



August Puzzle Competition

IN spite of the hot weather and all the outdoor attractions of holiday times, last month's puzzle competition was not by any means neglected, and in fact the entries appeared to show an even greater amount of care and thought than usual.

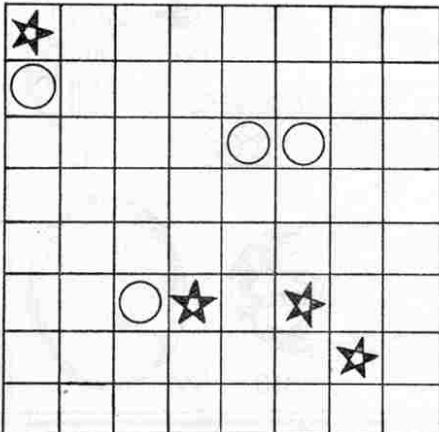
From time to time I have asked readers to send in any puzzles they come across that seem to them to be new. Summer holidays spent away from home, either in the heart of the country or at the seaside, inevitably involve meeting numbers of fresh people with fresh ideas, and so a splendid opportunity occurs for hearing new jokes and collecting new puzzles. I want each of my readers to try to get from his holiday friends one or two new puzzles and to send them to me. Every reader who has a puzzle published on this page receives half-a-crown, and the reader whose puzzle is considered the best in any particular month is awarded 5/-.

This month's competition is on similar lines to that for last month. Each competitor must send the solutions to six of the puzzles on this page. Three prizes are offered—Meccano goods to the value of £1/1/-, 10/6 and 5/- respectively—for the three best entries submitted.

The closing date of this competition is 31st August and there is no Overseas section.

Puzzle No. 109.

How may the diagram below be divided into four equal parts each of the same shape and each containing one star and one circle? The division must be made along the horizontal and vertical lines in the figure.



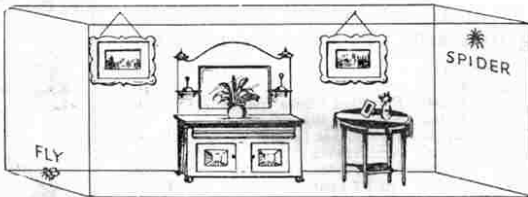
Puzzle No. 110.

With slight changes in the order of the various letters the following four lines may be made into a charming little ballad:—

Daroun em hslal verho,
Ni dasens ro lege,
Lilt silfe' rdaems eb vero,
Twees riemem's fo ethe.

Puzzle No. 111.

A spider and a fly were in a room measuring 30 ft. long, 12 ft. wide and 12 ft. high. The spider was in the middle of one of the end walls, exactly a foot from the ceiling. The fly was on the opposite wall, exactly in the middle and a foot above the floor. We have supposed the room to be made of glass and the positions of the spider and the fly are shown in the sketch below:—



The fly was sleeping, and remained stationary all the time, but the spider saw his victim, crawled towards him, and effected a capture. The spider wanted to get to the fly as quickly as possible. Which way did he go?

Puzzle No. 112.

A milkman went to the dairy for his usual morning supply of milk, four gallons. The dairyman told the milkman that he was unable to supply four gallons because all his milk was in an eight gallon can and he only had a three gallon measure and a five gallon measure. The milkman replied that he did not see any difficulty in the matter, and at once proceeded to measure accurately four gallons with the aid of the two measures. How did he do it?

Puzzle No. 113.

I am a boy's name of six letters. Transpose me and still I am a boy's name; transpose me once more and even yet I am the name of a boy.

Puzzle No. 114.

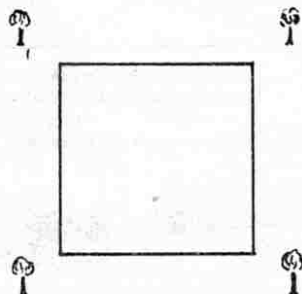
A man went to market with twenty pence. He bought twenty birds, consisting of pigeons at 4d. each, larks at 1/2d. each and sparrows at 1/4d. each. How many of each did he buy?

Puzzle No. 115.

I am a word of five letters meaning to frighten. Behead me and I am anxiety; again behead me and I become the unit of a French measure.

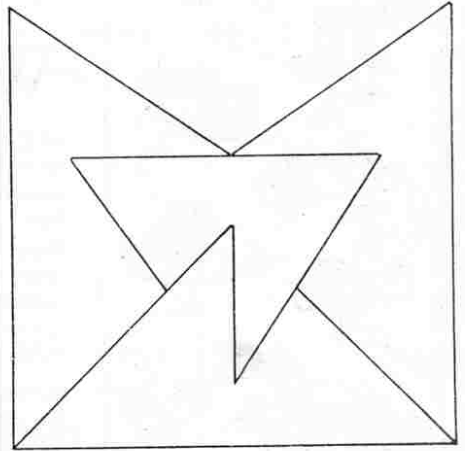
Puzzle No. 116.

A man has a square pond with a tree at each corner as in the following diagram. How can he double the size of the pond, still keeping the pond square and the trees in the same position?



Answers to Last Month's Puzzles

No. 102. The figure is divided as shown below.



No. 103. 1. Great Yarmouth; 2. Ramsgate; 3. Southend; 4. Devonport; 5. Cumberland; 6. Felixstowe; 7. Broadstairs; 8. Gloucester; 9. Maidstone; 10. Portsmouth; 11. Brighton; 12. Rutland.

No. 104. The six moves are as follows:—12 to 3; 7 to 4; 10 to 6; 8 to 1; 9 to 5; and 11 to 2.

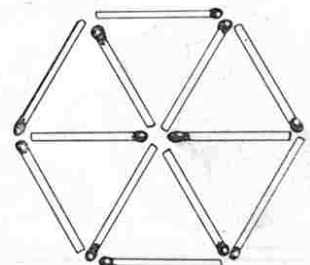
No. 105. Flower.

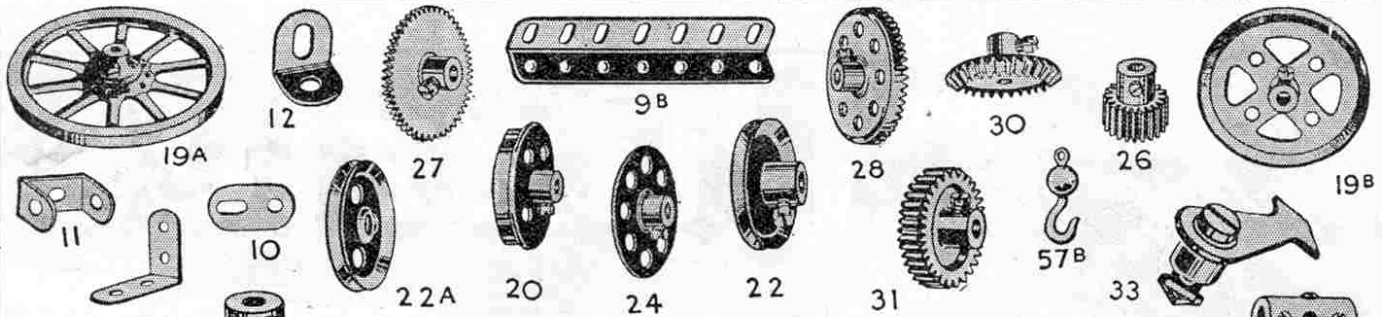
No. 106

L E V E L
E E E E E
V V V
E E E E E
L E V E L

No. 107. The words are Tremendous, Hazardous and Stupendous.

No. 108. The solution is shown in the following diagram.





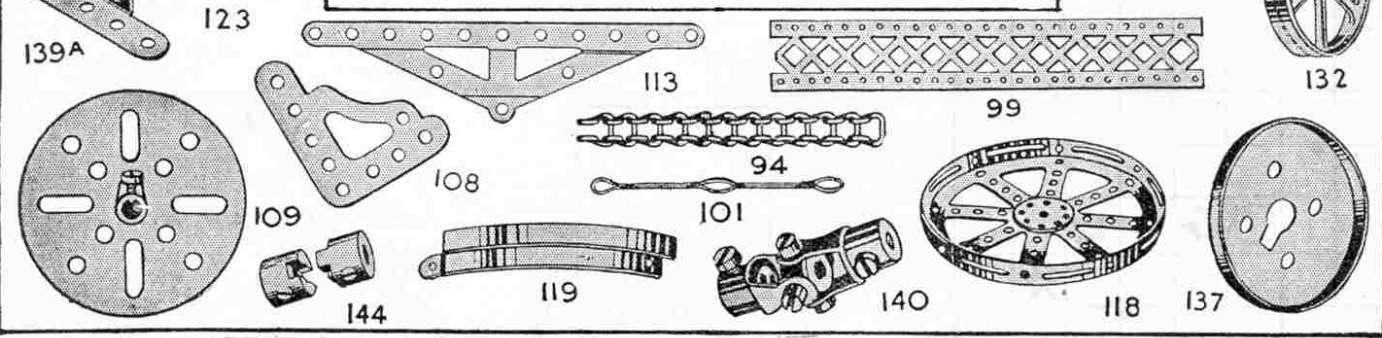
MECCANO

ACCESSORY PARTS

WE illustrate a selection of accessory parts that every Meccano boy will find useful in building the larger and more interesting models. Many of these parts have been only recently introduced, and although we know that they have a universal use (were it otherwise they would not have been added to the system) we may not yet know all their applications. There are endless possibilities in the employment of Meccano parts; indeed, we wonder if there is now a mechanical movement known to engineering that any boy cannot duplicate with Meccano.

	s. d.		s. d.
10. Flat Brackets	1/2 doz. 0 2	94. Sprocket Chain per length	0 6
11. Double Brackets	each 0 1	96. Sprocket Wheels, 1" each	0 3
12a. Angle Brackets, 1" x 1"	" 0 1	101. Healds, for Looms ... doz.	0 9
19A. Wheels, 3", with set screw	" 0 8	108. Architraves each	0 2
19B. Flanged Wheels	" 0 6	109. Face Plates, 2 1/2" diam.	" 0 4
		113. Girder Frames	" 0 2
		114. Hinges per pair	0 4
		115. Threaded Pins each	0 2
19B. 3" dia., with set screw	each 0 8	116. Fork Pieces each	0 3
22. 1" " " " " "	" 0 4	118. Hub Discs, 5 1/2" diam.	" 1 3
22A. 1" " " without set screw	" 0 2	119. Channel Segments (8 to circle), 1 1/4" diam.	" 0 4
24. Bush Wheels	" 0 6	120. Buffers	" 0 2
25. 3/4" Pinion Wheels	" 0 6	120A. Spring Buffers ... per pair	0 8
26. 3/4" " " " " "	" 0 4	123. Cone Pulleys each	1 3
27. Gear Wheels, 50 teeth	" 0 9	124. Revsd. Angle Brackets, 1"	" 0 10
27A. " " 57	" 0 9		
28. 1 1/2" Contrate Wheels ...	" 0 9	125. Revsd. Angle Brackets, 1 1/2"	" 0 6
29. 3/4" " " " " "	" 0 6	126. Trunnions each	0 3
30. Bevel Gears	" 0 10	126A. Flat Trunnions	" 0 2
31. 1" Gear Wheels, 38 teeth	" 1 0	127. Simple Bell Cranks	" 0 3
32. Worm Wheels	" 0 6	128. Boss Bell Cranks	" 0 4
33. Pawls (complete)	" 0 4	129. Rack Segments, 3" diam.	" 0 6
43. Springs	" 0 2	130. Triple Throw Eccentrics ...	1 3
44. Cranked Bent Strips	" 0 1	131. Dredger Buckets	" 0 2
45. Double Bent Strips	" 0 1	132. Flywheels, 2 1/2" diam.	" 2 3
50. Eye Pieces	" 0 2	133. Corner Brackets	" 0 3
57B. Hooks (loaded)	" 0 5	136. Handrail Supports	" 0 3
59. Collars and Set Screws	" 0 2	137. Wheel Flanges	" 0 4
62. Cranks	" 0 3	138. Ship's Funnels	" 0 4
63. Couplings	" 0 6	139. Flanged Brackets, Right	" 0 2
63A. Octagonal Couplings	" 0 8	139A. " " Left	" 0 2
63B. Strip Couplings	" 0 8	140. Universal Couplings	" 0 9
63C. Threaded Couplings ...	" 0 6	144. Dog Clutch	" 0 6
64. Threaded Bosses	" 0 2		

You may obtain Meccano Parts from your Dealer



Competition Corner

"THE HAPPIEST DAY OF MY HOLIDAYS"

Holidays provide the only topic of conversation worth considering at this time of the year. We all spend our holidays in different ways, and even if two of us happen to stay at the same place it is very unlikely that we spend our time in the same occupations and amusements. Looking back on a holiday we always feel that some days were very much more successful than others. On some days for instance everything seems to go wrong from the commencement. Arrangements break down; friends fail to turn up at the arranged time; rain comes on at a particularly awkward moment, and the final result of all these little things is that the day is looked upon as a failure. There are other days, however—and fortunately they are in the majority—when everything goes well from morning to night, and we finish the day, tired out perhaps, but feeling that we have had a thoroughly good time.

This month we are announcing a competition on the subject of "THE HAPPIEST DAY OF MY HOLIDAYS." This is not a serious

essay competition. All that a competitor need do is to send in a brief account of what he considers his most successful day, describing how the time was spent and the particular feature that made the day so successful.

Prizes will be awarded to the four competitors who send in the most interesting accounts of a day's doings, and in judging these essays we shall not allow spelling mistakes, poor writing or other similar matters to take an important place, credit being given principally to the interest of the description.

The contest will be divided into Class A for those of 16 and over, and Class B for those under 16, and the prizes will be Meccano goods to the value of £1/1/0 and 10/6 for the first and second in each section respectively.

Entries must be written on one side of the paper only and the competitor's name, address and age must appear on the back of each sheet used. Closing date: 30th September (Overseas: 31st December).

Eighth Drawing Competition

The change of our drawing competition subjects from land to sea has proved very popular, the entries for our seventh contest being of exceptionally good quality. This month our subject is "A WARSHIP." We do not specify any particular kind of warship and this may be anything from a submarine to a battleship, ancient or modern.

The competition will be divided into two sections: (A) For those of 16 and over and (B) for those under 16. Four prizes are offered—Drawing or Painting Materials (or Meccano Products if preferred), to be selected by the winners, to the value of 10/6 and 5/- respectively, for the first and second in each class.

During last month we had one or two queries from readers as to whether they were allowed to submit two drawings of the same subject. We take this opportunity of stating that any competitor may submit as many drawings as he likes for any competition. For instance, if a competitor wishes to submit a drawing of a destroyer and one of a battle cruiser he is quite at liberty to do so.

Competitors who wish their drawings to be returned must state this at the time of sending in their entries and must also enclose a stamped addressed envelope of suitable size.

Closing date: 30th September (Overseas: 31st December).

Results

Guilth Motto Competition

The task of selecting a motto for any society or brotherhood is always difficult, and this is particularly so in the case of the Meccano Guild. Very many excellent efforts reached us, but not one of them possessed the distinctive quality that has made the "Be Prepared" of the Scouts a world-wide slogan. Many mottos had to be rejected because they were too long and clumsy. Others, again, seemed distinctly promising until we recalled that they were already in use in other connections, while a few struck

the "Death or Glory" note and could only have been useful for a squadron of tanks or a flotilla of torpedo-boats in war-time!

There is a possibility that the motto we are all waiting for has been devised by an Overseas Guild member, and that, even when these lines appear in print, it is speeding across the seas among the thousands of letters that reach us every week from the four corners of the earth. In the circumstances we are not making any selection for Guild adoption at present.

Under the rules governing the competition, we have awarded a prize of 10/6 to George S. Marsh (Blackpool) for what we consider the most original and promising effort yet submitted.

May Painting Contest

Entries for this competition were numerous and in most cases good. The subject "MY HORNBY TRAIN," was one that lent itself to accurate work and it provided an opportunity for our railway enthusiasts to show that they were capable of portraying the various mechanical details in true perspective.

The prize-winners are as follows:—
First Prizes (Class A): G. E. OWEN (Bristol); (Class B) B. KEENAN (West Hartlepool), painting or drawing materials value 10/6. Second Prizes (Class A) R. J. BIGGS (Bristol); (Class B) E. W. HANNAN (Birmingham), painting or drawing materials value 5/-.

Competition Closing Dates:

HOME.		
Seventh Drawing ...	...	31st August.
August (Holiday) Essay ...	...	30th September.
Eighth Drawing ...	...	30th September.
Eighteenth Photo ...	...	30th September.
OVERSEAS.		
Guilth Motto ...	...	30th September.
Essay (Easter Holiday) ...	...	30th September.
Painting (Hornby Train) ...	...	30th September.
Fifteenth Photo ...	...	30th September.
Sixth Drawing ...	...	31st October.
Sixteenth Photo ...	...	31st October.
Club Programme (Members only)	...	31st October.
Seventeenth Photo ...	...	30th November.
Seventh Drawing ...	...	30th November.
Cricket Voting Contest ...	...	30th November.
August (Holiday) Essay ...	...	31st December.
Eighth Drawing ...	...	31st December.
Eighteenth Photo ...	...	31st December.

Watch the Closing Dates:

Competitors, both Home and Overseas, are particularly requested to make a careful note of the closing dates of any competitions for which they intend to enter. Week by week we receive entries for various competitions that have been closed for some time. Some of these entries are excellent and it is a pity for competitors' good work to be wasted on account of losing sight of the closing date.

May Essay Competition

At one time we thought that the number of entries for this contest was to be small, but as the closing date approached they rolled in from all parts. The literary standard was high, and it was pleasant to note that young essayists mostly realised the need for economy in words and simplicity of style. Some of the straight forward accounts of motor tours, picnics to the moors, or Meccano days indoors, made delightfully fresh reading, and the little humorous touches so pleasant in a holiday essay were not forgotten.

An interesting point was the number of writers who, on account of bad weather, were disappointed in not getting out into the country, but whose essays revealed very little discontent. The secret of this independence of the weather lay in their possession of the best alternatives to a day's fresh air—a Meccano Outfit or a Hornby Train.

Awards:—(Class A) First Prize, E. K. LAWRENCE (Nottingham); Second Prize, A. TAYLOR (Ellesmere Port). (Class B) First Prize, H. HALL (Ossett, Yorkshire); Second Prize, L. MATHEWS (Exeter).

June Puzzle Contest

The number of entries for our June Puzzles exceeded all expectations, and while the majority of competitors did well in the word-building puzzle, their industry was in many cases discounted by incomplete or incorrect answers to the minor puzzles. It may be of interest to state that in the word-building section the first and second prize winners compiled over 1,100 words, and the third prize winner over 1,000.

The three Prizes of Meccano goods value £1/1/-, 10/6 and 5/- are awarded to G. C. LUND (Kington, Hereford), D. J. HOPKIN (Bristol) and D. KNIGHT (Brighton) respectively.

Overseas Result Fourth Drawing Contest

The subject of this contest was "A PETROL LORRY or Bus," and a large number of very good drawings was received. Although the general standard of the work was high, it proved much more difficult to judge this Section than the Home Section of the same competition. This fact was largely due to the motor vehicles of foreign design and manufacture that figured very frequently among the drawings, and were generally formidable both from a technical and an artistic point of view. Incidentally the contest indicated the amazing migratory instincts of American standardised cars, which figured even on Egyptian deserts, in the Australian bush, and in some unfamiliar landscape or other nearly everywhere overseas!

Prize awards:—(Class A) First Prize, H. M. SMITH (Knyssa, S. Africa). Second Prize, J. DE CONTI MANDUCA (Sliema, Malta). (Class B) R. A. ANNUM (Nsawam, Gold Coast) and J. GILLIES (Vancouver, B.C.).



The Secretary's Notes

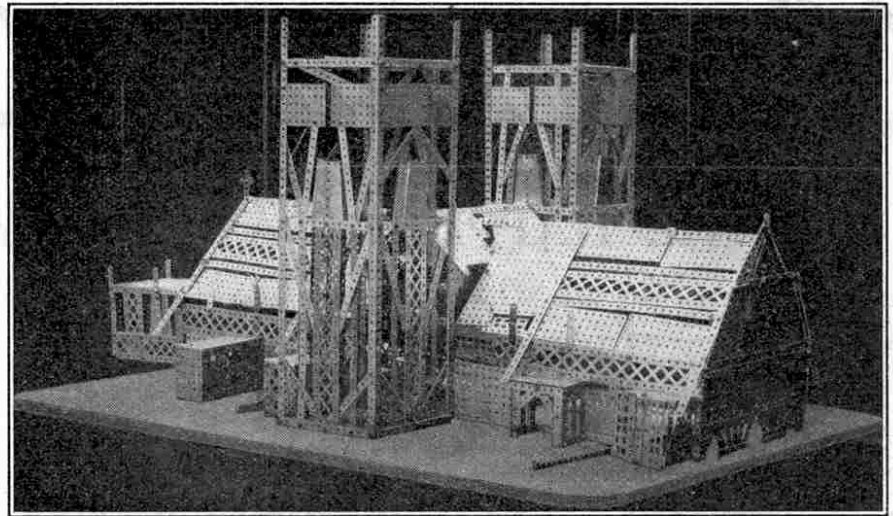
As a suitable climax to the Summer months there is nothing to beat a well-organised Club Outing, Garden Fete or Sports Meeting. A special event of this description finds a place towards the end of the Summer calendar of most clubs, although the nature of such functions varies greatly according to the particular strength and circumstances of each club. The larger clubs favour a Garden Fete or a Sports Meeting. Either of these provides a splendid opportunity for parents and friends to assemble, and gives the Leader a chance to explain the aims and programme of the club. The function also may be made a source of revenue, and club finances are never very strong just at this time of the year!

Recently I have received many inquiries from club secretaries who wish to commence a club magazine. So much interest is shown in this fascinating side-line that I intend to devote a fairly long article to the subject very soon.

In order to clear the way, however, and to make my article of direct interest to as many readers as possible, I should be glad if all club secretaries and intending magazine producers would send me a note giving some definite idea of their intentions. Many Meccano Clubs already publish monthly or quarterly magazines of one sort or another, and I should much appreciate notes from the respective editors giving me brief details as to their methods, and their experience on such points as the cost of printing, best copying systems tried, and handiest and most popular size and style.

In my notes last month I included a paragraph about the Correspondence Club, and appended a list of the initials and hobbies of Guild members who await correspondents in the various countries named. Although it is yet too soon, for Overseas readers to have received their copies of the "M.M." and taken the matter up, my note about the Correspondence Club generally has had a decidedly invigorating effect among British Guild members. Many have written for enrolment forms, and I am adding to my list of British and European boys desiring correspondents in the United States,

A Cathedral in Meccano



Our photograph shows a model of Exeter Cathedral constructed by the St. James' Meccano Club, Exeter. This model was 5 ft. long, its towers were over 2 ft. high and electric light and a peal of bells were fitted. It attracted great attention in Exeter and won high praise for the club and its Leader, Mr. M. C. Hodder.

South America and the Colonies. I want still more, and in the case of members who are not really particular as to what country their correspondents live in, if they will let me know this I shall be able to fix them up very quickly. The reason for this is that I have on my file a number of Guild members living off the beaten track, and in applying for a correspondent nobody even happens to name on his form their particular corner of the earth! To all who are now waiting to hear of correspondents let me say that my present arrangements will enable me to find them in the near future. I wish to emphasise another point. The first applicant for a correspondent in, say, India, is not simply placed in touch with the first Indian member on the list. On the other hand, great care is taken to introduce boys of roughly equivalent ages having the same hobbies and, judging from letters in my hands, the most likely to form a lasting postal friendship. It is in this fact chiefly that the great success of the Correspondence Club lies.

Almost every day I receive snapshots of various kinds from members of clubs in all parts of the world, but it is comparatively rarely that I receive a good photograph of a club group. By a good photograph I mean one that has been carefully taken and which is clear and sharp and suitable for reproduction. I am anxious to publish a club group in the "M.M." every month, if possible, and I want the Leaders and secretaries of those clubs that have not yet sent me a group to do their utmost to gather their members together and have a photograph taken while there is fine weather and good light. I should like all clubs to have such a group taken at least once a year and framed and hung up in the club room, to form a sort of photographic record of the club's career and to provide a souvenir of former members who may now be scattered far and wide.

I am glad to be able to announce that club secretaries are now giving much greater attention to sending in club reports to form the basis of a paragraph on the "Club Notes" page. There is a great deal of room for improvement in one matter however, and that is the date of sending in reports. A magazine such as the "M.M." must be prepared and actually in the hands of the printer a considerable time before its publishing day, the first of the month, and unless I receive a club report in good time it is impossible for me to include it in the following month's issue. In future I want secretaries to let me have their reports *on or before the eighth of each month* as this will enable me to include such reports in the following month's issue.

One of the greatest difficulties with which the Leader of a new club is faced is that of planning and conducting meetings. Probably he has not had any experience of Meccano club work and consequently he has little to guide him.

This difficulty is speedily overcome by an enthusiastic Leader backed by enthusiastic members, but often much useful time is lost through commencing on wrong lines and having to make drastic changes afterwards. I am frequently appealed to by new Leaders for help on this matter, but the local circumstances of clubs vary so greatly that sometimes I find it very difficult to give really practical advice. It has occurred to me that the Leaders of old-established clubs might assist me, and through me the new clubs, by sending me a description of how they plan and conduct their meetings. What a new club requires is a practical and well-tried working scheme that it can adopt with confidence for its earlier meetings and subsequently use as a foundation on which to build up its own programme.



CLUB NOTES

Holy Trinity (Barnsbury) M.C.—The clubroom has been completely renovated and now looks very well indeed. The second annual Concert was a great success although its financial results did not reach the previous level. Several successful outings and visits to factories and other places of interest have been held. Arrangements for next session include the seventh Annual Exhibition in October and the third Concert in November. A wireless aerial has been erected over the Parish Hall for the use of both the Meccano and Radio Clubs, and the two clubs are now joint owners of a portable set for use on field days. Special Merit Medallions have been awarded to F. Johnson and S. McDonald. Club roll: 30. Average attendance: 17. *Secretary:* Stanley A. G. Bone, "The Rosary," Kents Hill Road, South Benfleet.

King Edward VI. School (Aston) M.C.—Interesting papers have been given by members and a series of talks on "Practical Electricity" by the Leader, Mr. W. C. Chivers. Among models brought to club meetings were a Clockwork Racing Motor Car, a Morgan Runabout, and an Electric Chassis. A Stamp Section has been formed and is progressing well. Forthcoming events include an Exhibition of Models, Cycle Excursions and a visit to the Midland Counties Dairy. Club roll: 37. Average attendance: 24. *Secretary:* H. Mapp, 31, Thornhill Road, Handsworth, Birmingham.

Westcliff and District M.C.—Has recently secured a useful amount of publicity through the local newspapers. Forthcoming events include a Garden Party and the production of a Play written entirely by members. "The Hound," a well-written little club magazine, circulates among members. The Girls' Section has drawn up new rules. Meetings are being held monthly. The subscription for members is 2d., for committee members 3d., and for office-bearers 4d. Boys' Section—Club roll: 32. Average attendance: 100 per cent. *Secretary:* D. S. Cecil, 22, Valkyrie Road, Westcliff-on-Sea. Girls' Section—Club roll: 9. Average attendance: 100 per cent. *Secretary:* Miss Helen A. Cecil, 22, Valkyrie Road, Westcliff-on-Sea.

Bearwood M.C.—Cycle Runs and Cricket Matches are being continued and a big Recruiting Campaign is being carried on in order to ensure a good membership for the winter. Visits have been arranged to the works of Messrs. Cadbury and Messrs. Avery. *Secretary:* C. White, 72, Katherine Road, Bearwood, Birmingham.

Accrington M.C.—Has just celebrated its first anniversary. Rambles in the country and Cricket Matches are the chief activities, and many new members are being enrolled. Club roll: 24. Average attendance: 15. *Secretary:* V. Waterhouse, 45, Ramsbottom Street, Accrington.

Rosyth M.C.—A "Special Effort" week is to be held in October, when all Guild members in the district will receive a personal invitation to join the club. The Annual Excursion took place last month, Aberdour being the selected destination. D. Dowling has agreed to take charge of the Library. *Secretary:* E. T. Hunter, 79, Admiralty Road, Rosyth, Scotland.

Stockton M.C.—Mr. T. W. T. Richardson, of Gulval House, Norton-on-Tees, has consented to become President, and his talk on "Building Sites and Building" was greatly appreciated. Club roll: 17. Average attendance: 12. *Secretary:* N. Middleton, 14, Victoria Avenue, Norton Road, Stockton-on-Tees.

Meads (Eastbourne) M.C.—Cricket practices and matches are keeping members together. Rehearsals will shortly commence of a Meccano Play to be given at a concert in aid of the new Parish Hall where the club will make its headquarters. Club roll: 29. *Secretary:* A. A. Moore, 7, Rodmill Road, Eastbourne.

Newcastle-on-Tyne M.C.—Is specialising in the building of Model Locomotives, under the expert direction of the Leader, Mr. D. Gilbey, who is the founder of the Newcastle-on-Tyne Society of Model Engineers. Two complete Model Railways have already been constructed, and members are now co-operating in building a model L.N.E.R. Tank Loco. The frames are already complete of a new 1/4 in. scale model Great Northern type "Atlantic." Other activities include Meccano Competitions and Cricket. Club roll: 38. *Secretary:* J. Stoddart, 71, Walker Road, Newcastle-on-Tyne.

St. James' Choristers' (Exeter) M.C.—The model of Exeter Cathedral, built entirely of Meccano parts and complete with bells, electric lighting, and an ingenious musical contrivance giving an organ-like effect, has now been dismantled after attracting much attention locally. In its place members are co-operating to build an Aerial Railway. The Annual Camp will be held this month. Club roll: 51. *Secretary:* L. Mathews, 44, Rosebery Road, Exeter.

Claygate M.C.—The Annual Sports were held last month, a full programme being successfully carried out. Other features of the day included an Exhibition and sale of members' work, a display of Country Dancing by the girl members, and a Trek-cart and Tent-pitching Contest for Boy Scouts. The Leader, Mr. J. W. Haynes, has recently compiled a short history of the club, and it is interesting to trace its progress since 1919. The club now has its own headquarters in a well-fitted Army Hut. The Girls' Section continues to thrive and during the winter session there will be classes every night. Club roll: 86. *Leader:* Mr. J. W. Haynes, "Fontwell," Covers Road, Claygate, Surrey.

White Notley M.C.—Owing to many of the original members having left the village, operations have been suspended for a time, but should any Meccano boys in the district care to apply to the Leader, Mr. Carpenter, nr. Post Office, White Notley, Essex, he will be pleased to consider arrangements for resuming activities.

Beverley Road (Bolton) M.C.—Has recently been affiliated and Mr. T. Cooper is now Leader. Meetings are held each week in a room at the Beverley Road I.M. Sunday School, Bolton. During his holidays the secretary visited Guild Headquarters and was delighted to be shown round the Meccano factory. Club roll: 12. Average attendance: 10. *Secretary:* Hubert Henshaw, 35, Kendal Road, Bolton.

Meccano Club Leaders

No. 21. Pastor A. B. Grosvenor



Pastor A. B. Grosvenor has been for many years intimately connected with Meccano Clubs and the work of the Guild generally. Prior to 1920 he founded the Brightlingsea M.C. and was its leader until he left the coast town for Norwich, where in March of that year he founded the Norwich Enterprise Meccano Club, and became its Secretary. This Club was one of the earliest and most successful Clubs in the Eastern Counties and it owed almost everything to the enthusiastic example of Pastor Grosvenor. Valuable prizes were won in the 1921 and 1922 Inter-Club Model Competitions, and some of the models made by the Pastor himself evoked widespread admiration.

The summer of 1924 found Pastor Grosvenor transferred to Northwood, Middlesex, and he lost no time in starting a Meccano Club there. The Ruislip Common M.C. claims him as its leader to-day, and many Guild members regard him as a true friend to whom they owe much of their interest in Meccano and the Meccano Guild.

Pastor Grosvenor is keenly interested in Esperanto, and he regards this international language as being of particular value to members of the Meccano Guild as a means of communication with other members in any part of the world.

Malta

1st Malta M.C.—Recent activities have included Model-Building, Visits to Engineering Depots, Outings, Lectures and Papers by members, and various social functions. J. Savona, a member, has invented a new system of braking, which he made the subject of an interesting discussion-night. A strenuous Recruiting Campaign is to be organised. Club roll: 14. *Secretary:* Ant. J. Grech, 173, Prince of Wales Road, Sliema, Malta.

South Africa

Simonstown (South Africa) M.C.—Many new members have recently joined, and there is now an active Girls' Section, which, in addition to its Meccano activities, meets for Fancy Needlework Classes. At the conclusion of each club evening an hour is spent in recreation, and this feature is greatly appreciated. A visit to the battle cruiser, H.M.S. "Repulse," was arranged when she visited Simonstown Harbour. Club roll: 25. *Secretary:* L. W. Creasey, "Elsinore," Simonstown, South Africa.

Australia

Glenelg (South Australia) M.C.—In addition to Lectures and Talks on various subjects, members recently travelled 12 miles by motor to visit a Glass Works. An Essay Competition describing the works was afterwards held, the prizes (Meccano parts) being awarded to H. Curnow and D. Hiller. A novel Model-building Contest was recently held in which cotton-reels had to be substituted for wheels and rotary parts! Two pen-knives were offered as prizes by Mr. Inverarity. Club roll: 68. *Secretary:* Keith Holmesby, 22, Partridge Street, Glenelg, South Australia.

India

Calcutta M.C.—Continues to make good progress and the membership is still increasing. Special Merit Medallions have been awarded to M. L. Mitter and A. N. Roy Choudhury. Club roll: 40. *Leader:* Mr. M. N. Gan, M.A., Club Headquarters, 35, Beadon Street, Calcutta.

Clubs not yet Affiliated

Eagle (Enfield) M.C.—A Leader has been secured in Mr. F. Kebbel. The club has the use of a room at the local Y.M.C.A., and meetings are well attended. A Cricket Section has been going well and, in addition to regular Rambles, members are to have a day at Wembley this month. Club roll: 20. Average attendance: 20. *Secretary:* H. J. Simmons, 75, Fotheringham Road, Enfield, Middlesex.

Edinburgh Castle (Bow) M.C.—Meets for Model-building and Social Evenings alternately every week, and holds a monthly Essay Competition. The subject of the June Essay was "My Favourite Hobby," and the prize was awarded to E. Wedon. In the temporary absence of the Leader, Mr. F. Winn, the club has been conducted by Mr. Sidney Raffan. Club roll: 20. Average attendance: 16. *Secretary:* E. H. Wedon, 173, Turner Road, Bow, London, E.3.

Wyggeston Grammar School M.C.—Activities have been largely suspended for the remainder of the summer. New members are being steadily enrolled. *Secretary:* G. W. Darby, 30, Kimberley Road, Leicester.

High Brooms M.C.—Is making steady progress. It is hoped shortly to secure the use of a larger clubroom and the services of a Leader. *Secretary:* B. Smith, 50, South View Road, High Brooms, Nr. Tunbridge Wells.

Saltney Ferry (Chester) M.C.—Under the Leadership of Mr. F. Rowlands, regular meetings are being held in the splendid headquarters the club has secured. All Meccano boys in the district are invited to get into touch with the *Secretary:* E. Sanders, 10, Ewart Street, Saltney Ferry, Chester.

Rhos College M.C.—Has now a flourishing Library, and a club magazine is to be started. It is expected to secure a new Leader before the opening of next session. Club roll: 11. *Secretary:* G. E. Mellor, "Bradda," Allanson Road, Rhos-on-Sea, N. Wales.

Greenfield (Lancs.) M.C.—Meetings are limited in number owing to the high cost of the clubroom, but members are full of enthusiasm. The programme includes Wireless and special evenings devoted to Signalling and Telegraphy. It is expected shortly to increase the membership to 17. *Secretary:* Ronald Moss, Carr Lane, Greenfield.

West Tytherley (Wilts) M.C.—Is making good progress and has a substantial cash balance at the bank. The Rector of Tytherley, the Rev. Leahy, is now Leader. S. Knight, a member, made a clever model Colliery-Cage and Pithead, which attracted much notice at the club's first Exhibition, which was a decided success. Affiliation is now being applied for. Club roll: 8. *Secretary:* George Richards, 35, West Tytherley, Nr. Salisbury, Wilts.

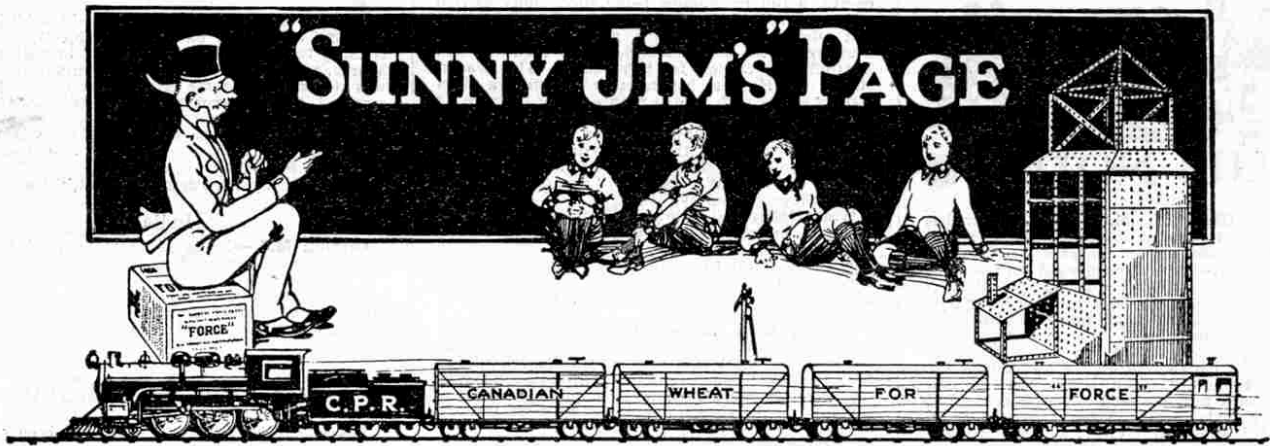
Brakpan (South Africa) M.C.—Has succeeded in obtaining Mr. Chas. F. Preller as Leader, and it is confidently expected that the enterprise already shown will lead to a really well-organised club. *Leader:* Mr. Chas. F. Preller, 10, Alma Hotel, Brakpan, South Africa.

Dunedin (New Zealand) M.C.—The new secretary, G. Howard, 24, Erin Street, Roslyn, Dunedin, reports that the outlook is good, and has sent in some interesting photographs of camping and boys' activities generally.

Clitheroe M.C.—Is temporarily closed down and will not reopen until the Winter Session. Excursions have been arranged to fill the interval. *Secretary:* Noel Cooke, 5, Buccleuch Avenue, Clitheroe.

Stamford M.C.—Difficulty is being experienced in finding suitable accommodation for the Winter Session. Many boys keenly interested in Meccano are waiting to join, and 24 is the number aimed at to place the membership of the club on a sound basis. *Secretary:* W. West, 19, Foundry Road, Stamford, Lincoln.

Wembley Hill M.C.—A Leader has been secured and it is hoped soon to have the club firmly established. Intending members should apply to H. Waters, 11, Clifton Avenue, Wembley Hill.



LEARN TO PLAY THIS NEW EXCITING GAME— IN THE PLAYGROUND—AT THE SEASIDE

Here's a new game for any number of players. It is the game I play with my boy chums after their school hours. It's a fine game for the playground, or the damp hard sand at the seaside. My chums call it "Sunny Jim's" game because I taught it them. You and your chums are sure to get hours of fun out of it too. Read the rules carefully and next time your friends stand around wondering what to play next, tell them all about "Sunny Jim's" game, and teach them the rules.

What It Is

On the ground you mark out a big map of Canada (you can easily get the outline for this from your Atlas). Twenty paces away you mark out the British Isles. In "Canada" you put a number of empty "FORCE" packets (say about 30, but any number will do). If you can't get 30 "FORCE" packets all at once, save them up, and in the meantime use boxes made to look like "FORCE" packets. You are now ready to play.

Divide up into equal sides. One side is "Sunny Jim's" side. The other side is known as "Competition."

Everyone on "Sunny Jim's" side wears a Sunny Jim mask (you and all your chums can get one each for nothing if you follow the instructions given at foot of this page.

"Competition" side is not allowed to dress up, until they win, and then they become "Sunny Jim's" and the "Sunny Jim's" have to change over and be "Competition's." Line up the "Sunny Jim's" in Canada and the "Competition's" in England.



Fixing the mask

The game starts by one of the "Sunny Jim's" running from "Canada" towards "England" (in the direction of the arrow shown on the plan) and taking with him one of the empty "FORCE" packets. As soon as he starts *one* on the "Competition" side runs out to

because both Canada and England must never be without at least *one* of its side at "home." If he is alone, the last man must not leave until the first, or another on his side, has been right round and is ready to take his place at the "base."

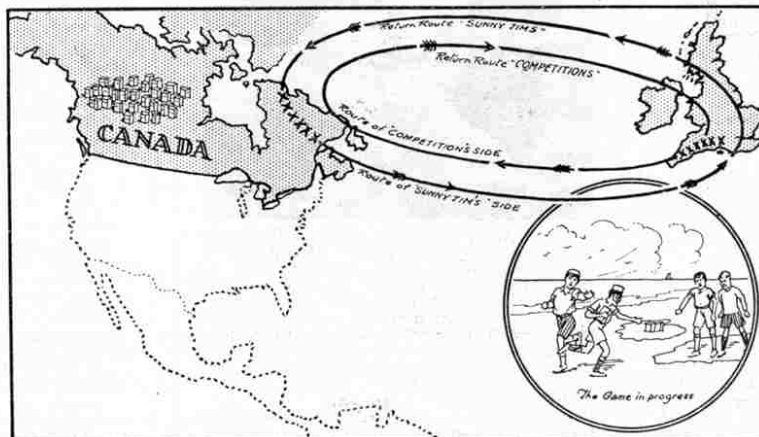
After a few minutes' play all the "FORCE" packets will have been taken from "Canada" and will be somewhere in the British Isles. If there are more in England than in Ireland the "Sunny Jim's" have won. If there are more in Ireland than in England the "Competition's" have won.

When the "Competition's" win it is their turn to be "Sunny Jim's."

Don't forget boys, that "Sunny Jim's" game is rollicking good fun, and that "FORCE" is the best health and strength giving food to "train on."

Always start your day with a good helping of

"FORCE." You will like it with fruit, with custard, or with milk. Ask for it—save your empty packets for "Sunny Jim's" game—save your packet tops for the free "Sunny Jim" mask.



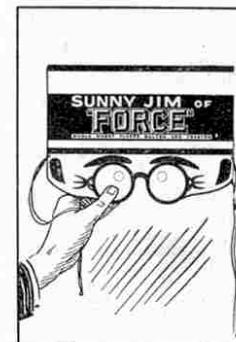
Plan for marking out "Sunny Jim's" Game

meet him. As they pass, the "Sunny Jim" boy must endeavour to dodge the "Competition's" boy and get to England without being "Tipped." As much "dodging" as you like is allowed, but once the "Sunny Jim" boy has passed the "Competition" boy, "Competition" is not allowed to turn round and chase him, but must run on, touch "Canada," and come back as shown by the route on the diagram.

The "Sunny Jim" boy, if he successfully dodges "Competition," leaves his empty "FORCE" packet in England and returns to Canada, as shown on the diagram. If he is "Tipped" however, he gives up his "FORCE" packet to "Competition" who carries it with him and puts it in "Ireland" on his way back, and the "Sunny Jim" boy completes his circle back to Canada and more "FORCE" packets.

The game is kept going by "Sunny Jim" boys leaving "Canada" one after another, each with a "FORCE" packet in his hand. Whenever a "Sunny Jim" boy leaves Canada a "Competition" boy must also leave "England."

This is where the game gets exciting



The Free "Sunny Jim" Mask

Sunny Jim

**THIS
"SUNNY
JIM" MASK
IS FREE!**

Here's the mask for you and your chums to wear. You can all have one each, if each one of you sends, with his name and address, a top from a "FORCE" packet. SEND NOW. Mark your envelopes "MASK" and post to "Sunny Jim," 197, Gt. Portland St., London, W.1.



This Month's Short Story

Mary has a swarm of bees
And they, to save their lives,
Must go wherever Mary goes,
For Mary has the hives.

* * * * *

A country doctor arriving home from his rounds found a note awaiting him.

The note read: "Dear Doctor, My wife's mother is at death's door. Please come at once and see if you can pull her through!"

* * * * *

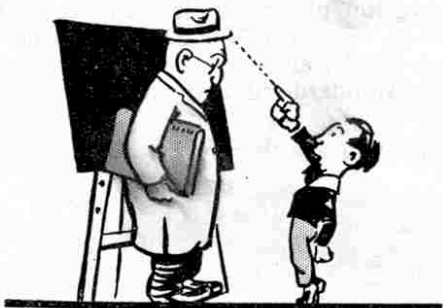
Willie: "Mother, isn't it lunch time yet?"

Mother: "No, not for another hour."

Willie: "Then my tummy must be fast!"

* * * * *

A NARROW ESCAPE!



Absent-minded Professor: "Have you seen my hat anywhere?"

Student: "It is on your head, sir."

Absent-minded Professor: "Thank you so much. But for you I should have gone off without it!"

* * * * *

"What is your occupation?"

"I used to be an organist."

"Why did you give it up?"

"The monkey died."

* * * * *

TOO RISKY!

Life Insurance Agent: "One moment, sir, before I fill in your application. What make of car do you drive?"

Client: "I don't drive any car at all."

Agent: "I'm sorry, but our company no longer insures pedestrians."

* * * * *

So large was the hat of Miss Gill,
That in it she looked almost nil.
Said her pa with a snigger,
Let's see something bigger,
But he sobbed when they showed him the bill.

* * * * *

Old Sailor: "Yes my lad, I've been to every corner of the globe."

Small boy: "How do you make that out? The globe is round and has no corners."

VERY FUNNY!



"Tommy," said his mother, reprovingly, "What did I say I would do to you if I caught you stealing jam again?"

Tommy thoughtfully scratched his head with his sticky fingers. "Why, that's funny, Ma, that you should forget. I can't remember, either."

* * * * *

Customer: "This watch you sold me is always slow."

Jeweller: "Well, you asked for the latest kind, didn't you?"

* * * * *

Curiosity leads to some peculiar actions.
Page upside down.
For instance, it leads to turning this

* * * * *

HE KNEW!

Teacher (trying to explain the meaning of "perseverance"): "What is it that carries a man along rough roads and smooth roads, up mountains and down dales, through jungles, swamps and raging torrents?"

Small Boy (whose father keeps a motor garage): "Please teacher, there ain't no such car!"

* * * * *

Teacher: "Is there any connecting link between the animal and the vegetable worlds?"

Tommy: "Yes teacher, hash."

* * * * *

A sleeper is one who sleeps.

A sleeper is the railway carriage in which a sleeper sleeps.

A sleeper is that on which a sleeper runs while a sleeper sleeps. Therefore, while the sleeper sleeps in the sleeper the sleeper carries the sleeper over the sleeper under the sleeper.

* * * * *

Black: "Have you ever had that pain before?"

White: "Don't be silly, it's in my back."

NOT WHAT UNCLE EXPECTED!



Uncle George: "Well Bill, my boy, how do you stand at school these days?"

Bill: "In the corner mostly."

* * * * *

Bright Boy: "Father, I'm the smartest boy in my class."

Father: "What makes you say that, my son?"

Bright Boy: "I answered a question to-day that nobody else could."

Father: "Splendid, my son. What was the question?"

Bright Boy: "Teacher asked who put the gum in her ink pot!"

* * * * *

Infuriated Chemist (called up at 2 a.m.): "What do you mean by calling me up at this hour for two pennyworth of bi-carbonate of soda for indigestion, when a tumbler of hot water would have been just as good?"

Scotsman: "Weel, thank ye for the advice, I'll no bother ye after all."

* * * * *

Jim: "Isn't it funny, the day breaks without falling?"

Tim: "Yes, and the night falls without breaking."

* * * * *

WELL, WELL!

Old Gentleman: "Remember, my man, hard work is the thing. Begin at the bottom and work up."

Pat: "It can't be done in my business sir, I'm a well digger!"

* * * * *

John: "Professor Smith has given me a ticket for a lecture and I don't quite know what he means by it."

Charles: "Why, what is the trouble?"

John: "The lecture is on 'Fools,' and on the ticket it says 'Admit one!'"

* * * * *

She: "Will you get my watch? It's upstairs."

He: "Wait a little while, it will run down."

She: "No it won't, ours is a winding staircase."

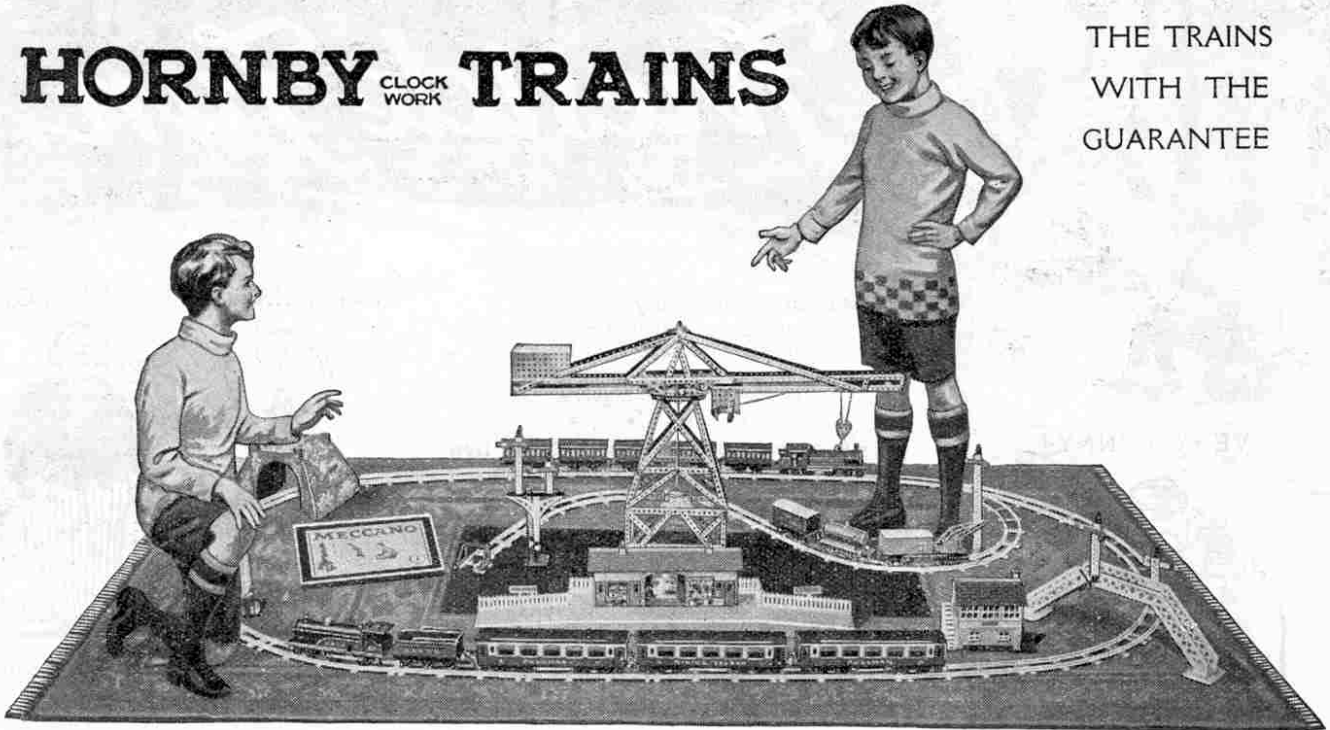
* * * * *

Teacher: "You have spelled 'apartment' with two 'P's.'"

Pupil: "Which one shall I take out?"

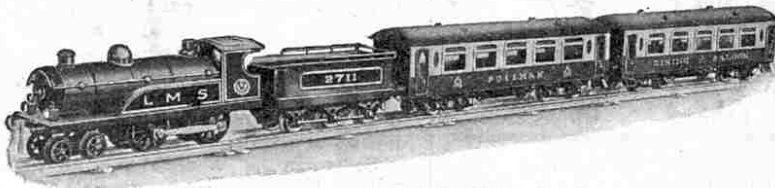
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THE TRAINS
WITH THE
GUARANTEE



YOU can have any amount of fun playing with a Hornby Train. Shunting, coupling-up the rolling stock and making up trains will give you hours of pleasure. Hornby Trains are beautifully finished, strongly made, and will last for ever. One of their most valuable features is that all the parts are standardised, and any lost or damaged part may be replaced with a new one.

Every train is guaranteed, and you are therefore sure of satisfaction if you buy a Hornby.



No. 2 PULLMAN SET

No. 2 Pullman Set

The No. 2 Loco with Tender measures 17 in. in length. The Loco is fitted with superior mechanism and the accurately-cut gears ensure smooth running. Loco, Tender and Coaches are superb in appearance and finish, enamelled in colours and stoved at a high temperature to ensure durability. The Loco is fitted with reversing gear, brake and governor.

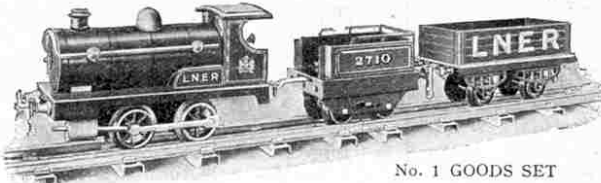
Gauge 0 in colours to represent the L.M.S. or L.N.E.R. Companies' rolling-stock. Each set contains Loco, Tender and two Coaches, with set of rails to form a circle of 4 ft. diameter. Price 60/-.

No. 1 Passenger Set

The Loco is fitted with reversing gear, brake and governor. Loco, Tender and Coaches are superb in appearance and finish, enamelled in colour and stoved at a high temperature to ensure durability. The doors of the Coaches open. Gauge 0 in colours to represent the L.M.S. or L.N.E.R. Companies' rolling-stock. Each set contains Loco, Tender, two passenger coaches and set of rails consisting of two straights and curves to form a circle of 2 ft. diameter. Price 30/-



No. 1 PASSENGER SET



No. 1 GOODS SET

No. 1 Goods Set

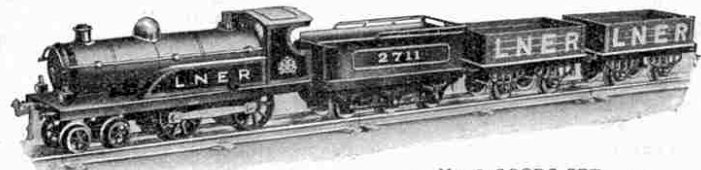
Gauge 0 in colours to represent the L.M.S. or L.N.E.R. Companies' rolling-stock. Each Loco is fitted with reversing gear, brake and governor. Each set comprises Loco, Tender, one Wagon, and set of rails as in the No. 1 Passenger Set. Price 22/6

No. 1 Hornby Loco	Price 15/-	Hornby Passenger Coach	Price 5/-
" " Tender	" 2/6	No. 1 Hornby Wagon	" 2/6

No. 2 Goods Set

Gauge 0 in colours to represent the L.M.S. or L.N.E.R. Companies' rolling stock. This set contains Loco, Tender and Rails as in the No. 2 Pullman Set, and two Wagons. Loco fitted with reversing gear, brake and governor. Price 37/6

No. 2 Hornby Loco ...	Price 22/6	Hornby Pullman or Dining Car ...	Price 15/-
" " Tender	" 3/6	No. 2 Hornby Wagon	" 2/6



No. 2 GOODS SET

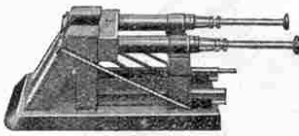
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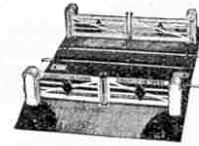
HYDRAULIC BUFFER STOP
Price 5/-



SECCOTINE VAN
Price 4/-



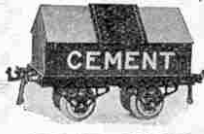
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Dimensions: height 6½ in., width 3½ in., length 6½ in. Finished in colour and lettered "Windsor." Roof and back open to allow signal levers to be fitted inside cabin if desired. Price 6/6



LEVEL CROSSING
Beautifully designed in colour. Measures 11¼ x 7½ in. with Gauge 0 rails in position. Price 6/6



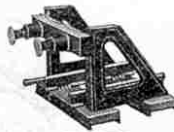
CRANE TRUCK
Working model. Finished in colours. Price 4/6



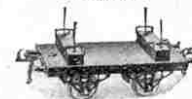
CEMENT WAGON
Finished in grey and black. Price 4/-



BRAKE VAN
Finished in colour. Price 4/-



SPRING BUFFER STOP
Price 1/6



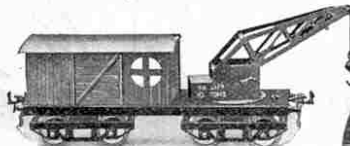
No. 1 LUMBER WAGON
Fitted with bolsters and stanchions for log transport. Price 2/-



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Finished in grey, with revolving cutter driven from front axle. Price 5/6



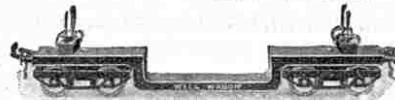
TUNNEL
Price 7/6



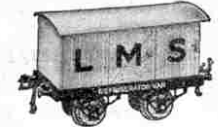
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Excellent finish. Beautifully coloured. Suitable for 2 ft. radius rails only. Price 7/-



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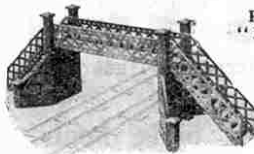
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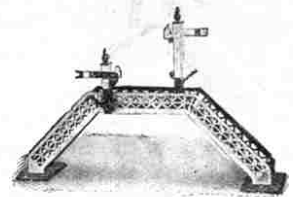
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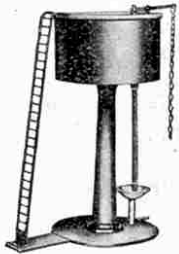
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This bridge is of the constructional type, strong and well proportioned. Price 10/6



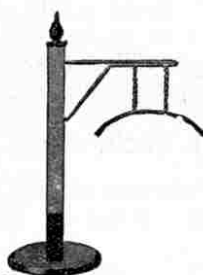
RAILWAY STATION. Excellent model, beautifully designed and finished. Dimensions: Length 2-ft. 9-in., breadth 6-in., height 7-in. Price 12/6



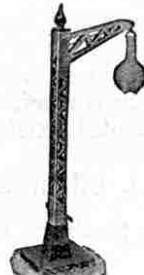
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No. 1. With detachable signals. Price 6/-
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Signals, per pair 2/9



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Brightly coloured in red, yellow and black, 8½ in. in height, with flexible tube and pump lever. Price 6/6



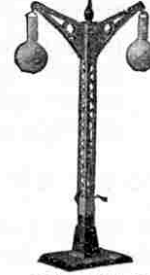
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A 4-volt bulb may be fitted into the globe. Price 3/-



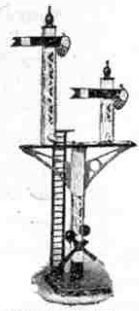
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Signal arms operated by levers at base. Very realistic model standing 14 in. in height. Price 5/6

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

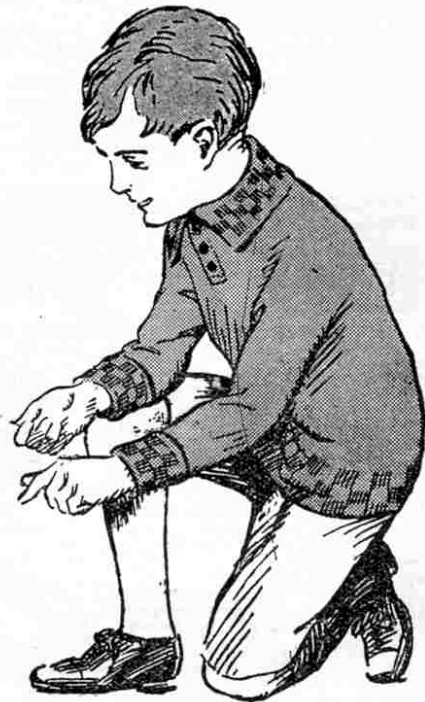
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Three-quarter Hose, Turnover Tops to match		
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The World's Great Adhesive.

Registered Trade Mark.

WITH it he can mend a thousand things—his bats, balls, boats, boxes, bags, books, &c. He can make numberless things that a boy likes. He can help his mother by mending breakages in house furniture, anything—everything.

NOTE. There is nothing messy about Seccotine. Use the spike or pin supplied to open a new tube—at top of cone—press gently at end of tube (at folded part) for as much adhesive as is needed—then replace spike or pin which acts as stopper. Keep folding tube end as contents are withdrawn. Give mended article adequate time for drying.

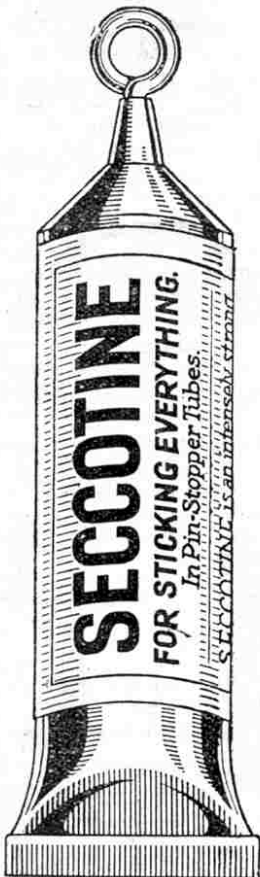
TUBES are 4½d. (vest pocket box), 6d. and 9d. each. Sold everywhere.

Mothers should know that cups, saucers, tumblers, etc. intended to hold liquids, hot or cold—should be mended with FIRMAS (Heat Seccotine). Tubes 6d. each.

McCAW, STEVENSON & ORR LTD.

The Linenhall Works

BELFAST



BRITISH
MADE

LOTT'S BRICKS

OF
STONE

FOR MODEL RAILWAY BUILDERS



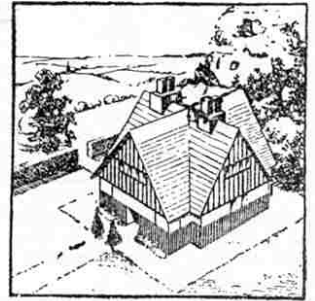
Model Signal Cabin from Box OA

There is just as much fun in building with Lott's Bricks as there is in building models with Meccano. Lott's Bricks are designed by a leading architect and when you are building model houses, churches, etc., you are building on correct principles.

Meccano boys can obtain a great deal of extra pleasure from model-building by using Lott's Bricks with Meccano when building models of bridges, viaducts, stations, etc. Bridges of any style may be constructed, and when built are so strong that they will carry the heaviest type of model locomotive.

Owners of Hornby Trains can add to the realism of their model railways by building stations, signal-cabins, villas alongside the railway line, and other buildings.

A splendid new model-building competition for Meccano boys will be announced shortly.



A Model from Box 2 Tudor Blocks

SERIES "B."	PRICE
Box O (builds 6 Models)	2/-
Box OA ,, 12	3/3
Box A ,, 12	5/-
Box 1 ,, 18	10/-
Box 3 ,, 49	17/6
Box 6 ,, 71	37/6

SOME PROVINCIAL STOCKISTS

BRIGHTON	- Staffords Ltd.	LOWESTOFT	- Spashett & Co.
BEDFORD	- Hebblethwaite & Co. Ltd.	NOTTINGHAM	- Pearson & Pearson.
BANBURY	- Brummitt & Son.	"	- Beecroft & Son.
CLACTON-ON-SEA	H. D. Simmonds.	SOUTHAMPTON	- G. Maggs.
DERBY	- S. J. Potts.	SWINDON	- S. Goldsmith.
HEREFORD	- Greenlands Ltd.	TAUNTON	- W. J. Coles.
IPSWICH	- Cowell & Co. Ltd.	TUNBRIDGE	
LEICESTER	- Robothams Ltd.	WELLS	- Porter's.
LEAMINGTON	- Burgis & Colbourne Ltd.	WORCESTER	- E. Bayliss & Son Ltd.

"TUDOR BLOCKS" PRICE

Box 1 (builds 6 Models)	3/6
Box 2 ,, 12	7/6
Box 3 ,, 12	17/6

COMPETITION

Awards in our recent Bridge Contest will be announced next month.

WRITE FOR ILLUSTRATED LIST AND NAME OF NEAREST AGENT

LOTT'S BRICKS LTD., WATFORD, England

Electricity—(continued from page 387)

In northern waters, icebergs grounding on shoals often grind the cable flat, thus exposing the conductor or severing the cable entirely. On one occasion a repair ship hauled up the dead body of a whale entangled in loop after loop of cable. This was disclosed a tragedy of the deep which had ended, as might be expected, in the parting of the cable during the huge animal's death struggle. At another time a shark, evidently thinking he had found something new to eat, was sufficiently venturesome as to attack a cable. He took a good bite, only to find that the gutta-percha insulation held his teeth in so firm a grip that he was compelled to leave one of them behind! Although the shark escaped with only the loss of a tooth, his bite had been sufficiently severe to allow the water to reach the conductor, and cost the owners of the cable several hundred pounds to effect the necessary repair.

Finding the Position of a Break

When a break occurs in a cable, either in the process of laying or after it is in operation, it is possible to tell from the shore exactly how far from either end the fault occurs. The exact electrical resistance per mile of each cable is definitely known. By means of an artificial resistance in the cable terminal office, which can be accurately measured, an electrical balance is established between the part of the cable between the fault and the terminal, and the artificial resistance. If, for instance, the resistance of the cable is 2 ohms per mile, and the artificial resistance establishes a balance at 2,730

ohms, it is certain that the break will be found somewhere in the 1,365th mile out. A cable repair ship is then hurried to that spot, which is clearly indicated by the chart made when the cable was laid or last repaired.

On arriving at the point where the cable is to be picked up, the repair ship puts an anchored buoy overboard to mark the point of departure, and then steams backward and forward across the line of the cable dragging a grapnel over the sea floor. Once the cable has been hooked and brought to the surface, it is a comparatively simple matter to splice on a new section and then haul up the other end and splice that on.

Cable Ships

In the early days of cable-laying an ordinary steamer was chartered and temporarily altered, but to-day there exists a fleet of over forty vessels in various parts of the world, designed exclusively for submarine cable work. The "Faraday," owned by Messrs. Siemens Bros. and Co. Ltd., illustrated in last month's issue, is a typical vessel of this kind. A description of this ship was given in the "Meccano Magazine" for June, 1923. Another fine cable ship is the "Colonia," owned by the Telegraph Construction and Maintenance Company, of Greenwich, the oldest company engaged in the manufacture of deep-sea cables. This ship was built in 1902 by Messrs. Swan, Hunter, Wigham Richardson & Co., at Newcastle-on-Tyne. She is 487 ft. in length and 56 ft. in breadth, and her gross tonnage is 7981. She is equipped with reciprocating engines of 5,000 I.H.P. and her normal speed is 14 knots. She has four tanks capable of holding 4,000 nautical miles of deep-sea cable.

Cable-Breaking during the War

During the war the opposite to cable repairing took place, for the cable ships were employed in the very unusual task of cable-breaking.

Germany was entirely deprived of direct telegraphic communication with the United States within four hours of the declaration of war. Two cables at that time ran from Emden (Germany) to New York via the Azores, and these were cut by a British cruiser in the Channel, one being taken to Penzance and the other to Brest. In 1917 these cables were cut about 600 miles from New York and one was diverted to Halifax, Nova Scotia. We thus gained a trans-Atlantic cable that is still working for us. In all, 20,000 miles of German cables were captured during the war.

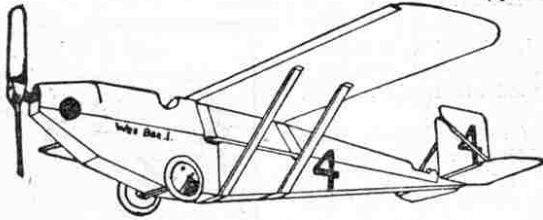
The enemy was not so successful in cutting the cables belonging to the Allies. The German ship "Emden" attempted to cut the cable belonging to the Eastern Associated Telegraph Co., near the Cocos Islands. The officials had been warned, however, and had prepared a dummy cable from a length of spare cable in their possession. The German ship very conveniently cut this dummy, leaving the real cable unharmed! Shortly afterwards, it will be remembered, the "Emden" met her doom.

NEXT MONTH:—

Lord Kelvin and Cable Working

Model of the "Wee Bee I" Light Aeroplane

(Span 21')



A MODEL of the remarkable Beadmore light monoplane which took part in the Air Ministry trials at Lympe, the original is fitted with a Bristol "Cherub" two-cylinder air-cooled engine.

The model is a splendid flier and looks very neat.

Specification.

POWER. An elastic motor is fitted. Six strands of "Para" rubber are used together with brass bearing and hooks.

CONSTRUCTION. Patent hollow spar construction with wooden struts.

FINISH. All the components are lithographed in colours.

CHASSIS. The wheels and axle of the under-carriage are sprung with elastic shock absorbers.

RUDDER. Double surfaced rudder with correct rib construction.

Complete Set of Parts and Materials with Book of Instructions,

Price 1/6 Postage and packing
6d. extra.

OTHER MODELS.

Model Biplane Glider. Length 13". Span 12". Complete set of parts with instructions, 1/-. Postage 4d. extra.

Model Locomotive. These parts make a fine model of the "Flying Scotsman." Length 13". Complete set of parts with instructions, 1/-. Postage 4d. extra.

Orders for two or more sets of parts Post Free. Postage abroad 9d. per set.

Patentees and Manufacturers:

WILLIAM E. APPLEBY (N/C) & CO.
(Dept. K.) 79, Rosebery Crescent, Newcastle-on-Tyne.



The Meccano Double Headphones are British-made and of the highest quality procurable. They give loud, clear, undistorted reception, and will add greatly to the efficiency of any receiver. Comfortable to wear and easily adjusted.

4,000 ohms resistance. PRICE (post free), 15/6.
Meccano Ltd., Binns Road, Liverpool

Swiss, French and English Railways

(Continued from page 379)

"halts," consisting of two gravel platforms and a wooden shed.

Electrified Lines

The only important electrified lines in France are the local lines of the Paris-Orleans railway round Paris, and a section of its main line worked by American and Swiss-built locos, the latter being of the 2-8-2 type and the most powerful locos in Europe using continuous current. The Midi railway has electrified several lines in the Pyrenees, single-phase current at 12,000 volts being used.

Electrification plays a more important part in the railway system of Switzerland than in that of any other country in Europe. Having practically no coal without importing it, but having almost unlimited water-power at her disposal, Switzerland naturally has turned to electricity as the most economical source of power for her railways.

Many lines have had electric traction from the first, as for example the Loetschberg Railway and most of the narrow-gauge lines.

The Swiss Federal Railways, with a network of over 1,800 miles, had a particularly serious problem to consider when, in 1916, they decided to electrify the whole of their lines. First of all it had to be decided what system of current should be used, and after long consideration single-phase alternating current at 15,000 volts was determined upon. Previous to this, however, the line through the Simplon tunnel, from Brigue to Iselle, had been electrified with three-phase current at 3,000 volts, and this system was

subsequently extended to Sion on the Lausanne line. After a good deal of discussion it was decided to leave this line as it was for the time being, and to electrify all other lines on the newer system.

An extensive programme of work was drawn up and immediately taken in hand, and to-day the following lines are operated by electricity:—Basel-Lucerne-Gothard-Chiasso, Zurich-Lucerne, Zurich-Arth-Goldau, Zurich-Olten, Berne-Thoune and the continuation by the lines of the Loetschberg Railway to Brigue and Interlaken, Lausanne-Sion-Brigue-Iselle, Lausanne-Yverdon and Lausanne-Vallorbe.

Work is in hand on the Geneva-Lausanne line and on the Berne line as far as Palézieux, and these sections will be completed by the end of this year. Work is also in progress on the Berne-Olten and Zurich-Coire lines and others will follow in due course. In addition, the whole of the lines of the Rhaetian Railway have been converted to electric traction.

Thus the three great international railway routes through the Alps are now worked electrically, and it will not be many years before our old friend the steam locomotive has become extinct in Switzerland.

Furka Line Nearing Completion

The Swiss metre-gauge Furka railway was begun many years ago, but the war intervened and only the section from Brigue to Gletsch was opened for traffic. Work has now been resumed, and it is expected that the whole line, passing through the Furka and Oberalp Passes to connect Brigue with Disentis, will be complete by next summer.

How Iron Wire is Made—(cont. from p. 405).

the wire, after having been steeped in acid, is passed through a spelter vat and the coating thus obtained is evened out by passing the wire through a heap of sand before coiling again. Tinning is done similarly with block tin, the only difference being that the surface is made smooth by passing the wire through compressed rubber instead of sand. Japanned wire is merely dipped into vats of hot Japanning liquid.

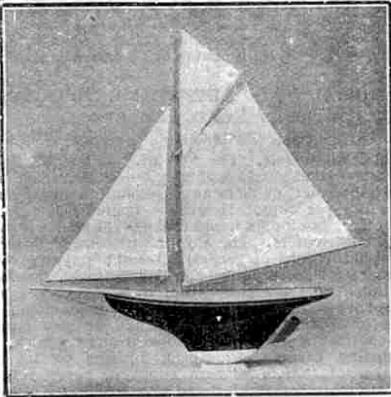
For the purpose of making springs, steel wire is used, but the process of drawing remains the same.

Packing the Wire for Delivery

The methods of packing coils of the finished wire vary according to the gauge of the wire and whether it is intended for export or for the home trade. Coils of large gauge wire for export are tied up into 1 cwt. lots, after which those of 16 in. diameter are placed inside those of 24 in. diameter and the two are tied together in one bundle, two of these bundles making a final bale which is sewn in sacking, five bales to the ton. For home trade the 1 cwt. lots are packed in paper, no further packing being necessary. All the packing that Japanned wire receives consists of tying it into bundles of 2 cwt. for export or 1 cwt. for home trade.

Smaller gauge wire requires more packing. For export, 28 lb. coils are covered with waterproof paper and packed in casks specially constructed for the purpose, whereas for home trade the coils are wrapped in ordinary brown paper and then sewn up in bags each containing 1 cwt.

Three Famous Lines



Our Racing Yacht, 21" hull 19/6
 Other Yachts from 2/9 to £3/19/6
 Miss America Launch ... 12/6
 Clockwork Motor Boat ... 35/-

Local Agents for
 Hobbies Ltd., Meccano Ltd.,
 Bassett Lowke Ltd.

C. LUCAS

Hobbies Famous Depot
 35, MANCHESTER ST.,
 LIVERPOOL

BE TALLER!



Results Speak for Themselves.
THE ROSS SYSTEM OF HEIGHT INCREASE
 Has increased my own height to 6 ft. 3 3/4 ins.
FIRST IN 1907. FIRST TO-DAY.
 No appliances, no drugs, no dieting.
ROSS SYSTEM NEVER FAILS.
 Fee: —ONE GUINEA complete.
 A Client, aged 37, reports: "I have increased my height nearly an inch, and I have not been a full month yet!"
 A Lady writes (after 5 weeks): "I have grown two inches, and feel much better. Thanking you for your Treatment, which I found a wonderful success."
 Further particulars, if desired, 1 1/4d. stamp.
 (N.) Malcolms Ross, Height Specialist
 40, Victoria Rd., Scarborough, Eng.

THE GENUINE SYSTEM.

Be sure and read
"ELECTRICITY"

every Friday. TWOPENCE.
 A helpful serial on the mathematics of Wireless will appear during the summer.
ASK YOUR NEWSAGENT FOR IT.

MODEL SHIPS' FITTINGS

Send 6d. for Scale Drawing of Splendid Ocean Liner and List of Realistic Fittings. A. Rodway, 102, Long Street, Birmingham.



The Conquest of the Air—

(Continued from page 397)

Normal Useful Load ... 190 lbs.

* Weight with Normal Full Load 1,240 lbs. Dimensions.

Length	... 23 ft. 6 ins.
Span, Folded	... 9 ft. 8 ins.
Span, Open	... 29 ft. 0 ins.
Height	... 8 ft. 6 ins.

* The Certificate of Airworthiness will allow of a maximum permissible fully loaded weight of 1,350 lbs.

ROLLER SKATING BOOM



Fine Weather, Fine Roads, & Fine Quality Skates at the

lowest prices in the trade, have all combined to create a record demand for ROLLER SKATES.

They provide ideal outdoor exercise for growing boys and girls, and to use the words of one of our delighted customers.

"They are a joy to own and a pleasure to use."
 No. 3 with Threaded Clamps and Case-hardened Steel Wheels are only 5/- pair
 No. 5 with best Ball-bearing Wheels, 10/- "
 No. 6 and Block Heels, as illustrated 11/- "
 Postage and Packing 9d. per pair extra.

Send at once to

Bateson's Sports Depôt, Blackpool

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."



Eswey Watches

Gent's Solid Nickel Silver Pocket Watches. THE "BRITON" LEVER. Interchangeable Keyless Movement. Smart Dustproof Cases. The only Watch with a guaranteed Main Spring. 2 Years' written warranty. Satisfaction or cash refunded after 7 days' trial.
ESWEY WATCH CO., 7/6 Post Free
 17, Cobbett Road, London, S.E.9.



MAKE GRAMOPHONES.
 Our 64 page Catalogue tells you for 3d. how to do it and what accessories to choose. Motors in 25 sizes, from 12/-; Tone arms, 4/6; Speakers, 2/6; Headphones, 10/6 pair; Cabinets from 9/-. Gramophones from 33/-. Carr. paid.
The Regent Fittings Co., D.78
 120, Old St., London, E.C.1.
 Established 21 years. Telephone: Clerkenwell 2923.

FOR THE HOLIDAYS

New 15 Shot Pea Repeating Pistol ... 1/3
 The 25 Shot Pea Repeating Pistol ... 2/-
 Plate Camera, with plates and developing materials, full instructions, Pictures 3 1/2 x 2 1/2 in. ... 1/3
 Miniature Ice Cream Freezer. Makes real Ice Cream. Full instructions ... 2/6
 Postage on each of above 3d.
 Postal Orders or 1 1/4d. Stamps accepted.
HERBERTS', 27, Adys Road, Peckham, London, S.E.15.

THE AUTOMATIC PEA REPEATER

Price 2/3 post free. Still the most reliable pistol on the market, and wonderful value at the reduced prices. Takes 25 shots at one loading, best black finish, each in box with instructions and supply of ammunition. Foreign and Colonial postage 1/- extra.
R. DILNOT, 125, Chiswick High Rd., London, W. 4.

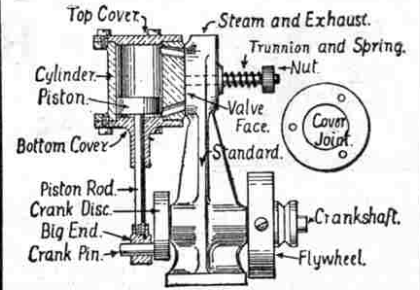


WONDERFUL ELECTRICITY

Make Your Own Electric Light



With these marvellous Dynamos it is possible to light brilliantly 4-6 volt lamps and perform many interesting experiments, 5/6 etc. Price only (Post abroad 1/6). List free.
GREENS (Dept. N.), 85, Long Acre, London, W.O.2.



The only Engine in the world you can build yourself and absolutely guaranteed to work perfectly.

This is due to first-class materials and extremely accurate machining.

The engine has therefore plenty of power.

A customer writes:— "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."

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

Send stamp for list 12M or 6d. for complete "Engine" catalogue, 80 pages.

Stuart Turner Ltd. HENLEY-ON-THAMES



TENTS FOR ALL PURPOSES
 Also Sleeping Bags as supplied to Mount Everest Expedition. Send 3d. Stamp for List.
LIGHTWEIGHT TENT CO., (Dept. M.M.), 70, High Holborn, LONDON, W.C.1.

SPECIAL OFFER OF BLOW-LAMPS.

Strongly made, size 4 x 3 1/4. Gives powerful flame, removes paint, etc., solders without iron. Simple, safe, economical. Worth 3/6. Satisfaction guaranteed or money back. 1/6 each, 3 for 4/-, post free.
WILKINSON & SON, 24, North Road, Clapham, S.W.



How to obtain the "M.M."

The "M.M." may be ordered from any Meccano dealer, or from any newsagent or bookstall, price 3d. per copy. It will be sent (post free) direct from this office, 2/- for six issues and 4/- for twelve issues. As a rule, back numbers cannot be supplied, because we print only sufficient copies to fill our standing orders. To prevent disappointment, therefore, place a regular order either with your dealer, newsagent, or direct with this office.

Meccano Magazine,
BINNS ROAD LIVERPOOL



Readers' Sales and Wants



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

IMPORTANT.—Advertisements dealing with any article in the Meccano catalogues cannot be accepted.

READERS' SALES

(Rate: 1d. per word, min. 1/-).

Primus Chemistry Outfit cost 15/-, unused, 7/6.—Fussell, 11a, Theodore Road, Lewisham, South East 13, London.

550 Cigarette Cards, 1/- per 100. Excellent condition.—Gerald Kiddle, Marclecote, Ross, Herefordshire.

Small bookcase, 1/- Attache Case (24" x 16" x 5") 9/- Meat Safe, 13/- Album with 220 Cigarette Cards, 3/-—Watson, Drove Road, Biggleswade.

Sporting Champion's Photos, glazed, 70 large, 5s small, clean. Also Album. What offers.—L. Wood, 11, Falding Street, Rotherham.

Small assortment of Cinema Films for sale. Send stamp for list.—32, Davies Lane, Leytonstone.

For Sale. Crystal Set. Never been used. Cost 25/6. Sell 21/-—Cordery, College St., Petersfield.

Complete 18 parts of "Railways of the World," cost 21/-, also parts 1 to 12 part bound, 13 to 33 separate of, "Animals of all Countries," cost 40/- Will exchange or sell, what offers.—Edward Newby, 40, Haunchwood Road, Nuneaton.

No. 00 Table Railway, makes Figure 8, 5/6 entertained. Model Grindstone 1/- Variometer Panel and Terminals 3/6.—Ward, Ravenscroft, Faircombe, Surrey.

Fellow readers! Owing to moving, all my private possessions are offered at ridiculous prices for quick sale. Musical, Electrical, Books, Cinema Films, etc. I must clear everything. Send postcard for list.—John Appleby, 59, Fairmount Road, Brixton, London.

Cigarette Album containing 562 cards, nearly new (all in sets), 10/6.—Buxton, Wydra House, Fewston, Harrogate.

Stamps on approval. Breaking collection. Free gifts.—L. Critchley, Muirfield Road, Inverness.

For Sale. Model Clockwork Railway.—Apply King, 109, Church Road, St. Annes-on-Sea.

SMALL ADVERTISEMENTS

(Rate: 1/- per line).

SALE—32 copies of "M.M."—state offers.—William Walker, 8, Linden Gardens, Tunbridge Wells.

Model Loco Blue Prints. Lists 3d. "King Arthur." 0 gauge 1/3.—Pealling, 108, Forest Rd., Dalston, London.

CINEMA FILMS, 100 ft. 1/-, 1,000 ft. 6/-, delivered.—Phillips, 64, Ewart Street, Brighton.

MONEY EASILY EARNED by selling Rubber Stamps in spare or full time. Particulars free.—Richfords Ltd., Snowhill, London.

CINEMATOGRAPHS fitted rewind and acetylene. Film library. Second-hand bargains.—Pictures, 109, Kenlor Road, Tooting.

Patents, Trade Marks, Inventions. Advice Handbook and Consultations free.—B. T. King, Regd. Patent Agent, 146a, Qn. Victoria St., London, E.C.4.

THE WIRELESS INSTITUTE holds examinations and awards certificates and medals to wireless amateurs. Write—Dept. M, 74, Hendford, Yeovil.

ENJOY YOUR HOLIDAYS. A Postcard brings our List free to you.—Bateson's Sports Depot, Blackpool.

TOOLS. Stamp brings our bargain tool list.—Walsh & Calverley, 81, Station Road, Finchley, N.3.

CUT THIS OUT. 'Meccano' Pen 3d. Coupon, Value 3d.

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.

of 1/- (cash with order).

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.

SMALL ADVERTISEMENTS (cont.)

This Space is set to $\frac{1}{2}$ inch s.c. and costs 5/- per month. This sum is the 64th of £16, the price of a whole page advertisement. Over 50,000 copies of the July number were distributed all over the world. You therefore reach this exclusive public for about one penny a thousand.

FREE. Handsome Albert with every Dustproof Railway Timekeeper. Bargain Price 6/11, post free. Satisfaction guaranteed.—Morton's, 18, Moor Lane, Clitheroe.

DAVENTRY (55X) Coils, 3/6. Instructions and post free, fitted with plug 9d. extra.—H. Ray, Sandy Lane, Tettenhall, Wolverhampton.

BEST HARD-WEARING WATCH. The "Simplex" never gives trouble. Unaffected by climate. Every boy should have one, 7/6. Bargain lists free.—Ratson (M), Copple House, Fazakerley, Liverpool.

SELLING IN THOUSANDS. Models of the leading 17/6 Pans. Complete with Pocket Clip. 5/- each, Post 2d. State Fine, Medium or Broad Nib.—Bateson's Sports Depot, Blackpool.



25/-

Guaranteed for 12 Months.

The Baby Loud Speaker with the Grown-up Voice

In this little fellow you get mellow, pure, undistorted reproduction—no shrillness, no overtones—just crystal clear broadcast. 12½ ins. high. Bell, 7 ins. diameter. Handsome crystalline finish. At all reputed Dealers. If unable to obtain, write direct.

The **CABLE ACCESSORIES CO. LTD.**, Tividale, Tipton, Staffs.

"Perro"

"The Name for Perfect Radio"

MECCANO MAGAZINE

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

EDITORIAL AND ADVERTISING OFFICES:—BINNS ROAD, LIVERPOOL.

Telegrams: "Meccano, Liverpool."

Publication Date. The "M.M." is published on the 1st of each month and may be ordered from any Meccano dealer, or from any bookstall or newsagent, price 3d. per copy. It will be mailed direct from this office, 2/- for six issues and 4/- for twelve issues.

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 unaccepted.

Binding Cases. Spring-back Binders to take a number of "M.M.'s" are supplied, covered with imitation leather and lettered in gold, price 3/- each (post free).

Meccano Writing Pads. Fifty sheets of tinted bank paper, each printed with Meccano boy at head, 1/- (post free) large size, and 6d. (post free) smaller size.

Advertisements

Readers' Sales and Wants. Private advertisements (i.e., not trade) are charged 1d. per word, minimum 1/- Cash with order. Editorial and Advertising matters should not be dealt with on the same sheet of paper.

Small Advertisements. 1/- per line (average seven words to the line), or 10/- per inch (average 12 lines to the inch). Cash with order.

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.

Obtaining the "M.M." Overseas

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

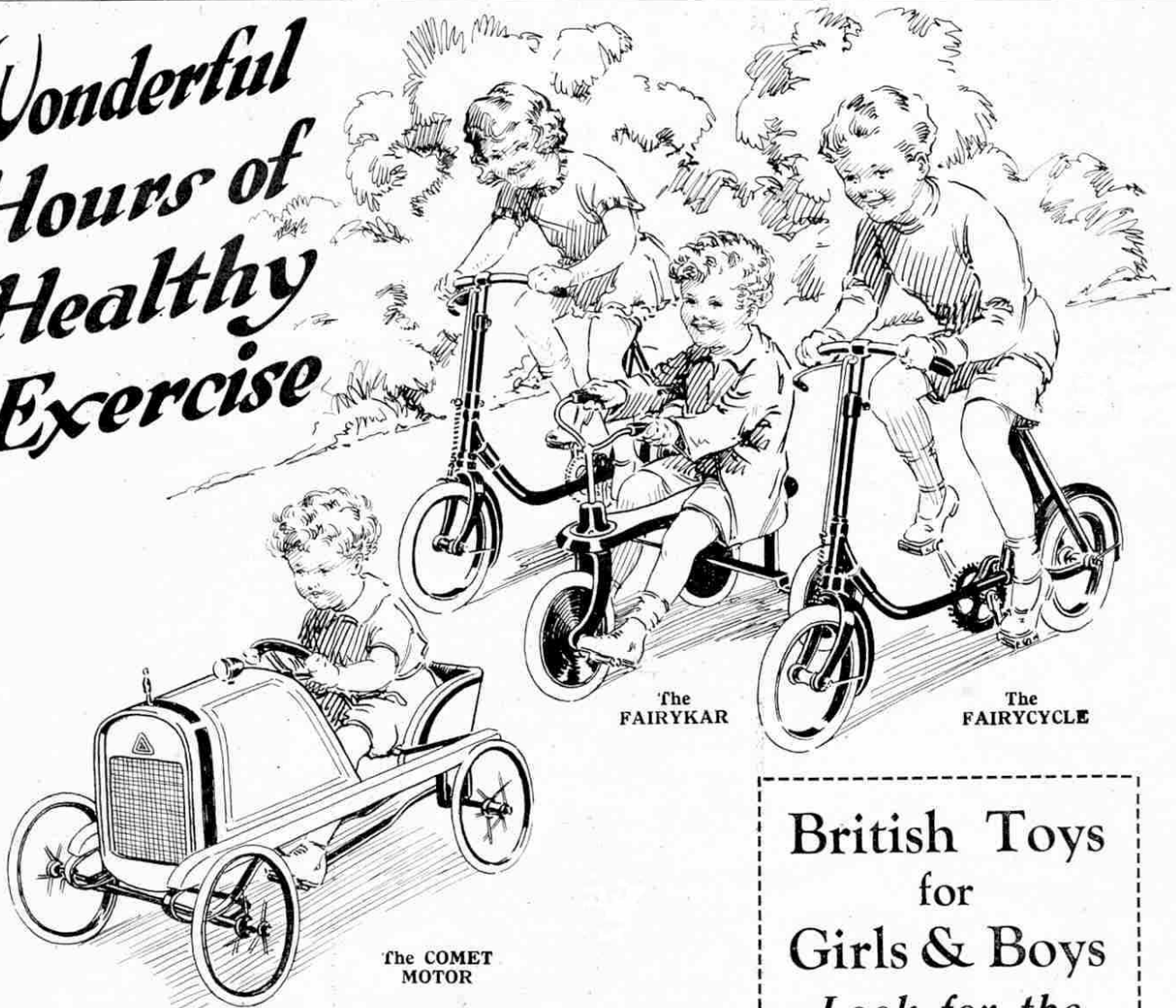
Overseas readers are reminded that the prices shown throughout the "M.M." are those relating to the home market. Current Overseas Price Lists of Meccano Products will be mailed free on request to any of the undermentioned agencies. Prices of other goods advertised may be obtained direct from the firms.

CANADA: Meccano Ltd., 45, Colborne Street, Toronto.
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SOUTH AFRICA: Mr. A. E. Harris (P.O. Box 1199), Textile House, Von Brandis St., Johannesburg.

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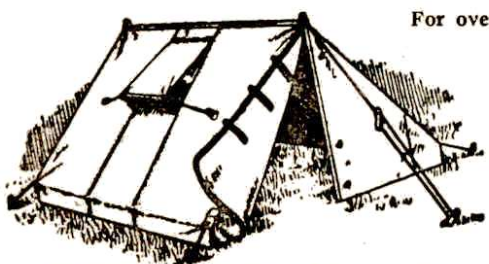
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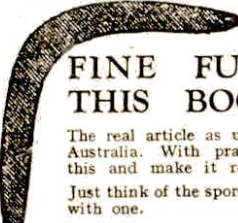



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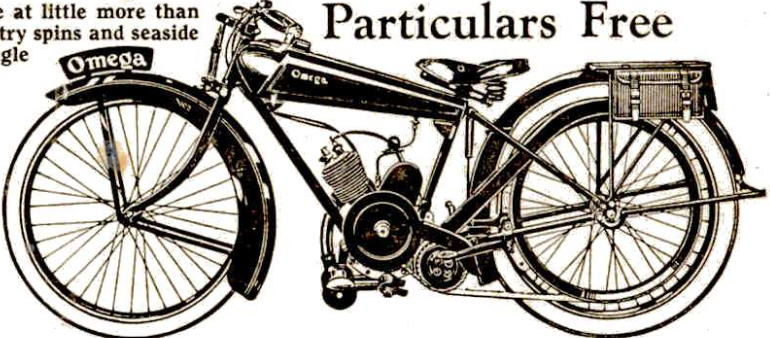
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