

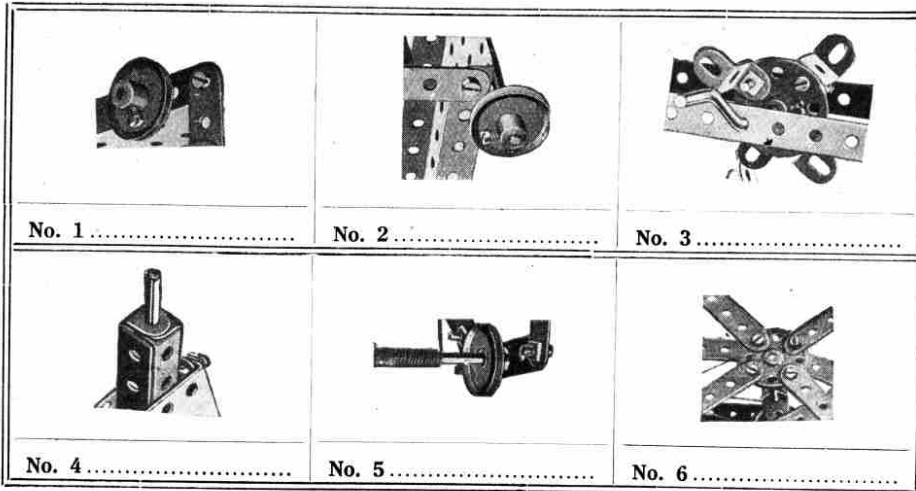
Competition Corner

Competitions are now a strong and popular feature of the "M.M." Some splendid new ones are being prepared and will be announced in our future issues. On page 17, particulars are given of the £250 Championship Contest for the best models, which every reader of the "M.M." should enter.

For Lynx-Eyed Readers

A New Series of Puzzle Pictures

FIRST SET



WHAT YOU HAVE TO DO

Do you know your Meccano Manual? If you think you do, enter this fascinating new competition right away and solve the mystery of these Puzzle Pictures.

Each picture is a part of some model illustrated in the current 0-3 Manual of Instructions. What you have to do is to find from which model the Puzzle Picture has been taken. Write the number of the model against the number of the Puzzle Picture and when you have identified all the pictures in this page to your satisfaction keep your list carefully until the second and third sets of Puzzle Pictures appear in the next two issues of the "M.M." You will then be told how and when to send in your solutions.

FIRST PRIZE—Hornby No. 2 Passenger Set. **SECOND PRIZE**—Zulu Goods Set. **THIRD PRIZE**—Electric Motor. **CONSOLATION PRIZES**—12 Meccano Writing Pads, and 12 Complete Manuals.

If no competitor succeeds in numbering all the models correctly, the prize will be given to the reader who sends in the best attempt. The other prizes will be awarded in order of merit. In the event of a tie, the competitor's age and neatness of writing will be taken into consideration.

Order your February "M.M." now so that you will not miss the second instalment of Puzzle Pictures.

ESSAY COMPETITION for "M.M." STAMP COLLECTORS

This competition is open to all readers of the "M.M." who are also stamp collectors. The subject is "WHY I COLLECT STAMPS." Limit your essay to 500 words; write neatly on one side of the paper only, with name, address and age on back of each sheet. First prize: Packet of Stamps value 10/6 to be chosen by the winner, from any firm advertising in

the pages of the "M.M." Make your choice when you send in your essay and give the necessary information, so that the stamps may be sent to you if you are the lucky winner. Closing date, 31st January. (Overseas, 31st May, 1924). Mark your envelope "Stamp Essay."

Sixth Photographic Competition for Guild Members

Prizes will be awarded for the best indoor photograph of a Guild member or members, building a Meccano model. There will be two classes (A) for members of 14 years of age and under, and (B) for members over 14 years of age. Closing date 29th February next. Prizes in each section, Meccano goods to the value of 10/6, to be chosen by the winners from the Meccano catalogue.

For Artist Readers

In response to numerous requests received from Meccano boys, I have pleasure in announcing a Drawing Competition. As mentioned in the November issue on page 141, the subject of this competition is to be: "The Editor of the 'M.M.' as I imagine him to be." In this competition the drawings may be of any size and the subject may be treated in any manner desired, i.e., it may be either in black and white, pencil, crayon or wash.

There are no restrictions, except that the drawing must, of course, be the unaided work of the competitor. The competition will be divided into two sections:—

- (A) Boys under 12 years of age.
- (B) Boys of 12 years of age and over.

A prize of a Hawk-Eye camera, manufactured by the Kodak Company, will be awarded in each section. The closing date is 29th February, 1924, in the United Kingdom, and for entries Overseas, 30th April, 1924. I hope to receive a large number of entries for this, our first drawing competition, which, if well supported, will be followed by other similar competitions. The winning drawings will be published in the April or May "M.M."

RESULT OF "Christmas Present" Competition

Thousands and thousands of post cards have been received from entrants in this Competition, and our Competition staff has had a difficult task in classifying them in time to send the Christmas gift to the winner as promised. The winner, whose list corresponded to the list of six articles voted by the entrants as being the most popular in our advertising pages in the December issue was Master T. C. Calthorpe, of 25, Onslow Road, Endcliffe, Sheffield, to whom a Hornby Pullman Set was delivered on Christmas morning.

RESULTS OF Photo Essay Competition

Several hundreds of entries were received for this popular contest, and Meccano boys have again proved themselves to be not only clever photographers but born essay-writers. The wide range of subjects covered, and the unflinching high standard attained, rendered difficult the task of judging these entries. The winner is Master G. B. Bentley, Park Street, Bridgend, with his essay "A Motor Holiday through Ross." Meccano goods to the value of £1 1s. 0d. are therefore being forwarded. The Second Prize of Meccano goods to the value of 10/6 goes to Master Dennis Salt for his "Holiday in North Wales," and the Third Prize of goods valued at 5/- to Master B. L. Simmonds, of Forest Hill, S.E. We hope to publish the winning Essay in a future number of the "M.M."

Essay Competition

This competition, for the best essay describing a holiday experience, was for those boys without cameras. Judging from the number of essays received there must be several thousands of Meccano boys who do not possess cameras! We are glad to be able to reduce this number by two, and Hawk-Eye Cameras (made by the Kodak Company) have been awarded as Prizes in each of the two sections. The winners are Master W. N. Taylor, Alston, Cumberland, and Master H. R. Smith, of Leicester.

Fourth Overseas Photographic Competition

We have pleasure in announcing that the winner of this competition is Master Roberto Bandeira, of Florence. The photograph submitted by this competitor was an animal study of a goat with her kid, was exceptionally clear and was printed and developed by the competitor himself. The First Prize (Meccano Goods to the value of 10/6), has been sent to Master Bandeira, whom we congratulate on his success.

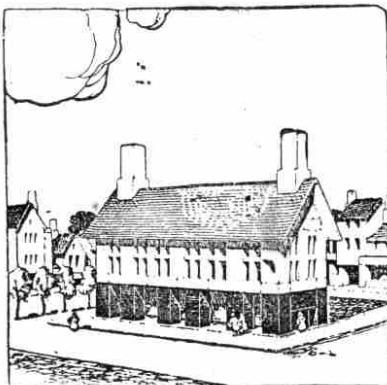
LOTT'S TOY BRICKS

OF ARTIFICIAL STONE

DESIGNED THROUGHOUT BY

AN EMINENT ARCHITECT

More popular every year. Real miniature stone bricks for building real miniature Houses, Castles, Towers, Bridges, etc. Other models readily devised. Provides endless entertainment for young and old. Each box complete with plans, bricks, roofs, etc., etc.



Market Hall, Boxes 1 and 2 or 3 Series "B." Example after the Market Hall at Ross, Herefordshire.

PRICES AND CONTENTS OF BOXES

SERIES "B," COMPOSITE SETS. COMPLETE WITH PLANS, BRICKS, ROOFS, FENCES, TREES, Etc.

- Box A. Bungalow, Lych Gate, Barn, Bridge, Shelter, Pavilion ... 5/-
- " B. Chalet, Market Cross, Hall, Gatehouse, Belfry, Factory 5/6
- " 1. All above Models and Pair of Cottages, Garage, House, Tower, Chapel, Bridge 10/-
- " 2. "Daily Mail" £500 Prize House, Cottages, Tower, Parish Hall, Garage, Library, and 12 other Designs 10/6

NOT COMPOSITE.

- " 3. The whole of above Designs and six additional Buildings twice the size, as Market Hall, Country House, Abbey Church, Parish Church, Bridge. 49 Models in all 17/6
- " 6. All Models stated above. Many larger and more important Buildings. 71 Models in all 35/-

TUDOR BLOCKS

- Box 1. 6 Models 3/3 Box 2. 12 Models 7/6

GARDEN SETS

- Small Size ... 4/- Larger Size ... 6/-

HAVE YOU ENTERED FOR OUR PRIZE COMPETITION?

See December Issue "Meccano Magazine"

Write for List

Lott's Bricks Ltd.
WATFORD ENGLAND

New Meccano Parts

We have pleasure in announcing that the following new Meccano parts are now available:—

- No. 118 Large wheel hub, 5½" each 1/-
- No. 119 " " segment " 4d.

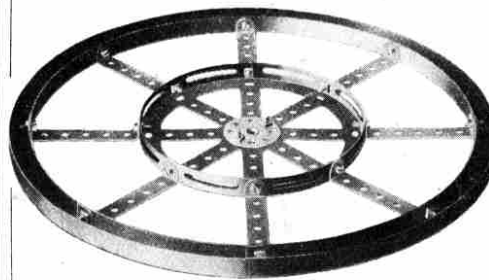


No. 118



No. 119

The above parts are useful for building up large wheels, such as are used in models of beam engines, horizontal engines, etc. One method of using these parts is shown in the accompanying illustration. Eight of No. 119 are required to make a circle of 11½" diameter.



Example of how the new Meccano parts, Nos. 118 and 119, may be used.

Do Your Friends a Good Turn

THOSE of our readers who are able to do so, may help us very considerably in obtaining new subscribers, by telling their friends about the "M.M." There must be over a million Meccano boys in this country, and yet only about one in twenty of this number takes the "M.M." regularly. I want everyone of these boys to share in the pleasures of the *Meccano Magazine*.

Our circulation is growing steadily, but we wish to see it grow even more rapidly, so that we shall be able to still further increase the size of the "M.M." Then we shall be able to print more and more of those hundreds of interesting subjects, for which competitors in our recent competition have made definite requests.

If every reader of the "M.M." obtains only one new subscriber we shall double our circulation. Now, boys, will you try and find at least one new subscriber and so help me to make the "M.M." even better, bigger, and brighter than it is at present?

If you know of a Meccano boy who is not a regular reader of the "M.M." and will send me his name and address, together with 3d. in stamps, I will see that he has a copy of the next issue mailed to him.

The Editor



J. Knight (Croydon).—The Meccano Receiving Set No. 1 will receive messages on wave-lengths up to 1,000 metres. All the British broadcasting stations at present operating transmit on wave-lengths varying between 300 and 500 metres.

W. Jones (Carnarvon).—Telegraphy may be received with a Crystal Set up to distances of 100 miles. If you acquire a knowledge of the Morse code you will be able to spend many happy hours listening-in.

R. Williamson (Bradford).—Under ideal conditions telephony may be received with a Crystal Receiver up to a greater distance than that generally recognised (i.e., 20-25 miles). Broadcast from London has been received at Bridlington and Liverpool on Crystal Sets, while a Meccano Set regularly receives broadcast at 33 miles from Manchester.

J. McDonald (Manchester).—You could not ordinarily receive telephony from Paris with a Crystal Receiver. In order to do this it would be necessary for you to employ a valve set.

John Whitaker (Stratford-on-Avon).—(1) Ebonite is a compound of sulphur and rubber. (2) Some telephone receivers are known as the "watch" type simply because of a similarity in shape.

W. Robinson (Norwich).—The nearest broadcasting station to Norwich is Marconi House, London, which is outside the range of a Crystal Receiver.

W. Maddock (Chester).—Audio frequency is the term used for oscillations which are within the range of the human ear. Many thanks for your good wishes.

J. Robinson (London).—A crystal allows the passage of currents in one direction only. Several substances such as galena, silicon, and carborundum have this property. I am glad to know that you are deriving so much pleasure from your Meccano Receiver.

F. Wilkins (Peterborough).—An earth switch connects the aerial to earth when not in use. This is a precautionary measure which obviates any possible trouble from lightning.

R. Leech (York).—(1) There is no danger from burn or electrical shock to any person operating a Crystal Receiver. (2) I am afraid you are too far from the nearest broadcasting station to receive telephony with a Crystal Receiver.

E. Williamson (Ainsdale).—I am glad to know that your Meccano Receiver has been such a boon to you in helping to pass away the long hours of your convalescence. The constructing of the No. 2 Set will lend an added interest to the hobby and you will obtain even greater enjoyment from this set, the result of your own handiwork, than from your existing set.

R. Arnold (New Zealand).—Our agents for New Zealand (Messrs. Browning & Iwersen, Ltd., P.O. Box 129, Auckland) will always be happy to help you, should you experience any difficulty in assembling your Radio Set.

H. C. Key (Calcutta).—I was very interested to hear of the Radio experiments recently carried out at your camp. Any further news in this connection will be much appreciated.

D. Parker (Newport).—(1) The terminal you require is the Meccano terminal (No. 306) and it is featured in the Radio parts list in your instruction leaflet. (2) The usual price of a 20 ft. aerial pole is from 7/6 to 10/-. This may be purchased from any timber yard in your town.

Joan Biggs (Bridgend).—(1) The "Ducon Plug" is no doubt a very efficient instrument when used with a valve set, but it cannot be used with a Crystal Receiver. (2) Providing you obtain the necessary permission from your landlord I cannot see what an Insurance Co. has to do with the erection of your proposed aerial.

M. Smith (Sharrow).—I am sorry to say that the instructions you require for building a two valve set would take up too much space at present. Numerous text books are published giving the information you require. I am glad to know that the series of articles entitled "The Men Who Gave Us Radio" has given you such enjoyment.

H. Atkins (Leatherhead).—I have examined your proposed circuit but I do not think that it will function, owing to the fact that it is always open, the interrupter being off the contact.

J. P. Cronin (Tralee).—I am glad to know you are such a radio enthusiast. From what I hear you will be able to enjoy the pleasure of listening-in before long just as do we in England.

John Gillam (London S.E.).—I am afraid your No. 2 circuit is not an improvement on your No. 1. For instance there is no need for a secondary coil with a variometer because the inner coil of the variometer serves as a secondary. Also you can dispense with the variable condenser as you will find that the tuning with the variometer is sufficiently sensitive and in fact preferable to the slider tuning.

Some Radio!!

That is what your friends will say if you build your sets of

"TELORADIO" PARTS

They are the cheapest and best components obtainable.

Own a wireless station to be proud of!

One that will put you top of your friends!

Special New Year Offer at Great Reduction of Price

Crystal Wireless Station

Complete Set of 21 parts to erect a "Teloradio" Super Crystal Station, with book of instructions. Range guaranteed 30 miles (but some of our friends have received over 100 miles). Contains parts for Cabinet already polished, Silver-plated Terminals, and Crystal Detector. Hertzite Crystal, Woods, Metal, Wire, Coil Former, Instrument Board, Knob, Contact Arm, Pointer Scales and Labels, all in box. Recently 10/6 each. Now... ..

7/11

Post Free.

Can be assembled in 2 hours.

"Teloradio" Headphones

Complete set of parts to make a magnificent pair 4000 ohms Wireless Headphones, exceptionally sensitive and equal to any pair costing 25/- pair.

Parts consist of:—

Aluminium Telephone Cups, Ebonite Earcaps, Diaphragms, Magnets, Head Wires, Swivel Pieces and Forks, 4 Bobbins wound to 4000 Ohms, Double Cords, Nuts, Screws, Bushes and Washers, Book of Instructions. All parts highly finished and heavily Silver-plated. Box of parts for complete Double Headphones

10/- ea.

Box of parts for Single Earpiece

4/9 ea.

Can be assembled in 1 hour.

COMPONENT PARTS at LOWEST PRICES

(All Post Paid)

7 Strand Copper Aerials, 100 feet lengths 2/6
 Insulators 2d. ea.
 Lead-in Tubes 1/9 ea.
 Earth Clips... .. 4d. ea.
 Nickel-plated Crystal Detector Parts 9d. ea.
 Ditto, Glass Covered 1/6 ea.
 Ditto, Ditto, Mounted on Ebonite Base with Terminals 1/11 ea.
 Woods, Metal 3d. ea.
 Crystals
 Hertzite } 6d. & 1/-
 Humanite } per box.
 Platinite }
 All other kinds }
 Special selected "Teloradio" Crystal, marvellous results 1/3 ea.
 Special Glass-covered Detector on Moulded Base, Detachable Cup 3/11 ea.

Ebonite, cut to your size 3/- per lb.
 Variometers 2/9 ea.
 Solid Ebonite ditto 4/6 ea.
 The Famous "Teloradio" L.F. 4 to 1 Ratio Inter-valve Transformers, Mark I. pattern... .. 15/- ea.
 Ditto, Mark II. pattern 10/- ea.
 H.T. Batteries, Tapped
 30 volt 5/9 ea.
 60 volt 11/6 ea.
 Valve Holders, Ebonite 9d. ea.
 Fixed Condensers, all Capacities 1/- ea.
 Variable Condensers, all Capacities, lowest prices
 Ebonite Knobs 3d. ea.
 Filament Resistances 1/9, 2/3 & 2/9 ea.
 Labels, any name 1d. ea.
 Condenser Scales 3d. ea.

Every Purchase is a Bargain if it's "Teloradio" Goods.

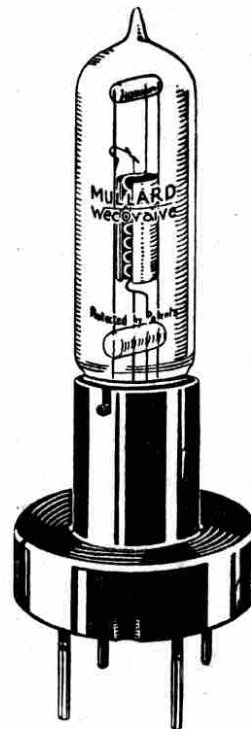
SEND FOR COMPLETE LISTS

THE TELE-RADIO CO.

Edgbaston Works, Gough Road,
BIRMINGHAM

Our Goods are obtainable from most dealers. If not write us direct.

WIRELESS VALVES.



Mullard Weco valves.

The Mullard Weco valve, fitted with a standard 4-pin base, is the last word in Wireless Valves. It takes but a single dry cell to operate the filament, and a cell of normal size will last for months.

The cost of the valve is 30/- and its life is therefore of great importance compared with that of inexpensive dry cells.

In normal use, the Mullard Weco valve filament will last for 4,000 hours, whilst mechanically it is unbreakable.

It is short and robust in construction and has in no way been attenuated in order to reduce current consumption.

The life of the valve is no longer than that of its filament.

Turn these points over and then order Mullard Weco valves for your set.

MULLARD

Advt.: The Mullard Radio Valve Co. Ltd., Balham, S.W.12 (E.P.S. 85)

A Talk About Aerials

By the
Radio Editor

This is the concluding instalment of a serial article dealing with the erection of different types of aerials. In previous issues we have described a simple form of aerial and also featured the two popular types, the inverted L and T aerials, generally used by amateurs. On this page we deal with multiple wire aerials, indoor, and frame aerials. Having followed the remarks in these articles, any reader of the "M.M." should be able to erect his aerial and satisfactorily receive telephony and telegraphy.

AERIALS of two or three wires may be hung from chimney to chimney or from chimney to pole, or, failing this, from chimney to clothes-post, just in the same way as a single-wire aerial. It is almost impossible to say what results will be obtained with such aerials, however, as so much depends upon local surroundings and only actual experiment can decide.

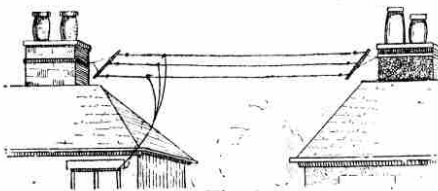


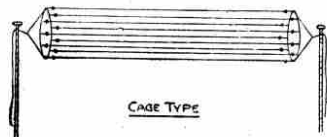
Fig. 9

Aerials with more than three wires may be employed, but are not generally used for reception. The most popular type of multiple-antennæ aerial is the cage type (Fig. 10) generally used for transmission by low and medium-power stations. The aerials of the Broadcasting Company are of this latter type.

VII.

Even if it is not possible to fasten the wire to the chimney, good results sometimes may be obtained with one end of the aerial fastened to the window frame of the highest window in the house, and the other end taken to a similar window of a neighbour's house (Fig. 12). If this is not possible the second end may be attached to a garden fence or to a pole in the garden, or to a "jury-mast" fixed to the clothes post.

It is always better to keep the aerial as high as possible, and if one end is attached to a chimney and the other taken to a chimney of a neighbour's house (Fig. 9), the aerial will give much more efficient results than would be the case if the second end were taken to the garden fence. If you have to choose between a short high wire, however, and a long low wire, you should select the latter, even if its height is only 15 or 20 ft.



CAGE TYPE

Fig. 10

Sometimes a greater height may be obtained by using a pole to support the top end of the aerial (Fig. 11). In this case if the height of the pole does not exceed the limit allowed (which is unlikely in a dwelling-house), the lead-in wires should be fixed to the highest end of the aerial and not as shown in the sketch, for thus a greater length of wire will be in use, giving greater efficiency.

An important point to remember when erecting an aerial is to keep the wire free from "kinks" and twists. Once a kink occurs it is almost impossible to straighten the wire out again. A kink causes the strength of the wire to be considerably reduced, so that sooner or later it will snap.

The lead-in wire should not be so tight as to impose too great a strain on the aerial wire, which throughout its length will be subjected to severe strains on windy days.

VIII.

No aerial can be as efficient as a good outdoor aerial as high and of as great a length as the regulations permit. Those boys who live up to say 10 miles from a broadcasting station, and who are not able to put up an outdoor aerial in any form, might try the effect of an inside aerial. If the conditions are satisfactory this will give good results with a crystal receiver at distances of up to a few miles from the broadcasting station. In America a member of the Meccano staff has successfully used an indoor aerial with the Meccano Crystal Receiver, and although he is 15 miles from the broadcasting station at New York he obtained excellent results.



Photograph by]

[Western Electric Co.

One of the Two Aerial Towers of "WBAY," a well-known U.S.A. Station

This tower, 100 ft. in height and situated on the summit of a high building, will withstand a wind pressure of 5,000 lbs. The platform enables men to work aloft with safety.

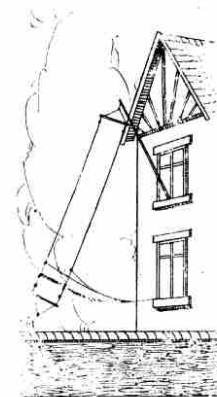


Fig. 11.

The lead-in wire may be taken downstairs to the receiving instrument in the ordinary way if desired.

An indoor aerial of this type must, of course, be insulated and not touch the wall at any point. It may be suspended from insulators, which (in the case where the aerial is in a room) may be conveniently supported by means of picture hooks hanging from the picture-moulding. The lead-in wire, if taken out of the room, must be carefully insulated, so as not to "earth" the radio impulses from the aerial.

Loop or frame aerials cannot be used satisfactorily with crystal sets. Their use is confined to receiving sets that employ valves, as the impulses received by them are too minute to be rendered audible by a Crystal detector.

IX.

Whatever form of aerial is employed it is very important to have a good earth connection. The best connection that can be made is to solder or clip the earth wire to a water pipe, previously scraped clean from dirt or paint before the contact is made. Bind the wire tightly around the pipe a dozen times and make the connection permanent by clipping the

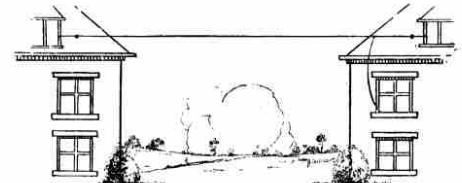


Fig. 12

two together with a Meccano or other metal strip. Earth connections should not be made to gas-pipes, as very often the conductivity of the pipe is broken by the red lead used in the joints.

For those who do not mind a little trouble a good earth connection may be formed by burying an old bucket or a piece of wire netting (about 6ft. square)

(Continued on page 17)

New Rolling Stock and Accessories

for

HORNBY CLOCK WORK TRAINS

THESE Wagons, Signals, Lamps, Stations and Turntables are all built in correct proportion to the size, gauge, method of coupling, etc., of the Hornby Trains. Most important of all they have the uniformly beautiful finish which is the great feature of the Hornby system. To use cheap-looking rolling stock or a foreign-looking station with a Hornby Train completely spoils the effect.

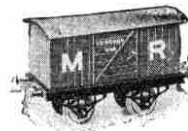
THE WINDSOR STATION is a thing of beauty, and its bright colouring and realistic appearance will bring joy to the heart of every boy who sees it.



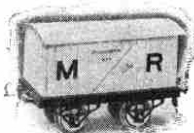
BRAKE VANS
Finished in colour.
Each 4/6



WINDSOR STATIONS
Excellent models, beautifully designed and finished.
Dimensions: Length 2 ft. 9 in., breadth 6 in., height 7 in. Each 12/6



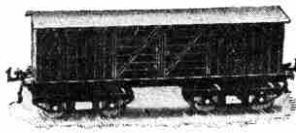
No. 1 LUGGAGE VANS
Lettered M.R. Representative colours. Each 4/6



REFRIGERATOR VANS
Enamelled in white, lettered black. Each 4/6



MILK TRAFFIC VANS
Fitted with sliding door, complete with milk cans. Each 5/-



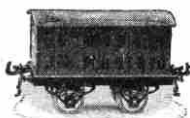
No. 2 LUGGAGE VANS
Finished in colour. Fitted with double doors. Suitable for 2 ft. radius rails only. Each 7/-



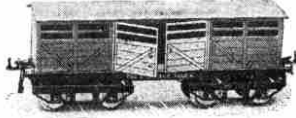
GUNPOWDER VANS
Finished in red. Each 4/6



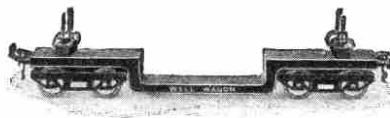
No. 1 CATTLE TRUCKS
Fitted with sliding door, Very realistic design. Each 4/6



COLMAN'S MUSTARD VANS
Finished in colour. Each 4/6



No. 2 CATTLE TRUCKS
Splendid models, fitted with double doors. Suitable for 2 ft. radius rails only. Each 7/-



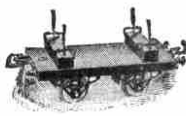
TROLLEY WAGONS. Finished in colour. Suitable for 2 ft. radius rails only. Each 6/6



GAS CYLINDER WAGONS
Finished in red, lettered gold. Each 4/-



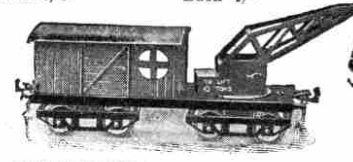
No. 2 LUMBER WAGONS
Fitted with bolsters and stanchions for log transport. Suitable for 2 ft. radius rails only. Each 5/6



No. 1 LUMBER WAGONS
Fitted with bolsters and stanchions for log transport. Each 2/6



SPRING BUFFER STOPS. Each 2/-



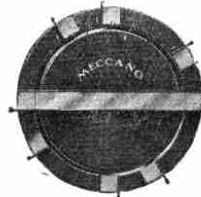
BREAKDOWN VANS AND CRANES
Excellent finish. Beautifully coloured. Suitable for 2 ft. radius rails only. Each 7/-



No. 1 TIMBER WAGONS
Beautifully enamelled in colour and stoved. Each 2/-



No. 2 TIMBER WAGONS
Beautifully enamelled in colour and stoved. Suitable for 2 ft. radius rails only. Each 5/6



TURNTABLES. Each 4/6



ROTARY TIPPING WAGONS
Finished in colour. Each 3/6



SINGLE LAMP STANDARDS
A four-volt bulb may be fitted into the globe. Each 3/-



DOUBLE LAMP STANDARDS
Four-volt bulbs may be fitted into the globes. Each 4/-



TELEGRAPH POLES
Each 3/-



LOADING GAUGES
Each 1/9



SIGNALS
Each 2/6

MECCANO LIMITED

BINNS ROAD

LIVERPOOL



The MECCANO CHAMPIONSHIP COMPETITION

21 Cups & 460 Medals: total value £250



DURING the past two or three years our annual Model-building Contest has assumed such proportions and has attracted such world-wide interest, that we are now able to run it in a form we have long had in mind, and which we think will be greatly appreciated by Meccano model-builders all over the world. For the purpose of this Competition we have divided the various countries into the following groups:—(1) Great Britain. (2) Australasia, South Africa, Canada, India, and all Countries within the British Empire. (3) *America. (4) *France, Belgium and Switzerland. (5) *Scandinavia and Holland. (6) *Italy. (7) *Spain and Portugal.

In each of these groups, three Championship Cups will be awarded for the best models submitted, and the winner of each Cup will hold the title of "Meccano Champion" for his particular group and section for twelve months from the date of the awards. The Cups, which have been specially designed for us, are of superb quality, very handsome in appearance, standing over 8-in. in height. Each Cup will be engraved with the name of the winner, and will form a valuable reminder of his prowess and skill. A suitable plinth will be provided with each Cup.

In addition to these special awards, there will be Silver and Bronze Medals in each section and Certificates of Merit to a limited number of other entrants. The total value of the prizes to be awarded will amount to £250.

(*Including Colonies).

Send for your Entry Form to-day. Post Free from Meccano Ltd., Liverpool.

A Talk about Aerials—(cont. from page 15)

2—4ft. below the ground, and soldering or clipping the earth wire to it. The wire netting should be laid flat in moist ground if possible, for it is due to the moisture in the earth that it is a conductor.

X.

As will be gathered, there is considerable scope for ingenuity in the erection of an aerial, and there is great fun to be obtained from experimenting with the various types.

It should be remembered that an aerial does not necessarily require to conform to the recognised standard type. For

instance, before the war, I received time signals from the Eiffel Tower, Paris, using an ordinary bedstead as an aerial, well insulated from the floor by placing under the four legs glass supports sometimes used under pianos. Good Morse signals were also received on a wire stretched across a large lumber room at the top of the house, which wire, when not being employed for the reception of wireless signals, was used as an indoor clothes line. A Manchester friend of mine, with a four valve set, receives broadcast from the Manchester station using an ordinary kettle as an aerial!

(THE END).

Complete List of Awards

SECTION A.—For competitors under 10 years of age on 15th April next. Championship Cup and the title of Meccano Champion for his group and section for the year commencing 1st July next. 20 Silver Medals. 50 Bronze Medals.

SECTION B.—For competitors over 10 years of age and under 14 years of age on 15th April next. Championship Cup and the title of Meccano Champion for his group and section for the year commencing 1st July next. 30 solid Silver Medals. 100 Bronze Medals.

SECTION C.—For competitors over 14 years of age on 15th April next. Championship Cup and the title of Meccano Champion for his group and section for the year commencing 1st July next. 60 solid Silver Medals. 200 Bronze Medals.

In all there will be 110 Silver and 350 Bronze Medals awarded to the competitors in order of merit, and a number of special Certificates of Merit in each section.

Meccano Gold Medallist

The competitor who, in the opinion of the Judges, submits the best model in the entire Competition, will be awarded a specially-designed solid Gold Medal, and will be the "Meccano Gold Medallist" for a year. His name and the year in which he gained the title will be engraved on the medal, which will remain his own property.

In making the awards the judges will pay special attention to the following points:—

ORIGINALITY.—Special points will be given to those models showing initiative and originality and which are not simply variations of those illustrated in the Manual of Instructions.

CORRECT CONSTRUCTION.—Models which in their details are constructed on correct mechanical and engineering principles will receive higher marks than those which are built incorrectly or carelessly. No special knowledge is necessary to build models correctly other than that which may be easily acquired from the Meccano Book of Instructions.

GENERAL INTEREST.—Preference will be given to those models which are likely to prove most interesting to Meccano users throughout the world. We shall publish the best models in all civilized countries.

Meccano Manuals of Instructions

The new complete Manual of Instructions is beautifully illustrated and contains all directions necessary for the construction of 400 splendid models. It includes a large number of entirely new and improved models—Transporter Bridge, Rotating and Hydraulic Crane, Theodolite, Travelling Gantry, Dredger, Lathe, Coal Cutting Machine, and many others of special interest.

Several new movements are included in the Manual and these are fully explained. Price 2/6. Postage 4d. extra.

There are also a limited amount of the No. 3 Manuals remaining. This Manual contains instructions for building a large number of recent and imposing models of great interest. These include Signal Gantry, Level Crossing Gates, Forth Bridge, Coal Cutting Machine, Vertical Log Saw. Each is beautifully illustrated in half-tone, a process of printing by which the component parts of every model may be clearly seen. Price 1/4½ post free.

Stamps for Sale

FREE SETS NYASSA GIRAFFES with Appr., all 1/4d. each. **BODMAN**, 6, Alderman Road, Ipswich.

Brit. Cols. Free. N.S.W. (View of Sydney), Gwalior, Newfoundland, Natal, N. Zealand (Victory), and others. **Stammers** (Dept. M.), 51, St. George's Rd., Leyton.

100 Diff. Stamps Free, incl. Colonials, S. American, China, etc. (No Neuropo) to applicants for appros. See my famous 1/4d. stamps. **Fleming**, Queen's Park, Chester.

FREE.—With appros.—50 different incl. Costa Rica (1923), Congo (1923), Indo-China, Barbados, Cyprus, Timor, Japan.—Glass, 72, Birch Rd., Sth. Ville, Bristol.

25 Pictorial Stamps Free! Venezuela, Crete, Tasmania, Martinique, 7 Ukraine, etc. Ask for appros. sheets, encl. postage. **Felix Sykes**, New Barnet.

500 Mixed Foreign Stamps, incl. Dutch Colonies, 8d. G. P. Cranwell, 53, Cowslip Road, London, E.18.

SIXTY DIFFERENT STAMPS FREE to applicants for appros. All 1/4d. each. Send postage. **Cox**, 135, Cambridge Road, Seven Kings.

STAMP COLLECTORS! Be sure you get "The Philatelic Magazine," the fortnightly stamp newspaper, 3d. from any newsagent, or 4d. post free from Publisher, 63, Windsor House, Westminster, S.W.1.

MONSTER FREE PACKET

To all genuine applicants for approvals we present **FREE** the following—VENEZUELA, pair AIR-POST, DANZIG, PORTUGAL, UKRAINE, CHINA, SERBIA, Sets Leichtenstein, Poland, etc.—106 diff. stamps in all and 100 MOUNTS—Just send a post card. Ask for latest Album List—full of real bargains. **Graves & Co.**, 66, Cambridge Rd., Seaforth, Liverpool.

100,000 MARK BANK NOTE FREE to purchasers of 106 good stamps, including Martinique, Madagascar, Togo, Sudan, Argentine, Tehad, price 6d. **O. KRAUS & CO.**, 137, Cheapside, London, E.C.

FREE! FORTY MILLION MARKS! 55 diff. stamps inc. SET 5 prov. German. To all applicants sending postcard asking for approval sheets we will send pkt. 55 diff. stamps. It includes set 5 mint provisional German (total face value 40 million marks). One stamp already obsolete. **BUTLER BROS.** (Dept. M.), CLEVEDON.

500,000,000 MARKS UNUSED GERMAN STAMP FREE!

To Collectors asking to see our World-renowned Approval Selections. Mention Gift No. 06.

SPECIAL OFFER.—500 different stamps, 2/-; 1000 do. 6/-; 2000 do., 20/-; Post Free.

BRIGHT & SON, 164, Strand, London, W.C.2.

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The demand for THE "DIAMOND" PACKET, which contains 1,000 UNSORTED STAMPS, 1/3 (from Convents abroad), has been very great, but fresh supplies containing many new varieties will be available by the time this advt. appears, and orders will be executed by return of post. 2 pkts. 2/5; 3 pkts. 3/6; 4 pkts. 4/6; 5 pkts. 5/6. All post free. (Abroad 3d. per packet). **O. NERUSH**, Importer, (Dept. E.), 2-22, Cathcart Hill, London, N. 19.

150 Austria ... 1/-	40 Argentine ... 1/-
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Five selection of Postage or Revenue ready.

I. RUSSELL, Chetwynd, Shanklin Drive, Westcliff-on-Sea.

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Seven unused Polish, free to all purchasers sending 1/4d. for postage. 110 all different Foreign and Colonial (including Irish Free State) 6d. Set of 18 used Polish (1-2,000 mks.) 5d. Packet of 25 unused Poland 4d. Packet of 40 all different Foreign and Colonial 3d.

A. Langton, 37, Allison Road, Harringay, London, N.8.

BRITISH EMPIRE

PACKET No. 2, containing sixteen BRILLIANT MINT STAMPS, both old and new watermarks, from Barbados (including "Victory" issue), Bermuda, Cayman Islands, Fiji, Leeward Islands, Malta (Provisional), Palestine, Turks Islands, Brunei, G.E.A., Kenya, and Sarawak, ONLY 9d., POST FREE. N.B.—Every tenth purchaser will receive free a set of Seven Federated Malay States.

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STANDARD CATALOGUE OF POSTAGE STAMPS

1924 Edition now ready.
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OUR ANNUAL PRICE LIST

consists of 88 pages, and contains descriptions and prices of over 2,600 different packets and sets of stamps, albums and philatelic requisites.

A copy will be sent free on request.

Dept. M.J.,

Whitfield King & Co., Ipswich.
Established 1869.

FREE! We will send you absolutely free one of the following packets provided you ask to see our Approval Sheets and enclose two 1d stamps (6d. abroad) for postage:—

40 German (all mint).	2 Fiume (Triangles).
25 Dantzig.	50 Austria.
20 British Colonials.	25 North America.
12 French Colonials.	10 Venezuela.
2 Liberia (Triangles).	100 All different.

If Approval Sheets are not required, the price of the packets 1/6d. each or 3/6 for the lot (5/- abroad). Every 20th applicant will receive, absolutely free, a set of unused stamps catalogued at 30/-.

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STAMP COLLECTORS! SPECIAL OFFERS!

Catalogue of the World's Postage Stamps, 1921, published 7/6 new, post free 2/- "A Guide to Stamp Collecting," by C. C. Lambert, post free 1/2. Stamp Collector's Pocket Book, etc., a mass of information, post free 1/2.

SPECIAL OFFER: Send only 3/6, and the above books will be sent with a copy of "Stamp Collecting" (40 pages) and Bonus Form value 3/6.

Publisher, 89 M., Farringdon Street, London, E.C.4.

STAMP BARGAINS

English 1d. Black from 1/- each SETS.—Gold Coast, 6d., 1/-, 2/-, 2/6, 5/-, 10/- and 1/, cancelled, 2/6 the 7; 8 Epirus, 4d.; 6 Kenya, 4d.; 12 Gold Coast, 1/-; 6 Fiji, 6d.; 12 Victoria, 6d.; 20 New Zealand, 1/-; 15 Japan, 4d.; 12 Ceylon, 4d.; 12 Newfoundland, 1/-; 12 Cape of Good Hope, 1/-; 30 French Colonials, 9d.; 2 Falkland Isles, 3d.; 6 Bermuda, 5d.; 12 Barbados, 1/-; 6 Malta, 4d.; 6 Cyprus, 4d.; 12 Finland, 6d. Add postage. ALBUM and 500 Mixed Stamps, etc., 5/6—useful to beginner; Mounts, 5d. a 1,000. **LISTS FREE.** **A. E. WITHERICK**, 12, Meriden St., COVENTRY, Eng.

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24 GENUINE NEW ISSUES, All picturesque, inc. BELGIAN CONGO, EGYPT (King Fuad), UGANDA, Danzig (Air Post), Indo-China, Cyprus, Tunis, Ireland, Kouang-Tcheou, Ceylon, Finland, Oubangui, Poland, Tchad, German Republic (Air Post), French India, Gold Coast, etc.

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Only one collection allowed to each applicant, and 1/4d. must be sent for cost of postage.

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N NORRISCO BARGAINS B

28 different TRAVANCORE
Only 1/- (Postage Extra)

A very fine set of this Indian Native State, including several provisionals; we have also noticed some Service varieties with inverted "S." Satisfaction guaranteed or cash refunded always. Other splendid bargains:—

50 Belgium (Cat. 5/6) -/9	75 Jugo-Slavia (Cat.
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Collections of all Countries at a Fraction of Cat. value.

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STAMPS

Stamp Collectors! Send to-day for free copy of "Philatelic Guide." Contains particulars of big competition now running. "Which 10 Countries are Most Popular?" £100 prizes.

FAIRLEIGH & HALL, WOOD HILL,
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WANTED. Articles and photographs of general interest, suitable for publication in the "Meccano Magazine." Accepted contributions will be paid for at our usual rates and will be returned if unaccepted, if stamped addressed envelope is enclosed. Although every care will be taken of same, no responsibility can be accepted for lost or mislaid manuscripts. THE EDITOR, "Meccano Magazine," BINNS ROAD, LIVERPOOL.

NO NEW EUROPE RUBBISH

25 BRITISH COLONIALS FREE, including S. Nigeria, Jamaica, GOLD COAST, Newfoundland, Queensland, Travancore, B. Guiana. To all those asking for my approvals, including my famous 1/4d. sheets.

FLEMING, Queen's Park, CHESTER.

100 UNUSED STAMPS FREE ABSOLUTELY FREE

Send POSTCARD ONLY and request our famous approval sheets. **100 LISBURN & TOWNSEND FREE** 201a, London Rd., Liverpool

70 GOOD STAMPS 6^d.

To Approval Applicants only
Scarce old Persia (surcharged Lion and Provisiore), Hyderabad (service), Newfoundland, Malay (Tiger), Scarce Temesvar (Roumanian Occupation), New Zealand (surcharged Official), Japan, China, Netherland East Indies, New Zealand 6d. K. Geo., Victoria, Belgium overprinted on Germany, Ceylon (surcharged 1 c. on 5 c. WAR STAMP), New South Wales, Unused Leeward Islands, Siam, British North Borneo (fine postally used 2 c. pictorial), Trinidad and Tobago. Beautiful India 2 Rupees, a fine high value, this stamp alone is worth the price of the packet. Many other fine stamps, making 70 in all.

NOTE:—This packet is 6d. only if you ask to see our approval books. If approvals not requested, the price is 2/6.

R. WILKINSON,
Provincial Buildings, COLWYN BAY.



Preparing Stamps for Mounting

BEFORE we mount the stamps in our album it is necessary to take off any paper that may remain on their backs. Sometimes I am shown collections in which stamps have been mounted with large portions of envelopes or wrapping paper adhering to them. Such unsightly objects spoil the appearance of the whole collection. As only untidy people omit to remove the paper to which a stamp was affixed, I have little fear that Meccano boys will indulge in such lazy methods of mounting their stamps.

Don't "Soak" Your Stamps

Now, in taking stamps off their original covers some amount of care is necessary. It is not satisfactory to drop a handful of stamps into the wash-basin, and there let them soak indefinitely, however convenient that method may seem! One of the reasons against this is that many stamps are printed in what are called "fugitive" inks. These inks are employed to baffle those misguided gentlemen who endeavour to gain a dishonest livelihood by cleaning the cancellation marks off stamps, so as to be able to use them again! Fugitive inks smudge and run at the first hint of water or sometimes even of dampness. So unless you wish to spoil some of your stamps the removal of the paper must be done scientifically. Take a flat dish filled with cold water and gently lay the stamps on the water, one at a time and face upwards, so that only the backs of the stamps are in contact with the water. It is better to keep the stamps quite separate, for if one is placed on top of another the face of the stamp underneath is wetted and the object is frustrated.

Drying the Stamps

In about ten minutes the stamps may be removed one by one, care being taken not to splash the faces of the others in the dish. You will then find that the paper will come off the back of the stamps with ease. The stamps may then be placed in rows on a sheet of clean white blotting paper, face downwards, and left for a few hours to dry, when they are ready for mounting in the album. Do not put the stamps in the album until they are really dry, otherwise they are sure to stick to the page.

Sometimes it may be decided to remove the stamps from their covers before sorting them, if there are not too many. With others, however, the postmark on the wrapper may be of assistance in identifying the stamp, and if the soaking is done before the classification this assistance is lost when it is removed.

Choosing an Album

Although albums may be purchased at almost any price from 1/- to £50, it is not advisable to begin with an expensive album, since stamp collectors are noted for changing their albums. As we grow

more experienced we learn more about albums and their varied advantages, and then we are better able to decide exactly which kind of album suits our particular taste and requirements.

Then, too, after collecting for a few years we may decide to specialise or to concentrate our attention on some particular country. Then we shall require a different type of album to that required for a general collection. I myself first used a cheap album embracing all countries in the world. Finding I had not sufficient room I transferred my collection to a large foolscap loose-leaf album in which I provided a space for every stamp issued. This album soon extended to four large and bulky volumes in which there were more blank spaces than stamps! Deciding soon after to specialise in British Colonials I transferred that part of my collection to cards, which I have now in a six-drawer filing cabinet. Such an "album," with one card to each stamp and used and unused on the same card, may be said to be very efficient, but like all albums, it has its drawbacks! I only mention it to show how easily a system may be changed. When I adopted the loose-leaf album I felt quite certain I should never alter this system, but later I changed to cards because, in the light of further experience, they seemed to suit my purpose better.

For the beginner, a good 10/6 album will serve the purpose admirably. As we remarked last month, a catalogue is essential. If you cannot afford both album and catalogue at once, it is best to buy the catalogue first and to use an exercise book until funds permit the purchase of an album, or until a birthday comes along.

Mount Your Stamps with Hinges

Stamps should be mounted with stamp mounts, which may be bought for a few coppers a thousand at any stamp dealer's. On no account should stamps be stuck down to the page with gum. A boy once did this, and soon afterwards, wishing to alter the arrangement of some of his stamps, found that he could not do so. They were all stuck firmly on the page, from which nothing short of cutting or tearing would remove them. I know another boy who had run short of stamp mounts one wet afternoon and was so anxious to mount his stamps that particular day that he actually used Seccotine! Never be tempted to use the clean gum of an unused stamp to attach it to the page, for the value of the stamp depends on keeping this gum intact and undamaged.

To mount a stamp in the correct manner the stamp hinge is folded over with the gum side outwards. It is then slightly moistened and affixed to the top edge of the stamp. Then moisten the other part of the hinge and mount the stamp in position on the page of the album. Thus the stamp is attached to the page by a paper hinge, and may be lifted so as to show the underside without being removed from the page. The beauty of using hinges is that they will peel off cleanly when required, leaving no mark on either stamp or page to show where they have been.

Think First

In arranging your stamps you cannot do better than follow the catalogue order. Blanks may be left for the stamps required to complete sets, and spaces for sets that have yet to be collected. The more forethought you give to arranging the

stamps in their correct places, the less time you will have to spend in altering the arrangement later. If you do have to alter, you will appreciate the assistance of the stamp mounts, which many beginners despise, but which the experience of practical collectors has proved to be invaluable.

We have not as yet dealt with such details as plate numbers, watermarks and perforations, but as these are of great importance and affect the value of a stamp, we shall give them space. Often, too, a knowledge of paper is necessary to identify some particular issue, and we shall therefore deal with this subject as briefly as possible in one of our succeeding issues.

NEXT MONTH.

PLATE NUMBERS & WATERMARKS

New Issues

Irish Free State



The stamps of the Irish Free State have aroused great interest among stamp-collectors. On 6th December, 1922, after ten months of endless varieties of surcharging on English stamps, the State issued the first stamp that was its own



from beginning to end. This was the 2d. Map design. Since then the 1d. and 1½d. values have been issued in the same type; the ½d., 5d. and 1/- have been issued in the "Sword of Light" design; the 3d. and 10d. in the Celtic Cross design; and the 2½d., 4d. and 9d. in a type which shows the arms of the Four Irish Provinces. All are printed at Dublin Castle on paper watermarked "S.E." (the initials of Saorstát Eireann, "Irish Free State") and perforated 15 × 14 in sheets of 240 stamps.

France

PASTEUR COMMEMORATIVES.

Three French stamps of the values 10, 30 and 50c. were issued on 25th May last to commemorate the anniversary of the birth of Louis Pasteur, the famous French scientist, who was born in 1822. Each of the three is of the same type and shows a portrait of the great man. The stamps appear to be coming into regular circulation, and superseding the old type for these values. They were engraved by M. G. Prudhomme and are being printed at the Government Printing Establishment, Paris. R.K.G.



BOYS! Get the most out of life—buy an AUTO SCOOTER

THE popularity of the AUTO-SCOOTER amongst boys and girls is becoming greater than ever. Think of the exhilarating joy of gliding along on a fine spring day with the wind cutting your face and your whole being thrilling with keen excitement! Isn't it a happy thought? Our AUTO-SCOOTERS are built on scientific lines and will give long and excellent service, even with the roughest handling.

Be sure you ask for an AUTO-SCOOTER for your next present!

THE AUTO-SCOOTER IS THE SPORTY TOY FOR THE SPORTY BOY.

Prices to suit all pockets. Send for list of 6 different models.

Splendid Essay Competition

for boys under 14

WHAT YOU HAVE TO DO.

Write an Essay of not more than 500 words on "Why I should like an AUTO-SCOOTER for my next present." Then send it to the Editor of the "Meccano Magazine." Closing date for entries from the United Kingdom 31st March, Overseas 30th April next. The Editor of the "M.M." has kindly consented to act as judge, and for the two best essays we will give the following—

First Prize: Our Model-de-Luxe Scooter, as illustrated.

Second Prize: Our Popular Model with Solid Tyres.

This is the
FIRST PRIZE
in our
SPLENDID ESSAY
COMPETITION



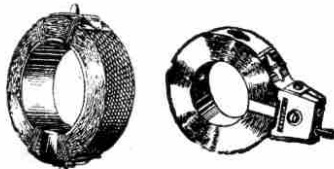
Model-de-Luxe Scooter

The New Auto-Scooter Company,
CHESTERGATE, STOCKPORT.

STOCKED BY ALL LEADING TOYSHOPS.

FOR DEPENDABILITY OF OPERATION USE

"IGRANIC" RADIO DEVICES



HONEYCOMB INDUCTANCES

(De Forest Patent No. 141344).

These world-famous coils are renowned for their high efficiency, low self-capacity, small absorption factor and minimum high frequency resistance. No dead-end losses. Each turn surrounded by air pocket. Made in two types, gimbal and plug mounted. Wave lengths approximately 100 to 25,000 metres. The only coils that uphold their claim for negligible losses. Prices vary with sizes.

GIMBOLDER TUNING STAND (Patent Applied for)



This coil holder has been designed and produced for accommodating gimbal mounted honeycomb coils, which enables extremely fine settings to be obtained. In addition to the angular relation of these coils being varied, they can also be rotated about their own axis, thus giving extremely fine and critical adjustment when used on selective and regenerative circuits.



INTERVALVE TRANSFORMERS

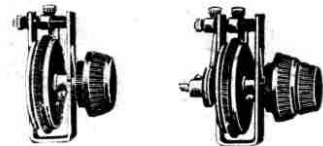
(Patent No. 205013)

Designed for the distortionless reproduction of speech and music. The steel shroud effectively shields from external interference. Recent improvements in design render it the finest amplifying transformer obtainable. Prices: Shrouded, 21/-, Open, 20/-.

Other manufactures include:—
VARIOMETERS. VARIOCOUPERS
COIL HOLDERS.
TELEPHONE TRANSFORMERS.
VERNIER FRICTION PENCILS.

HIGH FREQUENCY
TRANSFORMERS.
etc., etc.

Write for Lists Z.146.



FILAMENT RHEOSTATS

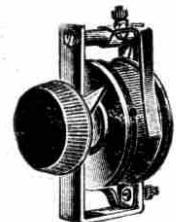
(Patent No. 195903).

A splendid instrument for filament control under all conditions. Novel method of construction ensures smooth and silent operation. Designed for individual valve control. Adjustable contact fingers permits of resistance values from zero to four ohms by fine variation. Supplied in two types, plain and vernier. Prices: Plain, 4/6. Vernier, 7/-.

BATTERY

POTENTIOMETER

An Igranic Potentiometer is a necessity where one or more stages of high frequency amplification is used. Stabilises grid and eliminates noises and self-oscillation. Resistance 300 ohms. Current consumption negligible. Nickelled finish, complete with fixing screws, knob and pointer. Price 7/-.



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MECCANO MAGAZINE

Telegrams, "Meccano, Liverpool."
Telephone, 701 Old Swan (6 lines).

EDITORIAL

AND ADVERTISING OFFICES:—
BINNS ROAD, LIVERPOOL.

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 2d. per copy. It will be mailed direct from this office 1/6 for six issues and 3/- for twelve issues (post free).

BINDING CASES to take a large number of copies of the "M.M." are supplied at 3/- each post free. These cases, which have a strong stiff back covered with imitation leather, are lettered in gold and fitted with special spring clip.

Meccano Boy takes Photo from the Air

Results of the Fifth Photographic Competition

Winter weather and short days do not seem to damp the enthusiasm of Meccano photographers! In fact there have been even more entries than usual for the Fifth Photographic Competition, including some very interesting prints. The standard of the work submitted is higher than usual, and it is noticed that the majority of competitors seem to prefer the Miscellaneous Section, no doubt because of the wider scope offered.

The First Prize in Section A (under 14 years of age) has been awarded to Master James Ford, of Cow Lodge, Invergowrie, for an excellent animal study of young pigs. The First Prize in Section B goes to Master M. R. Crofts, of Moseley Birmingham, who sent in a very interesting snap of the Victoria Pier at Blackpool, taken from an aeroplane. "When we were flying at 90 miles an hour," writes this enthusiastic photographer, "I leaned over the side of the plane to try to take a photograph of the new Swimming Bath (the largest in the world), but the rush of air was so great that I was forced to retreat back to my seat. After taking a deep breath I again leaned over the side and then managed to secure a photo of the Pier and part of the Swimming Baths." It is difficult to secure a clear photograph

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 2d. per copy, or mailed (post free) direct from Liverpool, 1/6 for six issues, or 3/- 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 concerned.

CANADA: Meccano Ltd., 45, Colborne Street, Toronto.
AUSTRALIA: Messrs. E. G. Page & Co., 379, Kent Street, Sydney.
NEW ZEALAND: Messrs. Browning & Rawlinson Ltd., P.O. Box 129, Auckland.
SOUTH AFRICA: Mr. A. E. Harris, P.O. Box 1199, Johannesburg.

from the air, and Master Crofts is to be congratulated on his success.

Hawk-Eye Cameras, made by the Kodak Company, have been forwarded to these two boys, and also Meccano goods to the value of 5/- to the following competitors, who gained second and third places in each section. Section A: Master R. P. Ingram, of Beckenham, Kent, for his photograph of a lake, and Master Harold Scott, of Armley, Leeds, for a study of a dog. Section B: Master S. Shearing wins the second prize with a fine photograph of the painting on a church wall. The third prize in this section has been awarded to Master Leslie G. Davy, of Ealing, for his photograph of a mountain stream.

The Sixth Photographic Competition has already been announced in the December "M.M.," and full particulars will

be found on page 12. Competitors should remember that the most suitable prints for reproduction are those in which details are sharp and well defined. Gas-light prints usually give the best results, though all prints are judged en-

tirely on their merits as photographs, and receive equal consideration irrespective of the paper on which they are printed, or whether or not they are mounted.

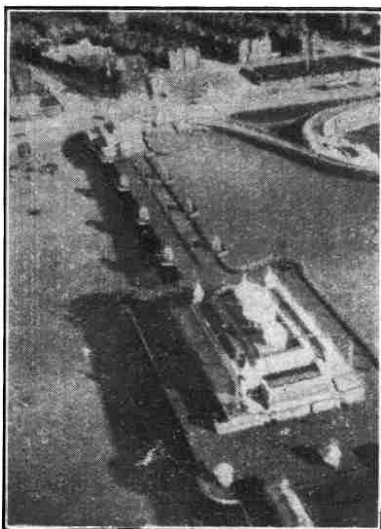


Photo by [M. R. Crofts]
Blackpool Pier from the Air



Photo by [James Ford]
A Study in Black and White!

Books of Joy!

From the few books detailed below you will be able to get a tremendous amount of pleasure. For 13 years the Wireless Press has devoted its energies to publishing books on wireless, and in our catalogue we have no less than 75 wireless publications. We shall be glad to send you a catalogue upon receipt of a postcard.

THE HOME CONSTRUCTOR'S WIRELESS GUIDE. Price 3/6, by Post 3/9

This is the most complete book yet issued for the home constructor. If you want to make wireless apparatus, get this book. You cannot beat it.

THE WIRELESS ANNUAL, 1924. Price 2/6, by post 2/11

Full to overflowing with valuable information, the Annual includes amongst its contributors Senator G. Marconi, Dr. W. H. Eccles, Sir William Noble, Phillip R. Coursey, Major H. C. Parker, Captain P. P. Eckersley, W. G. W. Mitchell, etc. In addition the Annual provides you with a full, up-to-date list of Amateur Call Signs, including French Stations, Regular Transmissions of European Wireless Stations, Call Signs of all Land and Aircraft Stations, Directories of Wireless Societies, Manufacturers and Retailers of Sets and Accessories, Definitions of Technical Terms in five languages, a host of useful tables and other general information. GET YOUR COPY TO-DAY.

MAST AND AERIAL CONSTRUCTION FOR AMATEURS. 1/6 net, by Post 1/7

Complete information is given here on the erection of masts and of indoor, outdoor, and frame aeriols. With a copy of this book at hand you will have no difficulty in these matters.

THE AMATEUR'S BOOK OF WIRELESS CIRCUITS. Price 2/6 net, by Post 2/10

The most up-to-date book of circuits yet published. This contains 111 practical circuits showing full values of condensers, etc.

CONSTRUCTION OF AMATEUR VALVE STATIONS. Price 1/6, by Post 1/7

Those interested in valve apparatus will find full particulars for making the various parts of receiving sets.

CRYSTAL RECEIVERS FOR BROADCAST RECEPTION. Price 1/6, by Post 1/7

Descriptions of the various types on the market and full directions for building a first-class crystal receiver, with many useful hints, are presented to the reader.

HOW TO BUILD AMATEUR VALVE STATIONS. Price 1/6, by Post 1/7

Amongst other matter, several different arrangements of receiving "units" are described in detail, together with description of component parts of valve apparatus.

PRACTICAL WIRELESS SETS FOR ALL—HOME CONSTRUCTION MADE EASY. Price 1/6, by Post 1/8

For inexpensive and wonderfully effective sets, you should get this book.

THE WIRELESS WORLD AND RADIO REVIEW. Every Wednesday, 4d.

First published in 1913, this is universally recognised as the premier wireless journal. There is something for everybody interested in wireless in every issue. Send for free specimen copy.

The Wireless Press Ltd. Dept. M.M.
12/13, Henrietta Street, Strand, W.C.2.

The Meccano Guild

A Fellowship of Meccano Boys

The Meccano Guild is an organisation for boys, started at the request of boys, and conducted as far as possible by boys. All who have studied its objects must agree that the Guild cannot fail to have a profound effect for good on the lives of its members. The Guild is one great fraternal organisation of which all Meccano boys should become members, for its primary object is to bring them together. By joining the Guild a Meccano boy becomes a member of a great brotherhood of world-wide extent. Each member of the Guild tries to help the others to get the very best out of life.

OBJECTS OF THE GUILD

The Objects of the Meccano Guild are three-fold:—(a) TO MAKE EVERY BOY'S LIFE BRIGHTER AND HAPPIER; (b) TO FOSTER CLEAN-MINDEDNESS, TRUTHFULNESS, AMBITION AND INITIATIVE IN BOYS; (c) TO ENCOURAGE BOYS IN THE PURSUIT OF THEIR STUDIES AND HOBBIES, AND ESPECIALLY IN THE DEVELOPMENT OF THEIR KNOWLEDGE OF MECHANICAL AND ENGINEERING PRINCIPLES.

HOW THE GUILD COMMENCED

More than a million boys in Great Britain derive their greatest indoor pleasure from Meccano. Before the Guild was formed, hundreds of these Meccano boys wrote to us every week. They told us how they wished they could be put into communication with other Meccano boys and how they longed to be able to meet them. They asked if arrangements could be made so that their wishes might become an accomplished fact.

We responded to their repeated and increasingly numerous appeals, and as a result the Meccano Guild came into being. The Headquarters of the Guild are at the Head Office of the Meccano Works in Liverpool. At the head—guiding, controlling, and taking a personal interest in this great movement—is the President, Mr. Frank Hornby, Inventor of Meccano and Chairman and Managing Director of Meccano Limited.

HOW TO BECOME A MEMBER

Membership of the Guild is possible to every boy possessing a Meccano Outfit who satisfactorily fills in the prescribed application form. Members are requested to promise to observe the objects of the Guild and to wear their badges on all possible occasions.

The cost of the Guild membership badge is 7d., and stamps for this amount should be sent along with the form of application. The Guild badge is beautifully enamelled in blue and is made for wearing in the lapel of the coat. Any boy wearing the Guild badge is at once recognised by other Meccano boys as a member of the great brotherhood of boys who have undertaken to live a clean, truthful and upright life. No introduction or ceremony is necessary between Guild members, who may be recognised at once by the badge they wear.

In addition to the badge, each member on joining receives a beautiful Certificate, measuring 7 inches by 9½ inches. This Certificate is printed in orange and sepia and is a replica of the large Club Certificate. The Certificate is intended to be framed by the Guild member and hung in his bedroom.

Write to the Secretary of the Meccano Guild, Binns Road, Liverpool, asking for an application form and full particulars. You will then be enrolled and your Badge and Certificate sent to you. Don't hesitate—write to-day. Put M. J. after your name for reference.



RECRUITING
MEDALLION



BADGE OF
MEMBERSHIP



THE MECCANO CLUB
CERTIFICATE

MECCANO CLUBS

Meccano Clubs are founded and established under the guidance of the Guild Secretary at Headquarters and at the present time there are active Clubs in over one hundred and fifty towns and villages in this country, as well as many Clubs Overseas and in Foreign countries. Some of the larger towns and cities have several Clubs, one in each district. Each Club has its Leader, Secretary, Treasurer and other Officials, all of whom, with the exception of the Leader, are boys. Write for information as to the nearest Club to you. If it is too far away for you to join, or if you are unable to join for any other reason, consider the possibility of forming a new Club in your own district.

SPECIAL AWARDS TO CLUB MEMBERS

Every encouragement is given to members of Clubs to do good work and to read instructive papers during the session. Special Merit Medallions (illustrated on this page) are granted to those members who display ability in connection with such work, and full particulars may be obtained from Headquarters.

THE GUILD RECRUITING CAMPAIGN

Every Meccano boy should become a member of the Guild and do his utmost to help to make the objects of the Guild widely known. With this end in view, a special Medallion is presented to each member of the Guild who obtains three new recruits. An additional mark of merit is given when six more members are recruited. Full particulars of the Recruiting Campaign will be sent on request.

THE CORRESPONDENCE CLUB

Members of the Guild have the privilege of joining the Correspondence Club and of being placed in communication with other members of the Guild in some other part of the country or abroad. To those boys who are interested in foreign languages the Correspondence Club provides a medium for their advancement in this respect, for correspondents can often be found for them in many foreign countries, particularly in France. They are thus able to write to a Meccano boy in his native language, and as he would probably reply in English, the correspondence will be of mutual benefit. Full particulars and enrolment form on application.



SPECIAL MERIT MEDALLION
(About half actual size)



It is with great pleasure that I am able to announce that 1923 has proved to be one of the most successful years in the records of the Guild.

The Past Year

Many thousands of new members have been enrolled, and numerous clubs all over the world have been affiliated. Every year seems to bring us nearer to the fulfilment of the most important of our objects, "To make every boy's life brighter and happier." Our membership is steadily mounting up, thanks to the efforts of Club Leaders, Secretaries, and of every individual member.

In this connection the Recruiting Campaign is achieving its purpose, and many hundreds of medals have been awarded. When it is remembered that every one of these medals means three new recruits to the Guild it can well be understood the very fine work that is being done. Each member of the Meccano Guild, whether he is a member of a club or a "lone" member, should make every endeavour to win one of these Recruiting medallions. It is an award well worth striving for and though it may prove difficult for some, it is by no means impossible. The winners always have the satisfaction of knowing that they have at least done something for this great brotherhood of boys.

Guild members and club Secretaries have now practically completed their preparations for the Second Winter Session, and several new schemes have been introduced into the club programme.

The Next Session

To the many new clubs formed in the last few months, the past session will have shown how a really successful club may be run. They will now be able to profit by this experience and to make such improvements or alterations as may be found necessary to make the coming session a success. To the older and well-established clubs the commencement of a new session is always a busy time. Keeping in touch with old members, enrolling new entrants and drawing up the next Syllabus are all important and necessary duties.

During the past few weeks many thousands of new Meccano boys have added to our ranks. These boys hear of the Guild for the first time with this issue of the "M.M.," and I have thought it desirable to give, on page 22,

For New Readers

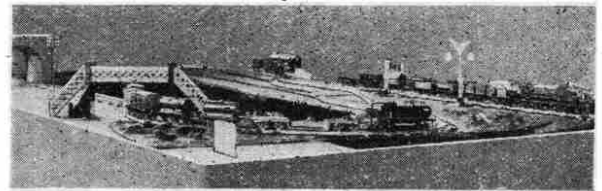
A Successful Exhibition

A successful two-day Exhibition of Mechanical and Engineering Models was recently organised by the Holy Trinity Meccano Club. The following affiliated Clubs were represented:—Thornton Heath M.C., Roan School (Greenwich) M.C., St. Paul's (Hammersmith) M.C., and St. Mary's (Newington Butts) M.C. The Mayor of Islington opened the Exhibition, and great interest was shown in the decorated stalls on which Meccano models were displayed. Down one side of the Hall was an excellently-arranged Hornby railway system, some 60 ft. in length. This display included points, sidings, turntable, bridges and electrically-operated signals, as well as examples of the latest Hornby rolling stock. A Meccano Clock and a huge model (some 17 ft. in length) of the famous Quebec Bridge were also on view.



The Holy Trinity Meccano Club's Stall which was awarded second prize for the best decorated stall, the first prize being won by St. Mary's (Newington Butts) M.C.

Two very successful concerts were given by the "Ripplevale Nigger Troupe" and the Thornton Heath Dramatic Club. A novel feature of the Exhibition was a stall built in the shape of a triangle to represent the Meccano Guild Badge. This occupied a prominent position in the centre of the hall.



Section of the Hornby Rail System Exhibit

some particulars of this great world-wide brotherhood of boys. They will find there briefly set out the objects and benefits of the Guild. May I say that I shall be only too pleased to send application forms and further particulars to any reader interested. All new members should make a point of joining a club, and full details of the nearest club to them will be sent on request.

**Meccano Club Leaders
No. 9. Mr. S. MITCHAM.**



The "Norwich Enterprize Meccano Club" was opened early in 1920, and Mr. S. Mitcham undertook the Leadership of the Club at a most difficult time. Under his guidance, however, the Club has continued to make excellent progress. Flag signalling and Morse key transmission have been included in the programme, and the members are making good progress in these subjects. Mr. Mitcham is to be congratulated on his splendid Club and on the sustained enthusiasm of its members.

The Correspondence Club is becoming increasingly popular, and already many lasting friendships have been formed

Stamps and Photos

between members all over the world. Any boy who wishes to correspond with another member, whether he is a "lone" member or belongs to a club, should write to me and ask for the Correspondence Club application form. No charge is made for joining the Correspondence Club, and the rules are very simple indeed. Stamp collectors and photographers in particular should make a point of joining, for the Club affords many opportunities for the exchange of duplicates and photos.

I should like to remind all Club Secretaries that reports for the last session should now be sent in for inclusion in

Club Reports

"Club Notes." A brief summary of the activities of the club during the session should be given, together with the number of members now on the rolls. Recommendations for Merit Medallions should also be sent in by Club Leaders, together with the paper or notes of the lectures delivered.

In conclusion I should like to take this opportunity of wishing Guild Members every success in the New Year. Now is

Good Wishes

the time for good resolutions, and if every boy will read over the words on his membership certificate and do his best to live up to them, then there is no doubt that 1924 will be even more successful than the past year of splendid progress.



FREE SAMPLES

To get one just send a postcard to "Sunny Jim," Dept. A.Y. 6, 197, Gt. Portland St., London, W. 1. He will send with it, for mother, an interesting RECIPE BOOK written by himself.

Did you ?

Last year hundreds of Meccano boys wrote to "Sunny Jim" for free samples of his famous whole-wheat-flake ready-cooked food "FORCE." They're glad they wrote because most of them have since been able to persuade their mothers to give them "FORCE" and hot milk regularly *every* day. These crisp crackly flakes of toasted malted wheat make the most tasty and nourishing meal you ever heard of. Tell mother it needs no cooking at all—she'll be interested in that!

FORCE

**WHOLE WHEAT FLAKES
MALTED AND TOASTED**



NO BOY OR GIRL can afford to be without the world-renowned and largely-advertised

SECCOTINE

(Regd. Trade Mark)

Tubes 4½d., 6d., 9d. Everywhere.

The best general adhesive the world knows. For wood, leather, bone, paper, etc., objects large or small. Used in bulk for manufacturing purposes. Of great utility to boys and girls who long to make things.

FIRMAS (Heat Seccotine)

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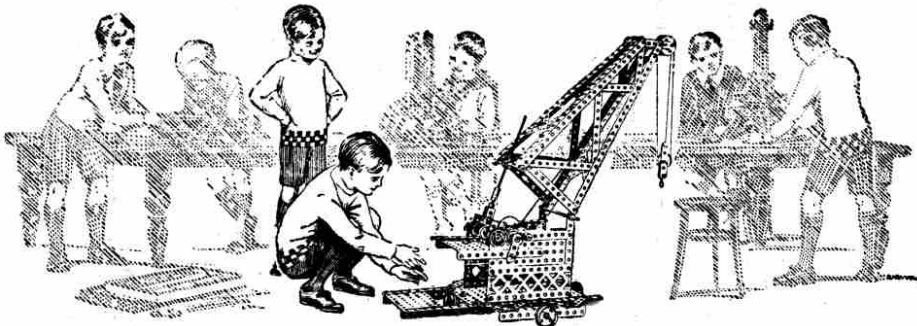
Tubes 6d.

For glass, china, delph, etc. Articles joined with it can be boiled without coming asunder.

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CLUB NOTES

St. Mary's (Newington) M.C.—A decided increase in membership has been the result of the successful Exhibition, held in November last. Visitors came from all parts of London to see the many interesting models, the Meccano Clock in particular causing a great deal of comment. Hornby Trains, too, were in evidence, and a well-arranged railway system contributed much to the general success and enjoyment. *Secretary*: Mr. C. Curle, 37, Pullens Buildings, Peacock Street, S.E.

King Edward's School M.C.—The programme for the last Winter Session contained several novel and interesting items, of which a Lecture on Scotland, a Mock Trial and an impromptu Concert were perhaps the most popular. A Magazine has been published and articles on Railways, Radio and Photography have appeared. The recently-appointed Club Secretary is proving a very enthusiastic organiser. *Secretary*: Master N. J. Robertson, 30, Hinstock Road, Handsworth Wood, Birmingham.

Wynberg M.C.—At a recent meeting of this successful and ever-growing South African club, a model-building race was organised. Its object was to test the members' powers of observation whilst constructing working models. The winner completed a model of a travelling crane in the short space of 33 minutes. A lecture entitled "The Story of the British Navy" proved a great success and was followed by a demonstration with the Meccano Loom. *Secretary*: Mr. A. J. Lewis, The Park, Wynberg, S. Africa.

The Hague M.C.—An exhibition recently held by this progressive club proved a decided success. Many large models were on view, including about a dozen worked by electricity. Over a thousand leaflets were printed and distributed broadcast before the exhibition, with the result that a large attendance was secured. Five new members were recently enrolled. *Secretary*: Mr. H. G. Van der Sluis, 108, Stadhoudersplein 108, Den Haag, Holland.

Malvern (Johannesburg) M.C.—A change of Club Leaders has recently taken place, Mr. C. Sykes having to leave the district after two years' very excellent work among Meccano boys in that part of S. Africa. His place has been taken temporarily by Mr. C. Gunnell. The club membership, at present 28, continues to grow steadily. A Sale of Work was held in aid of the Epworth Children's Home and proved an unqualified success. *Secretary*: C. Gunnell, 177, St. Frusquin Street, Malvern, S. Africa.

Central (Sheffield) M.C.—Some very interesting meetings have been held during the past Session, including a Wireless Demonstration, a lecture on "Valves," and a visit to the local wireless station. In addition the Meccano lectures have been in great demand and have been voted a great success. *Secretary*: Master A. S. Taylor, 19, Roach Road, Sheffield.

Calcutta M.C.—Local gentlemen are taking an interest in the progress of this enthusiastic club. A novel innovation is an "Adult Section." A Meccano Outfit and Carpentry Set have been purchased for the use of members on club nights. *Secretary*: Master A. N. Roy Chowdhury, 35/2, Beadon Street, Calcutta, India.

White Notley M.C.—Recently held an Exhibition which was so successful that it was decided to institute an annual Exhibition and Concert. Some of the models exhibited were a Helter-Skelter, a Motor Breakdown Crane, Pit-Head Gear, Motor Buses, etc. Guessing Competitions, which will be open to the public, have been proposed as a means of adding to the club funds. *Secretary*: Master F. Fox, 2, Station Road, White Notley, nr. Witham, Essex.

Buckfastleigh M.C.—Has now been able to secure a suitable club room and the past Session has proved a great success under the leadership of Mr. A. Chivall. A dozen application forms have recently been issued, so that a decided increase in the present membership may be expected shortly. *Secretary*: Master Harold J. Parsons, Bell Cottage, Buckfastleigh.

Clubs Recently Affiliated

Peterborough M.C.—Affiliated with the Guild a few months ago this Club continues to make excellent progress. The Meccano Lecture "The Men Who Gave Us Radio" was read at a recent club evening. Posters advertising the Meccano Club have also been displayed in the town, and several new members have been enrolled as a result. *Secretary*: Master Austin March, 88, Granville Street, Peterborough.

Ashton-on-Mersey M.C.—Although affiliation was granted some time ago activities have been restricted owing to the difficulty in obtaining a suitable club room. The old room is not now available but the enthusiastic members are managing to "carry on," and hope to be more successful in the coming Session. *Secretary*: Master F. J. Price, Alexander Villa, Mersey Road, Ashton-on-Mersey.

Clubs not yet Affiliated

Grahamsley M.C.—This club has recently been organised and the members are very keen. Any Meccano boy in this district who is interested should write or call for full particulars. *Secretary*: Master W. Marr, 16, Wood Houses, Grahamsley, nr. Crook, Co. Durham.

Rosyth M.C.—A room and temporary Leader have been obtained by the organiser of the club, and it is hoped that affiliation will soon be possible. New members will be heartily welcomed and should apply early. *Secretary*: Master Edward Hunter, 79, Admiralty Road, Rosyth, Fife.

For Your Next Party

Many fancy dress parties are given about this time of the year, and no doubt



Meccano boys will wish to go representing Meccano. We are printing two photographs which will give two suggestions.

Both the costumes shown won first prize at fancy dress dances last winter. With a little ingenuity, splendid costumes may be evolved. The costume below was made entirely from cardboard and covered with tin-foil. It proved very effective.

We shall be glad to hear from any of our readers who have other suggestions to make and whenever it is possible to do so we are pleased to loan advertising matter and showcards to assist them to make their costumes attractive.



Guild Secretary Visits Leamington Meccano Club

A very enjoyable evening was held by the Leamington Meccano Club on the 7th December, when the Guild Secretary visited the Club for the purpose of giving a lantern lecture describing the manufacture of Meccano and the activities of the Guild. Over 100 slides were shown, the lantern being operated by the energetic Club Secretary, Mr. Guy Hare. The lecturer showed slides of various Meccano Clubs and mentioned that there are now over 120 Clubs in this country, in our Dominions, and in foreign countries.

The Secretary also gave some interesting details of the progress of Meccano itself. He told how Meccano commenced in a very small way as "Mechanics Made Easy." At that time Mr. Hornby was assisted only by one girl and the business was run from a single small room in James Street, Liverpool. This was followed by a description of the present factory which covers five acres and employs 1,500 hands. Slides were shown of the splendid up-to-date machinery including Stamping and Gear-Cutting machines, the Press Shop and the Barrelling and Plating Departments. Finally, the Stores and the large and well-lighted Packing Rooms were described and illustrated.

Slides of the first Meccano models aroused great interest, enabling the members to see the wonderful

progress made in model-building since the early days. The fact that the Guild is a world-wide movement was forcibly brought home to the audience when the lecturer showed slides of specimens of the Manuals in various languages, and mentioned that Meccano literature is printed in sixteen different languages, including Dutch, Spanish, Portuguese and even Chinese—a tribute indeed to the universal demand for Meccano. Slides of the departments where Hornby trains are manufactured were also shown, and the lecturer mentioned that there were over 160 operations in the making of a Hornby train.

At the close of the lecture the Club President, Sir John Keir, K.C.B., proposed a vote of thanks to the lecturer, which was seconded by the Club Leader, Mr. F. W. Bull. Sir John Keir and the Guild Secretary then judged the models entered for the Club's Annual Competition. The first prize was awarded to Masters F. C. Miles and G. S. Collett for their model of the Motor Chassis, and special consolation prizes were awarded by the Guild Secretary to Masters J. H. Stevens and B. Bailey for their models of Funicular Railway and Motor Tipping Wagon, and after three rousing cheers for the Guild the meeting broke up.

Listen with a Meccano Receiver

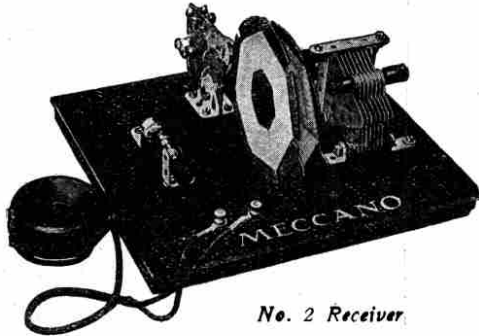
No. 1 Meccano Crystal Receiver

With a good aerial this set will receive telephony up to about 25 miles from a broadcasting station, and Morse signals up to a distance exceeding 100 miles. The set, which may be used with a broadcasting licence obtainable from any Post Office at a cost of 10/-, will receive on wave-lengths from zero to approximately 1,000 metres.

R.S. 1—Receiving Set complete, tested and guaranteed, price 29/-
 Compulsory Broadcasting Fee 1/-
 Price 30/-



No. 1 Receiver



No. 2 Receiver

No. 2 Meccano Crystal Receiver

This set is of the constructional type and is specially adapted to the requirements of those who wish to carry out simple experiments. Its range is the same as that of No. 1 set described above, and it receives on wave-lengths of approximately 300-500 metres. It may only be used with a constructor's licence, which costs 15/-, and is obtainable from any Post Office.

R.S. 2—Complete Set of Parts, in strong carton, including single telephone
 2,000 ohms resistance, price 25/-
 R.S. 2a—Complete Set of Parts, in strong carton, without telephone, price 15/-

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BINNS ROAD

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Meccano Boys Keep Fit!!



Just a short time with the gloves each day will keep you in the best of condition for working out new Meccano models.

BOXING GLOVES SET OF FOUR

YOUTHS' SIZES

6/9	9/6	10/9 Pair
Twill Backs Leather Palms.	Tan Leather Elastic Wrist.	Tan Leather Laced Palms.

Postage and packing 6d. extra.

Odd & Sons,

55, North End, CROYDON,
 111, High Street, SUTTON, Surrey.

Telephone Receivers

We have a limited number of single telephone ear-pieces similar to the illustration, of which we are disposing at 10/- each, postage 1½d. These telephone ear-pieces are of 2,000 ohms resistance. They are of the highest grade of British manufacture and give loud and clear reproduction, free from distortion. They



are suitable for use with any receiving set, and are useful as additional 'phones to enable a second person to listen in. They may be converted into a double head 'phone by attaching two together with a metal band, or with a 12½ inch Meccano strip.

Those desirous of acquiring a high-grade telephone are advised to take advantage of this opportunity, as our present stock is limited and will soon be exhausted.



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JUST LIKE THE REAL THING.
 A Chum and a Table
 are all you require.

Order your Team to-day and start a League among your Chums. Team Set (11 a side) 2/6, League Set (11 a side) 10/6. Also SKIDS CRICKET (11 a side) 3/6. Post Paid. Postage abroad 1/- extra.

Ask your Dealer for them, or write direct to SKIDS GAMES (M Dept.), 61, Cathedral St., GLASGOW.

Storage Boxes



We have in stock a limited number of boxes, suitable for holding Meccano parts. These boxes are in polished oak, fitted with partitions, and hinged lids. They fasten with lock and key, and are provided with two drawers, also with locks and keys.

The dimensions of the boxes are 17" x 15" depth 9¼", and the price is each 70/-, carriage forward.

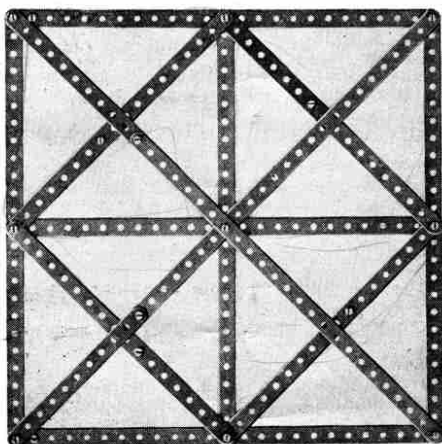
As our stock is only small we advise those of our readers who are interested to take immediate advantage of this opportunity for securing a strong and serviceable box for storage of their Accessory Parts.

MECCANO LTD., LIVERPOOL.



No. 3

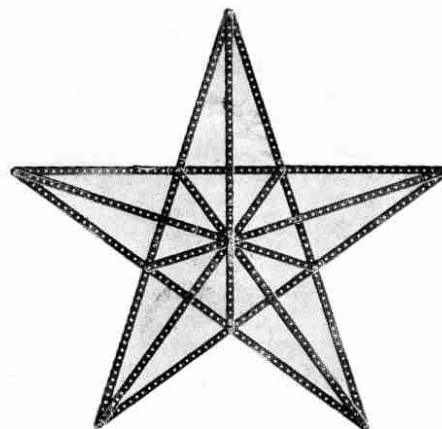
Here is a puzzle that will be of particular interest to those who have grappled with the problems of a certain unpopular gentleman called Mr. Euclid! How many different triangles can you count in the square illustrated?



In the construction of this figure the following Meccano parts have been used:—15 of No. 1, 5 of 1a, 5 of 1b, 36 of 37a; 6 of 111a, 30 of 111b. The answer will be given next month. Get your friends to help you!

No. 4.

If you find the square too easy, try this five-pointed star puzzle. Either build it in Meccano, as shown in the illustration, or draw it on a large sheet of paper.



To make this figure the following parts are required:—8 of No. 1, 6 of 2, 4 of 2a, 15 of 37a, 15 of 111b, 1 of 37b. If you decide to draw it, remember that the bisecting lines must all meet at a common point in the centre of the star. When you have completed the figure, see how many different triangles are contained in it. Then pass it on to a chum, and see what answer he gets.

THAT readers of the "M.M." are interested in Puzzles is evident from the large number of letters we have received regarding this page in our last issue. We are therefore arranging to have a special Puzzle Competition during the next three months.

Puzzles for Guild Members

This Competition is open to Guild members only, and any of our readers who are not Guild members will find full particulars in regard to joining the Guild on page 22. Each puzzle published on this page will be numbered and entrants should write their solutions on a post card alongside the number of the puzzle concerned. Solutions must be received in this office before the 25th of each month, because the answers to the preceding month's puzzles will be published in the following month's "M.M." On 25th March we shall classify all the entries received and the winner will be the competitor who has given correct solutions to each of the three sets of puzzles.

The first prize will be Meccano Products to the value of £2 2s. 0d. Second and Third Prizes to the value of £1 1s. 0d. and 10/6 respectively, all to be selected from our current catalogue by the winners.

This Month's Puzzles

Remember that solutions to the puzzles on this page are to be sent in before 25th January, because the answers will be published in the February "M.M." Remember also that this Competition runs over three months, and in addition to the puzzles on this page, entrants are required to solve the puzzles in the February and March issues in order to qualify for a prize.

No. 1.

Three niggers fell asleep in a barn. One awoke and saw there a bag of apples. He found that if he threw one away the rest would divide into three equal shares, so he threw one away, took his share of the remainder, ate them, and fell asleep again. Another nigger awoke, and went through the same performance, and after him the third nigger likewise. Lastly all three awoke, and found that the remaining apples would divide among them in equal shares if one were thrown away. How many apples were there at first?

No. 2.

If a brick weighs 7 lbs. and half a brick, what will a brick and a half weigh?

No. 5.

A * * * * * old woman on * * * * * bent,
Put on her * * * * * and away she went,
And to her * * * * * she did say,
What shall we do to * * * * * to-day.

The puzzle is to fill in the blanks with a word of four letters. The letters are the same in each word, but are arranged in a different order and therefore give different words.

A grid of 20 columns and 10 rows of empty boxes for a word puzzle. Text inside the grid: We offer a prize of 5/- for the best puzzle submitted each month, and prizes of 2/6 each for any other puzzles printed. Puzzles should be expressed as clearly as possible and the answers should be given in each case. Diagrams should be clearly drawn and letters should be addressed "Puzzles," Meccano Magazine, Binns Road, Liverpool.

Sometimes Meccano is mentioned in a humorous way in various papers. A paragraph in "Punch" relating to a race meeting that was held in Ireland said that one of the races was won by a horse called "Meccano." Mr. Punch's comment was "How could a horse with such a name be anything but a winner?"

Subsequently "Punch" had another allusion to Meccano. This time it was in connection with the play called "Cairo," put on last year at His Majesty's Theatre, London. Objection was taken to the proposal to produce this play under the name "Mecca" on the grounds that the name might be offensive to Mohammedans, and there was some talk of the proposed title being banned. Mr. Punch facetiously remarked that if the title "Mecca" was banned, he did not see why the word "Meccano" should not be banned also! We could scarcely agree to this, could we, boys?

"I say, dad," said a Meccano boy at his home-lessons, "can you do this sum for me?" "I can," replied his father, "but it wouldn't be right." "I don't suppose it would be," said the boy, "but you might have a try!"

Teacher: "Brown, this is the third time you've looked on Smith's paper."
Brown: "Yes, sir, he doesn't write very plainly!"

Q. What is the difference between a dead bee and a sick elephant?

A. One is a bee deceased and the other a seedy beast!

A grid of 20 columns and 10 rows of empty boxes for a word puzzle. Text inside the grid: Answers to Puzzles will be printed next month.

ANYTHING TO SELL?

This Space is set to $\frac{1}{4}$ inch s.c. and costs 5/- per month. This sum is the 64th of £16, the price of a whole page advertisement. 55,000 copies of the Dec. number were issued and distributed all over the world. You therefore reach this exclusive public at the rate of one penny a thousand.

For Sale. Meccano Vertical Steam Engine, almost new, good condition. Price 15/- . H. Robinson, Church Avenue, Hollywood, Co. Down.

BEAUTIFULLY FINISHED STEAM POWER UNIT 2" x 2" x 3", with powerful oscillating cylinder, solid flywheel, 3 speed pulley, bed plate, fixing standard. Machined solid brass and screwed together, 3/6 each. With 8 inches steam pipe and starting cock, 4/3, plus 3d. postage. 21, St. James' Road, Edmonton, London.



Set of parts for Shock Coil, 1/6, post 2d. Battery Parts, 1/3, post 3d. Electric Light Outfit (complete), 3/9, post 4½d. Wireless Set, really good sound value, 5/9, post 6d. Model Theatre with Charlie Chaplin and many other actors, etc., 3/6, post 7d. Cinema and Films, 9/6, post etc., 1/- . Microscope Outfit, 3/9, post 4½d.

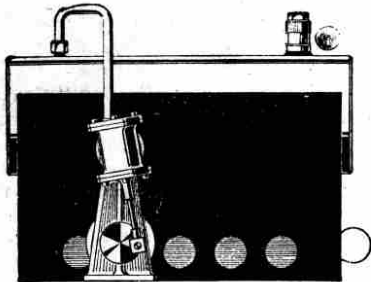
Really good Telescope, 3/9, post 3½d. Pocket Cinema and Real Films, 9d., post 2½d.

A MODEL STEAM ENGINE



Powerful Steam Locomotive (complete), 12/6, 15/6 (in box with large track, 20/-, 25/- and 30/-, with carriages and trucks), postage 9d., 1/- and 1/6 extra. Send 4d. (in ½d. stamps) for large, new, illustrated catalogues and lists.

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If you want a bigger engine send 6d. for our complete 72 pp. catalogue.

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Lists Free.

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CINEMA FILMS. 100 ft. 1/- Post Paid. Phillips, 64, Ewart Street, Brighton.

Cinematograph Films Cheap, 100 ft. Sample, 1/3 post free. Cinemas from 6/6. Stamp for lists. "Radio Films," 34, Church Street, West Ham, E.15.

BUY A BUMBLE AND DON'T GRUMBLE

Bumble Crystal Sets are complete with Wound Inductance Coils, Terminals, Ball and Socket Detector, 9 carat Gold Cat Whisker, 3 Screw Crystal Cup with Super-sensitive Crystal, Base Board, etc. Completely assembled. Guaranteed for 30 miles. Send P.O. 7/- to-day.

The H. S. Radio Co., 36, Willes Road, Leamington Spa.

Wireless! Hulloo! Meccano Boys!

Construct your own Wireless Sets or improve your present Receiver. Reliable parts at lowest charges. Lists Free. Prompt delivery.

Webb & Goward, Caxton Street, Market Harborough.

15/= complete 15/= complete 15/= WIRELESS OUTFIT

Cabinet 10 x 8 x 2. Enclosed Detector. 2000 ohm Phone, Aerial and Earth Wire, etc. Also all Wireless Accessories and Sets at lowest prices.
TAYLOR'S Wireless Depot, PARKSTONE, Dorset.

CUT THIS OUT.

"Meccano" Pen Coupon. Value 3d.
Send 5 of these coupons with only 2/9 direct to the Fleet Pen Co., 119, 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.

Is your father alive?

Yes?! That's good. That's why you can afford a Meccano Outfit. 165 years ago we began to take care of boys and girls whose fathers were dead—very often mother was dead, too. 7,000 orphans have been saved from poverty, fed, clothed, educated and started in life. 300 are now at our School at Haverstock Hill, dependent upon us for everything. Talk to your father about this. Tell him that our bread bill alone comes to £3 each day. Ask him if he can, and will, help us. Ask yourself too. Perhaps you would like to send something for our large family. Would you? Please reply to **Mr. Fred J. Robinson, Sec., 73, Cheapside, London, E.C.2.**

Alexandra Orphanage

(Incorporated as the Orphan Working School and Alexandra Orphanage).

The Practical Electrician's Pocket Book contains 570 pages of useful text, tables and data simply and clearly worded. Officially recommended by the City and Guilds Institute. Price 3/4 post free from **Rentell, 36, Maiden Lane, Strand, London.**

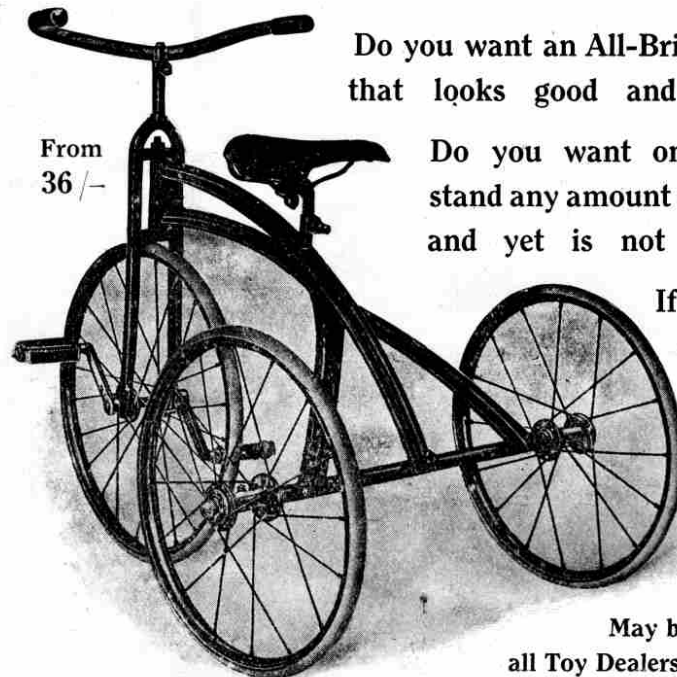
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These wonderful Dynamos light brilliantly a 4-6 volt lamp, and take very little power to drive. Dynamos 5/- . Post 6d. Special "De Luxe" Model, giving over twice the output, 7/6. Post 6d.



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Do you want an All-British Tricycle that looks good and IS good?

From 36/-

Do you want one that will stand any amount of hard wear and yet is not expensive?

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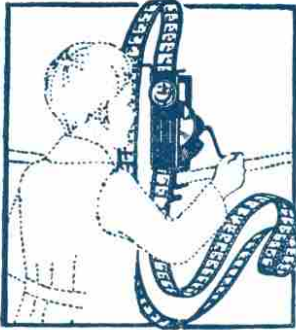
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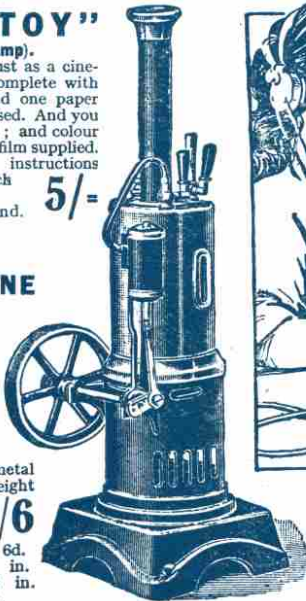
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VERTICAL STEAM ENGINE

With burnished brass and boiler, steam whistle, with slide valve cylinder, slip eccentric, reversing gear, water gauge. Will work in whatever direction the wheel is started, with safety valve and all fittings polished brass, mounted on stamped metal base, finely japanned. Height overall, 12½ in., diam. of boiler, 2½ in. Price 14/6 Post 6d. Height overall, 13½ in. diam. of boiler, 2½ in. Price 17/3 Post 6d.



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Whatever your need, we can supply it. Write for Illustrated Football List—post free on request. Illustrated "Gamages Club" Ball, a moderately priced ball of real good quality. Selected hide case, hand sewn. Fitted with best quality red bladder. Price 16/6 Post 6d. Other balls (Association or Rugby) at prices from 9/-.

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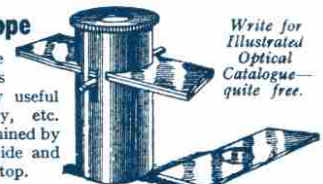
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Pocket Microscope

This Pocket Microscope magnifies 50 diameters (2,500 superficial), very useful for chemistry, botany, etc. Pond water can be examined by means of the saucer slide and one plain slide on top.

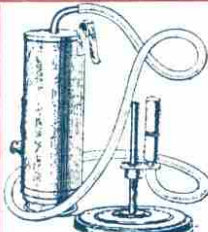


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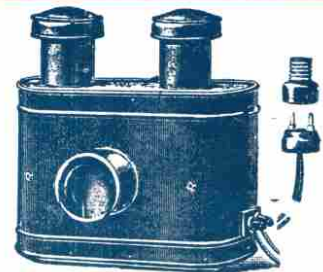
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