

In this way vast quantities of ore were torn out of the earth. A smelting plant was established about 20 miles away and a railway was laid down to convey the ore from the mine to the smelter.

Mineral Wealth of Lake Superior Region

The vast mineral wealth of the Lake Superior region must have been known at a very remote period of history. As the country came to be opened up in modern times it was found that there existed indisputable evidence of ancient workings. In the course of mining operations pits were discovered penetrating as far as 50 ft. into the solid rock, and all round were signs showing the activity of these long-forgotten miners of antiquity. In particular, large masses of copper were found that apparently had been too heavy for the ancient miners to handle. In 1760 a huge mass of copper was discovered, so large that at first it defied all efforts to remove it. In 1842, however, an expedition succeeded in removing it and it was sold to the United States Government and placed in the grounds of the War Department at Washington. Later an even greater mass of copper was found, containing something like 500 tons of the pure metal. It was, indeed, so massive that twenty men were occupied for a year and three months in moving it piece by piece!

After about the middle of last century, copper mining developments proceeded rapidly and some of the most remarkable mines in the world were opened up. Enormous shafts were sunk, some of them being a mile in depth, and from these shafts the lodes were worked to distances as great as two miles. Engines of tremendous power were installed to lift the ore to the surface and to drive the great fans necessary for the ventilation of the shafts.

The Rio Tinto Mine

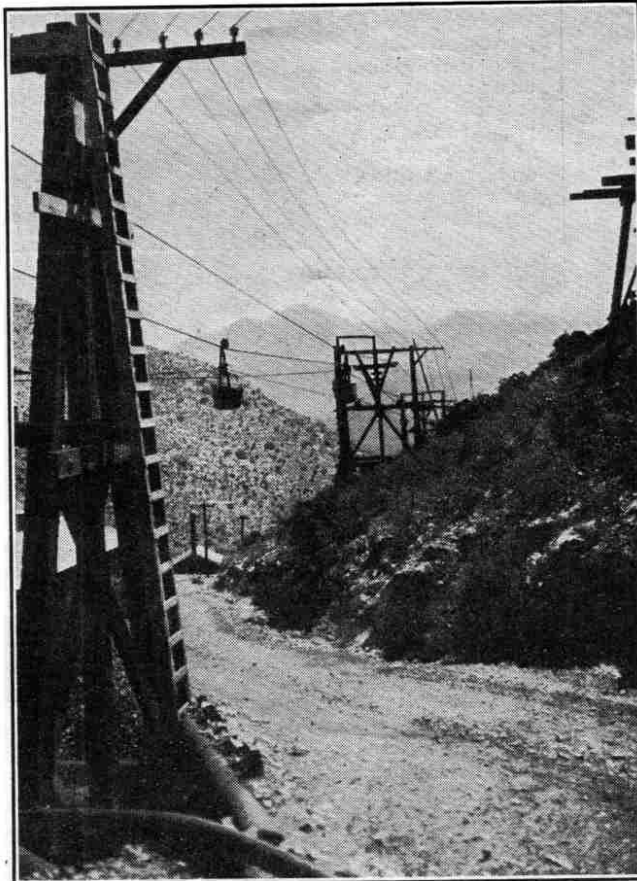
The story of copper mining in the Rio Tinto region of Spain is particularly interesting. The mineral wealth of Spain was known ages ago to the Phoenicians, who carried out gold mining operations on an extensive scale. At a later date the Romans sent thousands of unfortunate captives to toil in the mines, and the wealth of Rome at the height of its glory was largely derived from this source. From the time when the power and greatness of the Roman Empire began to decline, the Spanish mines fell into disuse, and for some centuries they remained more or less idle. Even in the days of Spain's greatness as a maritime nation the mineral wealth at home was practically ignored, while people were willing to face all kinds of difficulties and danger in order to reach the then newly-discovered mines of Mexico and Peru.

Mr. W. R. Lawson, in his interesting book "*Spain of To-day*," writes: "It is a strange example of the irony of history that, when Columbus sailed on his first voyage to America, he left behind him, within 50 or 60 miles of the fishing port he sailed from, mineral deposits which were destined to produce a more famous

mine of its kind than has yet been discovered across the Atlantic. The dark waters of the Rio Tinto, on which his pioneer ships floated out into the unknown ocean, owe their colour to a mountain of copper."

Early History

The early history of mining operations in the Rio Tinto region is wrapped in obscurity, but we know that from about the middle of the sixteenth century



Aerial Line for Transporting Copper Ore

Copper ore from the Shattuck mine, Arizona, is transported by a three-mile aerial cableway to Bisbee, from whence it is shipped to the smelters

various Spaniards attempted to work the deposits, generally with little success. The first man to tackle the problem on serious lines was a Swede named Wolters, who leased the mine from the Government in 1725. He had little difficulty in forming a company to provide the necessary capital, but unfortunately he fell out with the shareholders and had accomplished very little at the time of his death.

The property then passed to his nephew, who was so handicapped by legal disputes that his efforts at production were also entirely thrown away. After this the Spanish Government worked the mine, but with very poor results, and it was not until 1873 that real progress commenced, when the mine was acquired for £3,712,000 by an Anglo-German financial group.

From that time steady progress was made and the mine was developed until it became the largest in the world, covering an area of about eight square miles. The working was carried out partly by quarrying into the hillside and partly by driving tunnels into the rock.

Description of the Mine

To quote again from "*Spain of To-day*": "The area of the mine is covered from end to end with masses of red and grey earth looking like gigantic ash-heaps. A few of these are the natural hill-tops, which it has not been thought worth while to remove; but most of them are artificial mounds formed during the operations of the mine. That towering mass of broken slate and granite in the distance was made by the Romans, whose implements and domestic utensils are found in it to the present day. That high embankment of blood-red clay and porphyry, with two lines of railway running along the top of it, is 'overburden.' It represents millions of tons' weight, and has been carried miles away from where Nature placed it. In the hollow below there is as much slag or cinder from the blast-furnaces as would pave all London, and it is but a fraction of what the furnaces have turned out. Every year thousands of tons of it are put on the railway as ballast, and wherever a chance occurs it is made away with, but still it goes on growing.

"Rio Tinto was wild and desolate enough when the copper miners laid hold of it, but that was grace and beauty compared with what it is now. Pluto himself, lurid as his fancy is supposed to be, could not have conceived the idea of such a scorched, scarified, and grimy wilderness as it has since become. It is pandemonium painted red and set out to roast in a blazing sun. . . . The terraces (of the open-casts) are traversed by nearly sixty miles of railway, on which more than thirty locomotives and 750 wagons are running daily. From one end of the workings to the other is a journey of seven or eight miles, curving in and out of hollows, crossing points, running up one slope and down another, and your engine all the while shrieking to signalmen at every few hundred yards. Walking is out of the question in such a country."

Australian and African Mines

Large quantities of copper are produced also in Australia, notably at the Mount Lyell mine in Tasmania. This mine is situated in mountain wilds far from any centre of industry. Its surroundings furnish a striking example of the evil effects of the fumes resulting from copper smelting. The trees that formerly covered the mountain slopes have vanished, leaving only dead and blackened stumps, and vegetation of all kinds is practically exterminated over a considerable area. At Mount Lyell the copper is won largely by quarrying operations from an enormous open mine. Queensland also produces a large amount of copper and the output from this region is growing steadily as means of transport improve.

Other great copper-producing regions are situated in Japan, Chile, Mexico, Canada and Africa. The African copper field, which is situated near Lake Tanganyika in the heart of the continent.

(Continued on page 139)



THE MECCANO GUILD
The Secretary's Notes.

Now that Spring is approaching it is time to be thinking of Outdoor Sports for the coming season, and all Leaders and secretaries should be making arrangements for their clubs. Cricket fixtures should be drawn up in good time, otherwise it will be found that local clubs are booked up and there will be little opportunity of securing a good fixture list. Delay may even result in not having enough games to carry through the season. If it is proposed to form a Cycling Section, every effort should be made to get the members together and map out the programme for at least the first part of the season. It will be found that members will be much more enthusiastic when a definite programme has been arranged, as they will then know exactly what is going to take place. It may happen that some members are more keen on walking tours and do not wish to take part in Cricket or Cycling. In these cases walking expeditions may be arranged to take place once a week, when the surrounding country can be explored.

The Spring Session

It cannot be too strongly emphasised that now is the time to hold a conference to discuss all outdoor amusements. If matters are left until the Summer comes it will be found that many boys have taken on something else and cannot spare the time. A club that has its programme made out beforehand and run in a business-like manner will always be found much more flourishing than a club run in a haphazard manner. Whatever game or recreation it is decided to take up, make your arrangements now. It is rumoured that we are to have a really good Summer, the Sun having just recovered from a two years' chill!

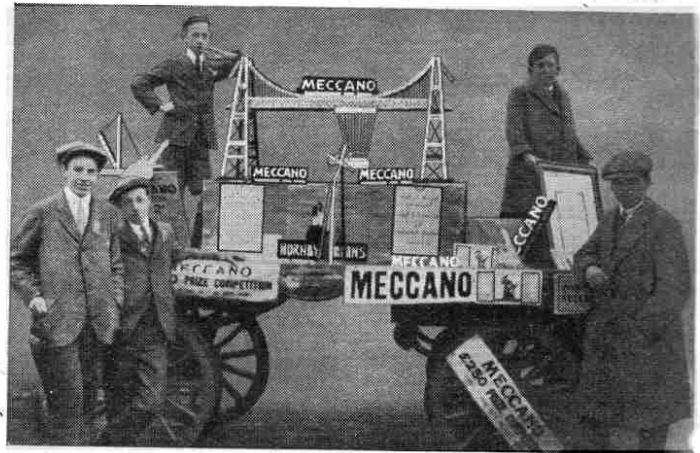
Making Plans Early

I should like to take this opportunity of suggesting to Club Leaders that they should seriously consider the question of a Club Camp sometime during the Summer. The majority of boys have their Summer holidays at approximately the same time and—provided, of course, that the Leader is able to fit in part of his holiday—there should be little difficulty about obtaining the necessary members for the camp. A camping holiday, given reasonably good weather, is not only ideal from the point of view of health and outdoor pleasure of the best

Club Camps

type, but it also has another great point in its favour—it results in those taking part getting to know one another's real characters in a way that might take years under conditions of ordinary living.

The Ellesmere Port M.C. took full advantage of a local Procession and Fête to gain more members for their club. A lorry cleverly decorated with Meccano Models, including Dutch Windmill, Crane, Aeroplane, Meccano Family and other models, was entered in the procession. This attracted considerable attention, and although the club did not receive a prize their exhibits were greatly admired, as was shown by the size of the crowd that assembled around the lorry while the judging was going on.



The Ellesmere Port Club was started in February 1924, and became affiliated with the Guild in April of the same year.

The club's success is largely due to the splendid Leadership of Mr. G. Hyde, who takes a keen interest in the boys and in Meccano Model-building, and also to the enthusiasm of W. H. Hope, the secretary.

The experience of those Leaders who have taken their club members to camp, even if only for a very short period, has been that the club has received a very great increase in strength and vitality. The close companionship of camp has broken down any barriers that previously may have existed between various sections of the club and has produced a new spirit of enthusiasm that has resulted in marked progress in every branch of the club's work. In addition, a short period in camp enables

Camps Promote Good Fellowship

Leader and boys to appreciate one another's good points, and produces a feeling of mutual trust and confidence, the value of which cannot be over-estimated. Those clubs that have cycling sections can get further afield than those who depend only on "shanks' pony," but in either case there is a great deal of healthy fun to be obtained from even a long week-end "under canvas."

During the past year I have noticed a growing tendency among the larger Meccano clubs to form sections devoted to individual subjects. In almost every case where this policy has been adopted the result has been to strengthen the club in every respect, and next month I intend to deal with this interesting subject in some detail.

Affiliated Meccano Clubs of the British Isles

Second List

Town.	Club.	Secretary.
ALLOA (SCOTLAND)	CHALMERS CHURCH M.C.	Wm. Henderson, 13, Paton Street.
BIRMINGHAM	HANDSWORTH M.C.	N. J. Robertson, 30, Henstock Road, Handsworth Wood.
CHARD (SOMERSET)	CHARD M.C.	Wm. Sanders, Stanford House, Upper Combe Street.
CHELMSFORD	GREAT BADDOW M.C.	G. T. Kemp, 5, King Edward Terrace, Beehive Lane, Baddow Road.
HARWICH	HARWICH M.C.	A. E. W. Ward, Osborne House, Pepys St.
LINCOLN	WASHINGTON M.C.	T. Smith, 3, Stamford Villas, Washington, Lincs.
PEEBLES	PEEBLES M.C.	Andrew Ker, 1, Ker Place.
WOLVERHAMPTON	DUDLEY M.C.	Leader: Mr. L. Lewis, 2, Thornley Street.
LONDON AND DISTRICT		
BARNSBURY	HOLY TRINITY M.C.	S. A. G. Bone, "The Rosary," Kents Hill Road, South Benfleet.
HORNSEY	STATIONERS' SCHOOL M.C.	Master Greenway.
ILFORD	SOUTH PARK M.C.	N. Tweddell, 103, Breamore Rd., Seven Kings
LEWISHAM	ST. MARK'S M.C.	G. C. Green, 21, Hafton Rd., Catford, London, S.E.6.
NEWINGTON	ST. MARY (NEWINGTON) M.C.	Mr. C. A. E. Curle, 37, Pullen's Flats, Peacock Street, London, S.E.11.
RICHMOND (SURREY)	RICHMOND M.C.	E. J. C. Smith, 70, Lower Mortlake Road.
RUISLIP COMMON	RUISLIP COMMON M.C.	L. Ive, Chestnut House, Ruislip Common.
SOUTHALL	SOUTHALL M.C.	(Leader) Mr. E. C. Carpenter, 56, Hammond Road, East Southall.
SURBITON HILL	SURBITON HILL M.C.	A. G. Eley, 102, Tolworth Park Rd., Surbiton.



CLUB NOTES

Harwich M.C.—Excellent progress has been made and affiliation with the Guild was granted in January. The Leader, Mr. Hogg, recently gave a lecture on "Art," at which a number of his paintings were shown. Parents and friends were invited to this lecture and this has been the means of impressing many people with the great advantages of a Meccano Club. The session's programme includes Lectures, Model-building, Table Tennis and an Exhibition. *Secretary:* E. W. Ward, Osborne House, Pepys Street, Harwich.

Grimsby Central M.C.—Session commenced with a talk by Mr. Gibler, the Leader, in which he complimented the boys on the way they had worked together during the previous session. Special Merit Medallions have been awarded to H. T. Christian and J. H. Boreham for the best lecture and best all-round work respectively. The Vicar of St. John's Church, Grimsby, has kindly allowed the Club to insert a notice every month in the Parish Magazine. It is proposed to hold an exhibition shortly. Club roll: 31. *Secretary:* J. H. Boreham, 277, Cleethorpes Road, Grimsby.

Claygate Juvenile M.C.—Good progress is maintained in the boys' section with Model Engineering and Carpentry, and in the girls' section with Needlework and Knitting. A Whist Drive was recently held, the proceeds of which went towards a "Tea Party and Entertainment" for the old people of Claygate. Club roll: 86. *Leader:* Mr. J. W. Haynes, "Fontmell," Covers Road, Claygate, Surrey.

1st Herne Bay M.C.—Some splendid "table games" have taken place, and competitions have been held and prizes given. A musical evening was given by the members when Master C. W. Russell played his violin and other members played quite well on mouth organs. The rifle range is still as popular as ever and some excellent shooting has taken place. Club roll: 13. *Secretary:* C. W. Russell, 4, Clifton Villas, Herne Bay.

Holy Trinity (Barnsbury) M.C.—As a result of experiments carried out last session the sections have been revised, and now consist of Model Railway Building, Engineering, Fretwork, Radio and Motor and Dynamo construction. Each section has its own particular officer. Many of the articles made are to be sold and the profits devoted to buying further material or towards stocking the Club's stall at the annual Sale of Work. Other activities include a Concert, "Esperanto" Classes and Club outings at Easter and Whitsuntide. Special Merit Medallions have been awarded to A. Smith and W. Kebed for the best lecture and the best all-round work respectively. Club roll: 30. *Secretary:* S. A. G. Bone, The Rosary, Kents Hill Road, South Benfleet, Essex.

Parkstone Congregational M.C.—Mr. Carlisle, the Leader, has unfortunately been obliged to resign, but it is hoped to get another Leader shortly. In the meantime the members carry on with Model-building and Sports. Club roll: 10. *Secretary:* E. J. Street, Bradley, Sandbanks Road, Parkstone, Dorset.

Rosyth M.C.—A Club Magazine has recently been published and it is expected that it will have a good circulation in the district. Mr. Stannard, the Leader, has resigned, and Mr. Cook has now undertaken the Leadership. Club roll: 9. *Secretary:* E. F. Hunter, 79, Admiralty Road, Rosyth, Fife.

West View (Nottingham) M.C.—Prospects are very bright. A good programme has been drawn up including Model-building, Speed Competitions, Wireless Lectures and making Wireless Sets, Stamp Collecting and Lectures on Famous Men. It is proposed to form a special section for Wireless, and possibly other hobbies, for the members who wish to press forward in any particular branch. Club roll: 28. *Leader:* Mr. H. W. Cousens, 494, Mansfield Road, Sherwood, Nottingham.

South Park M.C.—A successful exhibition has been held in the School Hall, and the two models which reached the highest standard of efficiency were Mechanical Navy and Loom. In addition to Model-building the Club has Electrical and Fretwork Sections in which some very good work has been produced. Club roll: 42. *Secretary:* N. Tweddell, 103, Breamore Road, Seven Kings, Essex.

Buckfastleigh (Devon) M.C.—Is unfortunately without a Club room. In the meantime members have carried on a strenuous recruiting campaign which has resulted in gaining 20 new members. Club roll: 46. *Secretary:* H. J. Parsons, Bell Cottage, Buckfastleigh, Devon.

Boroughmuir School M.C.—Has held a successful Exhibition at which the principal exhibits were a Model Railway Layout, Wireless Sets of all descriptions, and Woodwork. A splendid scheme of decoration was carried out which assisted in attracting visitors, who paid a penny for admittance. Altogether £3/6/0 was taken, half of which went to the Children's Hospital and the remainder to the Club. The Club's Jazz Band is to be revived this year with the addition of two violinists. Club roll: 42. *Secretary:* J. D. Watson, 1, Alanley Terrace, Edinburgh.

Chalmers U.F. Church (Alloa) M.C.—Is making good progress under the leadership of Mr. J. Meins. Recently a musical evening was held at which a few kind friends presented the Club with a sum of money to give all the members a treat. Club roll: 24. *Secretary:* W. Henderson, 13, Paton Street, Alloa, Scotland.

Boston (Lincs.) M.C.—Members are preparing for an Exhibition to take place early this month. Recent activities include Model-building, Fretwork, and a Social at which several visitors were present and a most enjoyable evening was spent. Club roll: 30. *Secretary:* R. Robinson, 30, Woodville Road, Boston, Lincs.

Meccano Club Leaders

No. 19. Mr. J. W. Haynes



The Claygate Juvenile Club, of which Mr. J. W. Haynes is the energetic Leader, was started in 1919. At first the members paid a subscription of a penny per week, and the meetings were held in the Council School Room. As the membership grew, concerts and sports were arranged in order to raise funds to build a hut in which to hold meetings. These efforts succeeded so well that to-day the Club has a large hut of its own, lighted by gas and fitted with forms and tables and carpenter's benches and tools. It may be mentioned also that the Club possesses a small but useful banking account.

The Club was originally known as the Claygate Meccano Club, but after a girls' section was started in 1921, under the superintendence of Mrs. Haynes, the name was changed to the Claygate Juvenile Club. Meetings are held every evening for both boys and girls, the former occupying themselves with model engineering and carpentry, and the latter with needlework and knitting. The Club now has a total membership of 86.

In addition to his Club Leadership Mr. Haynes holds other offices in the village, being a member of the Esher and Dittons Urban District Council, Superintendent of the Church Sunday Schools, and, since the war, a Special Constable.

St. Mark's (London S.E.) M.C.—Owing to Mr. W. F. Cross, the Leader, being unable to attend meetings regularly through pressure of business, Mr. Simmons has kindly consented to act as deputy Leader. At the commencement of the Session the Club was re-modelled. A new committee was formed and the rules were revised. Club roll: 23. *Secretary:* G. C. Green, 21, Hafton Road, Catford, London, S.E.6.

Bearwood (Birmingham) M.C.—At a recent Social a debate on "Which is the safest side of the road?" took place. Those in favour of the "left side" won by a big majority. Following the debate two boys read lectures and the evening finished with games. Many visitors were present at the Club's Exhibition and quite a good profit was made. Club roll: 45. *Secretary:* C. White, 72, Katherine Road, Bearwood, Birmingham.

Handsworth (Birmingham) M.C.—Wireless and Transport Sections have been formed and are well supported. The following activities are being carried out in each section:—Meccano—Model-building; Wireless—Making a Crystal Set to send to a sick boy in Edinburgh; Transport—Constructing a Model Railway. The Club has recently become affiliated with the Guild and promises to make good progress. Club roll: 19. *Secretary:* N. J. Robertson, 30, Henstock Road, Handsworth Wood, Birmingham.

St. Mary (Bourne) M.C.—The second session opened with an Exhibition and Entertainment which proved a great success. The hall was packed with people, many having to be refused admission. Mr. Evans, the Leader, gave an address, and Capt. Purvis, R.N., was the chairman. Further activities included Games and Meccano Model-building, and parents were invited to inspect the models constructed. Club roll: 18. *Secretary:* Master D. L. White, "Rosedale," Stoke, nr. Andover, Hants.

Richmond (Surrey) M.C.—Recently held an Exhibition and Concert in aid of the Club funds and the Sunday School. Some excellent models were shown, including one of a pumping engine, constructed by N. S. Dunno. W. Kenneth supplied a Meccano set for exhibition. One of the principal items in the Concert was the Meccano Play, "Nonsense Nana," which was highly appreciated. The Rev. E. B. Greening during the evening spoke on the successful progress of the Club, which was affiliated with the Guild last November. Club roll: 13. *Secretary:* Master E. J. C. Smith, 70, Lower Mortlake Road, Richmond, Surrey.

1st Herne Bay M.C.—Speed contests in Model Building have become a great feature, and recently a member built a small Truck in two minutes, thereby winning a prize. Club roll: 27, an increase of 8 in a month. *Secretary:* Clifford W. Russell, 4, Clifton Villas, Herne Bay.

South Africa

Malvern M.C.—The annual Garden Fête organised by the Club was a great success, and in spite of unfavourable weather a total of over £70 was raised. By arrangement with the Fête Committee the Club was entitled to fifty per cent. of the proceeds, but they generously returned half of their share so that the Malvern Homes benefited to the extent of nearly £33. A "Christmas Tree" was held at the Epworth Home at which ninety people were present, and the Club gave presents to all the children in the Home. Club roll: 38. *Secretary:* C. Gunnell, 177, St. Frusquin Street, Malvern, Johannesburg, S. Africa.

Clubs not yet Affiliated

Koffiefontein (S. Africa) M.C.—The Club was recently formed among the local Boy Scouts, and the Scoutmaster, the Rev. J. C. Field, kindly consented to become President. Since then several new members have joined and there is every prospect of the Club being very successful. *Secretary:* Cecil Fowler, P.O. Box 25, Koffiefontein, South Africa.

Preston M.C.—Meccano enthusiasts in Preston will be glad to know that a Club has been formed with Mr. A. Bibby as the Leader. Meetings are held every Friday in the Lyric Room, Avenham Street, at 7-30 p.m., and boys wishing to join the Club should interview the *Secretary*, Mr. J. R. Drysdale, Assistant Manager at Messrs. Merigold Bros. Club roll: 16.

Newcastle Model Engineers' M.C.—Meets regularly in the Albany Café every other Wednesday at 7-30 p.m. All Meccano boys are cordially invited to attend and further particulars may be had from the Leader, Mr. B. Gilbey, 205, Back Welbeck Road, Byker, Newcastle, or from the *Secretary*, J. T. Stothard, 71, Walker Road, Byker, Newcastle.

Ibrox and District (Glasgow) M.C.—Has been fortunate in securing a Club room, and many enjoyable evenings are spent with Meccano and Hornby trains. Members are very enthusiastic and all boys wishing to join are requested to communicate with the *Secretary*, A. Lyle, 185, Copland Road, Ibrox, Glasgow, S.W.

Droylsden (Manchester) M.C.—Owing to the resignation of Mr. T. Hemmings, the Leader, Mr. A. E. Walker, has kindly consented to take his place. An interesting programme is being carried out, including Model-building, Competitions, Lectures and Contractors' Nights. Club roll: 9. *Secretary:* F. Shorrocks, 23, West Drive, Droylsden, Manchester.

Christ Church (Stratford, E.15) M.C.—Has adopted an ingenious idea for recruiting new members. Show cards bearing the Club's name have been printed and the local newsagent puts one in every "M.M." sold. The Vicar has kindly lent a Club room and the membership is steadily increasing. Club roll: 11. *Secretary:* R. H. Bentley, 81, Abbey Lane, Stratford, London, E.15.

Sheffield M.C.—Has been successful in obtaining an adult Leader and a Club room. Meccano enthusiasts who are interested should write to or visit the Leader, Mr. S. Rodgers, 2, Low Street, Park, Sheffield.

Vines (Rochester) M.C.—The first meeting was held on January 10th, after the Club had been fortunate in securing an Adult Leader and a Club room. Club roll: 11. Any Meccano boy wishing to join should communicate with C. Bassett, 12, Albert Road, Rochester.

Proposed Clubs

Reading M.C.—A great attempt is being made to secure a Club room. In the meantime the members, who number 15, are keeping together by arranging visits to various works in the district. *Secretary:* H. G. Rogers, 135, Liverpool Road, Reading.

Mansfield M.C.—It is hoped shortly to establish a Club in Mansfield, and the organisers at present are trying to find an adult Leader and a suitable room. H. R. Wright, "Rotherwood," Marlborough Terrace, Mansfield, would be pleased to hear from all Meccano boys interested.

Walton (Liverpool) M.C.—Great efforts are being made to form a Club in Walton and all boys interested are asked to get into touch with Master F. Cartwright, 13d, Walton Village, Walton, Liverpool. A Leader and a Club room are also needed.

Leek (Staffs.) M.C.—C. S. Fowler, 19, John Street, Leek, Staffs., is endeavouring to form a Club and would like to hear from all boys interested. An adult Leader and a Club room are urgently needed.

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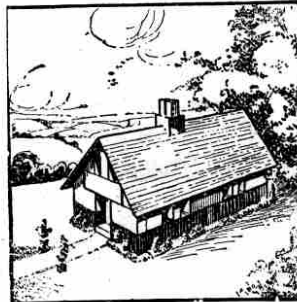
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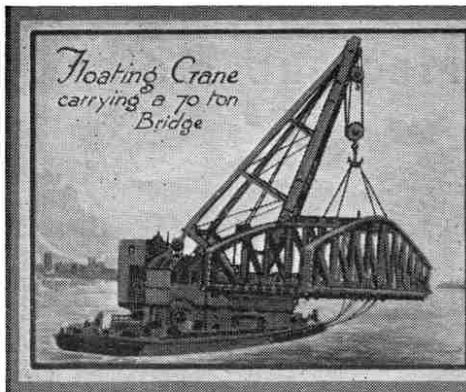
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Engineering News

of the Month

Wembley in 1925

It is announced that the British Engineering Association will not take part officially at Wembley this year, and that electrical engineers and motor manufacturers also will not exhibit. This means that the shipbuilding, marine, mechanical, and general engineering section will not be organised by the British Engineering Association, although individual firms may exhibit their products if they decide to do so. It is stated that the organisation of the Electrical Section of the Exhibition last year cost £1,000,000, and it is doubtful whether the returns justified the expenditure.

Wembley without the Palace of Engineering would undoubtedly be deprived of much of its interest and attraction. It has been suggested that a Housing Exhibition might be arranged in the former Palace of Engineering, but we think an alternative suggestion—that of an exhibition commemorating the centenary of the Steam Railway—would be more acceptable, at any rate to readers of the "M.M."

Moving Mountain Bursts Water Main

We mentioned in these notes last month that a mountain in the Rhymney Valley, Wales, was on the move. Since the date of that announcement the movement has continued, and great damage has been caused to the gas mains and to a new water main only recently laid, at a cost of over £250,000. The damage resulted in cutting off the water supply of 100,000 people in the Rhymney Valley and is the most serious fracture of a water main yet experienced. The engineers, by working without intermission, managed to save the main road from being washed away. If the water had not been promptly cut off at its source, both the road and railway would certainly have been washed away. The engineers with their staff, also worked hard to restore the water supply and the pipes were repaired with promptitude, which was particularly fortunate in view of the large area affected.

Troedyrhiwfrwch, the threatened village, is in the coalfield zone, and is situated in a narrow valley between high mountains. Subsidence of the land is very common in the district, the whole of the Rhondda Valley having dropped quite twelve inches in the last generation. Ever since the recent heavy rains, the Rhymney Valley mountain has been giving trouble over a distance of some seven miles. There was a tremendous landslide here some years ago, and the local authorities of the Great Western Railway Company view the present movement with great apprehension.

New Ships for the German Navy

Many of the battleships, cruisers and torpedo-boats of the German navy have recently been re-armoured with guns of a new type. In many cases alterations have been made in the construction of the ships themselves—the cruiser "Nymphé," for instance, has had her ram bow replaced by a graceful clipper stem. A new cruiser "Emden" was launched at Keil on 7th January, and has a centre-line battery of ten 5.9" guns, which is a very heavy armament when considered with her displacement. A new destroyer of large and powerful design will be laid down shortly.

Improving White Star Liners

The "Big Four" of the White Star Line, the "Adriatic," "Baltic," "Cedric," and "Celtic" (each of which has a tonnage between 21,000 and 25,000) are widely known as being among the steadiest sea-going steamers plying across the Atlantic. Heavy expense is being incurred by the owners in improving the second and third-class accommodation on the "Baltic," "Cedric," and "Celtic" to meet the demand for increased comfort at low rates and thus appeal to those of moderate means.

In the new second-class accommodation, cabins will be re-arranged, re-modelled, and generally made more attractive. There will be spacious lounges, with oak-block floors for dancing, and the decorations and furnishings will be of the most tasteful character. In the third-class quarters, new features are ladies' rooms, smoking-rooms for men, children's play-rooms, barbers' shops, and shops for the sale of confectionery and fancy articles.

New Liners

Three new Cunard liners are being built and will be in commission this season. The "Corinthia" (29,000 tons) will carry first, second and third-class passengers on the Liverpool-New York route, but before entering this service she will make a cruise round the world. The "Aloumia" and the "Ascania" (14,000 tons each) will carry cabin and third-class passengers, and will work the Canadian service.

Widening a Bridge

The English bridge at Shrewsbury is to be reconstructed and the approaches widened, at a cost of £76,000. The contract has been placed and the work will commence immediately.

"Mechanical Clerks"—Machines for Office Work

At the new office of the London School of Economics (Houghton Street, Aldwych, London, W.C.) there is a "machinery room," which we understand is open to the general public. Here are nearly 40 different machines that do similar work to that usually done by human beings—but the machines do it more quickly and efficiently. One machine (which costs £3,000) produces information usually compiled from many ledgers. Another, known as the "Millionaire Costing Machine," is 4 ft. in length and has hundreds of adjustable parts, yet "a child can work it," as the saying is. A third machine, a wonderful typewriter with 96 characters and an interchangeable keyboard, will write in any language. There is, indeed, literally no office work that cannot be done by machinery at this wonderful exhibition.

Fuel Economy

Two inventions are announced this month, both of which make for greater economy in fuel consumption and in boiler space. One is a new type of steam boiler, the use of which has led to the discovery that fuel possesses a hitherto unsuspected power. In this new boiler, oil fuel is mixed with air, and the mixture forced through a valve into a steel container holding water. It is then ignited and an intensely hot flame, nearly 4,000° Fahr., burns in water and forms steam. The mixture of oil and air is so regulated that pure carbonic acid gas is generated as the product of combustion. This, with the steam, passes into a simple boiler or reservoir that supplies the engine. It is stated that the cost of the boiler is only half that of an ordinary boiler, and that it uses only half the amount of fuel for the same quantity of steam produced.

The second invention is being exhaustively tested at Rugby on a 1,500 h.p. plant. In this the water is gradually raised to a temperature of over 700° Fahr. by a special system of superheating. It is kept at a pressure of 3,200 lb. per square inch, at which pressure the slightest additional amount of heat converts it into steam. The steam is then reduced in pressure and is used in a steam turbine. A great economy in fuel is claimed and the method also permits of a saving of about 30 per cent. in boiler space. It is stated, in a preliminary report, that the turbine worked with this new steam-producer is more efficient and more economical than any form of internal combustion engine.

IGRANIC

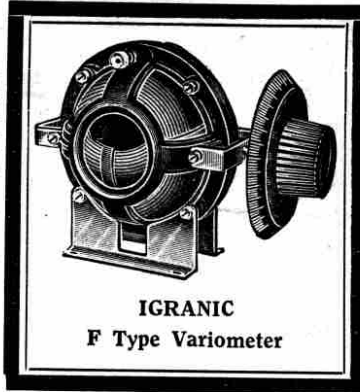
F Type Variometer

The great feature of this component is in the stator moulding which has been "skeletonised." Instead of the half stator moulding being a solid annular piece, the outer and inner rings are joined by four webs. In addition the rotor winding is self-supporting and thus the usual rotor moulding is dispensed with.

The elimination of moulded material results in a very big improvement in efficiency, due to the reduction of self-capacity and to the fact that the clearance between rotor and stator windings is very small.

It is ideal for aerial tuning in either crystal or valve sets receiving B.B.C. stations. Supplied complete for fixing.

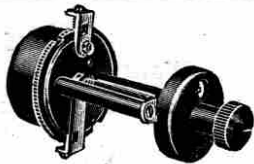
Price (250-600 metres) 12s. 6d.



IGRANIC
F Type Variometer

Build these new devices into your receiver—and notice the improvement

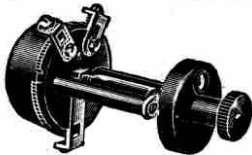
That Grid-Leak you are so doubtful about, for instance—let the Igranic Variable Grid-Leak show it how it ought to do its job! You cannot expect a *fixed* Grid Leak to operate at maximum efficiency under *all* conditions. The Igranic Variable Grid-Leak allows of a smooth and continuous variation of resistance from 0 to 5 megohms, and thus ensures that the grid condenser discharges at precisely the correct rate. The *better* performance you obtain from this Igranic Grid-Leak you will obtain also from all Igranic Components—so that you will



IGRANIC
Variable Grid-Leak

It gives a continuous variation of resistance from 0 to 5 megohms. Conducting parts are separated from the control knob and the metal spindle divided by insulating material in order to eliminate hand-capacity effects. Note the neat and original indicating dial. Single hole fixing.

Price 8s. 6d.



IGRANIC
High Resistance Potentiometer
30,000 ohms.

It is suitable for all purposes to which an ordinary low resistance potentiometer is applicable, and is particularly recommended for use with grid cells for the control of potential applied to the grids of low-frequency amplifying valves. The high resistance value and consequent low current consumption render the useful life of the grid cells considerably longer than when a low resistance potentiometer is employed.

Smooth and even adjustment facilitates critical variations of grid potential and ensures silence in operation. Single hole fixing.

Price 8s. 6d.

Build a better set with

Write for
List Z. 400.



Write for
List Z. 400.

They include Honeycomb Coils, Fixed Condensers, Filament Rheostats, Inter-valve Transformers, Variometers, Vario-couplers, Bi-plug Coil Holders, Tri-plug Coil Holders, Battery Potentiometers, Vernier Friction Pencils, etc.

All carry a six months' guarantee, and are stocked by all reputable dealers.

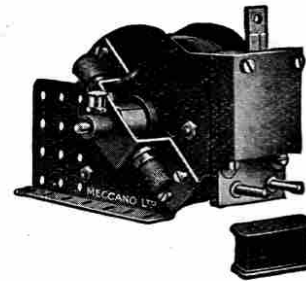
IGRANIC ELECTRIC CO. LTD.,
149, Queen Victoria Street, London.

Works : **BEDFORD.**

Branches :

Birmingham, Cardiff, Glasgow, Leeds, Newcastle, Manchester.

A New Meccano Motor



The above is an illustration of the 100/230-volt Meccano Electric Motor. It may be employed for any purpose for which a small motor is suitable, but it is specially adapted for running Meccano models. The side plates are perforated with standard equidistant holes, thus allowing the motor to be built into any Meccano model.

The motor is specially designed for connection with the electric light main, and is supplied for 100/120 volts or 200/230 volts (alternating or direct). It is fitted with a length of flex (6 feet), an insulated plug for connection with the motor terminals, and an adaptor for connection with an ordinary lamp socket.

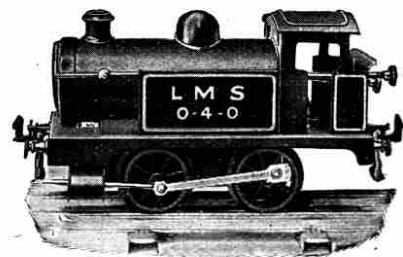
A suitable resistance is required when the motor is run with a 200/230-volt current. This is supplied by connecting a 60-watt lamp in series with the motor. A board, on which are mounted a suitable lamp holder (lamp not included), and a switch is provided separately.

100/230-volt Motor, price 32/6

Lamp Board (with Lamp Holder and Switch)
price 4/6

FROM ANY MECCANO DEALER

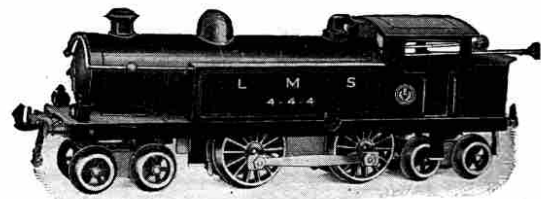
HORNBY TANK LOCOS



HORNBY No. 1 TANK LOCO

Strong and durable loco capable of any amount of hard work; richly enamelled and highly finished; fitted with reversing gear, brake and governor.

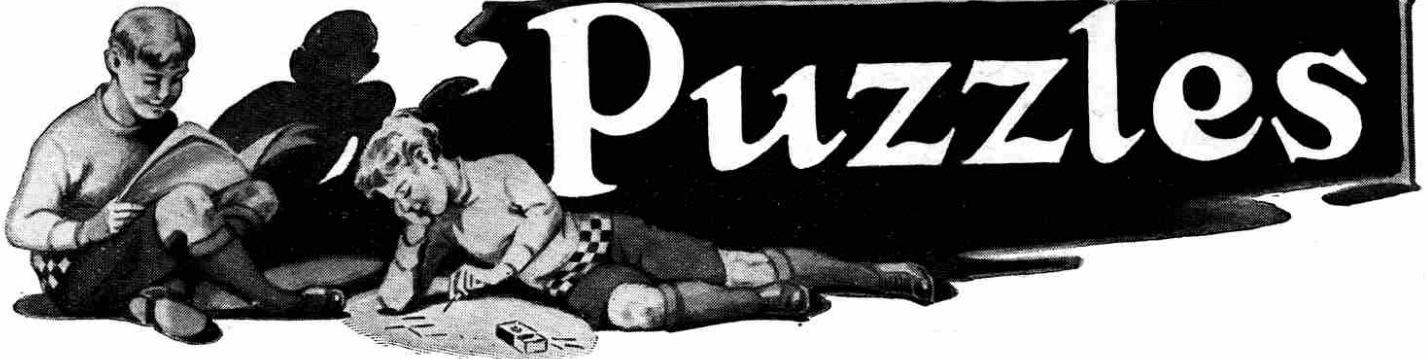
Gauge 0, in colours to represent L.M.S. or L.N.E.R. Companies' Locos 12/6



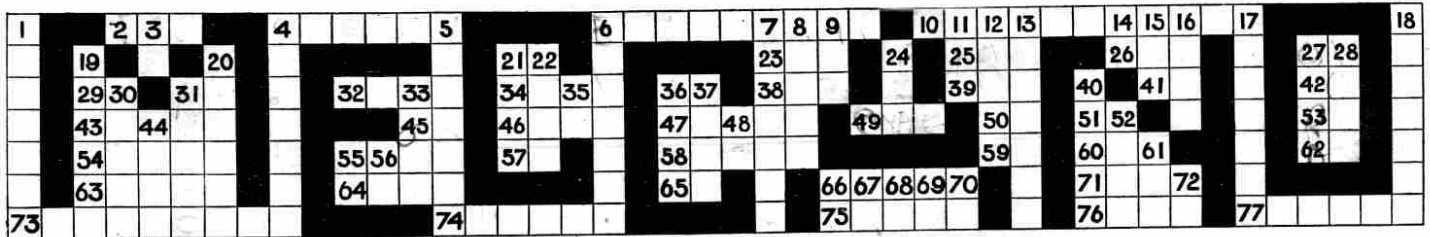
HORNBY No. 2 TANK LOCO

Powerful model embodying all the characteristics of the Hornby series. It is 11½" in length and is fitted at both ends with a four-wheeled bogey. Beautifully finished in colours; lettered L.M.S. or L.N.E.R., with reversing gear, brake and governor. Suitable for 2 ft. radius rails only. Price ... 30/-

FROM ALL MECCANO DEALERS



Puzzle No. 69.



HORIZONTAL : 2. A crown ; 4. West Indian Mulberry ; 6. Superfluous ; 10. Joint working ; 21. To live ; 23. Mottled appearance in wood ; 25. Unit of French land measure ; 26. Rested ; 27. Gold ; 29. In continuance ; 31. Degree (abbrev.) ; 32. A fibre ; 34. Dry ; 36. Pronoun ; 38. Skill ; 39. Viscous liquid ; 41. Pronoun. 42. To extend ; 43. Italian city ; 45. Conjunction ; 46. A ceremony ; 47. Belgian town ; 49. Female sheep ; 50. Compare (abbrev.) ; 51. Article ; 53. Since ; 54. In a line with ; 55. A wheel ; 57. Preposition ; 58. British possession ; 59. Call to excite attention ; 60. Procure ; 62. Pronoun ; 63. Metric weight ; 64. Talk familiarly ; 65. Motor index letters for a Lancashire town ; 66. Mosaic law ; 71. A bird ; 73. Toothache ; 74. To ensnare ; 75. To deliver a speech ; 76. Therefore ; 77. A copy.

VERTICAL : 1. A constructional toy ; 3. Latin unit of weight ; 4. Quickly ; 5. Tell ; 6. Growing in waste places ; 7. Active ; 8. Main artery ; 9. A difficulty ; 11. Grassy plant ; 12. Plant used as spinach ; 13. Carry out ; 14. A god in Norse mythology ; 15. A river ; 16. Likewise ; 17. Insular ; 18. The inner distinctive nature ; 19. Fruit of a plant of the Nightshade family ; 20. Ornamental shelf ; 21. District of Uganda ; 22. An island ; 24. Adverb ; 27. Ancient Irish writing ; 28. A flower ; 30. A dress fabric ; 31. Sweet juice from a tree ; 33. A small quantity ; 35. Pronoun ; 36. Used in harnessing a draught horse ; 37. Dash ; 40. Rise of tide in a river ; 44. Granted ; 48. Call letters of a broadcasting station reversed ; 52. Dear ; 55. Religion (abbrev.) ; 56. Exclamation ; 61. Four-handed drinking cup ; 66. Preposition ; 67. Conjunction ; 68. God of Egyptian mythology ; 69. Denoting presence ; 70. Pronoun ; 72. Interjection.

Cross Word Puzzle Competition

First Prize : Meccano Goods value £1 : 1 : 0
 Second Prize : Meccano Goods value 10 / 6
 Third Prize : Meccano Goods value 5 / -

EVERY reader who wishes to enter for this competition must send in the solutions of the two Cross Word Puzzles, Nos. 69 and 70, together with a Cross Word Puzzle of his own invention.

All puzzles submitted must be original and must not have been published previously. They must not contain Christian names, and if the names of any historical characters are used these must be thoroughly well known. Slang words must not be used, and all abbreviations employed must be specified as such unless they are in common every-day use.

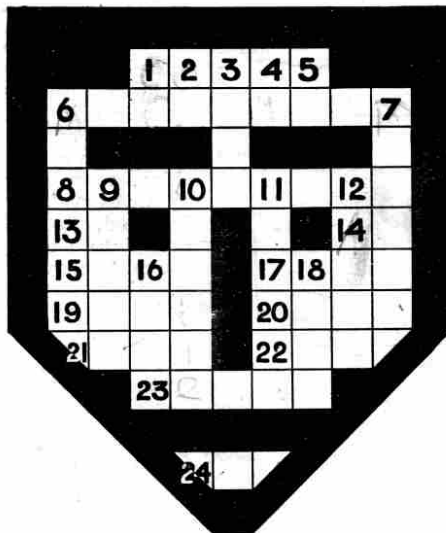
The diagrams of Puzzles 69 and 70 are on much too small a scale for actual working. They should not be cut out of the page, therefore, but should be copied at least four times the size on to a sheet of paper. If an entry includes more than one sheet of paper, the name and address of the competitor must appear on each sheet.

Competitors should note that this month preference will be given to original puzzles which have some bearing upon the names "Meccano" or "Hornby," or which have a Meccano model outline as their basis.

For the information of new readers who may not be familiar with the method of working Cross Word Puzzles, we would point out that a specimen puzzle, fully explained and worked out, was given in our January issue.

Entries for this competition must reach this office not later than 31st March.

Puzzle No. 70.



HORIZONTAL : 1. A beverage ; 6. Construction of a machine ; 8. Utter ruin ; 13. Abbreviation for an American State ; 14. Because ; 15. Detached piece of land ; 17. A course ; 19. Belonging to bovine genus ; 20. Concerning ; 21. Anything that obstructs passage ; 22. To make an object of trade ; 23. English port ; 24. Water-cross.

VERTICAL : 1. Chapters (abbrev.) ; 2. Denoting surprise ; 3. Mohammedan judge ; 4. Preposition ; 5. South American animal ; 6. Describing clearly ; 7. Form of roof ; 9. A frame ; 10. For two ; 11. Grew ; 12. Consisting of the stem of a grassy plant ; 16. Commendation ; 18. Term in cricket.

Puzzle No. 71.

What birds are indicated by the following :—
 1. What everyone does at meals ; 2. A letter of the alphabet ; 3. A kind of pastry and a preposition ; 4. Food for horses and a measure of length ; 5. A kind of country and a female bird ; 6. A pronoun and a preposition ; 7. A verb and a preposition ; 8. A ruler and a catcher ; 9. A celebrated architect ; 10. A hard fruit and to produce.

Puzzle No. 72.

Dick (to Tom coming home from fishing) : " Did you catch anything, Tom ?"
 Tom : " Yes, a big one."
 Dick : " How big was it ?"
 Tom : " Its head was 9 inches long."
 Dick : " How long was its tail ?"
 Tom : " As long as its head and half as long as its back."
 Dick : " And how long was its back ?"
 Tom : " As long as its head and tail put together."
 How long was Tom's fish ?

Puzzle No. 73.

A draper sold ladies' handkerchiefs at 4½d. each or three for a shilling. One day he saw his assistant sell a lady one handkerchief, and after the lady had gone he said : " Why did you not sell the lady three handkerchiefs ?" The assistant replied : " Because you have the same profit on one handkerchief as you have on three."
 How much did the handkerchiefs cost the draper ?

Puzzle No. 74.

The following numbers indicate the position of letters in a word consisting of eight letters, and the definitions give the meanings of the words formed by these letters. The whole word means something very pleasant :—1, 6, 7—Something dried in the sun ; 8, 6, 7—To tell ; 8, 6, 5—Unhappy ; 5, 4, 6, 3—Shows the time of day ; 8, 2, 3, 4, 5—Substantial ; 3, 2, 6, 5—A burden ; 3, 6, 5—A youth ; 8, 6, 4, 3—Seen at sea.

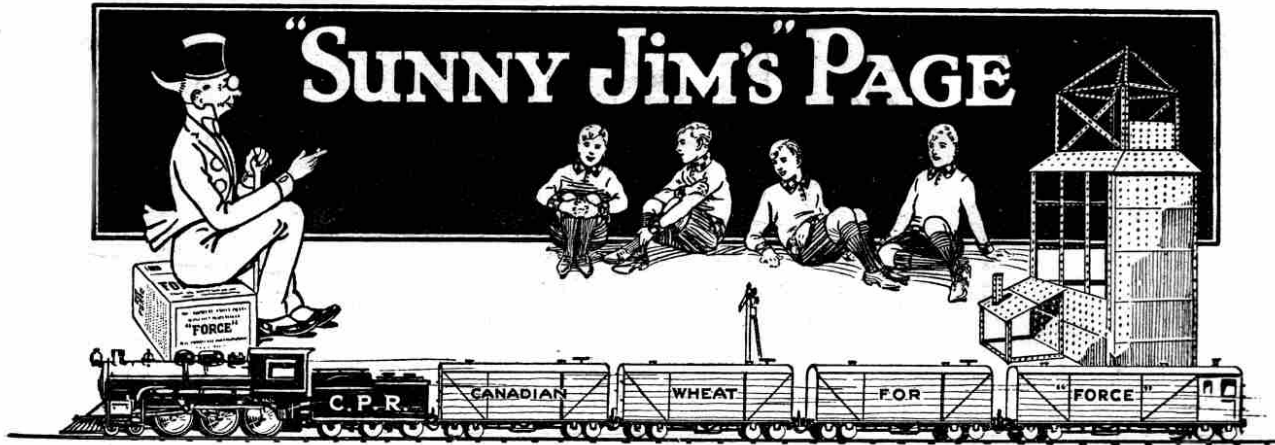
Puzzle No. 75.

Re-arrange the following letters so that each horizontal line will give a complete word and so that the initials and finals read downward will form the names of two well-known poets.

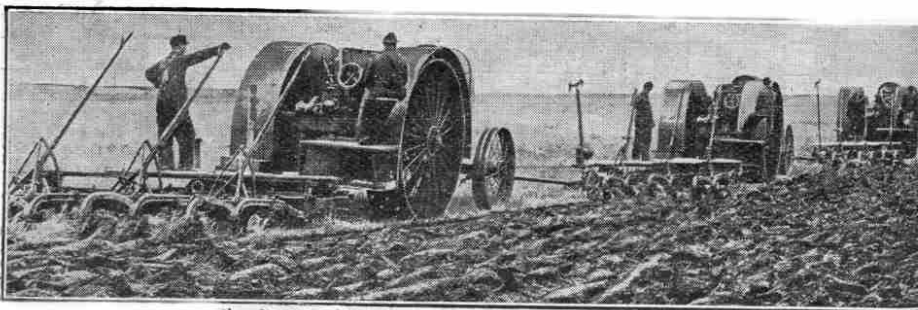
A A A A C
 D D D E E
 G I I L L
 L L L N N
 O O P R R
 S T T W Y

Puzzle No. 76.

Mr. Ree went to the dentist, who afterwards made out his bill by writing down six consecutive figures. What were these figures ?



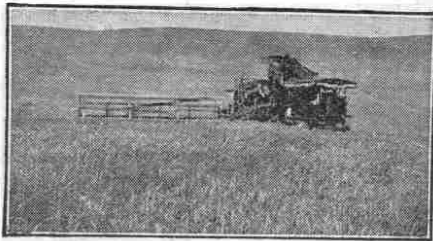
SUNNY JIM TAKES MECCANO BOYS ON TRIP THROUGH CANADA'S WHEATLANDS



Ploughs eating their way through soil of Canadian Wheat Farm

If you had been driving one of these big power ploughs somewhere round about the time this photograph was taken, standing out against the landscape you might have seen the familiar figure of our old friend Sunny Jim, and with him, two keen-eyed boys.

These two lucky boys were touring the wheatlands which supply the wheat from which "FORCE" is made, and Sunny Jim had taken them to see the great ploughs eating their way through the soil of a Canadian wheat farm. Later they watched the wheat being sown, and saw

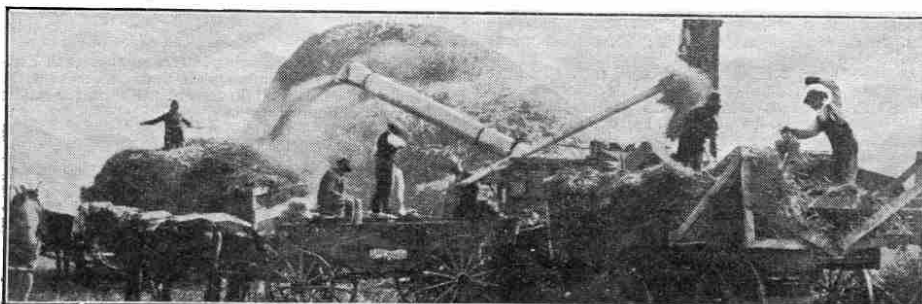


A Reaper and Binder at work

The wheat was standing as high as their heads when Dick, the younger of the two, came running to Harry with the exciting news that Sunny Jim was preparing to take them to the scene of the harvesting. In the distance could be heard the steady drone of the reaper and binder as it sheared its way through the standing wheat. At regular intervals, from the side of the machine, were shot sheaves of wheat, ready tied, to be stacked into shocks by the man following after, then to be carried to the threshing machine.

What a dust and hustle there is around this monster thresher that swallows the cut wheat as fast as it can be fed. The wheat grain pours out of a chute in the centre of the machine, while the straw and chaff is shot away through the "gun" like funnel you can see in the picture.

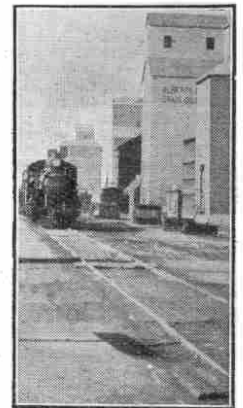
In four-wheeled carts the grain is now trundled off to the railway station siding



Loading wheat for rail from threshing machine.

where it is put into the special "wheat cars" of the Canadian Pacific Railway.

Dick and Harry were busy watching the loading when Sunny Jim brought the glorious news that all three of them were to travel to the "FORCE" mills on the footplate of the engine. Up they scrambled and soon they were tearing across the country at a terrific pace. After many hours journeying the mills at last hove in sight over the tree tops, and twenty minutes later they saw the wheat cars being shunted into the mill yard.



The train departs

"Now" said Sunny Jim, "you have seen the journey of the wheat from the seed to the mill. We shall next see the grain transformed into "FORCE" whole wheat flakes, toasted and malted—the food you like so much for breakfast with hot or cold milk, and which every grocer sells in the familiar 9½d. packet."

"Do we start now?" said Dick. "No," answered Sunny Jim, "I have reserved this tour for tomorrow." Dick was disappointed, but was soon consoled when "Sunny Jim" brought them each a big plateful of "FORCE" and a tin of juicy peaches to eat with it.



"FORCE" Mill over tree tops

An account of Harry and Dick's exploration of the "FORCE" mills will appear on Sunny Jim's page later. From March 2nd until March 25th Sunny Jim himself will be at The Ideal Homes' Exhibition, Olympia, where you will find him at the "FORCE" Stand. Ask him to show you the Wheatland Panorama!



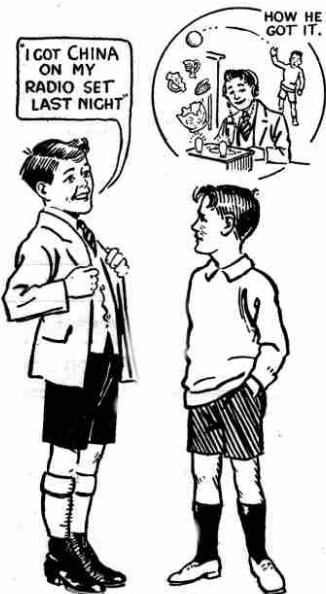
THE deluge of solutions of our last two Cross Word Puzzles was checked slightly by the greater difficulty of No. 61, but I was surprised at the number of readers who solved this puzzle, and also puzzle No. 60, correctly.

Last month I drew attention to the need for greater care in selecting definitions, and I am glad to see that there has been a remarkable improvement in this respect in the original Cross Word Puzzles submitted. This time also most readers remembered to write their names and addresses on each sheet of paper sent in, but even yet there were a few absent-minded ones who omitted to do this, and in one or two cases forgot to send any address at all!

I hope my readers will approve of the "Meccano" Cross Word Puzzle that heads this month's Puzzle Page. I am offering prizes for the solution of this and the "Face" puzzle, accompanied by an original puzzle. This month I shall give preference to original puzzles that have some bearing upon the names "Meccano" or "Hornby," or which take some Meccano Model as the basis of their design.

Full particulars of this contest will be found on the Puzzle Page.

TRUTH STRANGER THAN FICTION!



This Month's Short Story

Fat boy,
Big dinner,
Doctor's bill,
Now he's thinner.

* * * *

Old Gentleman: "Now, my little boy, why aren't you at school?"

Small Boy: "It's no use my going to school, sir."

Old Gentleman: "Why not?"

Small Boy: "Because I shouldn't be any use; I can't write or read or do anything!"

* * * *

NOT LIKELY!

Judge (to prisoner): "When were you born?"

Prisoner remains silent.

Judge: "Did you hear me? When is your birthday?"

Prisoner (sullenly): "What do you care? You ain't going to give me a birthday present!"

* * * *

Q. If a bear went into a draper's shop, what would he want?

A. Muslin (muzzling).

* * * *

Q. Why is a pianist like a prison warden?

A. Because he handles the keys.

* * * *

Q. When are roads annoyed with one another?

A. When they are cross roads.

* * * *

Teacher: "What is a distant relative?"

Tommy: "My brother George is one."

Teacher: "How can your brother be a distant relative?"

Tommy: "Because he lives in New Zealand."

* * * *

WHY THE CLERK WAS WORRIED!

"Spell your name!" said the court clerk sharply.

The witness began: O, double T, I, double U, E, double L, double—

"Wait!" ordered the clerk, "begin again!"

The witness repeated: O, double T, I, double U, E, double L, double U, double O—

"Your Honour!" roared the clerk, "I beg that this man be committed for contempt of court."

"What on earth is your name?" asked the Judge.

"My name is Oduwell Wood, and I spell it, O, double T, I, double U, E, double L, double U, double O. D."

Answer's to Last Month's Puzzles

Puzzle No. 60.



No. 61.



No. 62. 1881.

No. 63. The printer purchased 27 types.

No. 64. The number is 18.

No. 65. There were 79 apples to begin with.

No. 66. The British prisoners were placed in 5, 7, 13, 15; the Italians in 1, 4, 12, 19; the French in 2, 9, 17, 20, the Germans in 3, 10, 11, 18; and the Russians in 6, 8, 14, 16.

No. 67. The letter is "X."

No. 68.
1. Call; 2. Awake; 3. Bolt; 4. Blot; 5. Abihu;
6. Garlic; 7. Ease.
Initials—Cabbage. Finals—Lettuce.

Q. Why is a dead horse like a garden wall?

A. Because there is cat's meat on both of them.

JAEGER

Pure Wool

The New "Meccano" Jersey

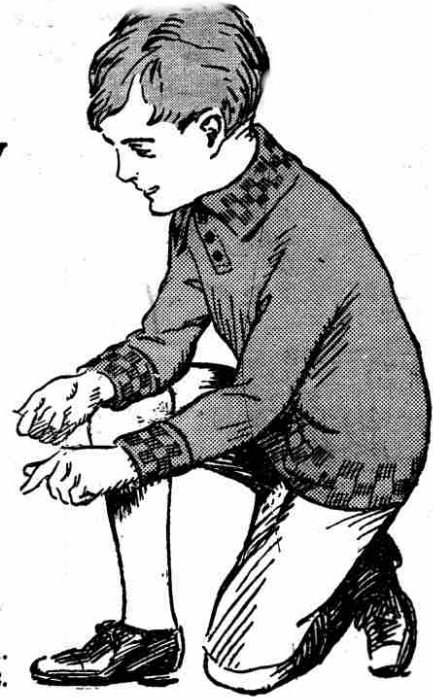
A Jaeger "Meccano" Jersey is made in the special "Meccano" pattern. It wears splendidly and prevents the frequent chill a boy gets when hot, as every boy will sooner or later. The "Meccano" Jersey appeals to every boy at once as well as to the "grown-ups" who study the health and happiness of their children.

24"	26"	28"	30" Chest
8/3	9/-	9/9	10/6

Light Fawn/Brown, Navy/Saxe,
French Grey/Mole, Mid Grey/White.
Brown/Light Fawn

Obtainable only from Jaeger Depots and Agents.
Write for the address of your local agent.

JAEGER HEAD RETAIL DEPOT : 352/54, OXFORD ST., LONDON, W. 1.
WHOLESALE & SHIPPING : 95, MILTON ST., LONDON, E.C. 2.



BOYS! Now's your chance

We are selling New Goods at Reduced Prices

BOYS' BOOKS on Trains, Aeroplanes, Ships and Carpentry.

6/- each. Sale Price 4/-

Technical Books on many subjects reduced 4d. in 1/-

Traction Engines and Pantechonics (Steam), List Price 30/- To clear 10/-
Model Railway Goods at 25% reduction.

Sweeping Reductions in WIRELESS GOODS.

HEAD PHONES, Darag 4,000 guaranteed, 10/-

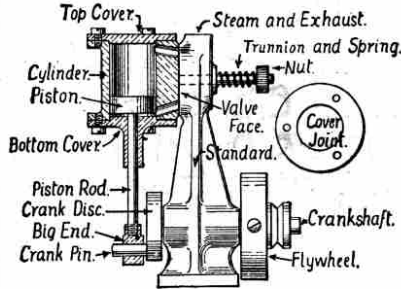
CHRONICLE VARIOMETERS, 10/- Our Price 7/6

Wonderful Bargains. List Free. Postage extra.

C. LUCAS,

Hobbies' Famous Depot;

35, MANCHESTER STREET, LIVERPOOL.



"Thank you for sending the S.T. Boiler. The engine, bought at Wembley, was soon coupled up and ran perfectly. My little boy was so pleased to see that it was powerful enough to drive a Meccano Crane."

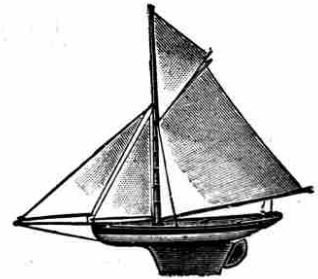
Thus writes a customer. Above is the drawing sent with the instructions for building and we guarantee the engine will work.

S.T. Engine Parts ... 5/- } Post
Finished Boiler 8/- } Free

Send stamp for list 12M or 6d. for complete 80-page catalogue.

Stuart Turner Ltd.
HENLEY-ON-THAMES

KENSINGTON MODEL DOCKYARD



Sailing Yachts and Fittings

- MOTOR & STEAM LAUNCHES
- ELECTRIC & MECHANICAL TOYS
- CINEMATOGRAPHS
- CAMERAS
- INDOOR GAMES
- CUTLERY & TOOLS
- OUTDOOR SPORTS
- FRET OUTFITS
- AIR GUNS
- FISHING TACKLE
- HORNBY TRAINS
- MECCANO OUTFITS & PARTS
- Always in Stock.

Send 1½d. Stamp for List "M."

C. H. LORBERG
185, Kensington High St., London, W.8.

BOYS MAKE YOUR OWN LEAD SOLDIERS.

Cowboys, Indians, Animals, Zulus, Model Station Staff, Rodeo, etc
Our CASTING MOULDS make thousands from any scrap lead WITHOUT PREVIOUS EXPERIENCE
Send stamp to-day for illustrated catalogue.

Complete mould ready for work 2/6
RODWAY, 102, Long St., Birmingham
Mention "Meccano."



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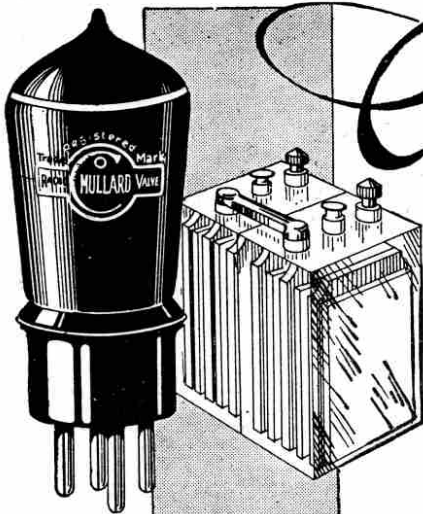
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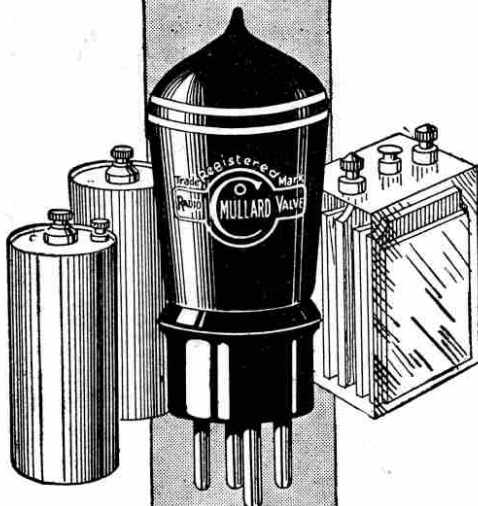
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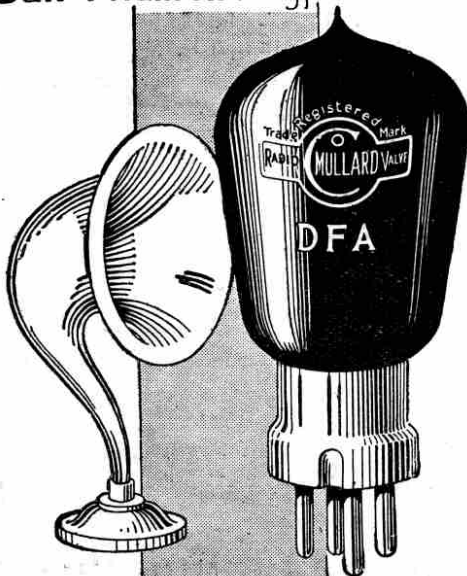
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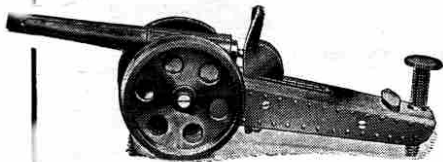
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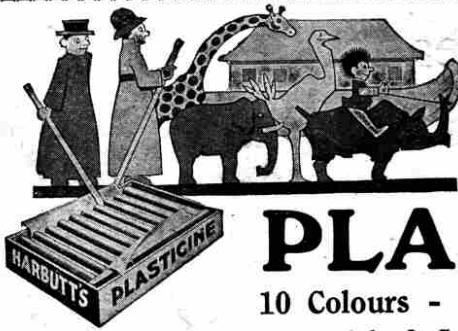


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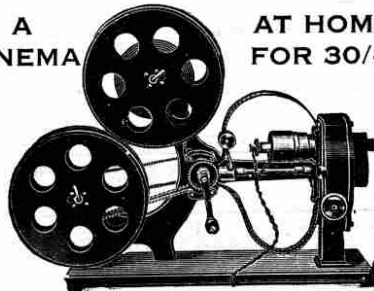
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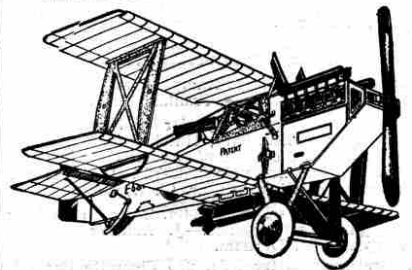
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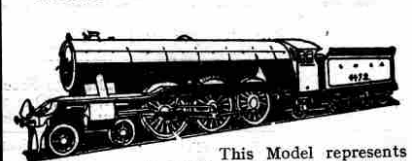
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If you have anything to sell or wish to buy anything take advantage of the service offered by a small advertisement in these columns.

The "M.M." is read by approximately 100,000 people every month. It circulates in every country where the English language is spoken. If you wish to sell your duplicate stamps, your rabbits, or your tools, or to purchase a loud speaker, a steam engine, a model yacht, or a hundred-and-one other things, you will be able to do so through the columns of the "M.M."

The rates are one penny per word, with a minimum

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Your advertisement must be received before the 10th of the month for insertion in the following month's issue.

If a Box Number is used, 4d. should be added to cover the cost of postage of the letters to the advertiser from this office. The letters will be posted one week after the advertisement appears, and a second batch a month after the advertisement appears. They will be sent more frequently if additional postage is included with the advertisement.

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To Contributors. The Editor will consider articles and photographs of general interest; payment will be made for those published. Whilst every care will be taken of those submitted, the Editor does not accept responsibility for any loss or damage. A stamped addressed envelope should be sent where the contribution is to be returned if unacceptable.

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Display. Quotations for space bookings, and latest circulation figures, will be sent on request.

Press Day, etc. Copy must be received not later than 10th of each month for publication in following issue. Half-tone blocks up to 100 screen.

Proofs of advertisements will be sent when possible for space bookings of not less than half-an-inch.

Voucher Copies. Sent free to advertisers booking one inch or over. Other advertisers desiring vouchers should add 4d. to their remittance and should order voucher copy at same time.

Remittances. Postal Orders and Cheques should be made payable to Meccano Ltd.

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Readers Overseas and in foreign countries may order the Meccano Magazine from regular Meccano dealers, or direct from this office. The "M.M." is sold Overseas at 3d. per copy, or mailed (post free) direct from Liverpool, 2/- for six issues, or 4/- for twelve issues.

IMPORTANT.

Overseas readers are reminded that the prices shown throughout the "M.M." are those relating to the home market. Current Overseas Price Lists of Meccano Products will be mailed free on request to any of the undermentioned agencies. Prices of other goods advertised may be obtained direct from the firms.

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P.O. Box 129, Auckland.

SOUTH AFRICA: Mr. A. E. Harris (P.O. Box 119)
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MAKE YOUR OWN ELECTRIC CLOCK. The Synchronome Co. gives permission to amateur mechanics to make a Master Clock for their own personal use and not for re-sale. Blueprint, castings and parts from—The Synchronome Co. Ltd., 32 1/2 Clerkenwell Road, E.C.1.

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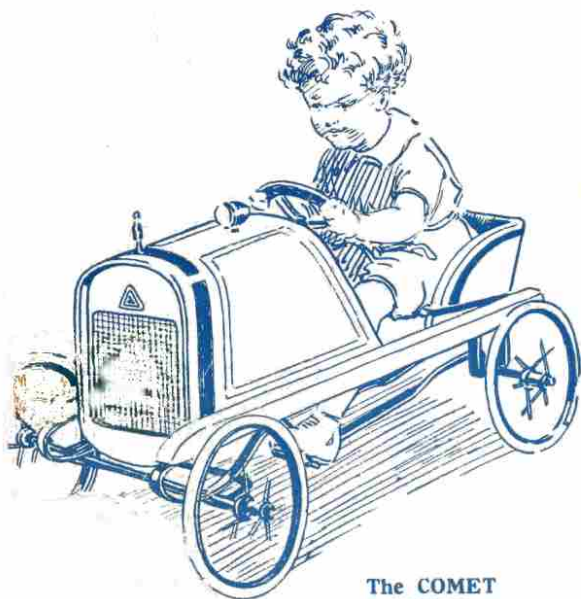
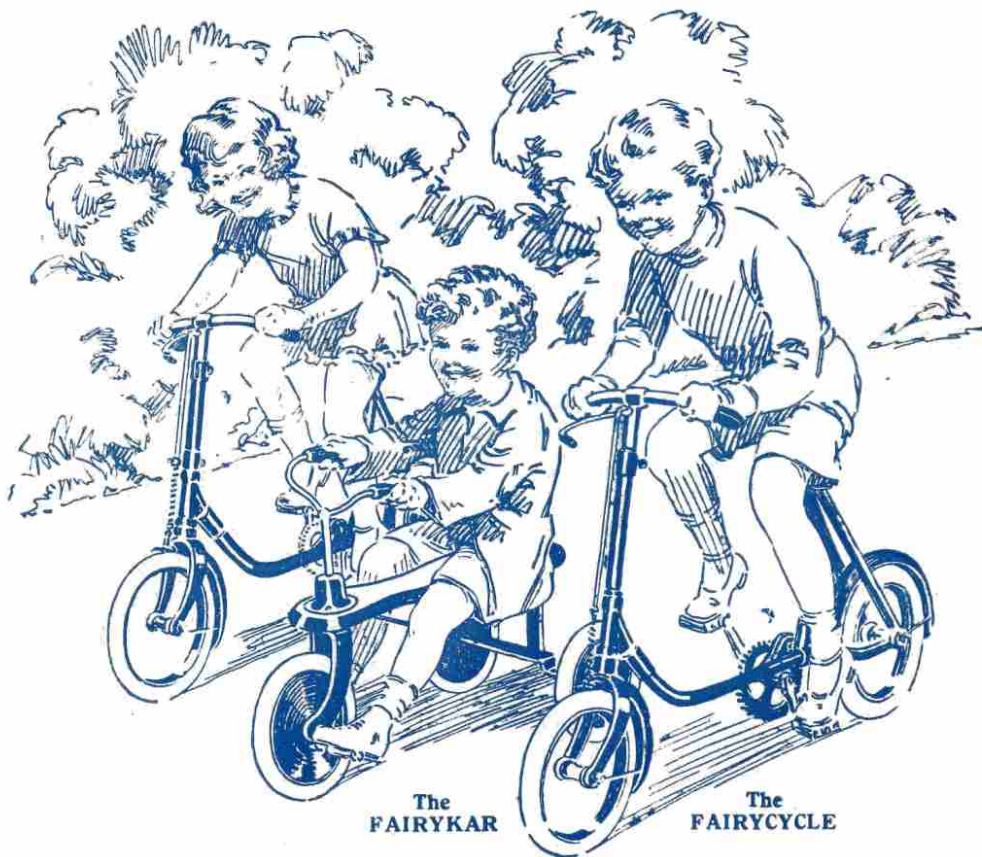
Send 5 of these coupons with only 2/9 direct to the Fleet Pen Co., Fleet Street, E.C.4. You will receive by return a splendid British 14-ct. Gold Nibbed Fleet Fountain Pen value 10/6 (Fine, Medium, or Broad Nib). If only 1 coupon is sent the price is 3/9. 3d. less for each extra coupon up to 4 (Pocket Clip 4d.). Satisfaction guaranteed. Your own name gilt letters, either pen 1/- extra. Lever Self-Filling Model with Safety Cap, 2/- extra.

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These fine toys have just been reduced in price. So popular have they become, that we have to make them in larger quantities than ever before. That has enabled us to effect many savings in the cost of production, and so we

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Look for the Triangle Trade Mark on all these toys



The COMET MOTOR

The Comet Motor

This smart little racing model is the very thing for boys and girls of 2½ to 5 years, and will stand plenty of rough wear.

REDUCED PRICE 21/-

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know what "Meccano" Boys want!



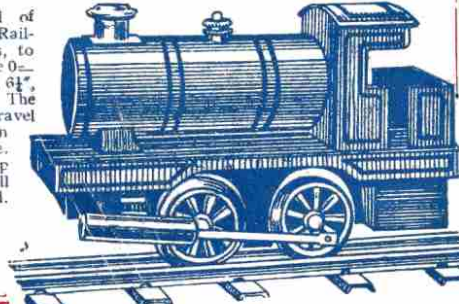
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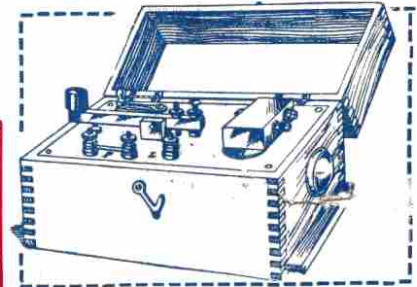
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12/6



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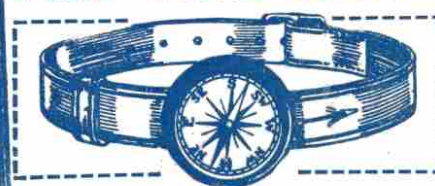
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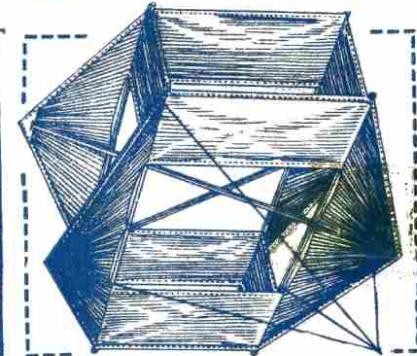
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Here's a game that's no child's play. To fly a Kite well calls for skill and strong arms. Among Gamages huge stock of Kites is one that will just suit you. We illustrate a very popular model, THE QUADROPLANE

THE QUADROPLANE

The finest of all Kites for attaining great heights. It is well and strongly made and stands 29" high. Post 6d. Price 3/6

22" high. Post 6d.	Price 4/6
35" high. Post 6d.	Price 5/11
38" high. Post free	Price 7/8

£6:9:6 Down Secures a Splendid Motor Bike

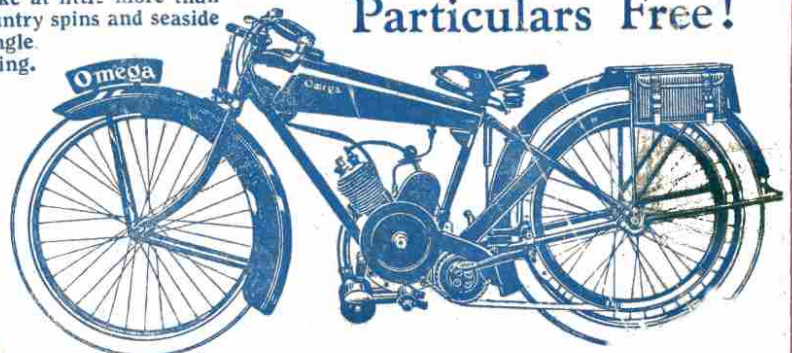
Particulars Free!

Don't miss this splendid opportunity of getting a motor-bike at little more than the price of an ordinary Bike. Think of all the glorious country spins and seaside runs. Book your model now, so that you may not miss a single hour of the bright sunshine and long evenings that are coming.

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A highly successful little machine, the capabilities of which are remarkable for the size of the engine, particularly as a hill-climber. The economical fuel consumption and lightness on tyres are points which you "Meccano" Boys will appreciate.

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