doxford, St. Bees, photographed with his fine working grandfather clock.

AN UNUSUAL REVERSING MECHANISM

The reversing mechanism shown at the foot of this page was designed by A. Baldwin, Wallasey, who incorporated it in one of his models. The mechanism is especially interesting as a combination of Gears and Pulleys is used to obtain forward and reverse movements, and it was designed to eliminate the need for contrate or bevel gears.

The housing for the mechanism illustrated consists of a $2\frac{1}{2}'' \times 2\frac{1}{2}''$ Flat Plate bolted to each flange of a $2\frac{1}{2}'' \times 1\frac{1}{2}''$ Flanged Plate, but this can be altered to suit a particular model. The drive from the power unit is taken to a $3\frac{1}{2}''$ Rod 1, which is mounted in the $2\frac{1}{2}'' \times 2\frac{1}{2}''$ Flat Plates and is fitted with a $\frac{1}{2}''$ Pulley. This Pulley is connected by a $2\frac{1}{2}''$ Driving Band to a similar Pulley fixed on a 2" Rod 2. The Rod 2 is mounted in a $3\frac{1}{2}''$ and a $2\frac{1}{2}''$ Strip connected together by two $1\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strips. The lower ends of these Strips are passed over the Rod 1, and the upper end of the $3\frac{1}{2}''$ Strip forms the reversing lever. The Rod 2 is fitted also with a $\frac{1}{2}''$ Pinion 3.

An intermediate Rod 4 is mounted in the $2\frac{1}{2}'' \times 2\frac{1}{2}''$ Flat Plates, and carries a $\frac{1}{2}''$ Pinion and a $\frac{1}{2}''$ Pulley. The $\frac{1}{2}''$ Pulley is connected by a crossed Driving Band to a similar Pulley on the output shaft 5, which is fitted also with a $\frac{1}{2}''$ Pinion. The Pinions on Rods 4 and 5 are arranged so that they can be meshed with the Pinion 3 on Rod 2 by moving the reversing lever.

Reverse drive is obtained through the crossed Driving Band between the Pulley 4 and Rod 5.

Prizes for Meccano "Pictures"

Readers are reminded that the special Meccano "Picture" Competition that was announced in the June issue of the "M.M." is still open for entries. In this Contest prizes are offered for pictures made by bolting simple Meccano parts such as Strips, Washers, Curved Strips and Flat Trunnions, etc., to a sheet of cardboard that will serve as a background. Very realistic effects can be obtained in this way, and there is considerable scope for a model-builder to exercise his initiative and artistic ability. It is fine fun making pictures of this kind, especially as there is always the chance of winning a prize for one's efforts!

Readers may make any kind of picture they like best. A suitable subject would be a sailing ship at sea, with a lighthouse and a few rocks to complete the effect; or a picture of a street showing shops, and perhaps the outside of a big building such as a theatre or a church, would be fascinating to construct. A few minutes' thought will provide plenty of other ideas for making really good pictures, and there should be no difficulty in finding subjects suitable to the quantity of Meccano parts available. Competitors who wish to increase the realism of their "pictures" may do so by painting the cardboard background in suitable colours.

When the picture is complete the competitor should obtain a good photograph or make a neat sketch of it.

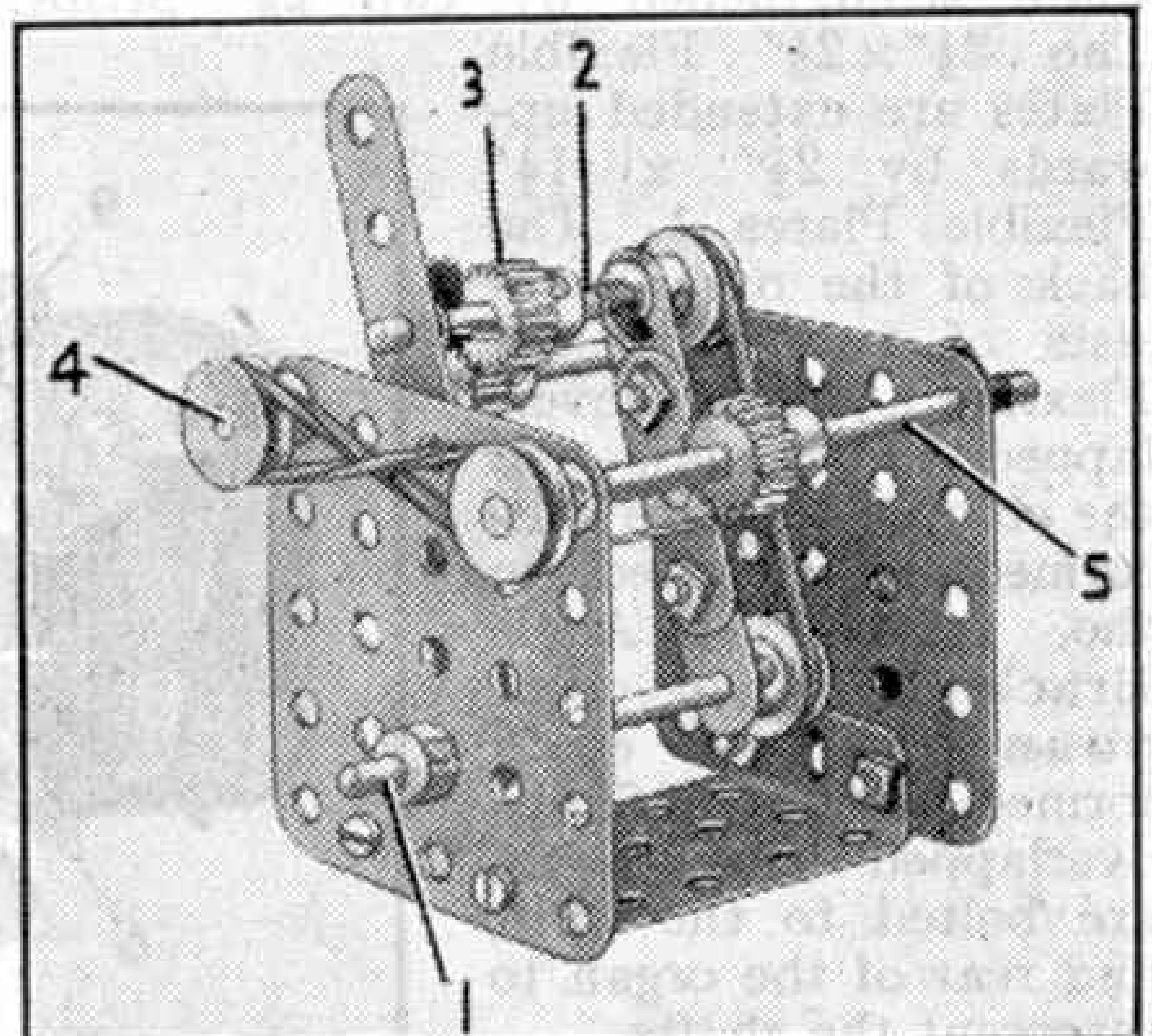
The competitor's age, name and full address must be written clearly on the back of each photograph or sketch, which should then be posted to "Meccano Picture Competition, Meccano Ltd., Binns Road, Liverpool 13."

Entries will be divided into two sections, A, for competitors living in the British Isles, and B, for competitors living overseas. The following prizes will be awarded in each Section. First: Cheque for £2/2/-. Second: P.O. for £1/1/-. Third: P.O. for 10/6. There will be also consolation prizes each consisting of a P.O. for 5/-.

The closing dates for the Contest are: Section A, 31st July, 1948; Section B, 30th September.

It should be noted that prize-winning entries become the property of Meccano Limited, and if suitable photographs are available may be illustrated in a future issue of the Magazine. Unsuccessful entries will be returned to the sender providing that a stamped addressed envelope of the necessary size is enclosed with the entry for that purpose. *Readers should note that the actual model must not be sent.*

All prize-winners will be notified by letter.



This unusual reversing mechanism is fully described on this page. It was designed by A. Baldwin, Wallasey.

New Meccano Models

Amusing Subjects Driven by *Magic Motors*

OUR two new models this month are each driven by a *Magic Motor*. They are the organ grinder and monkey shown

fixed to the organ by nuts, and one end is supported by a Flat Trunnion 2. The legs of the organ grinder consist of $2\frac{1}{2}$ " Strips and these are attached by Angle Brackets to one of the shafts. The body of the man is formed by two U-section Curved Plates bolted together, and it is attached to the legs by lock-nutted bolts. His arms are represented by small radius Curved Strips, and one of these is passed over a $\frac{3}{8}$ " Bolt held by two nuts in a hole in a Bush Wheel 3.

The Bush Wheel 3 is fixed on a 4" Rod 4. This Rod is mounted in one end of the organ, and in a $1\frac{1}{2} \times \frac{1}{2}$ " Double Angle Strip 9 bolted to the $5\frac{1}{2} \times 2\frac{1}{2}$ " Flanged Plate. The Rod 4 is fitted with a 1" Pulley 5 and a $1\frac{1}{2}$ " Pulley 6. The Pulley 6 is connected by a Driving Band to the pulley of a *Magic Motor* attached to the organ by a Trunnion. The Pulley 5 is fitted with a Rubber Ring, and a $\frac{3}{8}$ " Bolt is passed between the rim of the Pulley and the Rubber Ring to form a simple cam.

The body of the monkey consists of a Flat Trunnion bolted to a $1\frac{1}{2} \times \frac{1}{2}$ " Double Angle Strip. A 3" Rod 8 is passed through the Double Angle Strip and is held in position by Spring Clips. The lower end of this Rod is passed through a Double Bracket bolted to a $5\frac{1}{2}$ " Strip 7, and rests on the cam formed by the Rubber Ring around the Pulley 5. The Strip 7 is attached to the ends of the organ by Angle Brackets and is extended downwards by

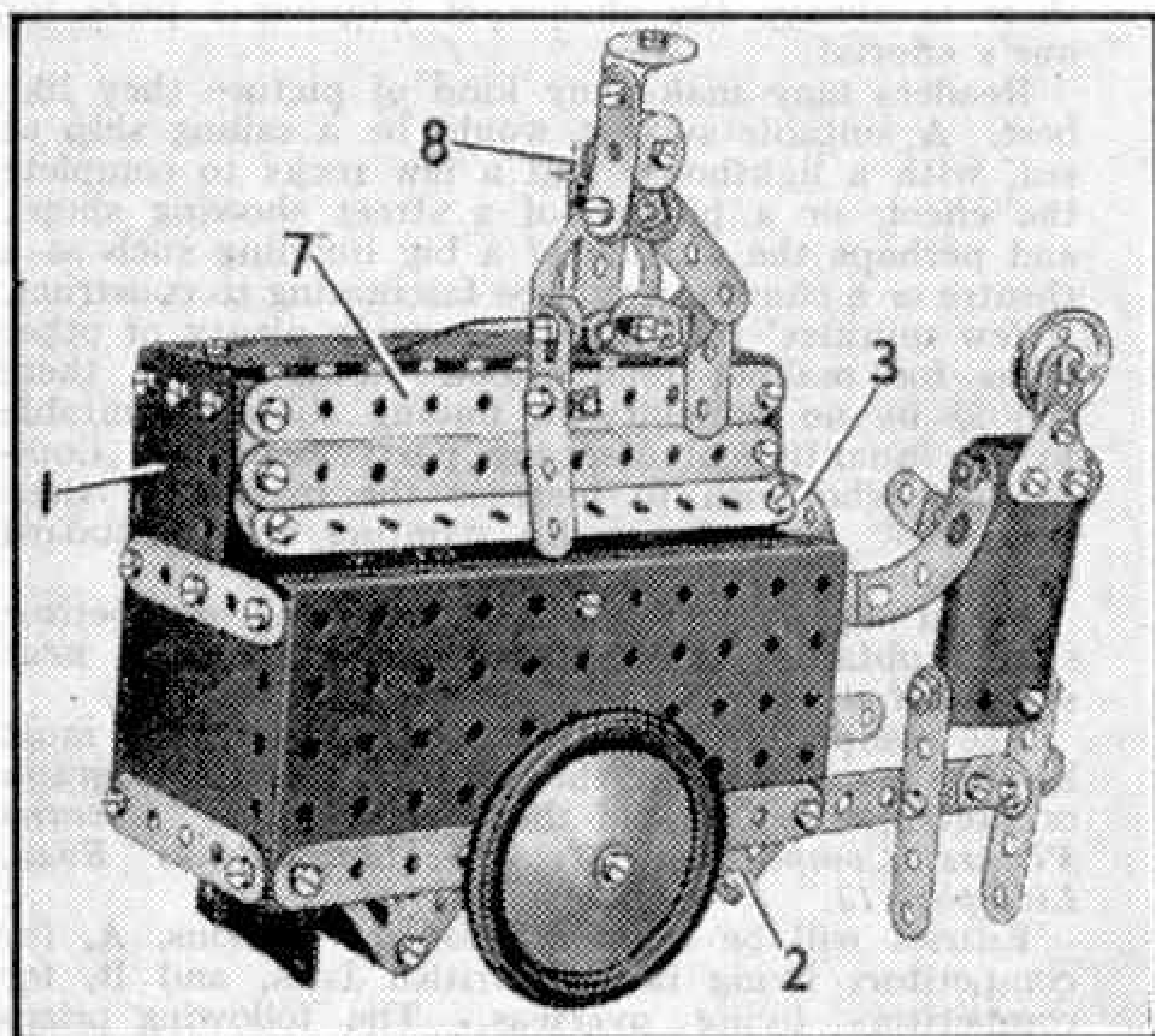


Fig. 1. An amusing model of an organ grinder and his performing monkey. It is driven by a *Magic Motor*

in Figs. 1 and 2, and a travelling knife grinder, which is seen in Figs. 3 and 4.

The organ grinder is described first. When the *Magic Motor* is set in motion the man turns the organ handle and the monkey "dances" on the top of the instrument. The front of the organ consists of a $5\frac{1}{2} \times 2\frac{1}{2}$ " Flanged Plate, and each end is formed by a $2\frac{1}{2} \times 2\frac{1}{2}$ " Flexible Plate strengthened by two $2\frac{1}{2}$ " Strips. The $2\frac{1}{2} \times 2\frac{1}{2}$ " Flexible Plates are extended upwards by $2\frac{1}{2} \times 1\frac{1}{2}$ " Flexible Plates 1. The back of the organ consists of two $5\frac{1}{2} \times 2\frac{1}{2}$ " Flexible Plates overlapped two holes, and the compound plate thus formed is attached to the ends by Angle Brackets. Two compound strips, each formed by two $5\frac{1}{2}$ " Strips overlapped five holes, are bolted to the front and rear of the organ to represent the shafts.

The Road Wheels are free to turn on $\frac{3}{4}$ " Bolts

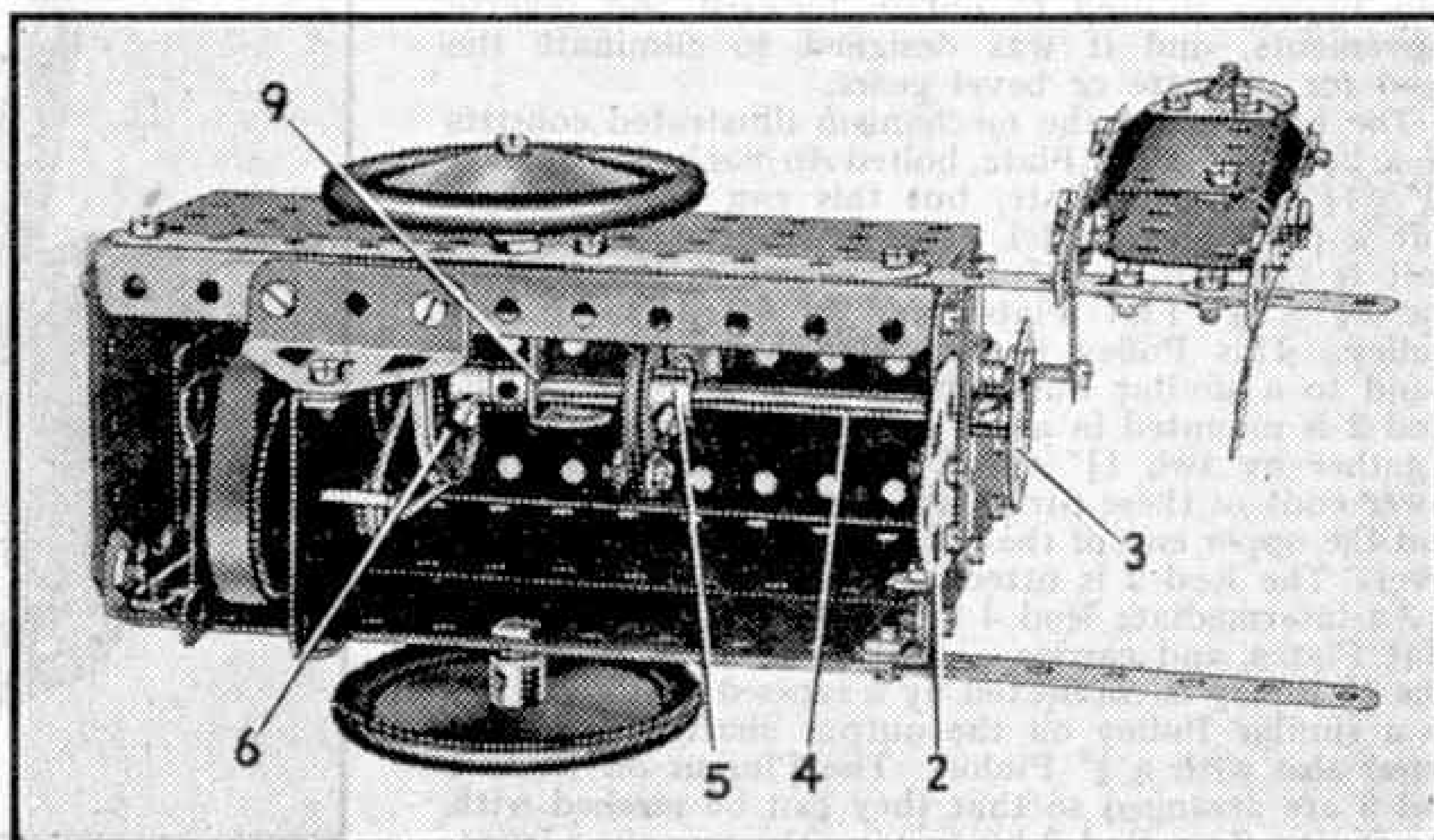


Fig. 2. An underneath view of the organ showing how the *Magic Motor* is fitted.

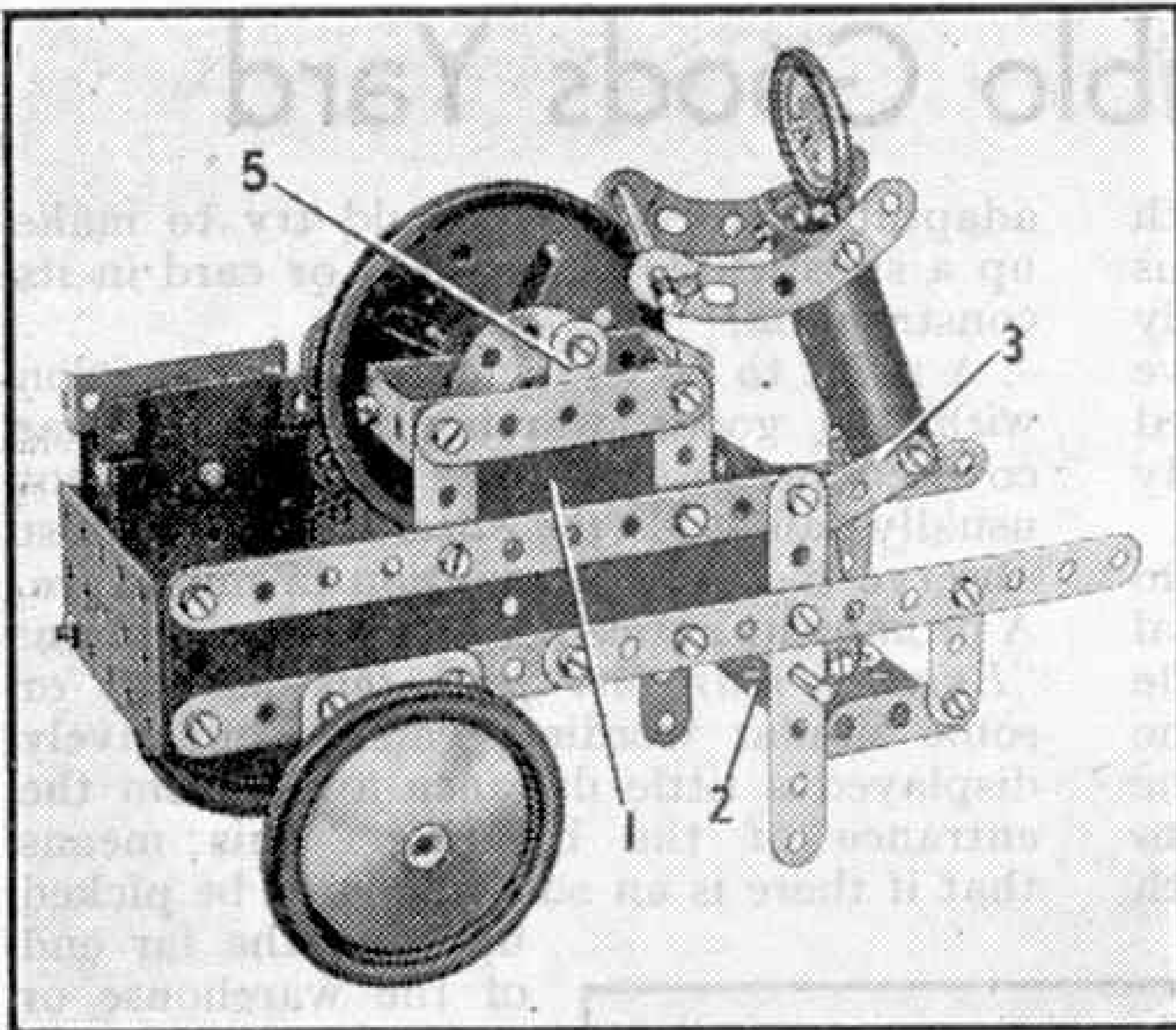


Fig. 3. This simple model of a travelling knife grinder can be set in motion by a Magic Motor.

two $5\frac{1}{2}$ " Strips fastened to Fishplates and Obtuse Angle Brackets. The top of the organ is filled in by a $5\frac{1}{2} \times 1\frac{1}{2}$ " Flexible Plate attached to Angle Brackets.

The monkey's legs are formed by $1\frac{1}{2}$ " Strips lock-nutted to Fishplates attached to the Flat Trunnion by Angle Brackets. His arms are further $1\frac{1}{2}$ " Strips bolted to a Double Bracket, and his hat consists of a $\frac{3}{4}$ " Washer.

Parts required to build model Organ Grinder and Monkey: 7 of No. 2; 6 of No. 5; 4 of No. 6a; 5 of No. 10; 2 of No. 11a; 15 of No. 12; 2 of No. 12c; 1 of No. 15a; 1 of No. 16b; 1 of No. 21; 1 of No. 22; 1 of No. 22a; 1 of No. 23a; 1 of No. 24; 2 of No. 35; 55 of No. 37; 12 of No. 37a; 2 of No. 38; 2 of No. 48; 1 of No. 52; 1 of No. 59; 1 of No. 77; 2 of No. 90a; 3 of No. 111; 2 of No. 111c; 1 of No. 126; 2 of No. 126a; 1 of No. 155; 1 of No. 186; 2 of No. 187; 2 of No. 188; 2 of No. 189; 2 of No. 190; 2 of No. 192; 2 of No. 199; 1 Magic Motor.

In building the realistic knife grinder shown in Figs. 3 and 4 it will be seen that each side of the cart consists of a $5\frac{1}{2} \times 1\frac{1}{2}$ " Flexible Plate braced along its upper end by a $5\frac{1}{2}$ " Strip, and along its lower edge by two $5\frac{1}{2}$ " Strips overlapped five holes. The latter Strips represent the shafts of the cart. The sides are joined together by a $2\frac{1}{2} \times 1\frac{1}{2}$ " Flanged Plate at the front, and by two $2\frac{1}{2} \times \frac{1}{2}$ " Double Angle Strips at the rear. Each side is extended upwards by a $2\frac{1}{2} \times 1\frac{1}{2}$ " Flexible Plate 1 braced by three $2\frac{1}{2}$ " Strips as shown. The legs of the cart consist of $3\frac{1}{2}$ " Strips, and the Road Wheels are fixed on a $3\frac{1}{2}$ " Rod mounted in Flat Trunnions.

The body of the man is formed

by two U-Section Curved Plates bolted together. One leg consists of a $2\frac{1}{2}$ " Strip attached to the Curved Plates by a lock-nutted bolt, and fastened to a $2\frac{1}{2} \times 1\frac{1}{2}$ " Flanged Plate 2 by an Angle Bracket. The Flanged Plate 2 is connected to the shafts of the cart by two $1\frac{1}{2}$ " Strips. The upper section of the opposite leg consists of a $1\frac{1}{2}$ " Strip 3 fixed firmly to the Curved Plates. The lower section of the leg is formed by a 2" Strip. This is attached to the Strip 3 and to a $3\frac{1}{2}$ " Strip 4 by lock-nutted bolts.

The Strip 4 is pivoted on a $3\frac{1}{2}$ " Rod mounted in the $3\frac{1}{2}$ " Strips forming the legs of the cart. A $2\frac{1}{2}$ " Strip 5 is attached to the inner end of Strip 4 by a lock-nutted bolt, and the upper end of Strip 5 is pivotally connected to a Bush Wheel fixed on a 2" Rod 6.

This Rod is mounted in one of the Flexible Plates 1, and in a $2\frac{1}{2} \times \frac{1}{2}$ " Double Angle Strip attached to the opposite Flexible Plate 1 by two 1×1 " Angle Brackets. The Rod 6 is fitted with a 3" Pulley representing the grindstone and a 2" Pulley. The 2" Pulley is connected by a Driving Band to a Magic Motor bolted to the front of the cart.

The man's arms consist of small radius Curved Strips, and the knife is a $1\frac{1}{2}$ " Rod held in place by Spring Clips.

Parts required to build the model Knife Grinder: 6 of No. 2; 3 of No. 3; 8 of No. 5; 1 of No. 6; 3 of No. 6a; 1 of No. 10; 1 of No. 12; 2 of No. 12a; 2 of No. 16; 1 of No. 17; 1 of No. 18a; 1 of No. 19b; 1 of No. 20a; 1 of No. 22a; 1 of No. 24; 2 of No. 35; 47 of No. 37; 6 of No. 37a; 3 of No. 38; 3 of No. 48a; 2 of No. 51; 1 of No. 77; 2 of No. 90a; 2 of No. 126a; 1 of No. 155; 1 of No. 186; 2 of No. 187; 2 of No. 188; 2 of No. 189; 2 of No. 199; 1 Magic Motor.

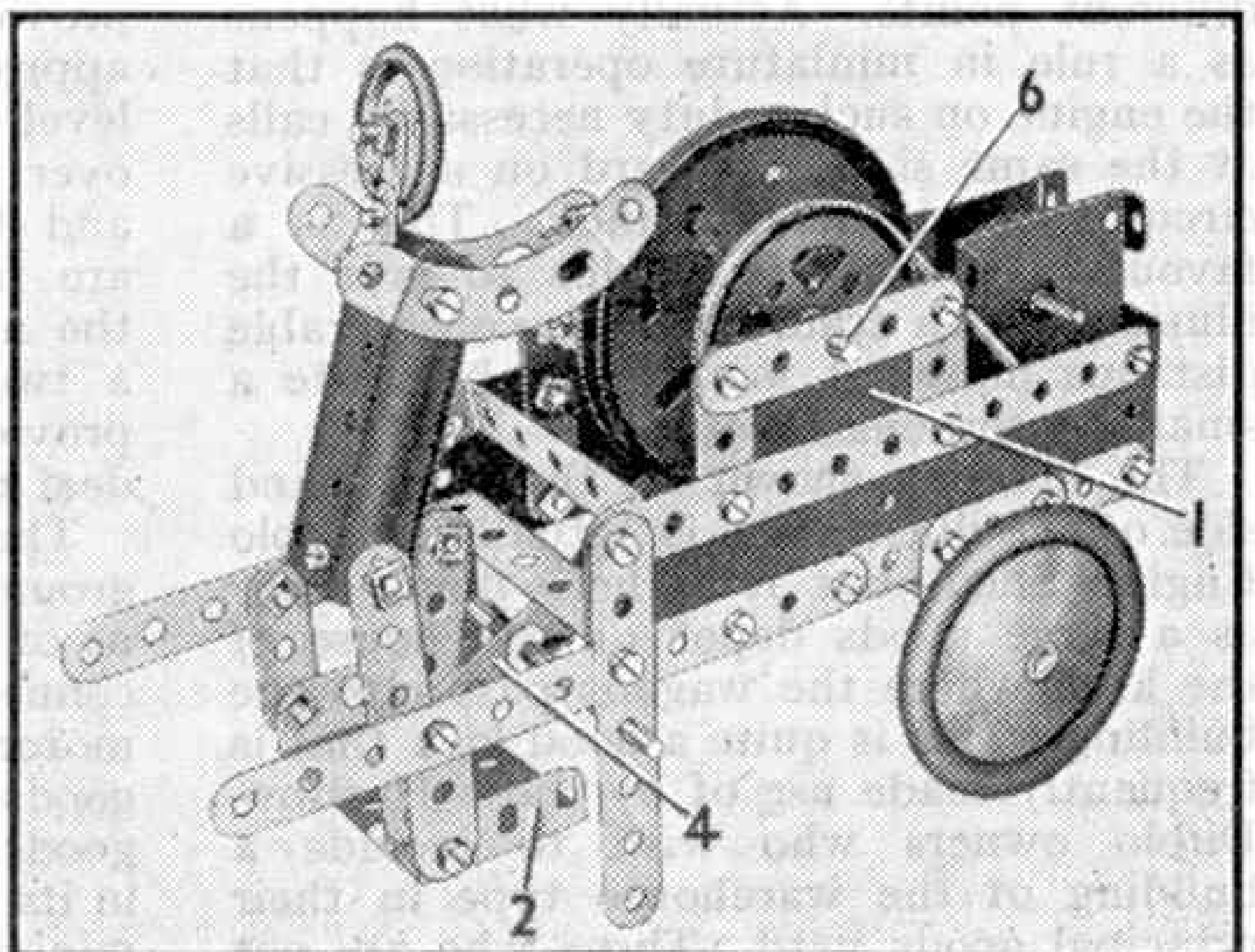


Fig. 4. Another view of the knife grinder.

A Hornby-Dublo Goods Yard

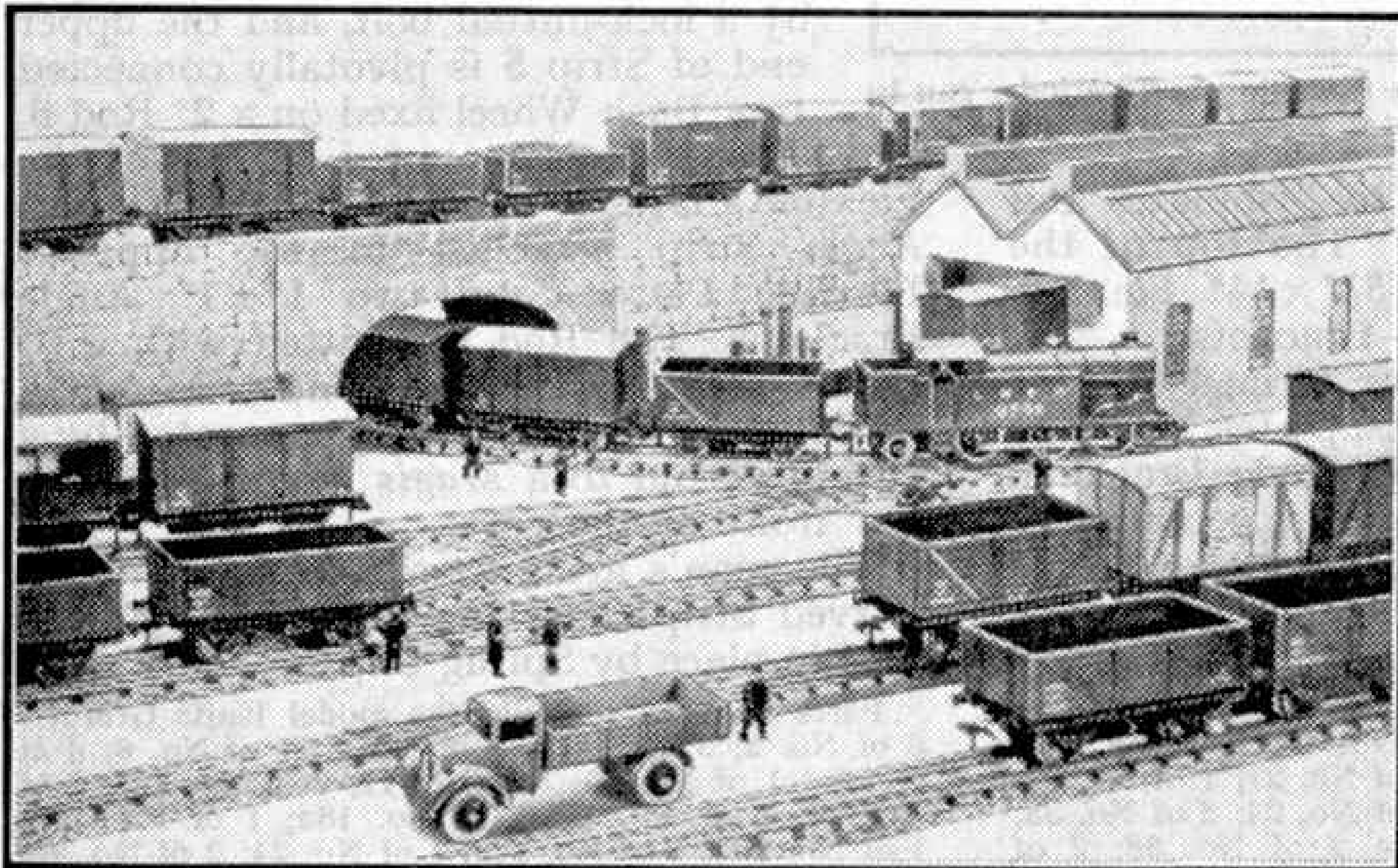
OUR Dublo illustration this month represents a combination of various ideas that have been dealt with previously in the "M.M." Each of these is attractive enough in itself, but when they are used together their interest is considerably increased.

The scene represents part of a Dublo goods yard in which there are the usual shunting tracks, where trains can be made up before running or broken up after the journey has been completed. The engine shown entering the yard is supposed to be returning from a "trip," working with

adaptable accessories should try to make up a substitute, using wood or card in its construction.

A point to be remembered in connection with the goods warehouses and similar covered premises is that engines are not usually allowed to enter; so we must observe the same precaution in miniature. A prominent notice bearing the instruction: "*Engines must not pass this board,*" or some similar wording, can be effectively displayed a little distance away from the entrance of the building. This means that if there is an odd wagon to be picked

up from the far end of the warehouse or shed, the engine must approach with sufficient vehicles already attached so that it does not move past the limit. Observance of this rule may raise some fascinating problems in marshalling and so it will add to the fun of operations. The warning board itself can be a Hornby Station Hoarding, if we have one, suitably painted and lettered; alternatively our old friends wood or card can again be pressed into use.



A busy goods yard scene on a Hornby-Dublo layout on which there are two track levels.

goods vehicles that it has picked up at different points. Actually what happens as a rule in miniature operation is that the engine on such a duty necessarily calls at the same siding or yard on successive circuits of the main track. This is a favourite scheme that helps to give the illusion that a train covers a considerable distance on what may really be quite a small continuous layout.

The building shown on the right hand side of the illustration is actually a Dublo Engine Shed, but it is here doing duty as a large goods depot or warehouse of the kind where the wagons pass into the building. This is quite a good idea that is frequently made use of by those Hornby-Dublo owners who wish to include a building of the warehouse type in their principal goods yard. Those who are not lucky enough to possess one of these

Similar materials can be used also to provide the "masonry" bridge and its approaches, by means of which the high-level line shown in the illustration passes over the incoming goods road. Overhead and burrowing connections of this kind are frequently found in real practice in the neighbourhood of large yards, and if a two-level feature of this kind can be provided in miniature it will add a great deal to the general effect.

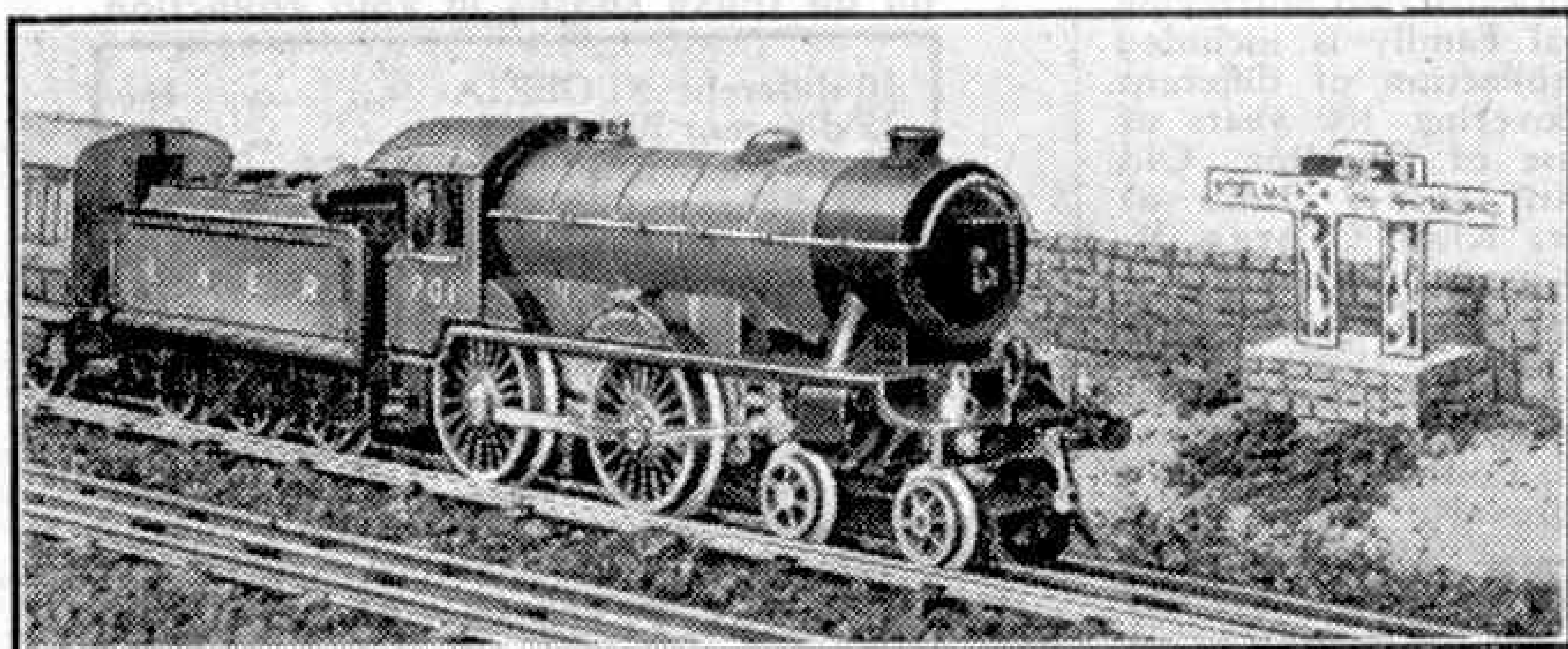
The Dinky Toys vehicle in the foreground, a No. 22c Motor Truck, reminds us of the importance of road transport in connection with freight traffic. Suitable motor vehicles can be grouped about the goods warehouse and depot for general goods. Coal and so on is usually handled in its own special part of the yard, so that miniature road lorries can run alongside the coal siding.

The Hornby Railway Lineside

THE two illustrations on this page show how the bare deserted appearance of a plain track can be improved by attention to lineside details. A station, or at least a platform, is one of the first requirements. Trains must be started somewhere and

An alternative to fencing is a wall. Walls are easy to represent as plain lengths of card, or wood, of the required height will do. Here again, temporary layouts will make a base necessary, or at least some means of support. The top edge may

be straight or slightly irregular, according to whether a brick-built or stone wall is represented. A little painting and lining out will soon add the finishing touches as shown in the upper illustration. Another method of finishing either walls or buildings is to use the printed papers representing brick-work and stonework



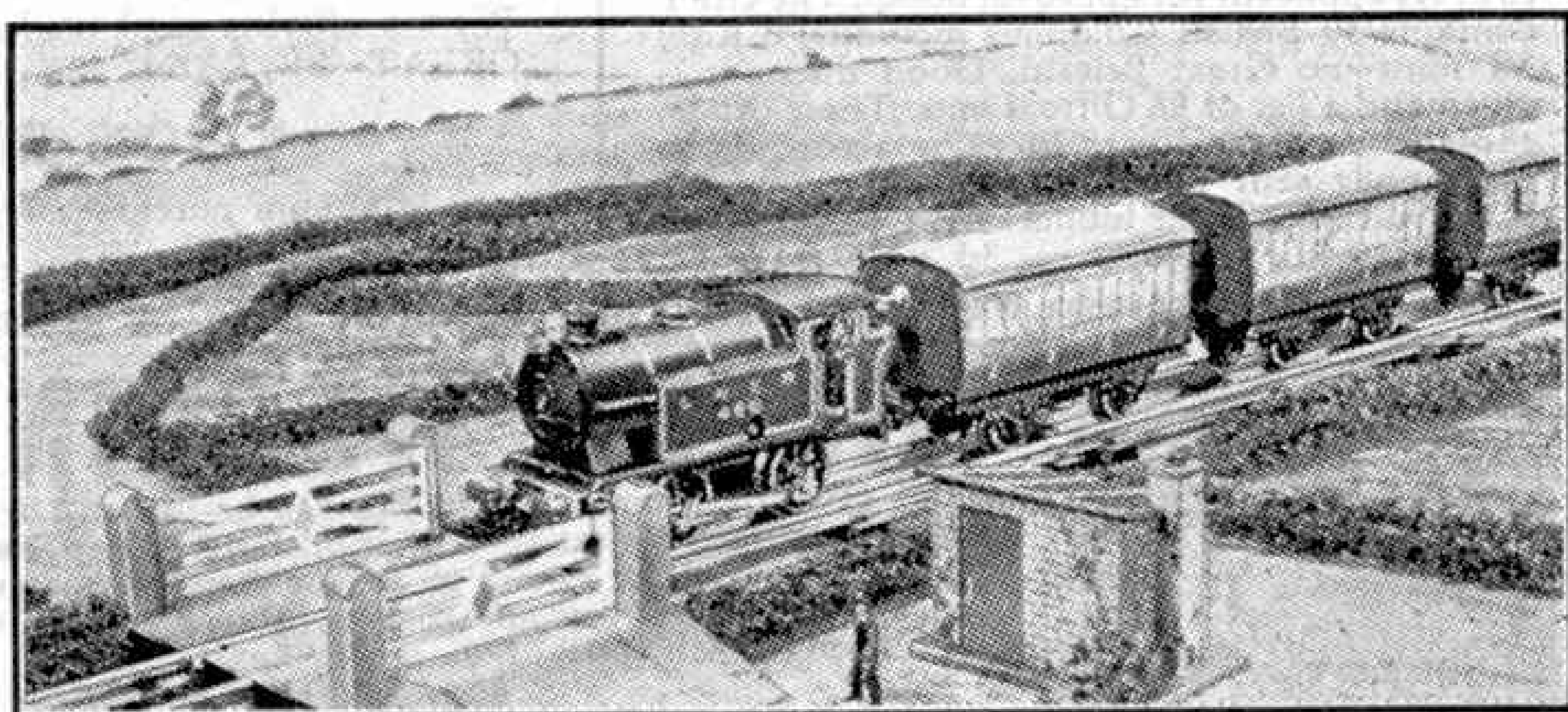
"Crossing the Border" by Hornby Train. The lineside sign is made of cardboard and painted to represent the real sign at the East Coast England-Scotland Border.

they have to make stops. Hints on substitute stations, in the absence of the familiar manufactured ones, have already been dealt with once or twice in these pages.

Even when a station and its attendant "box" or signal cabin have been provided there is still plenty to do to improve the looks of the line. It is a characteristic of British railway property to be enclosed, or provided with boundary walls or fences. Even if the model railway owner does not possess any of the Paired Fencing formerly available for Hornby railways, he can still enclose his line. Quite effective fencing can be made from card, either cut out to represent the "post and rail" type of fence, or assembled from strips cut to a more or less uniform width. A base of card or wood will be necessary on temporary layouts to enable the fencing to stand up. Instead of card the thin wooden "spills" that can sometimes be bought make very good timbers for fencing purposes and they can easily be cut and glued.

of various kinds that are available at many hobby shops.

Among other lineside items that can be made up are the huts of different kinds that are found along the real railways. They are of many shapes and sizes, as a little observation will soon show, and they may be of brick, timber, stone or concrete. The miniature railway engineer thus has plenty of choice as to the particular style he will adopt. Card or wood can be used for construction of a model hut, the finish being varied according to the type being followed. The lower illustration includes a Hornby Platelayer's Hut as formerly available; in this instance it is used by the gatekeeper.



A level crossing on a Hornby railway layout. Note the "gatekeeper" by his hut in the foreground.

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For other Stamp Advertisements see pages 244 and vii.



Stamp Collecting

The Issues of the Bahamas

By F. Riley, B.Sc.

IN our Empire tour, still in the West Indies, a prolific source of interesting stamps, we next call at the Bahamas. The stamps of this group are among the most attractive of those of the West Indies. There are no great rarities among them, apart from



certain errors in a war tax stamp of 1918 and some of the earliest issues, and so they should appeal to collectors looking for a good subject for a special collection. Those who set out with this in mind will find their albums filling up well and interest continually increasing, as there are plenty of opportunities for studying varieties, postmarks, etc., on the one hand, and on the other there are many attractive

pictorial stamps characteristic of islands rich in fruits and spices, abounding in bird life, and surrounded by sparkling seas full of fish and marine plants and creatures in immense variety.

The Bahamas are a string of about 20 inhabited islands, and a very large number of islets and rocks that stretch seaward from near the coast of Florida, to the north of Cuba and Haiti. In the group is the first island of the West Indies on which Columbus set foot on his first voyage across the Atlantic. The great explorer made his landfall on 12th October 1492, on land to which he gave the name San Salvador. Later it became known as Watling Island, as it had been the haunt of a famous buccaneer of that name, but the name given it by Columbus has now been restored by an act of the Bahamas legislature. On one of its beaches is a monument marking the spot where Columbus landed, and during the World War the 450th anniversary of this event was celebrated by the issue of a set of stamps. The designs of this set, which ranged in value from 1d. to £1 and included 14 stamps, had all previously been used, and to mark the anniversary they were overprinted "1492 Landfall of Columbus 1942."



The islands have had a chequered history. While in Spanish possession their inhabitants died out or were transported, and then the Bahamas remained deserted until 1629, when a settlement was formed by the English on New Providence, a small island in the middle of the group where there is the only safe harbour for vessels drawing more than 9 ft. of water. The settlers were expelled by the Spaniards 12 years later, but again took possession in 1667. The next 50 years or so saw many strange scenes, New Providence being attacked on several occasions by French and



Governor was appointed, himself a former buccaneer now reformed, and from that time better progress was made in developing the resources of the islands, although there were intervals when the British hold on them was shaken.

The Bahamas are built up of coral and shell hardened into limestone. The names of many of the islands are reminiscent of the great days of the buccaneers. Many of them have Post Offices on them, and such postmarks as Rum Cay, Pirates' Well, Green Turtle Cay and Deadman's Cay are to be found. The use of the word Cay in naming many of the smaller islands is interesting. This word is the same as the Key of the islands south of Florida and means simply a low islet. The number of islands in the 600-mile length is 29, and the number of cays are reckoned at 661 and the rocks at 2387.

All the Bahamas are low, the greatest height in the islands

being about 230 ft., with a soil that is thin, but fertile. The long list of fruits that grow well in the Bahamas includes olives, oranges, lemons,



pomegranates, pineapples, figs and bananas, while such woods as mahogany, ebony, logwood, and lignum vitae also are obtainable. This wealth of plant life is all the more remarkable because except in one island there are no running streams. Water is derived from wells, which seem to have some connection with the sea, as their level rises and falls with the tides. Native animals do not appear to have been plentiful in the islands, but birds abound, the most outstanding of these being flamingoes and humming birds, with parrots, pigeons, doves and hawks. The seas around the islands are no less prolific. They swarm with fish and are famous for their turtles.

Visitors to Nassau, the capital, on Providence Island, find evidence of the wealth of sea life around the Bahamas in the famous Sea Gardens, and readily scan the beauty of the exhibits in this, the finest display of marine life in existence, through the glass bottoms of the boats in which they sail over them. It is only natural that these wonderful Sea Gardens should be the subject of a Bahamas stamp design,



that of the 4d. value of an interesting set issued in July 1938. This stamp is light blue and red orange in colour. The 8d. value in the set, in ultramarine and scarlet, shows flamingoes in flight; these birds had previously appeared on a single stamp issued in 1935, of the same value and colourings. A third stamp was the 6d. value, in olive green and light blue, which pictured Fort Charlotte, one of the old

(Continued on page 248)

Spaniards, and later becoming a resort of countless buccaneers and pirates, including the notorious Blackbeard. In 1718 however a Crown

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For other Stamp Advertisements see pages 242 and vii.

Stamp Gossip

and Notes on New Issues

By F. E. Metcalfe

ALTHOUGH it is some time since the Crown Agents broke the news about the "Wedding" stamps for various parts of the British Commonwealth of Nations, collectors still continue to discuss these issues and it can be fairly stated that nine out of every 10 condemn them, owing to their huge face value. It is over a century since we first issued stamps, but there has never been anything like the crop of high values that are to appear this year. Collectors are complaining bitterly of exploitation, but this is surely overstating the case, for nobody is being asked to buy; at the same time it was apparently realised by the authorities concerned that most collectors would feel that they had to buy the stamps if they were to continue collecting colonial issues, and nobody can deny that the authorities have overdone it.

If the news wasn't bad enough about all the "Wedding" stamps, the Crown Agents have capped things by telling us that 11 of the Malay States are also to bring out new sets of stamps, each with a face value of about £1. This is proving a last straw to a number of collectors, and several known to the writer of these notes are putting their stamps away. Maybe it's a good idea while the summer is here, but when the long days turn to short ones, no doubt most of them will be just as keen as ever to resume their collecting activities, so it will not be wise to overdo things. The sensible course is to buy the stamps you can afford, and leave it at that.

In the meanwhile new stamps are coming out all the time, from every country, not just the Empire, and some of these stamps are not only attractive, but well within the reach of the pockets of most of us.

The two stamps for the Channel Islands which came out on 10th May continue to sell like hot cakes, according to a dealer, who states that never since the Edward VIII stamps were overprinted for use in the Morocco Agencies have stamps sold so well.

As for the stamps themselves, their reception has been favourable on the whole. They are no world beaters from an aesthetic point of view, yet how beautiful they appear alongside a recently issued stamp from Argentina, which according to the inscription is to help the Scholars' Crusade for world peace. Apparently even peace has its drawbacks.

A country which used to be very popular with British collectors was Czechoslovakia, and the set of three issued earlier in the year is not without interest

in view of the publicity which this country has received recently owing to political changes. These stamps show a



portrait of President Benes, a man well known in Great Britain. The writer of these notes undertook an air journey in February from Budapest to Prague; at least that was the idea, but the weather took a hand in things. The plane was forced down at Brno, and about the time we should have been having a nice hot meal in one of the many comfortable hotels in Prague, we were trying to push our way to a wooden building through a yard of snow. All ended well after a

seven-hour railway journey with only hard boards to sit on, a change from the luxurious seats in the plane, and the set of Czechoslovakia stamps bought later in the Prague Post Office are a nice memento of a rather eventful journey.

Last month some notes on that prolific stamp-issuing country Bahawalpur were given, and this month there is room to illustrate one of the really gorgeous stamps which have been printed in recess by Messrs. De La Rue. The set contains 14 stamps, and sells complete for about £2. This is somewhat over face value, as apparently dealers cannot get supplies in the ordinary way. It has to be admitted that the stamps really are magnificent and just the kind such a romantic country should have, but unless dealers are able to obtain supplies in a reasonable way they will probably leave them alone in future.

The American philatelic papers continue to discuss whether cellulose pouchettes, those small cellophane envelopes used by some collectors to protect their stamps, are safe to use or not. Great care should be taken that any stamps placed

in one of these affairs have plenty of room, for if the pouchettes shrink, as they frequently do, the stamps become creased and many valuable stamps have been spoiled in this way. Examine some of your stamps now, just in case, for summer is the worst time for this shrinking of cellophane.

The time grows near when the heralded catalogue for KG VI issues, which Gibbons are issuing, will be coming out, and collectors interested in these stamps should make sure of their copies by ordering in advance. It is said that there will be plenty to go round, but it is best to be on the safe side. Many who commenced to collect since the beginning of the war have never been able to get hold of a Gibbons catalogue. The last edition for British Colonial stamps brings several pounds a copy, and one was actually sold recently in auction for over £7.

The best tip that can be given this month is to advise collectors not to lose their heads over all these new stamps. Don't buy more than you can afford. After all stamp collecting is, or should be, only a hobby, and if it is going to be a worry it is best left alone; on the other hand, if you can afford these "Wedding" stamps buy them, for they should prove a good investment.



Competitions! Open To All Readers

Prize-winning entries in "M.M." competitions become the property of Meccano Ltd. Unsuccessful entries in photographic, drawing and similar contests will be returned if suitable stamped addressed envelopes or wrappers are enclosed with them.

Bird-Word Contest

This is the month when the thoughts of readers turn to outdoor occupations, and they take full advantage of the long summer evenings. We have kept this in mind in making plans for our chief competition this month, which is one that should not make too great a demand on the time of entrants. It is based on a puzzle that appeared in a recent issue of "Tracks," the magazine of the Chesapeake and Ohio Railway.

The puzzle itself has an outdoor air, for birds are concerned in it. The idea is simple. In the panel on this page are clues to 10 words, each of which is made up of two parts. The first part in each case is the name of a bird; the second is indicated by the clue that is given in each case.

An example will make this quite clear. Suppose that the clues given are "Bird + piece of rock." Here "piece of rock" obviously suggests stone, and the name

- | | |
|------------|-------------------|
| 1. Bird + | Traveller on foot |
| 2. Bird + | Direction |
| 3. Bird + | Plank |
| 4. Bird + | Poison |
| 5. Bird + | Certain |
| 6. Bird + | Rod or gate |
| 7. Bird + | Lead pellet |
| 8. Bird + | End |
| 9. Bird + | Goad |
| 10. Bird + | Small piece |

of a bird that goes with stone to produce a word is raven, giving as a solution raven-stone, which means a gallows. The 10 words that form the solution of our puzzle

are all well known, and we do not think that readers will have any difficulty in tracking them down.

The competition will be divided into two sections, one for readers at Home and the other for those living Overseas. In each of these sections there will be three prizes, of value 21/-, 15/- and 10/6 respectively, for the

best entries in order of merit. If there is a tie for any prize the judges will base their final decisions on the novelty and neatness of the entries concerned.

Entries in this Contest must be addressed "Bird-Word Contest, Meccano Magazine, Binns Road, Liverpool 13." The closing dates are 31st August in the Home Section and 28th February 1949 in the Overseas Section.

Figure Drawing Contest

The picture number contest, in our May issue has proved remarkably popular with readers, and the number of entries has been very large indeed. In view of this we have decided this month to give readers an opportunity of approaching such a competition from the other side, that is of providing a figure drawing themselves.

The subject of our May Picture Number Contest was a drawing of a stork carrying a basket. The drawing was made up entirely of figures, skilfully chosen and arranged to give the effect desired. The idea opens up many possibilities. Other birds or animals would provide good subjects for a figure drawing, while trees also are very suitable, and no doubt some of our wide-awake readers will find many novel subjects that can be represented in this way. Only the figures 1 to 9 are to be used, but those employed can be placed upside down or on their sides, and they may also be stretched out or distorted, provided that it is still easy to see directly what figure is meant.

With these simple rules as guides competitors are asked to complete figure drawings of any subject to which they are attracted, or which they think suitable for this method of drawing. Their entries should be addressed "Figure Drawing Contest, Meccano Magazine, Binns Road, Liverpool 13," and should be sent to reach this office on or before 31st August in the Home

Section and 28th February 1949 in the Overseas Section. In each of these sections there will be prizes of 21/-, 15/- and 10/6 for the senders of the drawings judged to be the best in order of merit. In addition there will be Consolation Prizes for other good efforts.

July Photographic Contest

In this, the 7th of our 1948 series, readers are asked to submit pictures of garden or park scenes. This is a month when flowers are abundant and trees and bushes are in full leaf, and every photographer will have ample opportunity for taking photographs in which they appear. Figures may be introduced into garden or park scenes sent in if the entrant wishes.

There are only two conditions, but these must be observed by all entrants. The first is that the photograph must have been taken by the competitor, and the second that on the back of the print must be stated exactly what the photograph represents. A fancy title may be added if desired.

Entries will be divided into two sections, A for readers aged 16 and over, and B for those under 16. They should be addressed "July Photographic Contest, Meccano Magazine, Binns Road, Liverpool 13." There will be separate sections for Overseas readers, and in each section prizes of 21/-, 15/- and 10/6 will be awarded. Closing dates: Home Section, 31st July; Overseas Section, 31st January 1949.

Competition Results

HOME

JANUARY 1948 PHOTOGRAPHIC CONTEST

1st Prize, Section A: R. R. Bushell, Hoddesdon; Section B: A. Lewis, Cardiff. 2nd Prize, Section A: Miss P. Bee, Broadstairs; Section B: W. L. Jowett, Norwich. 3rd Prize, Section A: P. F. Chapman, St. Leonards-on-Sea; Section B: L. Wyse, Galashiels. Consolation Prizes, Section A: R. Wrigley, Clitheroe; B. J. Huntington, Enfield. Section B: D. J. Stocks, Sheffield 6; B. H. Carter, Shipley; J. Tarry, Dagenham; P. Watts, Totton.

JANUARY 1948 RAILWAY QUESTIONS CONTEST

1st Prize: F. Mills, Kearsley. 2nd Prize: C. E. Wrayford, Bovey Tracey. 3rd Prize: A. Harrington, Staveley. Consolation Prizes: B. Clarke, Shipley; W. Tinkler, Carlisle; F. J. Brown, Coventry.

OVERSEAS

APRIL 1947 HIDDEN NAMES CONTEST

1st Prize: B. Biswas, Calcutta, India. 2nd Prize: J. F. Little, New Plymouth, N.Z. 3rd Prize: B. Bannett, Christchurch, N.Z. Consolation Prize: G. W. Longley, Walmer, S.A.

APRIL 1947 PHOTOGRAPHIC CONTEST

1st Prize, Section A: K. J. Milne, Hawk's Bay, N.Z.; Section B: R. T. Thomas, Montreal, Canada. 2nd Prize, Section A: S. Fields, Durban, S.A. Section B: D. F. Saunderson, Regina, Canada.

MAY 1947 ADVERTISEMENT CONTEST

1st Prize: S. F. Noble, Invercargill, N.Z. 2nd Prize: B. Biswas, Calcutta, India. 3rd Prize: J. Nielsen, Cape Town, S.A. Consolation Prizes: A. Imlay, Invercargill, N.Z., D. White, Christchurch, N.Z., J. C. Wheeler, Cambridge, S.A.

MAY 1947 STATION CONTEST

1st Prize: E. Nicholas, Buenos Aires, Argentina. 2nd Prize: J. Leslie, Hong Kong. 3rd Prize: J. Cooper, Berne, Switzerland. Consolation Prize: D. J. White, Christchurch, N.Z.

MAY 1947 PHOTOGRAPHIC CONTEST

1st Prize, Section A: R. Howes, Amsterdam, Holland; Section B: M. Gerria, Invercargill, N.Z. 2nd Prize: Section A: G. Jones, Marseilles, France; Section B: V. Wunak, Durban, S.A. Consolation Prizes: A. Benjamin, Germiston, S.A.; D. Schaffner, Heidelberg, S.A.

JUNE 1947 ERRORS CONTEST

1st Prize: J. A. Gomes, Bombay 20, India. 2nd Prize: J. A. Markham, Windsor, Canada. 3rd Prize: D. J. White, Christchurch, N.Z.

JUNE 1947 DRAWING CONTEST

1st Prize, Section A: J. Richards, Rangoon, Burma; Section B: R. Harris, Auckland, N.Z. 2nd Prize, Section A: K. B. Busby, Port Said, Egypt; Section B: G. H. Wood, Pietermaritzburg, S.A. 3rd Prize, Section A: T. Bury, Haifa, Palestine; Section B: S. F. Noble, Invercargill, N.Z. Consolation Prize: L. R. Dickson, Pretoria, S.A.

JUNE 1947 PHOTOGRAPHIC CONTEST

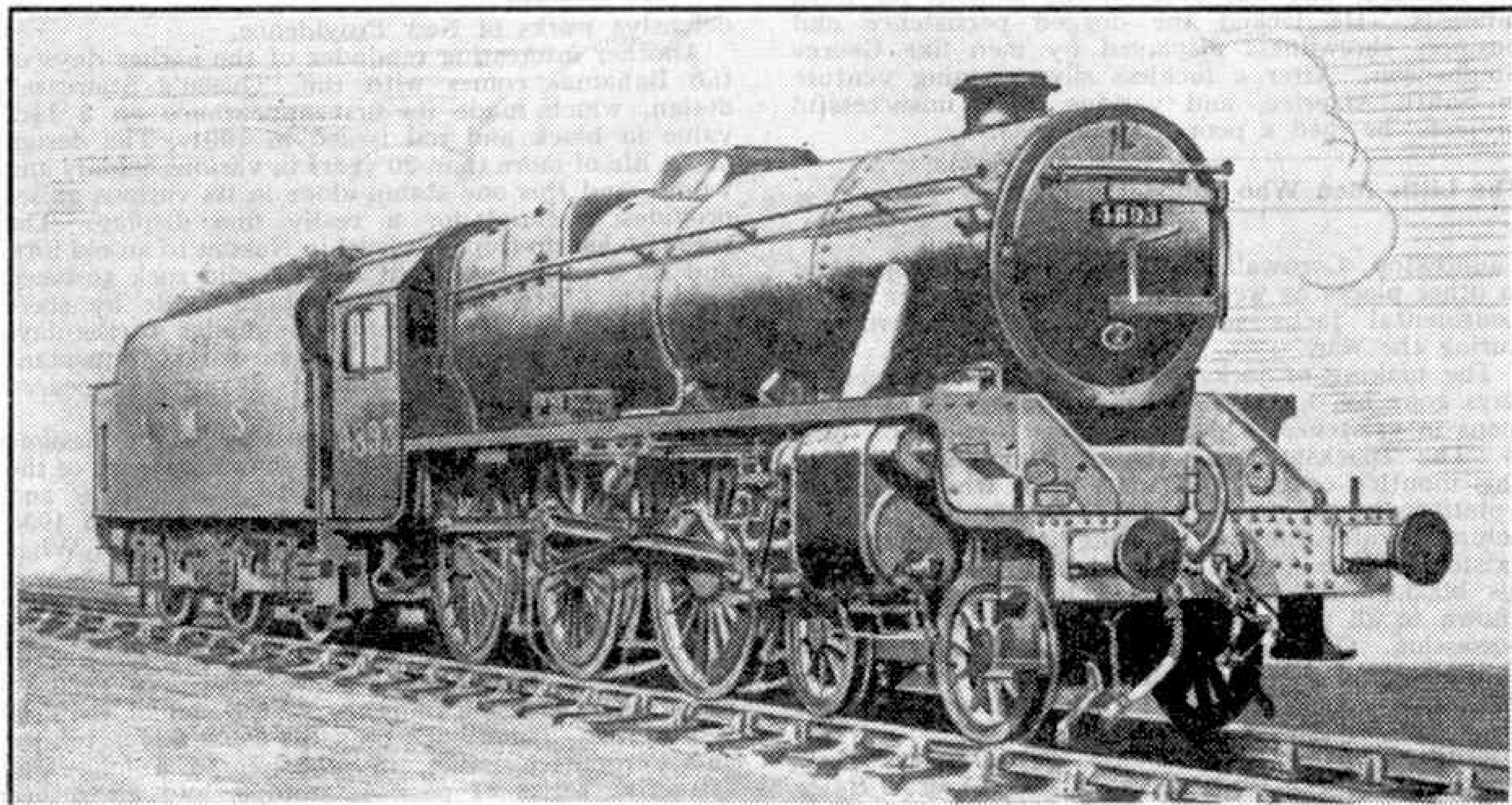
1st Prize, Section A: N. Tasker, East Malvern, Australia; Section B: B. Skelton, Johannesburg, S. Africa. 2nd Prize: Section A: A. Benjamin, Germiston, S.A.; Section B: A. McAuthur, Blenheim, N.Z. Consolation Prizes: J. Batty, Cape Town, S.A.; G. Hunt, Wellington, N.Z.; M. Weiner, Brakpan, S.A.; A. C. Murphy, Hamilton, N.Z.

JULY 1947 AIR LINES CONTEST

1st Prize: V. Terreni, Wellington, N.Z. 2nd Prize: J. Searson, Salisbury, S. Rhodesia. 3rd Prize: S. Hughes, Sydney, Australia. Consolation Prize: A. M. Meeleod, Chindwara, India.

JULY 1947 PHOTOGRAPHIC CONTEST

1st Prize, Section A: B. James, Oslo, Norway; Section B: W. Quale, Madras, India. 2nd Prize: Section A: H. Bateman, Hamburg, Germany; Section B: S. Burke, Jerusalem, Palestine. 3rd Prize, Section A: V. Booth, Valetta, Malta, G.C.; Section B: P. Waggott, Bombay, India. Consolation Prizes: L. D. Goldblatt, Randfontein, S.A.; F. D. Aria, Bombay, India; D. Woods, Perth, W. Australia; R. R. Vrynjas, Johannesburg, S.A.



"My Favourite Locomotive." Drawn by T. Berry, Liverpool; awarded 1st Prize in November 1947 Drawing Contest.

Richard Trevithick

Richard Trevithick, the brilliant if erratic Cornish genius, born in 1771, was the real pioneer of the steam locomotive. He built the first locomotive to run on a railway, in 1803, on the Pen-y-darran plateway in South Wales; and with another engine demonstration runs hauling passengers were made in 1804 on a circular track in London, near to the site of the present Euston Station. He had also made early experiments in steam road locomotion, and run a steam carriage experimentally in the streets of London.

Earlier still as a capable all round miner he had displayed extreme keenness and ingenuity in tackling



Richard Trevithick's cottage at Penponds, Camborne.

the engineering problems connected with mining in his native Cornwall. Here he introduced high-pressure engines—famous locally as "*Captain Dick's puffers*"—for mine pumping and winding purposes, as opposed to the low-pressure type of engines championed by James Watt.

Unfortunately Trevithick did not persevere with his schemes, but was ever on the lookout for fresh interests. He lacked the dogged persistence and business shrewdness displayed by men like George Stephenson. After a luckless silver mining venture in South America, and various other unsuccessful projects, he died a poor man in 1833.

The Little Men Who Sound the Hours—

(Continued from page 228)

Launceston, Cornwall, in the Carfax at Oxford, and in other places as well. Sad to say, a number of the Continental jacks seem to have been destroyed during the war.

The making of jacks is by no means confined to days gone by, for there are some fine modern specimens in existence. One of the most famous of these is "The Blacksmith of Abinger Hammer" seen on this month's cover. This little man, who stands on a platform by the roadside at Abinger Hammer, Surrey, commemorates the iron-working industry that once existed in the district. He strikes the hours with his blacksmith's hammer, and has become so well-known to all passers-by that he is almost a national possession. On most summer days he has an hourly audience, and even passing buses have been known to linger so that their passengers can see the smith at work. On the casing above the figure are two inscriptions, one of which says "*By Me You Know How Fast To Go,*" and the other, "*For You At Home I Part The Day, Twixt Sleep And Meals And Work And Play.*" The clock was erected by the late Lord

Farrer, made by John Smith and Sons, of Derby, and placed where it is, overlooking the cross-roads in the village, it forms one of the most charming time-keepers in existence.

A modern group of jacks is to be seen at Silchester, near Reading. Here five figures, representing Father Time and his family, chime the quarters on four bells, and strike the hour on a larger, fifth bell. Father Time, as befits his dignity, sees to the striking of the hour, and his children and grandchildren sound some special chimes which are now known as the "Silchester Quarters." The jacks are on Silchester House and the clock which works them was made by Mr. T. M. Hartley, who lives there. The little figures were carved by Mr. Herbert Read of Exeter, and look astonishingly lifelike.

Another group of modern jacks chimes the quarters from above a clockmaker's shop in Gloucester, and still another used to be one of the sights of Cheapside, London, until the late Mr. Henry Ford bought it and took it to America. The principal figures of this London group were Gog and Magog, the traditional giants of London. Another modern, but now vanished, pair of jacks used to announce the times in Balham, in South West London. They represented Father Time and a Huntsman, and were also above a clockmaker's shop.

Perhaps the oddest jack of all is one that was made by a garage owner in Merton, Surrey. This little "Iron Man" was worked by compressed air from the tyre pumping plant, the valve which made him raise his arms and strike the bell being controlled by a clock inside the building. The figure was entirely built-up of sheet steel, riveted together, and stood in a niche with the bell in front of him. He became quite famous in the neighbourhood, but he was unfortunately wrecked by a bomb, and has not been replaced.

From Jack Blandifer at Wells to this little steel robot is a long journey through time, but it seems that these odd little jacks still have an attraction for many people, and so we may not have seen the last of the little men who sound the hours.

Stamp Collecting—(Continued from page 243)

defensive works of New Providence.

Another interesting reminder of the earlier days of the Bahamas comes with the "Queen's Staircase" design, which made its first appearance on a 1½d. value in black and red issued in 1901. The design had a life of more than 20 years in various colours and values, and this one stamp alone in its various guises provides material for a really fine display. The staircase led up from sea level in Nassau to an old fort, and its 66 steps were cut out of solid rock surfaced by brick. It is said to have been made by slave labour, and it is therefore a reminder of the days when slavery was rife and Nassau was an important slave market. This institution finally disappeared in the West Indies in 1838.

There are many other interesting stamp designs from the Bahamas. One of these shows the arms of the island and carries the three dates, 1629, 1729 and 1929; it appeared on an issue of five values in 1930 to celebrate the tercentenary of the colony. What appears to be the bicentenary of British rule was celebrated by a War Charity stamp of 1918, using the Queen's Staircase design, with the date 3.6.18 as part of the overprint. Another arms stamp with a portrait of King George V was issued in 1920 to mark the conclusion of peace at the end of the first World War. There have been the usual Silver Jubilee and Coronation issues, in addition to a long and attractive series of portrait stamps, and altogether there is both variety and interest in the many stamp issues of these islands.

Fireside Fun

"I see it says here that a great many accidents occur in the kitchen."

"I know. I've eaten quite a few myself."

Shop Manager: "What do you mean telling the lady she could get what she wants at Smith's Store? What have they got we haven't?"

Assistant: "The No. 4 bus stop, sir."



"Stop laughing at me, Willie. Father, speak to him."
"Hello, Willie."

"What's that big thing over there?" asked the visitor at a locomotive works.

"A locomotive boiler, madam."

"Oh. I didn't know they boil locomotives. Why do they do that?"

"It's to make them tender, madam."

"Here are a dozen sweets to share between you and your sister. Now how many will she get?"

"Four."

"Dear me, can't you count?"

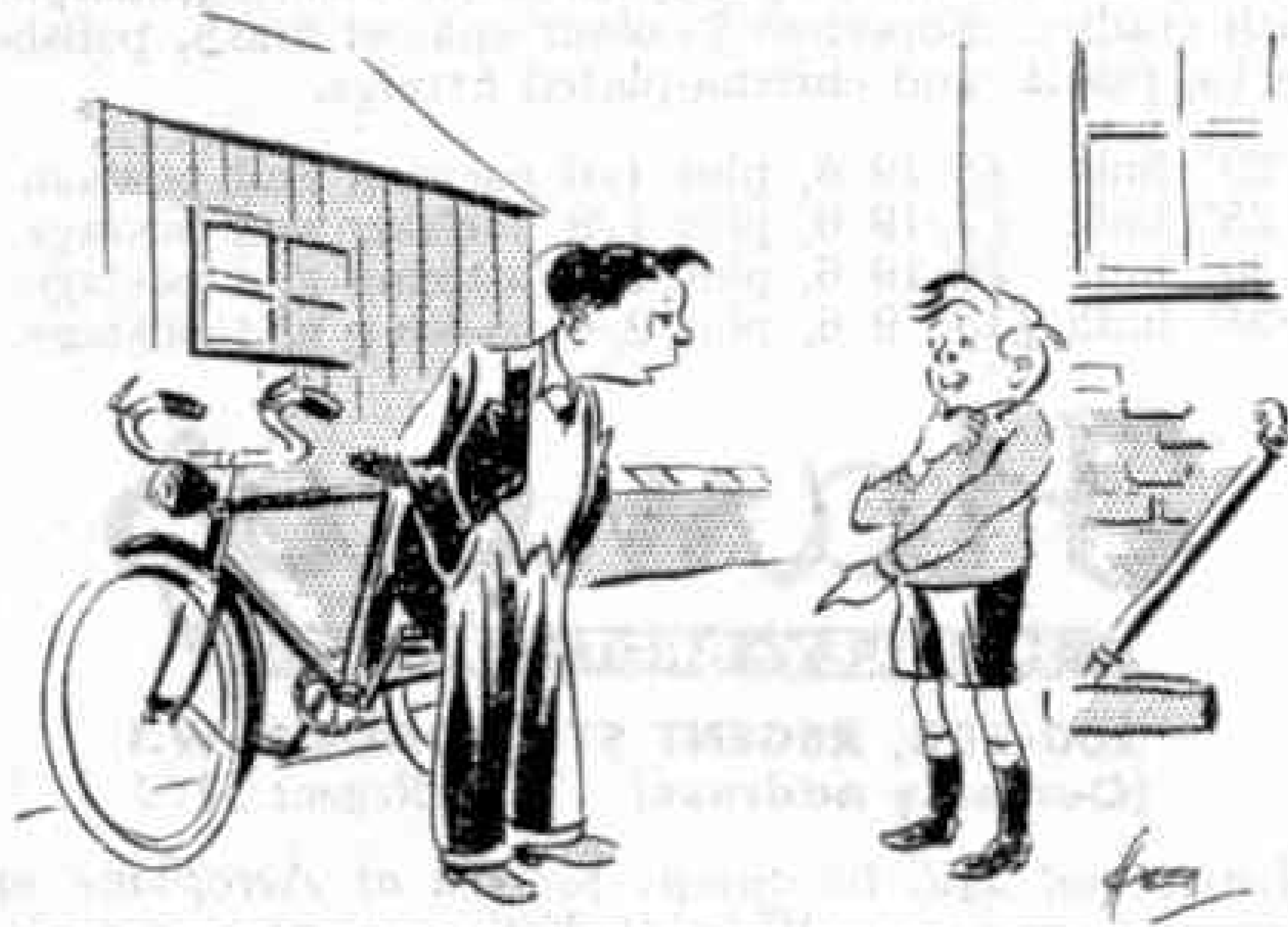
"Oh, yes, but she can't."

Warder (at 1 a.m.): "Aren't you asleep yet?"

Burglar: "No. It's so strange to be in bed in the middle of the night."

Elder Sister: "Come on, Clarence, take your powder like a man. You never hear me making a complaint about a little thing like that."

Clarence (peevishly): "Neither would I if I could daub it on my face."



"What would you do if you were in my shoes?"
"Shine 'em."

BRAIN TEASERS UNRECOGNISABLE?

Let us look back to the football season for a moment. Rearranging the names of certain very well-known English League teams gives the following extraordinary results: 1, SANALER; 2, POLREVOIL; 3, TUMSHOPROT; 4, MAPSONUTHOT; and 5, HERHAMTOR. What are their names? M.H.K.I.

CRICKET TESTS

Now let us be more seasonable and deal with cricket records. Do you know: 1. What is the highest individual score ever made in a Test Match, and who made it?

2. Who made the greatest number of centuries in one season, and how many did he make?

3. Which players hold the record for the greatest number of successive centuries?

4. Who scored the fastest century in first-class cricket?

5. Who scored the greatest number of runs in a first-class cricket career, and who took the greatest number of wickets?

CAN YOU SEE THROUGH THIS?

Here is a neat little number problem, which doesn't require much pencilling. Adding AB to CC gives CDD, where each letter represents a number. What are these numbers? S.W.C.

RIDDLES TO REDE

When can you carry water in a sieve? When is an author a jeweller? What creature is more wonderful than a horse that can count? Why are the clouds like hansom cab drivers?



"Quick! Daddy's being chased by the bull."

"What do you want me to do?"

"Put a new film in it."

SOLUTIONS TO MAY PUZZLES

Tommy Green owed 1/- to the newsagent, unless of course the shilling that he found on the counter really had been left there by a customer who had forgotten to pick up his change.

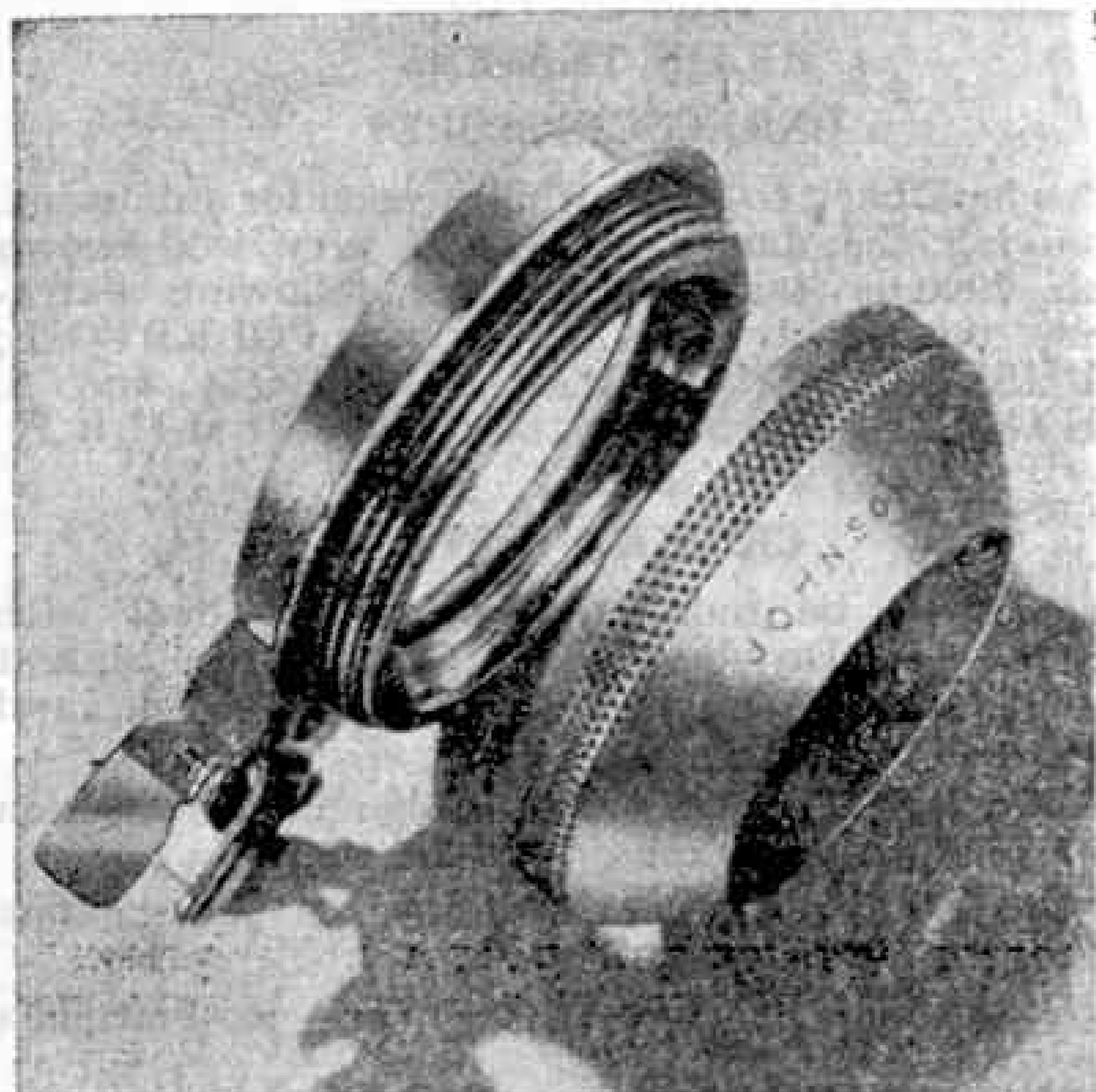
The five birds in our second puzzle are: 1, WREN; 2, ROBIN; 3, THRUSH; 4, HAWK; and 5, DUCK.

The famous city in our third May puzzle is BIRMINGHAM.

The successive words in our fourth puzzle are as follows: I, IN, KIN, LINK, LIKEN, NICKEL, CRINKLE, CLINKERS.

THIS MONTH'S HOWLER

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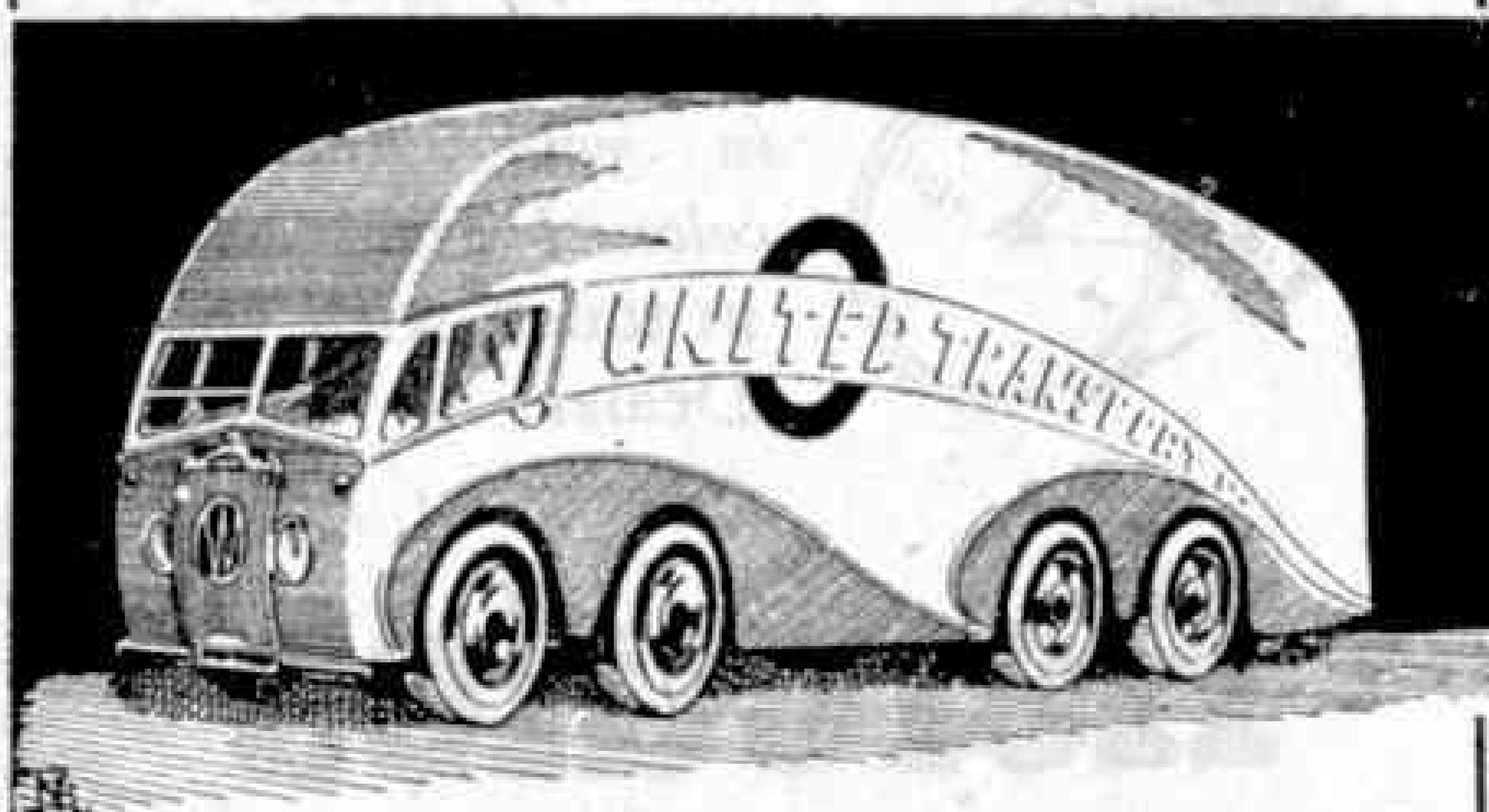
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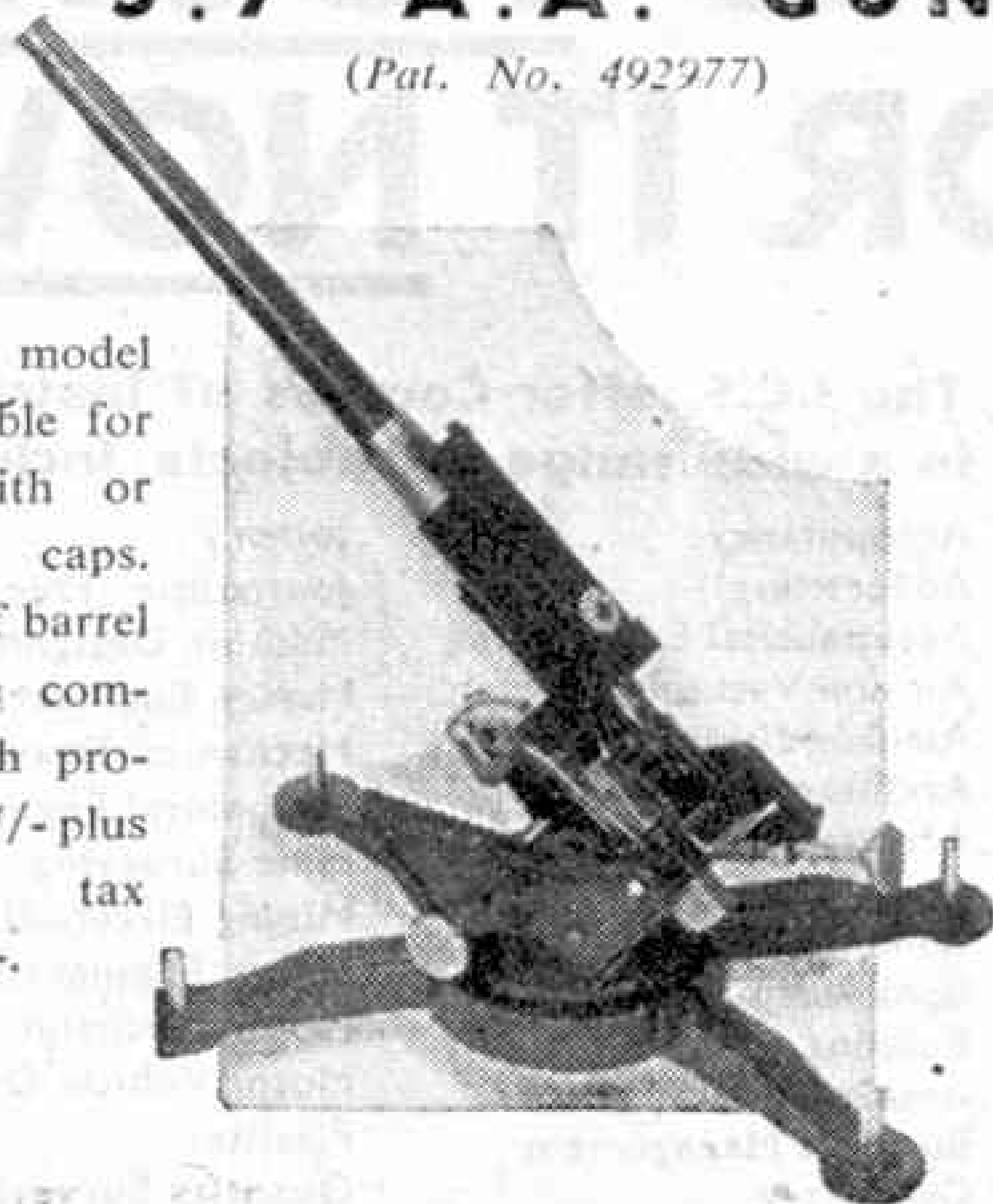


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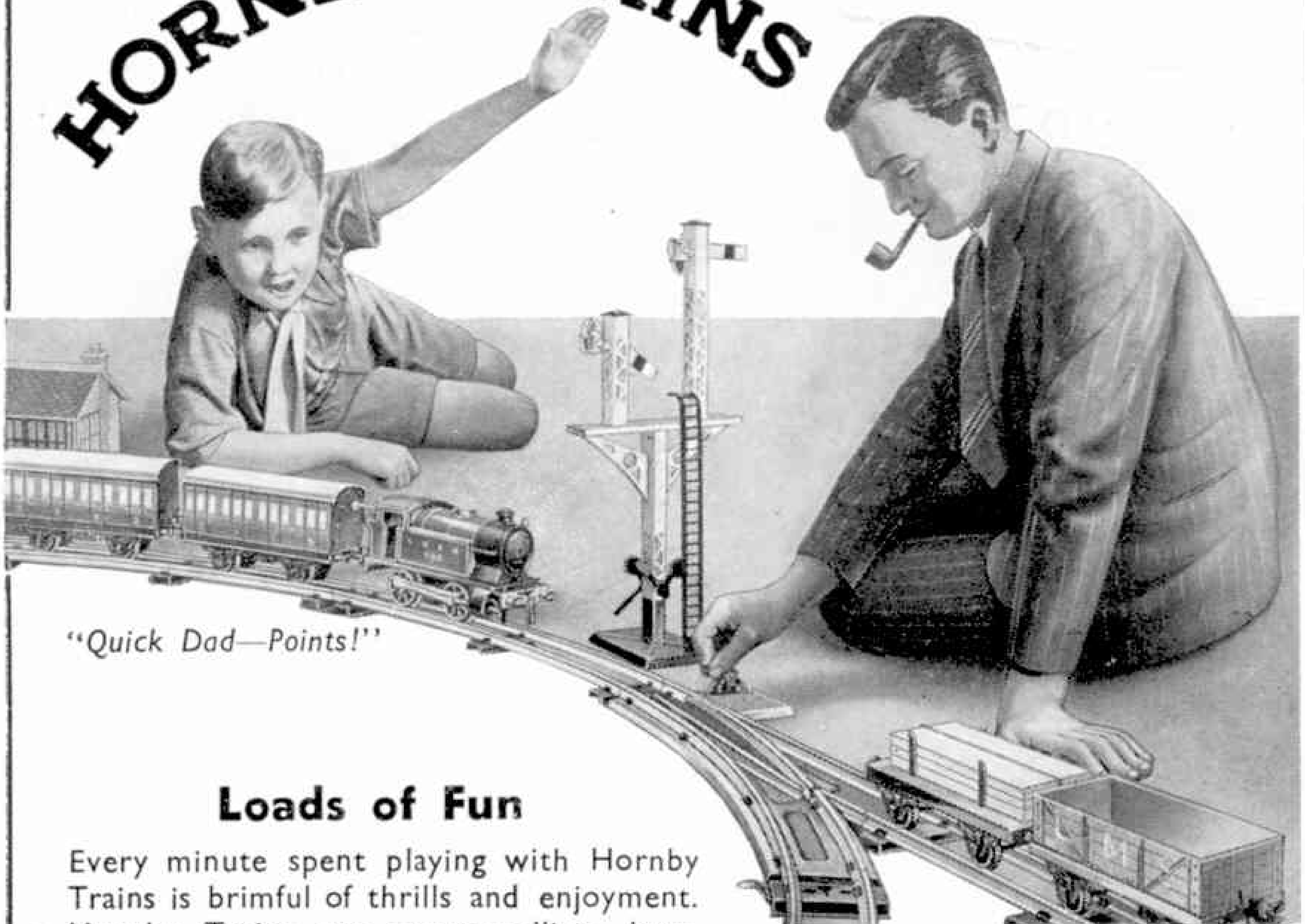
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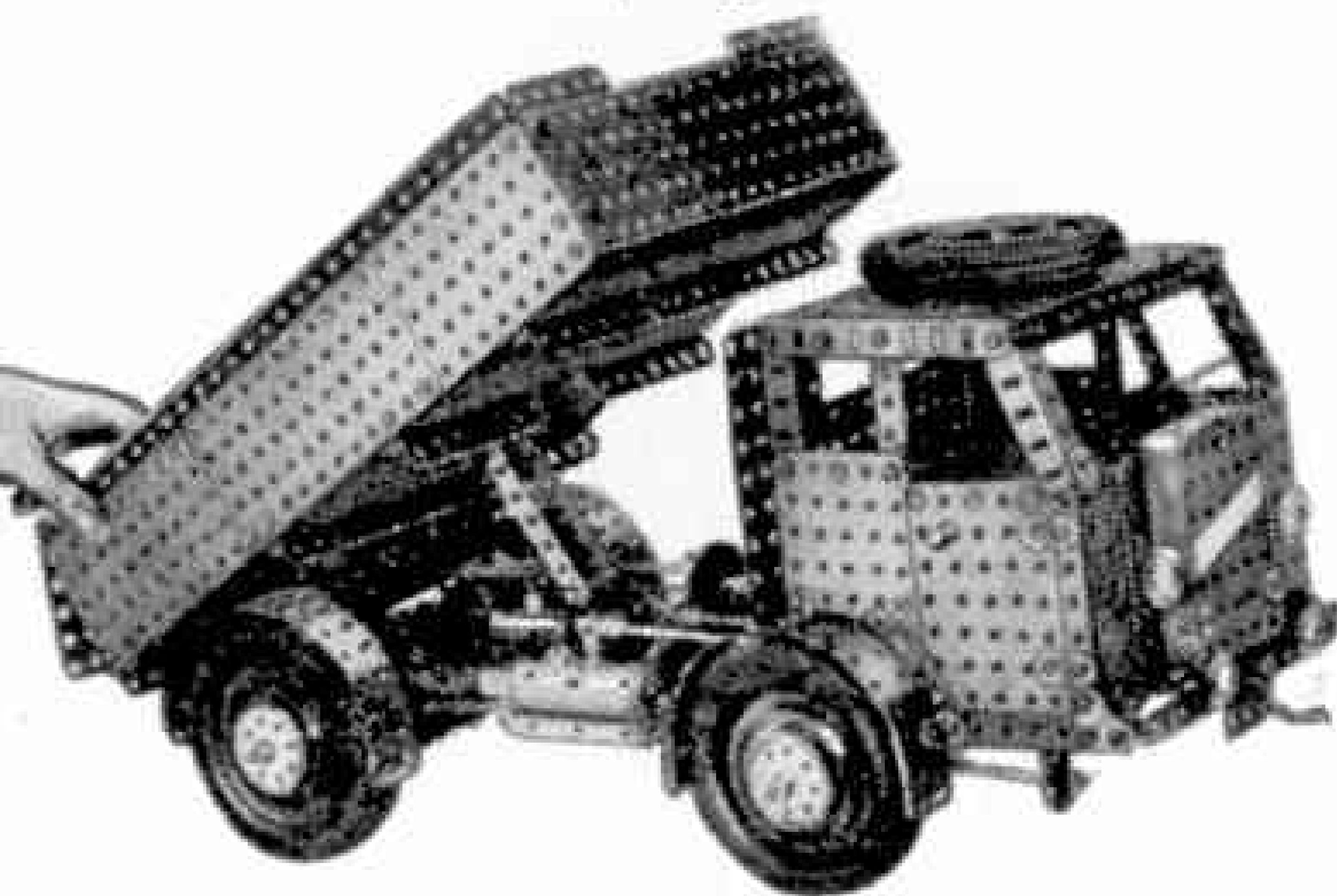
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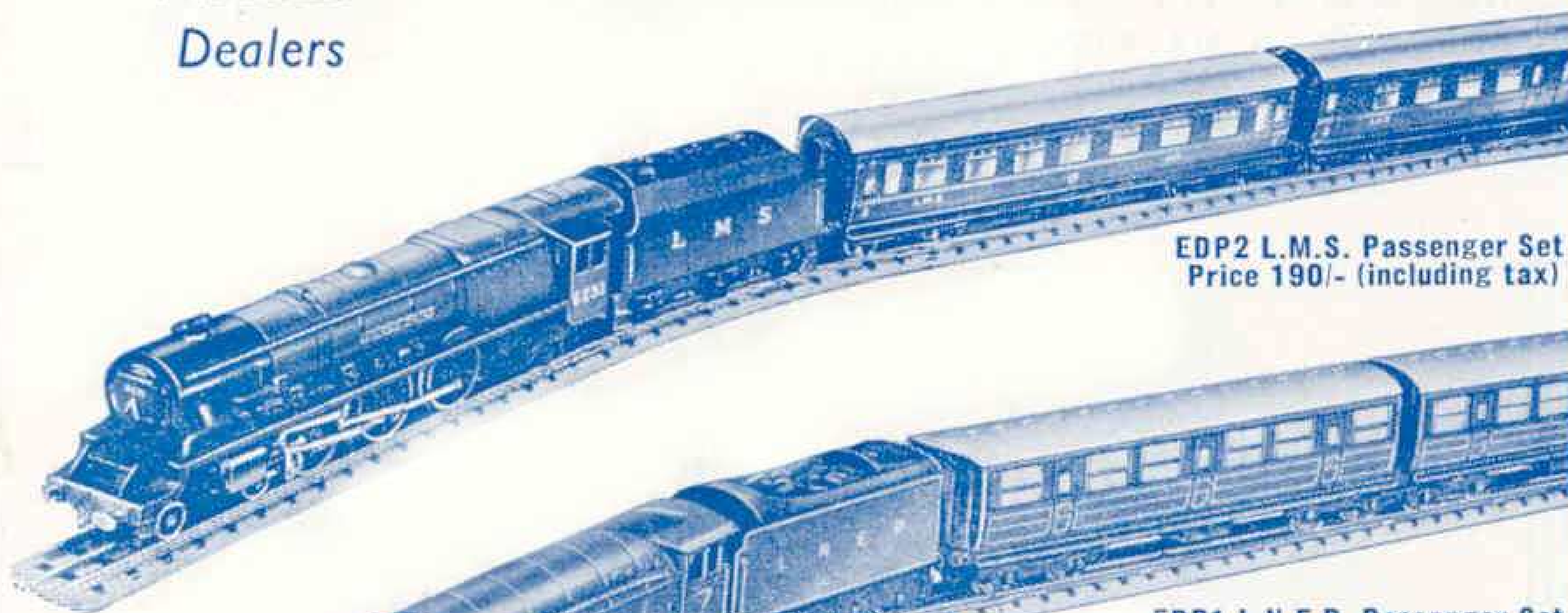
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