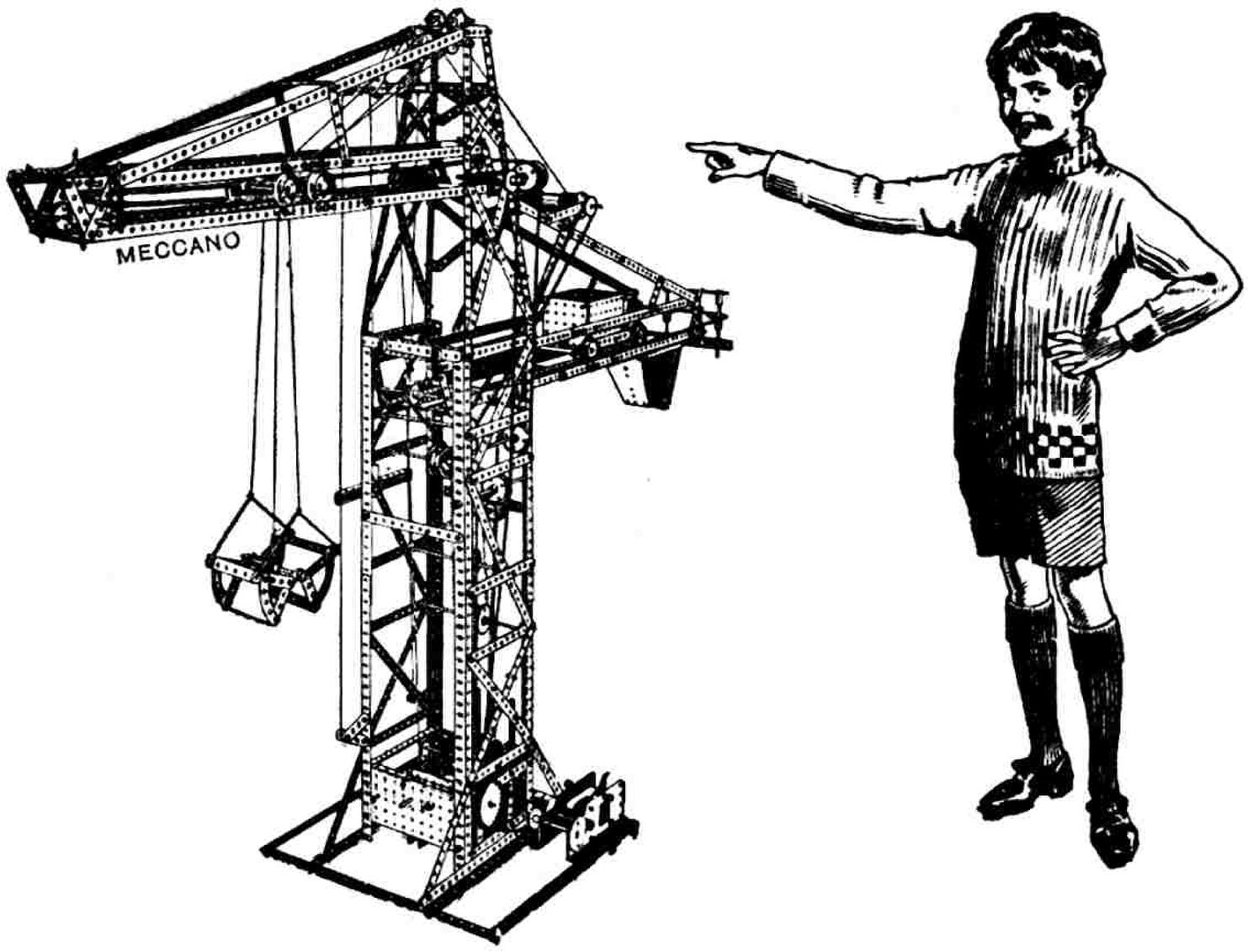
VOL. 1. No. 12. MARCH-APRIL, 1920.

MECCANO MAGAZINE

TO HELP MECCANO BOYS TO HAVE MORE FUN THAN OTHER BOYS



HIGH-SPEED SHIP COALER.

This splendid Meccano model was a Prize Winner in the last Big £200 Competition.

EDITORIAL.

The Meccano Guild.

The success of this fine movement has exceeded my highest hopes. There are splendid times ahead for Guild members, and I advise all Meccano boys to send in their applications for membership without delay.

Bigger Meccano Factories.

The builders are hard at work erecting great new factories for us, and soon the Meccano works will be double their present size. We want to find employment for as many British workpeople as possible, and to play our part in the national movement for providing British boys and girls with British made toys.

New Toys from the Meccano Works.

Before next Winter I shall be able to announce that we have ready for delivery the finest series of clockwork Railway Trains ever made, all designed and built on a new principle. Steam engines too for working Meccano models, and abundant supplies of the popular Meccano Clockwork Motor. Further information in future issues of the *Meccano Magazine*.

Meccano Electrified.

I shall soon have much to tell you of a new and wonderful interest which will be given to the Meccano hobby. There will shortly be introduced new outfits which will make it possible for every Meccano boy to make fine electrical experiments all for himself. Watch the *Meccano Magazine* for future announcements. We intend to make Meccano boys the happiest and brainiest boys in the world.

To Our New Meccano Boys.

This Winter has brought some hundreds of thousands of new Meccano boys into existence. I welcome them, and the older Meccano boys welcome them to our ranks. We are all out for fine times, jolly Winter evenings and genuine comradeship, with Meccano as our bond of brotherhood. Our common sign of fellowship, the Meccano Guild Badge, is penetrating into every corner of the Empire. When you read our President's inspiring message on another page you will understand better all that this beautiful badge stands for, and will be proud to wear it.

Our Competitions.

There are quite a number of Meccano Competitions running just now. The big £200 Competition, the entries for which are flowing in, the Inventor's Competition, and now three new Essay Competitions. Get into these good things boys, enjoy the fun, and get a share of the excellent prizes.

A number of boys have written to me to say that as they are at school until the end of March, they have no opportunity of completing their Competition models in time for the closing date. We have therefore decided to extend the £200 Competition until April 15th, so that everyone may compete.

The Editor

The Life Story of Meccano

By Frank Hornby.

(Continued.)

We were busy making plans for increased production in 1915 when, as you will remember, in the early part of the year the position of this country became very serious indeed. We consulted with officials of the Government and gradually the whole of our plant was diverted from the manufacture of Meccano to the production of munitions, and right up to the date of the armistice our employees worked loyally, day and night, to help to provide the ammunition which our soldiers needed to bring the war to a successful termination. Some day I may be able to put on record the number and variety and type of munitions which our factory provided for the Government, and the tale of this exacting and anxious period in the history of the Meccano factories will, I am sure, be found both a fascinating and highly creditable one.

I take great pride in the Meccano works, and I wish every Meccano boy in this country could have an opportunity of going through them and of seeing the wonderful machines at work, and the splendid conditions under which the Meccano parts are made. Many additions have been made to the workshops since 1914, and they are now more than double their original size, and still we keep on building.

I think it would surprise most of you boys if you could see the size and number of the machines required to produce Meccano parts, and the elaborate and careful organisation necessary before the completed outfits can be put into your hands. The steel required for the various sizes of strips is manufactured specially for us in Sheffield, and rolled down to just the right thickness. It comes to us in coils and sheets carefully wrapped and protected, and we always take care to have by us some hundreds of tons as a reserve stock. The strips, plates, and other flat parts are blanked out and pierced with equidistant holes in our presses, and the tools required for this process must be of the finest possible description. They are made of high-carbon steel, and must be able to stand tremendous wear and strain. Large and costly machines are used for shaping, milling, and grinding these tools, and great skill and accuracy are required from the workmen who produce these tools for us. We are proud of the quality of our tools and of the tool makers who produce them. You will all have noticed that our strips and plates are dead true and accurate, and free from all blemishes or burred edges. If low-grade tools were used the deterioration would at once become obvious, and there would be an end to that high finish and accuracy upon which we pride ourselves so much. After the strips, &c., come from the presses, they are conveyed to our Barrelling Department and poured into rumbling barrels along with certain cleansing compounds, and for some hours they are turned over and over until the edges are smooth and every impurity has been taken from their surface. The strips are then passed singly through a series of rollers in order to straighten them, and from there they are conveyed to our Nickel-plating Department.

(To be continued.)

The Meccano Guild

A Fellowship of Meccano Boys

(*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.

Guild Notes By the Secretary

I have very great pleasure in announcing that substantial progress has been made by the Guild since my last report. Every day the number of members increases steadily, and the enthusiasm for the Guild is keener than ever. I have received hundreds of letters from boys asking to be put into communication with a Club in their district, and where possible this has been done; the remainder have been advised to watch for the lists of new Clubs and names of boys anxious to form Clubs which will appear from time to time in the *Magazine*, but I feel that in most cases these boys would do well to set to work to form a Club for themselves and their chums.

A very pleasing feature has been the progress which the Guild has made in other lands. I have received many letters from boys living in Gibraltar, Egypt, India, and South Africa, expressing their warm approval of the Meccano Guild movement, and asking to be allowed to join in with it.

Reports from Club Secretaries should reach me at the end of each Club session. They should be written on one side of the paper only, and should give the following information:—

(1) Name and address of Club.

(2) Name and address of Club Leader and Club Secretary.

(3) Number of members on roll, and average attendance.

(4) A short account of each meeting.

(5) A short description of the work of the Club.

(6) Accounts.

(7) Programme for the following session.

Since the last publication of the *Magazine* further new and promising Clubs have been affiliated with the Guild. Each one is under the leadership of an adult, and in some cases, an adult Secretary also; each one has its own Club premises, and I feel that these Clubs will become permanent institutions in their respective towns, and instrumental in doing great good for the boys not only of to-day, but of years to come.

How To Join The Guild

Boys wishing to join the Guild should send a postcard to the Secretary, Meccano Guild Head-quarters, Old Swan, Liverpool, asking for an Application Form. This must be filled in and returned, together with 7d. in stamps, to cover the cost of the enamelled badge of membership, which a member undertakes to wear on all occasions.

A parent, guardian, or some other responsible person must also sign the form, and if the applicant is a member of a Club, he should get the Club Secretary's signature.

General Rules

1. The General Association of Meccano Clubs shall be known as the Meccano Guild.
2. The Meccano Magazine shall be the official organ of the Guild.
3. A leader of a club shall be known as the Club Leader. In order to be eligible for affiliation with the Meccano Guild a club must be under the guidance of an adult Club Leader, and have a proper club-room.
4. A club will not be recognised unless registered with the Meccano Guild. A registered club will be granted a Certificate of Affiliation which shall be hung in the club-room; this certificate gives the club the right to all privileges and advantages offered by the Guild.
5. Rates of subscription will be fixed by each club in accordance with local conditions.
6. A club will arrange a Meccano Competition each year for its members.
7. Membership of a club shall be open to any boy who possesses a Meccano outfit, and each member must on all occasions wear the Guild Badge. Where an individual boy is unable to join a Meccano Club, he may become an ordinary member, and wear the Guild Badge.
8. A Meccano boy, on joining the Guild, must promise on his honour:—
   (1) To conform with the rules and regulations of the Meccano Guild.
   (2) To promote its objects by his own example; to be helpful to others in thought and habit; to be determined to learn and to make progress.
   (3) To wear the Meccano Guild Badge on all occasions.
   (4) To recognise and acknowledge all other members wearing the Guild badge, and to render them help in case of need.

MECCANO CLUB CERTIFICATE

The President's Message to Members of the Meccano Guild

When I see the big number of Meccano boys who daily join the ranks of the Meccano Guild; when I see the hundreds of letters from members, club leaders, club secretaries, parents and prominent business men throughout the country, all expressing whole-hearted approval of the Guild and its objects, I feel a proud and happy man. I have watched Meccano slowly grow from an acorn until now it has become the stoutest oak in the forest. I have watched its fame extend to the uttermost ends of the earth, and its name become a household word wherever there are boys, but the pleasure which this has given me, great and deep though it has been, is not to be compared with the pleasure which the success of the Meccano Guild movement is now giving me. This is a movement, boys, which is going to bring lasting good to everyone who joins it. I once told you that I had a million boy friends. I felt at that time that they were the best boys in the world, and I thought what a wonderful thing it would be if I could bring them all together in some way and get them to know each other. Each one would then, like myself, have a million boy friends, and there would not be such a thing as a lonely and friendless boy in the world. All this is coming to pass, and the Meccano Guild is doing it for us. Members of the Guild, I count on your help, and I know I shall get it. You will treasure your Guild badge, wear it, and know what it stands for. Whenever you see another boy wearing it you will know that he is a good, straight, decent fellow, and that, like you, he has solemnly promised to live up to the objects of the Guild. Treat him as a friend and not as a stranger, and help him if you can in his play, his work, or his studies. Play the game with him and he will play the game with you. This is going to be the Guild of a million friends, and not one of us is going to do a thing which will bring discredit to the other 999,999.

Your friend,

F. Hornby

Inventor's Competition

Prizes are offered for the best suggestions for the improvement of the models in the Meccano Manuals of Instructions by the use of the new parts recently introduced into the Meccano system.

First prize—a No. 6 Meccano outfit, value £9.

Second prize—a No. 5 Meccano outfit, value £5.

Third prize—a No. 5 Meccano Carton, value £3. 10s.

Additional prizes for entries of special merit.

Closing date, March 1st, 1920. No form of entry required. Send us a post card for fuller particulars of this competition.

On Guilds.

Many of our readers have written to ask us why we have called the "Fellowship of Meccano Boys" a Guild. This is a very natural query, and we think we cannot do better than explain to our readers the full significance of the word "Guild" and the history of its origin.

From the very earliest times man has proved himself to be a sociable being. In the distant ages men formed themselves into tribes, in order to ensure protection against other tribes and their natural enemies, wild animals. As civilisation advanced, common interest and the social instinct drew the tribes together into nations, but in these again smaller bodies sprang up, drawn together by social, domestic, and commercial ties.

The origin of the Guilds is lost in antiquity, and although it cannot be claimed that they were originated in England, they were developed further in this country, perhaps, than in any other.

A Guild may be briefly described as a union of men formed for mutual benefit, responsibility, and protection.

A number of skilled artisans and traders left Flanders and Northern France in the wake of William I.'s army, to settle in the then newly-conquered England. They became very prosperous through hard work and successful trading, and as neither life nor property was safe in those lawless times, they joined together in the various towns and villages to resist the armed robber bands that infested the country. The more prosperous merchants and traders were the first to band themselves together, and in the twelfth century Royal authorisation was given to the founding of Merchant Guilds. As many of the members were wealthy men, they built their own halls in which to hold meetings and discuss their problems privately.

The Merchant Guilds were formed primarily for trading purposes, and they passed many stringent rules regulating the trade in various towns and villages. For instance, only members of the Guild were allowed to sell goods to the inhabitants of a town. A stranger might bring in goods, but he could only sell them to members of the Guild, and anyone found breaking this rule was very severely punished. It might be thought that the merchants, protected by Royal authority, and strongly organised in this way, would make exorbitant charges as there was no competition and no restraint, but wise rules were drawn up by all the merchants assembled together, and any member disregarding these for his own profit had his privilege of membership taken away, and he was thus deprived of the means of livelihood.

Gradually the scope of the Merchant Guilds widened, and when the liberties of the townsmen were threatened, there were large assemblages at the Guildhall to consider ways and means of defending their rights. Thus the Guild's affairs became more and more the town's affairs, and later on we find the Guildhalls became Town Halls and the Merchant Guilds became Town Councils.

As the Merchant Guilds gradually changed in character the Craft Guilds sprang up and replaced them as far as trading interests were concerned. The Craft Guilds, as was the case with the Merchant Guilds, were governed by very strict rules.

(*To be continued.*)

New Essay Competitions

Each Essay Competition which we have run in the past has brought crowds of entries, and our readers evidently like this form of competition. We should have run more of them but they have been crowded out by other good things. However, here are three new ones which we think will be popular. The first two are for members of the Meccano Guild only, and we hope that every member will show his interest and enthusiasm for the movement by entering.

Essay Competition No. 1.—How each member can best help the movement and further its objects.

Essay Competition No. 2.—The best syllabus for the meetings of a Meccano Club during the summer months.

A first prize of a "B" Inventor's Outfit will be awarded in both the above competitions, and there will be additional prizes to members sending in essays which display special merit.

The third Essay Competition is open to all Meccano users and the subject is, "Which is the more enjoyable, building a Meccano model or playing with it, and why?" The first prize is a No. 2 Meccano outfit, with other prizes for essays of special merit.

The closing date for all three competitions is August 31st, 1920. Write on one side of the paper only, about 500 words. Give your name, address and age on the back of each sheet. Address the envelope "Meccano Limited, Essay Competition, Binns Road, Liverpool."

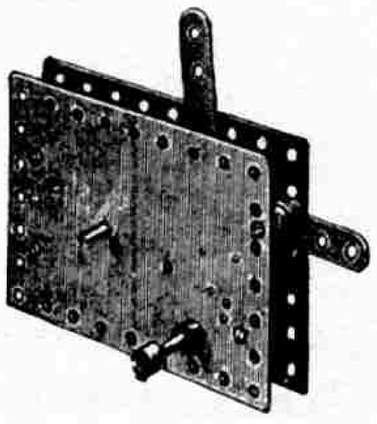
Meccano Inventor's Accessory Outfits.

Every Meccano boy should know what hours of fun and pleasure are stored up in these splendid outfits. They increase the scope of Meccano enormously. They contain all the new Meccano parts which have been invented during recent years, none of which are in the regular Meccano Outfits. Every model in the Meccano manuals can be greatly improved by their use, and they are an absolute necessity in building and inventing new models.

"A" INVENTOR'S OUTFIT. Contains a set of big 3in. wheels, 2in. pulley wheels, the new and decorative braced girder, sprocket wheels and chain, for giving a positive non-slip drive, new gear and pinion wheels, rods and washers. Price, 10s.

"B" INVENTOR'S OUTFIT. Contains a splendid assortment of the latest Meccano accessory parts. Bevel gears, 1in. gear wheels, flat plates (four sizes), double angle strips (four sizes), octagonal and strip couplings, threaded cranks, triangular plates, screwed rods, curved strips, architraves, face plates, rack strips, girder frames, hinges, buffers, and train couplings. Price, 25s.

The Meccano Clockwork Motor.

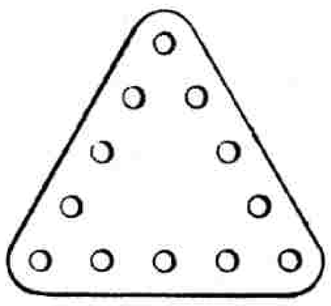


The demand for this fine motor has been phenomenal, and although we have been manufacturing heavily for some time we have not yet quite caught up with the orders. By the time this issue is in your hands, however, we expect to be able to take care of all orders immediately. The Meccano clockwork motor gives life to Meccano models. It operates cranes, elevators, trucks, motor-cars, &c., and it may be geared to any speed by the youngest boy. Simple, strong, and reliable. Price, 12s. 6d.

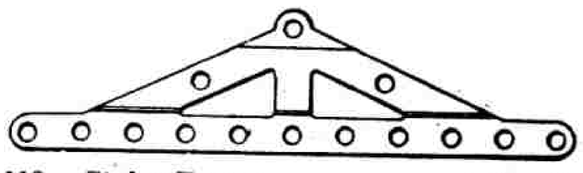
New Meccano Parts

		s.	d.
No. 30.	Bevel Gears ... ... each	1	6

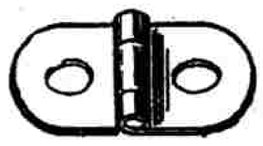
No. 31.	Gear Wheels, 1", 40 teeth ... each	1	9



No. 76.	Triangular Plates, 2½" ... each	0	2
No. 77.	,, ,, 1" ... ... ,,	0	1½



No. 113.	Girder Frames ... ... each	0	4



No. 114.	Hinges ... ... per pair	0	7

No. 115.	Threaded Pins ... ... each	0	2

No. 120.	Buffers ... ... each	0	2

No. 121.	Train Couplings ... ... each	0	6

The Block Accumulator.

This is a new and excellent type of accumulator. We have subjected it to most severe tests, and we believe it to be most suitable for use with any type of toy electric motor. It is non-spillable, cannot be spoiled through short circuiting, and it will retain its charge for many months. Sulphating to any serious extent cannot occur, and if neglected or left in inexperienced hands, no serious harm can be done. Has remarkable recuperative powers, and will keep on working when nominally exhausted. A boon to any Meccano user who possesses a Meccano Electric Motor. Full instructions.

Price, 21s.

OUR MAIL BAG

The Editor has a little talk in this column with his Meccano boys. Whether he has space to reply to them all here or not, he is always glad to hear from them. He receives hundreds of letters each day and only those which deal with matters which are likely to interest other Meccano boys can be dealt with here.

Correspondents will help the Editor if they will write on one side of the paper only.

A. Dinham, Blackburn.—We much appreciate the very keen interest you show in Meccano, and your offer of the use of a club room for two nights a week is a generous one.

W. J. Brooks, Handsworth.—We are glad your children are so fond of Meccano, and that you recognise the wonderful value of the hobby. All the world over it is recognised as the cheapest and best of toys.

Ronald K. Greswell, Southport.—Many thanks for your thoughtful essay and for your photograph, which we shall treasure. We hope you will soon have a successful club running in Southport.

J. Kirkpatrick, Shiremoor.—

"A little ship was on the sea,
It looked so very grand,
Its cargo was very precious,
Because it came from Meccanoland."

You started off in great style, John, but you seem to have struck trouble at the third line. We should like to print the complete poem, which tells how all the children finally formed a Meccano Club, but unfortunately we have no room for it.

T. E. Whitehouse, Wollescote.—Thanks for your interesting letter and poetry. We do not believe that the boys of Wollescote are so slow as you say, and in a little while we quite expect to see yourself and your friends running a successful club.

T. Holmshaw, Sheffield.—We are glad to have your suggestions for improving the *Meccano Magazine*. They are quite thoughtful and sensible, but there are grave difficulties just yet in the way of securing paper for larger issues.

Hubert Frankland, Bury.—

"The best of toys for all the boys,
I vow it is Meccano."

What an enthusiastic family you come from, Hubert. It makes us happy to think that you all get such fun from model building.

E. G. Page, Sydney.—Thanks for cutting showing that a horse called "Meccano" won the £150 prize in your Ascot Races. We see that he won easily. Of course he would with such a name to encourage him.

Cecil J. Glew, Nottingham.—"As you say you have a million boy friends, can two brothers and myself be counted as three more?" Mr. Hornby is happy to number you amongst his friends. Read his special message to you on another page, and try to prove worthy of his friendship. Thanks for good wishes.

G. Gallon, Tonbridge.—Your idea for announcing the joys of Meccano to your boy friends by means of your printing outfit is a neat one, and we are glad to hear from so enthusiastic a Guild member.

C. F. Mayson, Aldenham School.—If yourself and the other Guild members at the school meet together regularly and become firm friends, you will soon attract other boys who will want to join in the fun, and will have no difficulty in forming a club. Everything is in your favour.

T. B. S. Shingler, Coalbrookdale.—

"'Tis the voice of the lobster, I heard him declare,
'My nuts are all lost, my strips are downstairs.'
As a duck with its eyelids, so he with his nose,
Joins the girders together with his tail and his toes."

Does this come from reading "Alice in Wonderland," Tom, or had you been eating lobster and duck the night before?

A. E. Fletcher, North Shields.—Glad you like the *Magazine* so well, and interested to learn that Meccano has turned the hours of the long winter nights into minutes. You and Alex. Ramsey must have good times together. You should start a club.

Frank Sutcliffe.—If you will send me your address Frank, I can send a reply to your letter.

Lawrence Port.—"I would be pleased if you could inform me of any club near here . . . I would go about two miles to be able to join a club." We shouldn't like you to have to do this, Lawrence. Why not form a club yourself nearer home.

H. P. Young, Alton.—"I cannot speak too highly of Meccano, for when my boy was only 4½ he completed by himself a model of an aeroplane and other models." Your tribute is very welcome. We hope your boy will enjoy building the fine models in his No. 2 Manual.

L. Hardcastle, Kirknewton.—Your poem, "Who killed Flat Bracket?" is quite too harrowing to be printed here, Leonard. Let your next effort be something a little less tragic.

John Durrant, Crowborough.—That was a fine letter which you sent to us, John. We are quite sure you value your new Meccano parts more because you had to earn the money to buy them.

R. J. Greensmith, West Bridgford.—A keen enthusiastic boy like yourself will do splendid work in a Club. Set to work with a will, and you will get all the help you need.

C. Microni, Alexandria.—We found your letter very interesting. That your friends should abandon the imitation system and return to Meccano was inevitable, and from now on you will find them the most enthusiastic members of your club. Yours is the first Meccano Club in Egypt, and we shall follow your progress with special interest.

H. Reed, Newcastle-on-Tyne.—Your mother is right when she says that Meccano is a "noble" toy for you. She thinks of your future career as an engineer and she is helping you to become a man more than you can properly understand just yet.

R. G. Good, Maidenhead.—Your idea of a special certificate for Meccano boys to hang in their bedrooms is a good one. We wonder what other boys think of this.

Ida Scott, Barkeston.—

"With a silver sheen in the big wooden box,
Meccano sparkles bright,
The son of the house is happy again
With his outfit bought that night.
The gloom is past and the boy at last
Is filled with wild delight."

Splendid! Ida. The lines go with a rare lilt and they have been dancing through our brain all day. When we need an official poet we shall consider your claims.

W. Lowis, Bournemouth.—We enjoyed your entertaining letter, and in spite of your humorous tilt at your own qualifications as a Club Leader, we see in you a man who has the ability to encourage, cajole, and insist upon your own and other boys having happy, joyous, and profitable hours of recreation. Help us in the big work which we are doing.

Frank Wilson, Handsworth.—We have had hundreds of letters written in praise of Meccanoland, and we quite believe you when you say "The Meccanoland Booklet is the most interesting book I ever cast eyes on. I thought I was turning the loom handle."

Fred Welsh, Haverstock Hill, N.W.5.—You are quite right in believing that the Meccano Guild badge is banding together and encouraging all the inventive and ingenious boys of the country, and we are pleased to hear that wearing the badge has helped you to take more interest in your outfit and make you keener than ever.

Geoff. Tharratt, South Willingham.—We too are sorry that you cannot join a club living as you do in the country, for meeting with other boys at a club is one of the jolliest things imaginable. However, the feeling that you *must* wear the badge as a true Meccano boy is one we wish to encourage, and you will soon find that the Guild is a real fellowship for lonely boys.

David K. Jones, Trecynon.—We hope you are better now and able to go to school again; also that your brother has had his camera mended so that he can photograph your models. Pleased to know that you are proud of your badge.

G. Howarth, Ashton-in-Makerfield.—Glad to hear that you are such a loyal Meccano boy. You are quite right, the imitations can never be so good as the original, and Meccano can always hold its own easily.

How to get the Meccano Magazine Regularly

Under the new Government regulations we are unable to send the "Meccano Magazine" to any one except those who directly apply to us for it. If, therefore, you wish to become a reader of the M.M. it will be necessary for you to forward to us a request for it to be sent to you regularly, accompanied by 3d. in stamps for postage on the next six issues. A double subscription of 6d. will, of course, ensure the next twelve numbers being sent to you.

Meccano Manuals of Instructions

There are two Meccano Manuals of Instructions, and no Meccano boy is properly equipped unless he has them both. Book No. 1 is the regular manual which goes with the main Meccano outfits. It contains illustrations and full instructions for making 326 fine models; some of the models have been designed by our own staff of experts, and others are prize-winning models contributed by Meccano boys, from every country in the world. Price 2s. 6d. (postage 3d. extra).

Meccano Manual, Book No. 2, has only just been published, and it contains illustrations and instructions for building 100 entirely new models, very many of them prize winners. It contains Tanks, Guns, Submarines, Searchlights, and other warlike models; also a new series of simple and intensely-interesting scientific experiments which any boy can make and which impart a lot of useful knowledge. Price 1s. 3d. (postage 2d. extra).

Prices of Meccano

No.				
0	Outfit with full instructions for building			6/-
1	do.	do.		10/-
2	do.	do.		20/-
3	do.	do.		30/-
4	do.	do.		50/-
5	do.	do.	(Carton)	70/-
*5	do.	do.	(Wood)	100/-
*6	do.	do.		180/

* In well-finished cabinet with lock and key.

Accessory Outfits

No.							
0a	converting a	No. 0	into a	No. 1		..	5/-
1a	do.	do.	1	do.	2	..	11/-
2a	do.	do.	2	do.	3	..	12/-
3a	do.	do.	3	do.	4	..	22/
4a	do.	do.	4	do.	5	..	17/6
5a	do.	do.	5	do.	6	(Carton)	65/-
5a	do.	do.	5	do.	6	(Wood)	95/-
Inventor's Outfit			...	...	...	...	10/-
Meccano Clockwork Motor			...		...	...	12/6

Each Meccano outfit is complete with all parts and tools necessary for building models. Full instructions are included and the youngest boy can commence to build at once without study. An accessory outfit may be purchased at any time, enabling bigger and more interesting models to be built. Additional parts may also be purchased separately at prices given in our published lists.

Remember that though boys play with Meccano for pleasure, and though they get more genuine fun from it than from any other toy, it also gives them a sound knowledge of engineering. Through playing with Meccano, many a bright boy has been started on a prosperous career in one of the most important and profitable professions—engineering and mechanics.

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BINNS ROAD, LIVERPOOL.
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Extracts from Club Reports

We are overflowing with good things for Meccano boys this issue, and it has been found necessary to add a supplement. I especially want to tell Members of the Guild what the Clubs are doing, and it also gives me great pleasure to reproduce a photograph of one of the most progressive and successful Meccano Clubs in the country. Mr. S. H. Wilson, the active and capable Club Leader, is to be complimented on the excellent work he has done amongst his boys.

DOWANHILL.—A very business-like report reveals the fact that members are engaged with lectures, model building and inventing. The membership is as yet not very large, but I have no doubt it will increase considerably as time goes on

GOSPORT.—*Press Announcement.*

EXHIBITION OF GOSPORT LADS' WORK

Instituted only 11 weeks ago, the Gosport Meccano Club, affiliated to the Meccano Guild, held its first exhibition in the Nicholson Memorial Hall, on Tuesday afternoon. The local club is composed of young boys who are particularly keen on constructing models, and the members meet weekly in the Christ Church Institute. The exhibition was arranged by a committee, of which Mr. Harold Beane is the Secretary, assisted by his father, Mr. J. Beane.

In all about three dozen models were exhibited, comprising derricks, transporter bridges, tramcars, aeroplanes, carts and other interesting toys. On each model was placed a War Memorial Hospital box, for all the proceeds of the exhibits were for the Hospital Fund.

In connection with the exhibition a concert was held in the evening, presided over by the Rev. R. L. Franks, M.A. The artistes were Mrs. J. Beane, Miss E. Burden, and Messrs. Holmes, Beane, and E. P. Dash, whilst the Misses Draper and Turner provided pianoforte duets. All were encored, and their efforts were appreciated. The performance concluded with a farcical comedy, "Contempt of Court."

In a subsequent letter the Secretary reports that, "Since our exhibition and concert the fame of the club has spread far and wide in Gosport. At the last meeting nine new members came, so that altogether we now have 31 members on roll."

BRIGHTLINGSEA.—A splendid start has been made by this club under the leadership of Mr. D. Went, and Pastor A. B. Grosvenor as Secretary. A short account of the club's doings will be found below, and it will be seen that the promoters have plenty of enthusiasm and initiative.

Secretary's Report. EXHIBITION OF WORKING MODELS.—"On Thursday last the club held its first exhibition. It was a distinct success. About 60 people assembled in the Primitive Methodist Schoolroom to view the wonderful models that were displayed. A large model of the Rolling Lift Bridge, fitted with electric light, worked fine. A wonderful contrivance seemed to wake up and stretch itself as the electric motor was started, and very soon the boys knew that it was a new Meccanograph. Designs were made and presented to the people. The people were delighted to have a view of Meccanoland, and soon realised that there, indeed, dwell the happy boys.

"The members gave a fine gymnastic display during the evening and proved themselves to be as smart in their exercises and grouping as they were clever in their inventions.

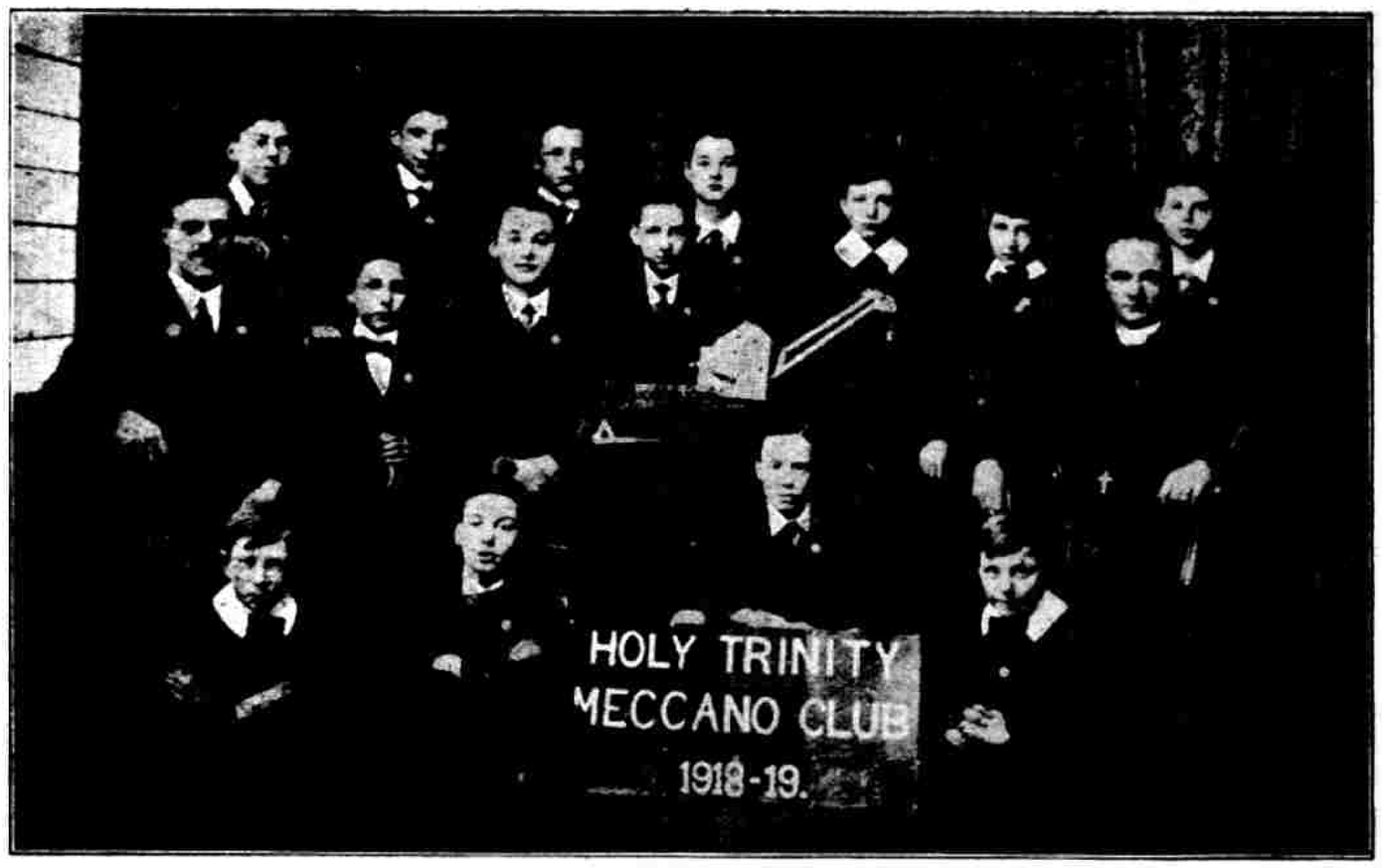
"Flashlight photographs were taken during the evening by the club Leader. The club Certificate, of which the boys are very proud, was hanging in the room. It has been very nicely framed. Three applications for membership were received at the close of a very successful effort."

HOLY TRINITY (BARNSBURY).—REPORT AND BALANCE-SHEET FOR FOURTH SESSION. September-December, 1919.

After giving a detailed account of each club meeting, Mr. Wilson says: "The session has been a successful one. Several new boys have joined, and our membership is now 17. The general behaviour of the boys has been very good, if not better than last session; enthusiasm, which seemed perhaps to wane a little at the beginning of the session, revived strongly towards the end, and was just as keen as ever. Average attendance, about 12.

"The final result of the Competition was as follows: 1st, E. Redrupp, 166 marks; 2nd, F. Budden, 155 marks; 3rd, S. E. Stretton, 150 marks"

Mr Wilson's balance-sheet shows a balance in hand.



A PROGRESSIVE AND SUCCESSFUL MECCANO CLUB

SELWYN CLUB.—Mr. Adams, the Club Leader, applying for affiliation, writes: "The Meccano Club of the Selwyn Avenue Boys' School here has now been running for more than six weeks. There are two meetings weekly at the school, on Mondays and Fridays, under my supervision. There are 20 members."

WHITELY AND MONKSEATON.—Mr. G. W. Noble, writing on the progress made by the club, says: "I note your remarks *re* Affiliation Certificate, which we shall be glad to receive at an early date. Following the press announcement, we had within three days 10 new members, and several ladies and gentlemen who are interested in the welfare of the boys have expressed a desire to support the club. At the time of writing we have 16 active members and several further applications for membership; two vice-presidents; seven honorary members. Further, a gentleman who is a practical engineer is interested, and at our next meeting we propose to elect him as 'Engineer' to our club."

Report of First Session.

"It gives me great pleasure to inform you that this club is making splendid progress. We have now secured the use of a first-class lecture hall for club meetings; our membership stands at 41 active members, and many ladies and gentlemen are giving support by becoming honorary members.

"The Certificate of Affiliation which we received is much appreciated; we have had same framed in oak."

ST. THOMAS' (EXETER).—This club has been in existence for some time, but has not had an adult leader or a clubroom. Through the untiring work and steady perseverance of Master L. Palk and Master F. Stoneman, it is now under the leadership of Mr. W. S. Willmin, with a splendid clubroom kindly lent by the Exeter Freinhay Young Men's Club.

WYNBERG (SOUTH AFRICA).—English clubs will have to look to their laurels, for the new South African club, under the wise leadership of Father Graham, has made a very promising start. The club is fortunate in having such an energetic Secretary as Master A. J. Lewis, and I expect this fine Colonial organisation will be followed by many others.

FERRYHILL DISTRICT.—The boys of Ferryhill can count themselves very fortunate in having such a splendid President as Mr. J. F. H. Banner. Not only has he brought the boys together, and secured a clubroom for them, but he has generously provided badges for the members, at his own expense. Over 100 boys were present at the preliminary meeting, besides a number of adults, and the club now has 79 members on roll.

DOUGLAS (I.O.M.) and others.—Space will not permit me to give full details of every club, but I feel confident that clubs founded by such earnest, enthusiastic boys must, and will, become permanent institutions in the various towns, filling a great need and bringing pleasure and happiness to all their members.

A

New Grand

Meccano Prize Competition

£200 in Prizes. 1st prize, £50 in cash

Now that conditions are getting a little nearer normal we are able to resume our big Contests, and we are again offering prizes to the value of £200 for the best Meccano models. The conditions will be the same as usual, and every boy who has a Meccano outfit has an equal chance of carrying away one of the big prizes.

Don't forget that more prizes are awarded to simple models than to complicated ones. Get your entry form without delay from your regular dealer, or from us if you have any trouble.

There are no entrance fees or restrictions of any kind. The entry form tells you just what to do. The competition closes on April 15th, 1920.

The closing date for the Colonies will be extended to May 31st, 1920.

ANY BOY CAN ENTER. MORE THAN 200 PRIZES.

The following is a list of Meccano Clubs which are being guided by adult club leaders, and have been granted certificates of affiliation with the Meccano Guild :—

Affiliated Clubs.

HOLY TRINITY .. .. *Leader*—Mr. S. H. Wilson, 29, Thornhill Road, Barnsbury.
Secretary—Master D. E. Stretton, 25, Thornhill Houses, Thornhill Road, Barnsbury.
Club Address—Holy Trinity Parish Church, Richmond Road, Barnsbury, London, N.1.

WALTHAM ABBEY .. *Leader*—Mr. S. Rogers, 3, Rue de St. Lawrence, Waltham Abbey.
Secretary—Master E. J. Carter, 5, Rue de St. Lawrence, Waltham Abbey.
Club Address—Church Room, Quaker Lane, Waltham Abbey.

GOSPORT.. .. .. *Leader*—Mr. J. Beane, 72, St. Edward's Road, Gosport.
Secretary—Master H. Beane, 72, St. Edward's Road, Gosport.
Club Address—Christ Church Institute, Gosport.

WATERFOOT .. .. *Leader*—Mr. R. Teasdale, Wales House, Waterfoot.
Secretary—Master J. W. Mawdsley, 334A, Edgeside Lane, Waterfoot.

WICKLOW .. .. *Leader*—Mr. R. Sheane, Church Hill, Wicklow.
Secretary—
Club Address—c/o Mr. R. Sheane, Church Hill, Wicklow.

ECKINGTON .. .. *Leader*—Mr. B. Bingham, 29, Peveril Road, Eckington, nr. Sheffield.
Secretary—Master B. Pybus, 17, Peveril Road, Eckington, nr. Sheffield.

WHITLEY AND MONKSEATON. *Leader*—Mr. G. W. Noble, 75, Eastbourne Gardens, Monkseaton.
Secretary—Mr. W. Hope, 16, Queen's Road, Monkseaton.

GRIFFITHSTOWN .. *Leader*—Mr. J. Briggs, 21, St. Hilda's Road, Griffithstown.
Secretary—Mr. H. Francis, 2 Park Street, Griffithstown.
Club Address—Congregational Church, Griffithstown.

SELWYN .. .. .. *Leader*—Mr. S. Adams, 4, Selwyn Avenue, Highams Park, London, E.4.
Secretary—Master A. Davies, 1, Coronation Villas, Handsworth Avenue, Highams Park, London, E.4.

SOUTH KIRKBY.. .. *Leader*—Mr. H. Foster, Manor View, White Apron Street, South Kirkby.
Secretary—Master S. Forrest, "Roseville," Mill Lane, South Kirkby.
Club Address—South Kirkby Wesleyan School.

YEADON .. .. *Leader*—Mr. W. F. Roberts, Secondary School, Yeadon.
Secretary—Master W. B. Yeadon, 33, Kirk Lane, Yeadon.

BRIGHTLINGSEA.. .. *Leader*—Mr. D. Went, The Studio, Brightlingsea.
Secretary—Master W. Porter, Orchard House, Church Road, Brightlingsea.

"ST. THOMAS" (Exeter) *Leader*—Mr. W. S. Willmin, 16, Welcome Street, Exeter.
Secretary—Master L. Palk, 74, Cowick Street, Exeter.
Club Address—Friernhay Young Men's Club, Exeter.

DOWANHILL (Glasgow) *Leader*—Mr. D. C. Macpherson, 6, Lawrence Street, Dowanhill.
Secretary—Master J. C. Stuart Smith, 112, University Avenue, Dowanhill.
Club Address—c/o Dr. Sutherland, 29, Ashton Terrace, Dowanhill.

WYNBERG (South Africa) *Leader*—Rev. Father Graham, St. Dominic's Institute, Convent Road, Wynberg.
Secretary—Master A. J. Lewis, Tea Rooms, Wynberg Park, nr. Cape Town, South Africa.
Club Address—St. Dominic's Institute Hall, Convent Road, Wynberg.

FORDWYCH .. .. *Patron*—Mr. A. M. H. Solomon, 25, Cambridge Avenue, Kilburn, N.W.6.
Leader—Master C. Solomon, 25, Cambridge Avenue, Kilburn, N.W.6.

DOUGLAS (I.O.M.) .. *Patron*—Mr. J. H. Hotchkiss, "Beresford," Douglas, I.O.M.
Leader—Master W. B. Hotchkiss, 12, Palace Terrace, Douglas, I.O.M.

LEAMINGTON .. .. *Leader*—Mr. J. W. Bull, "Earlsdon," Avenue Road, Leamington Spa.
Secretary—Master G. M. Hare, 86, Willes Road, Leamington.
Club Address—Urquhart Hall, Leamington.

FERRYHILL .. .. *Leader*—Mr. J. F. H. Banner, Dean Bank Pharmacy, Darlington Road, Ferryhill Village, co. Durham.
Secretary—Master G. R. Russell, 31, Darlington Road Ferryhill, co. Durham

RIPON .. .. .. *Leader*—Mr. C. P. Pinchbeck, 5, Park Street, Ripon.
Secretary—Master B. Gray, 4, Freemantle Terrace, Ripon.
Club Address—5, Park Street, Ripon.

ST. JOHN'S (Oxford) .. *Patron*—Father Wigram, S.S.J.E. Mission House, Manton Street, Oxford.
Club Leader—Mr. W. A. Read, 62, East Avenue, Oxford.

STRADBROKE ROAD .. *Leader*—Mr. H. Colebrook, Stradbroke Road Boys' School, Gorleston.
Club Address—Stradbroke Road Boys' School, Gorleston-on-Sea.

MECCANNOCK .. .. *Leader*—Mr. B. Burrell Davis, 83, Wolverhampton Road, Cannock.
Secretary—Master H. G. Poxon, Cheslyn Lodge, Cheslyn Hay, nr. Walsall.
Club Address—83, Wolverhampton Road, Cannock.

CENTRAL HULL .. *Leader*—Mr. C. P. Pinchbeck, Paragon House, 31, Anlaby Road, Hull.
Secretary—Master F. Berry, 20, Vane Street, Hull.
Club Address—Paragon House, Anlaby Road, Hull.

BRISLINGTON .. .. *Leader*—Mr. F. C. Roberts, Montrose House, Brislington, Bristol.
Secretary—Master W. R. Knight, 13, Belle View Terrace, Brislington.

CLAYGATE .. .. *Leader*—Mr. J. W. Haynes, Fontmel, Covers Road, Claygate, Surrey.
Club Address—Council Schools, Claygate, Surrey.

The following is a second list of Meccano Clubs in existence which will be affiliated with the Guild when formalities are completed, or when they come under the leadership of an adult as the case may be :—

ABERTRIDWR .. .. Master L. Westwood, 51, Edwards Terrace, Abertridwr.
ALEXANDRIA .. .. Master C. Microni, 13, Rue Echelles des Cereales, Minet-el-Bassal, Alexandria, Egypt.
ALVASTON .. .. Master R. Wilcox, 93, Eden Place, Alvaston, Derby.
AMPTHILL .. .. Mr. F. L. Welch, Park Hill, Ampthill.
ARBROATH .. .. Mr. J. C. Carnegie, 159, High Street, Arbroath.
BATTLE .. .. .. Master A. H. March, 7, Harold Terrace, Battle, Sussex.
BECKENHAM .. .. Master H. Cook, 131, Ravenscroft Road, Beckenham, Kent.
BELFAST.. .. .. Master R. Nelson, Norwood, Bloomfield Road, Belfast.
BIRKENHEAD .. .. Master E. Matthews, 320, Borough Road, Birkenhead.
BLACKBURN .. .. Master G. Browns, 65, Alton Street, Blackburn.
Master W. Turton, 76, Blakey Moor, Blackburn.
BOLTON .. .. .. Master E. G. C. Dawson, Moorland House, 191, Tonge Moor Road, Bolton.
Master W. Hardman, Moorland House, 191, Tonge Moor Road, Bolton (School).
BOURNEMOUTH .. .. Mr. F. Insley, Wychwood Preparatory School, Bournemouth (School Club).
BRADFORD .. .. Master F. Ingham, 22, Bempton Place, Gt. Horton, Bradford.
BRIGHTON .. .. Master W. Chatterton, 37, Wood Street, Brighton, Sussex.
BRIMINGTON COMMON.. Mr. C. F. Turner, 41, North Moor Road, Brimington Common.
Master F. Graves, 10, Grove Road, Brimington Common, nr. Chesterfield.
CARLISLE .. .. Master W. McVittie, 13, Sheffield Street, Carlisle.
CHELMSFORD .. .. Master K. Woodhouse, Croft Villa, 23, Swiss Avenue, Chelmsford.
CHESTER.. .. .. Master A. W. Wilkins, 4, Eastern Pathway, Queen's Park, Chester (School Club).
CHESTER-LE-STREET .. Mr. R. Brown, 7, Cone Terrace, Chester-le-Street.
CONSETT.. .. .. Mr. T. B. Hargreaves, 20, Rosemount, Consett.
Master R. Hamblin, 27, Rosemount, Consett.
COVENTRY .. .. Master J. Hutchings, 50, Northey, Foleshill, Coventry.
"THE STOKE GREEN" M.C. Master J. A. Franklin, Wytheford, Stoke Green, Coventry.
DERBY .. .. .. Master E. Roome, 41, Elm Street, Derby.
ELM WISBECH .. .. Mr. H. G. Ayers, Netherby, Elm Wisbech.
Master L. Ayers, Netherby, Elm Wisbech.
Club Address—Netherby, Elm Wisbech.
FRIZINGTON .. .. Mr. G. E. Elding, Post Office, Frizington, Cumberland.
GIBRALTAR .. .. Mr. A. J. Giraldi, 89, Irish Town, Gibraltar.
Messrs. E. Howes & Co., Police Barracks, Gibraltar.
GLASGOW (W.) .. .. Master W. Mansen, 35, Partickhill Road, Hyndland, Glasgow.
HALIFAX .. .. The Saltrebble Meccano Club.
Master T. W. Edwards, 4, Oxford Terrace, Siddal, Halifax.
HASWELL .. .. The Progress Meccano Club.
Master A. Laws, Front Street, Haswell, Durham.
HULL .. .. .. "The Dukeries" Meccano Club.
Master L. T. Greensmith, 70, Clumber Street, Hull.
JARROW .. .. .. Master G. Stevens, Gordon House, Jarrow.
LEAMINGTON .. .. Master A. Saltmarsh, 24, Leam Terrace, Leamington Spa.
LEICESTER .. .. Mr. W. E. Wright, 1, Belgrave Avenue, Leicester.
Master H. Everett, 66, Adderley Road, Clarenden Road, Leicester.
Master B. Ellis, Glen Parba Manor, Blaby, Leicester.
LEIGH-ON-SEA .. .. Master J. Wise, Leigh Hall College, Leigh-on-Sea.
LEITH .. .. .. Mr. D. Burgess, 1, Spiers Place, Leith.
LEWES .. .. .. Mrs. C. Baker, 6, Priory Crescent, Lewes.
Master S. Larkin, 6, Priory Crescent, Lewes.
LITHERLAND .. .. Master H. C. Teare, 23, Sefton Road, Litherland, nr. Liverpool.
LLANFYLLIN .. .. Master T. J. Hughes, Pendref, Llanfyllin, S.O.Mont.
LONDON.. .. .. Master G. S. Albu, 135, King Henry's Road, S. Hampstead, London, N.W.3.
Master J. C. Gammon, 10, Harboard Street, Fulham, London, S.W.6.
Master P. Middlemas, Flat 47, 11, Crawford Place, Edgeware Road, London, W.1.
Master W. Barnard, 31, Ripon Road, Plumstead, London, S.E.18.
Master J. Wormald, 178, Lambeth Road, London, S.E.1.
Mr. W. Carden, 9, Fairlight Avenue, Harlesden, London, N.W.10.
LUTON .. .. .. Master W. Humby, 34, Adelaide Street, Luton.
MACCLESFIELD .. .. Master L. Cook, 72, Waterloo Street, Macclesfield.
MANCHESTER .. .. Master N. Trachtenberghe, 392, Bury New Road, Higher Broughton, Manchester.
Master D. Mapp, 1, Leopold Avenue, West Didsbury, Manchester.
NONINGTON .. .. Mr. Eveleigh, Nonington School, Nonington.
Master B. Munting, Johnson's Terrace, Nonington.
NORTHFLEET .. .. Mr. R. E. Measures, 9, Kenneth Street, Rotherham.
Master C. E. Humphries, 52, Hatherley Road, Rotherham.
OGMORE VALE .. .. Master W. H. Capon, 52, Dunraven Place, Ogmore, Glam.
PONTARDAWE .. .. Master W. Bowen, 1, Prospect Place, Pontardawe.
PENCOED .. .. Mr. L. Lewis, Broadland Villa, Pencoed.
Master E. Lloyd, The Laurels, Pencoed.
REDDITCH .. .. Mr. W. F. Lamb, Rosedene, Feckenham Road, Redditch.
Master H. B. Johnson, 41, Feckenham Road, Redditch.
ROMFORD .. .. Messrs. Ainsworth & Co., 50, 52, Victoria Road, Romford.
SALTBURN .. .. Master N. Russell, 33, Eden Street, Saltburn.
SIDCUP .. .. .. Mr. W. C. Rowe, The Library, High Street, Sidcup.
SOUTHSEA .. .. Master B. Martin, 1, Sophia Place, Park Road, Southsea.
SUTTERTON .. .. Master E. Watson, Station House, Sutterton, Boston.
WERNETH .. .. Master W. Wilde, 97, Suthers Street, Werneth, Oldham.
WEST BROMWICH .. Master P. Hale, 180, Bromford Lane, West Bromwich, Staffs.
WESTON-SUPER-MARE .. Master W. Stone, 44, Alfred Street, Weston-super-Mare.
YSTRADGYNLAIS .. Master Roderick, 7, Bridge Terrace, Station Road, Ystradgynlais.

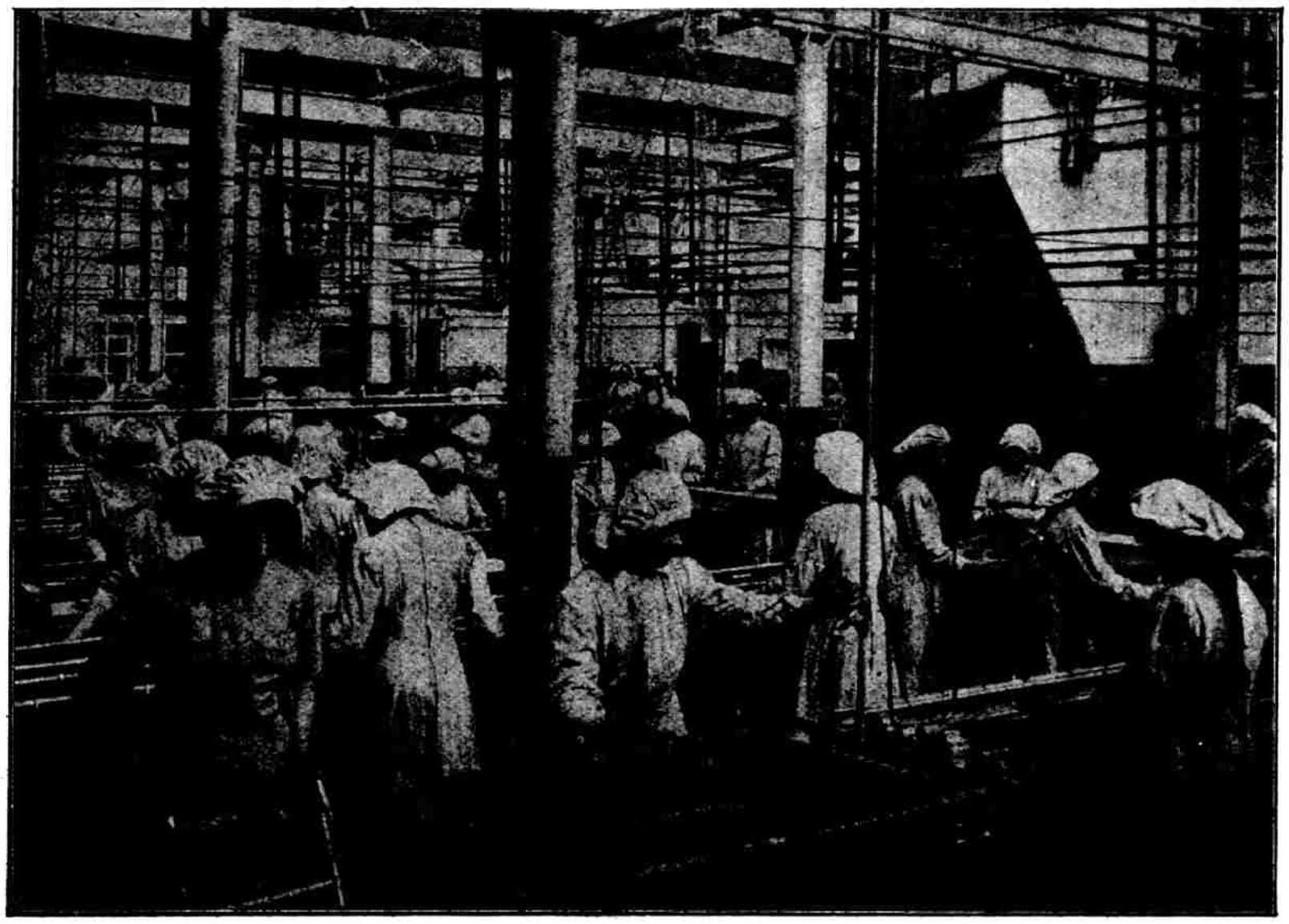
The following is a second list of members of the Guild who are forming clubs. Each one has made substantial progress and will be glad to hear of members in his district who would like to join his club. If one of these boys lives near you do not hesitate to communicate with him. He is a bright enthusiastic Meccano boy just like yourself, and will be glad to have your help and co-operation :—

ADDLESTONE .. .. Master J. C. Hambley, 40, Albert Road, Addlestone, Surrey.
BIDDULPH .. .. Master H. Whiston, 60, John Street, Biddulph, Staffs.
BIRMINGHAM .. .. Master K. Rowland, 75, City Road, Edgbaston, Birmingham.
BITTON .. .. Master L. Causley, 15, Second Avenue, Bitton, Teignmouth.
BLACKBURN .. .. Master P. Hartley, 64, Ash Street, Blackburn.
BLETCHLEY .. .. Master W. Kirk, 10, Albert Street, Bletchley.
BOTCHERGATE .. .. Master C. Sadler, Donald's Court, Union Street, Botchergate, Carlisle.
BOLTON .. .. .. Master W. Boardman, 96, Blackledge Street, Bolton.
BOMBAY.. .. .. Master A. B. Kudalkar, 2, Lannington Road, Grant Road, Bombay.
BOOTLE .. .. .. Master A. McFagin, 100, Gloucester Road, Bootle.
BOTHWELL.. .. .. Master J. Murdock, Waterloo Cottages, Bothwell, Lanarkshire.
BRADFORD .. .. Master A. Mitchell, 3, Newburn Road, Gt. Horton, Bradford.
Master A. Higham, 93, Bierley Lane, Dudley Hill, Bradford.
BRADSHAW .. .. Master A. Toothill, Burnside, Bradshaw, Bolton (School).
BRENTWOOD .. .. Mr. T. Ellis, 133, King's Road, Brentwood.
BRIGHTON .. .. Master R. W. Laidlow, Homelea, 34, Bonchurch Road, Brighton.
BRISTOL.. .. .. Master N. J. Knapman, 14, Woodstock Avenue, Redland, Bristol.
BURNLEY .. .. Master E. Batey, 29, Rumley Road, Burnley.
CAMBRIDGE .. .. Master G. Snelson, 102, Castle Street, Cambridge.
Master J. D. Mitchell, 25, Mackenzie Road, Cambridge.
CARDIFF .. .. Master C. Deemy, 142, Arabella Street, Roath Park, Cardiff.
Masters R. C. and I. G. Thomas, 40, Bowerton Street, Roath Park, Cardiff.
CARSHALTON .. .. Master E. H. Atkins, 46, Mill Lane, Carshalton, Surrey.
CASTLE DONINGTON .. Master A. Needham, Borough Street, Castle Donington.
CHAPEL-EN-LE-FRITH .. Master G. Ratcliffe, Market Street, Chapel-en-le-Frith.
CHELTENHAM .. .. Master W. G. Treasure, 14, Rotunda Terrace, Cheltenham.
CHURCH .. .. .. Master L. King, 17, George Street, Church, Accrington.
CLEETHORPES .. .. Master C. Brittan, 449, Grimsby Road, Cleethorpes.
COALVILLE.. .. .. Master S. Leivens, 49, Vaughan Street, Coalville, Leicester.
COATBRIDGE .. .. Master J. McGregor, Abbotsford, Dunbeith Road, Coatbridge.
COLDSTREAM .. .. Master W. Jackson, The Hirsel, Homestead, Coldstream, Berwick.
CONGRESBURY .. .. Master A. E. Ford, Congresbury.
COODEN .. .. .. Master F. W. Berry, 1, Beaulieu Cottages, Cooden Drive, Cooden, nr Bexhill.
CORK .. .. .. Master T. A. Kinmouth, 12, Dyke Parade, Cork.
COVENTRY .. .. Master A. Lancaster, Tiles Hill, Coventry.
Master E. Thomason, 6, Kingston Road, Coventry.
CRANBROOK .. .. Master L. J. Collins, Queen Elizabeth's School, Cranbrook.
CRADLEY .. .. Master C. Woodhouse, 2, Beecher Street, Colley Gate, Cradley.
CREWE .. .. .. Master J. V. Rawlins, 17, Albert Street, Crewe.
CROYDON .. .. Master D. Nealon, 63, Gonville Road, Thornton Heath, Croydon.
DALKEITH .. .. Master J. L. Smith, 93, Beck Street, Dalkeith, Midlothian.
DONCASTER .. .. Mr. E. Jessop, 43, South Street, Hyde Park, Doncaster.
DOVER .. .. .. Master R. J. Reader, 6, Effingham Crescent, Dover.
DUBLIN .. .. .. Master D. M. Longman, 20, Lower Pembroke Street, Dublin.
EAGLESCLIFFE .. .. Master T. Mainprize, 31, Beechwood Road, Eaglescliffe.
EDINBURGH .. .. Master J. Irwin, c/o The Janitor, Edinburgh Academy (School Club).
FALLOWFIELD .. .. Master A. Whitwam, 64, Lancaster Road, Fallowfield.
FILEY .. .. .. Master B. C. Siddall, 80, West Avenue, Filey.
FOLKESTONE .. .. Master A. I. Hartley, 9, Alexandra Gardens, Folkestone.
GATESHEAD .. .. Master H. K. Freeman, Musgrove House, Windy Nook, Gateshead.
GLASGOW .. .. Master A. C. Forrester, Londoun House, Maxwell Park, Glasgow.
GOLDTHORPE .. .. Master E. Parkin, 40, High Street, Goldthorpe, nr. Rotherham.
GOSPORT.. .. .. Master C. Hooper, 24, Ann's Hill Road, Gosport.
GRAYS .. .. .. Master J. Chauner, 3, Chadwell Road, Grays, Essex.
HALIFAX.. .. .. Master K. Brennan, 5, Chester Street, Akroyden, Halifax.
HAMILTON .. .. Master J. Russett, 104, Quarry Street, Hamilton.
HAYLE .. .. .. Master W. Gilbert, 5, Clifton Terrace, Hayle, Cornwall.
HEANOR.. .. .. Master G. Grace, 6, Bircumshaw Road, Heanor, Derby.
HETTON .. .. .. Master J. Hall, "The Lyons," Hetton.
HIGHER INCE .. .. Master T. Treloare, 6, Caroline Street, Higher Ince, Wigan.
HULL .. .. .. Master S. Crumpton, 52, St. Georges Road, Anlaby Road, Hull.
HURLEY.. .. .. Master W. Ross Thompson, Woodbine Cottage, Hurley, Warwick.
ILFORD .. .. .. Master E. F. Stevens, 1, Kimberley Avenue, Seven Kings, Ilford, Essex.
ILKESTON .. .. Master K. Thomas, 12, Hope Street, Ilkeston, Derbyshire.
LAUNCESTON .. .. Master P. H. Foster, 12, Northgate Street, Launceston, Cornwall.
LEITH .. .. .. Master R. Croall, 149, Constitution Street, Leith.
LINCOLN.. .. .. Master R. Tindall, Fiskerton, Lincoln.
LIVERPOOL .. .. Master G. Davies, 405, Walton Lane, Walton, Liverpool.
LLANELLY .. .. Master H. G. Thomas, 4, Pare Howard Avenue, Tyrfrau, Llanelly.
LONDON.. .. .. Master F. Eldridge, 17, Palmerston Road, East Sheen, London, S.W.14.
Master R. Conquay, 57, Fordwych Road, Hampstead, London, N.W.2.
Master C. Harey, 14, President Street, Goswell Road, London, E.C.1.
Master A. W. Sookey, 340, Goswell Road, London, E.C.1.
MAIDENHEAD .. .. Mr. R. Cronyn, Rosslare, Marlow Road, Maidenhead.
MORECAMBE .. .. Master L. Bisby, 37, Buxton Street, Morecambe.
NETHERFIELD .. .. Master G. Peacock, 28, Woodland Grove, Colwick Vale, Netherfield.
NEW-BRANCEPETH .. Master J. R. James, 13, Jubilee Street, New Brancepeth, co. Durham.
NEWCASTLE .. .. Master W. Laws, 86, Ethel Street, Benwell, Newcastle.
NOTTINGHAM .. .. Master H. Whetton, 103, Clapton Road, Meadows, Nottingham.
Master G. W. Skinner, 5, Barnsley Terrace, Clapton Road Nottingham
Master C. Robinson, 48, Conway Street, Nottingham.
Master F. Day, 88, Clapton Road, Nottingham.
NORTHAMPTON .. .. Master W. Starmer, 34, East Street, Northampton.
Master H. C. Burnett, 347, Wellingboro' Road, Northampton.
NORTH SHIELDS .. Master E. Jensen, 14, Laet Street, North Shields.
OAKENSHAW .. .. Master L. Lockwood, 1, Frogmore Terrace, Oakenshaw, Beds.
PETERBORO' .. .. Master J. Anderson, c/o Bell, 137, Lincoln Road, Peterboro'.
PLUCKLEY .. .. Master E. Butler, Brickfield Cottages, Pluckley, Kent.

No. 13. JUNE-JULY, 1920.

MECCANO MAGAZINE

TO HELP MECCANO BOYS TO HAVE MORE FUN THAN OTHER BOYS



Meccano Factory: Electro-Plating Department

A BIGGER MECCANO MAGAZINE.

This is the last occasion in which the *Meccano Magazine* will appear in its present form. Commencing with the next issue, the size will be 11in. by 8¼in., and it will be enlarged to eight pages, and this will give us some greatly needed space to deal with the ever-increasing number of topics in which Meccano boys are interested. We should like to increase its size still further, and to bring it out more frequently, but the paper scarcity is so intense that these improvements must be left for the future.

We are quite sure that the *Meccano Magazine* in its new form will receive a great welcome from Meccano boys. It will be handier to read, will contain more matter, and will enable us to deal better with the excellent novelties which are always being introduced. Owing to greatly increased cost of production, the subscription to the new *Meccano Magazine* will be increased to 1d. per copy. A remittance of 6d. will ensure the next six numbers being received promptly, and a remittance of 1s. the next 12. We shall keep faith with old subscribers by sending them the Magazine regularly at the old rate, until their old subscriptions are exhausted, but all renewals must be on the new basis.

In order to make the *Meccano Magazine* more easily obtainable, we have now decided to sell it through our regular Meccano dealers, and the cost will be 1d. per issue. We shall publish the Magazine more regularly in future, but we are unable to say just how often yet, as this will depend upon the paper situation. We look forward, however, to the time when we shall be able to let you have the *Meccano Magazine* at least monthly, and we shall strive all the while to make it the best and most popular boys' paper in the kingdom.

New Essay Competitions

Each Essay Competition which we have run in the past has brought crowds of entries, and our readers evidently like this form of competition. We should have run more of them but they have been crowded out by other good things. However, here are three new ones which we think will be popular. The first two are for members of the Meccano Guild only, and we hope that every member will show his interest and enthusiasm for the movement by entering.

Essay Competition No. 1.—How each member can best help the movement and further its objects.

Essay Competition No. 2.—The best syllabus for the meetings of a Meccano Club during the summer months.

A first prize of a "B" Inventor's Outfit will be awarded in both the above competitions, and there will be additional prizes to members sending in essays which display special merit.

The third Essay Competition is open to all Meccano users and the subject is "Which is the more enjoyable, building a Meccano model or playing with it, and why?" The first prize is a No. 2 Meccano outfit, with other prizes for essays of special merit.

The closing date for all three competitions is August 31st, 1920. Write on one side of the paper only, about 500 words. Give your name, address and age on the back of each sheet. Address the envelope "Meccano Limited, Essay Competition, Binns Road, Liverpool."

The Life Story of Meccano

By Frank Hornby.

(Continued.)

When the parts come from the barrelling department, they may be said to be clean, but not chemically clean. In order to prepare them for plating they are first placed in a chemical solution which thoroughly cleanses them from every impurity, after which they are given three distinct washings through running water. After this point they must not again be touched by hand, otherwise the plating would not have proper effect on them.

The process of nickel-plating Meccano parts is an exceedingly delicate one. They are placed in very large vats containing solutions composed of various chemicals and the preparation of these chemicals requires very great skill and technical knowledge. Impure chemicals or wrong proportions would cause the whole plating process to go wrong and great damage and loss of time and materials would follow. An old solution often works better than a new one, and the workers always prefer to work with what they term a "ripe" solution. Round the inside of the vats are suspended anodes composed of pure nickel, and when a powerful electric current is driven through the solution the nickel is drawn from the anodes and deposited on the steel parts.

Each strip or other Meccano part is suspended singly on specially designed frames, and in order to secure a good durable coat of nickel, they are kept in the solution for a period of more than two hours. At the end of that time, the parts are carefully washed to remove any traces of the solution, and thoroughly dried in heated sawdust. In order to plate the millions of Meccano parts required in the year, scores of huge vats are required, and very powerful dynamos. The Meccano plating plant is one of the largest of its type in the world, and is the admiration of all visitors to the Meccano Works.

The copper rod alone, which is employed to convey the current to the plating vats, runs into miles in length and many thousands of pounds in value. Our water consumption in this department is enormous, running into several thousands of gallons per day.

The wheels and other brass parts of Meccano require special treatment in order to ensure that even and bright finish which makes them so attractive. They are thoroughly cleansed in several acid baths of varying strengths, and after being washed and dried, they are lacquered in order that they may retain their bright finish.

I would like to take you boys through our big machine department, in order that you might see the wonderful machines which automatically produce such small parts as bolts, couplings, bosses, grub screws, worm wheels, &c., and to have you look at the gear and pinion cutting machines which make our accurate gear wheels, contrate wheels, &c.

(To be continued.)

The Meccano Guild

A Fellowship of Meccano Boys

(*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.

Guild Secretary's Report

Since my report in the last issue of the *Meccano Magazine*, the splendid progress of the Guild has been well maintained. There are now more than 40 affiliated Clubs who are the proud possessors of the Guild certificate, who are holding enthusiastic and enjoyable meetings, and who are carrying on their work, both outdoors and indoors, right through the summer, whilst some hundreds of new Clubs have been formed or are in process of formation and will be affiliated in due course. The Guild membership now runs into many thousands, and I have not the slightest doubt that soon it will run into hundreds of thousands. My one great desire is to make the Guild known to every Meccano boy in the country, to let them know what its objects are and how it can bring nothing but good to them and to all who are connected with the movement.

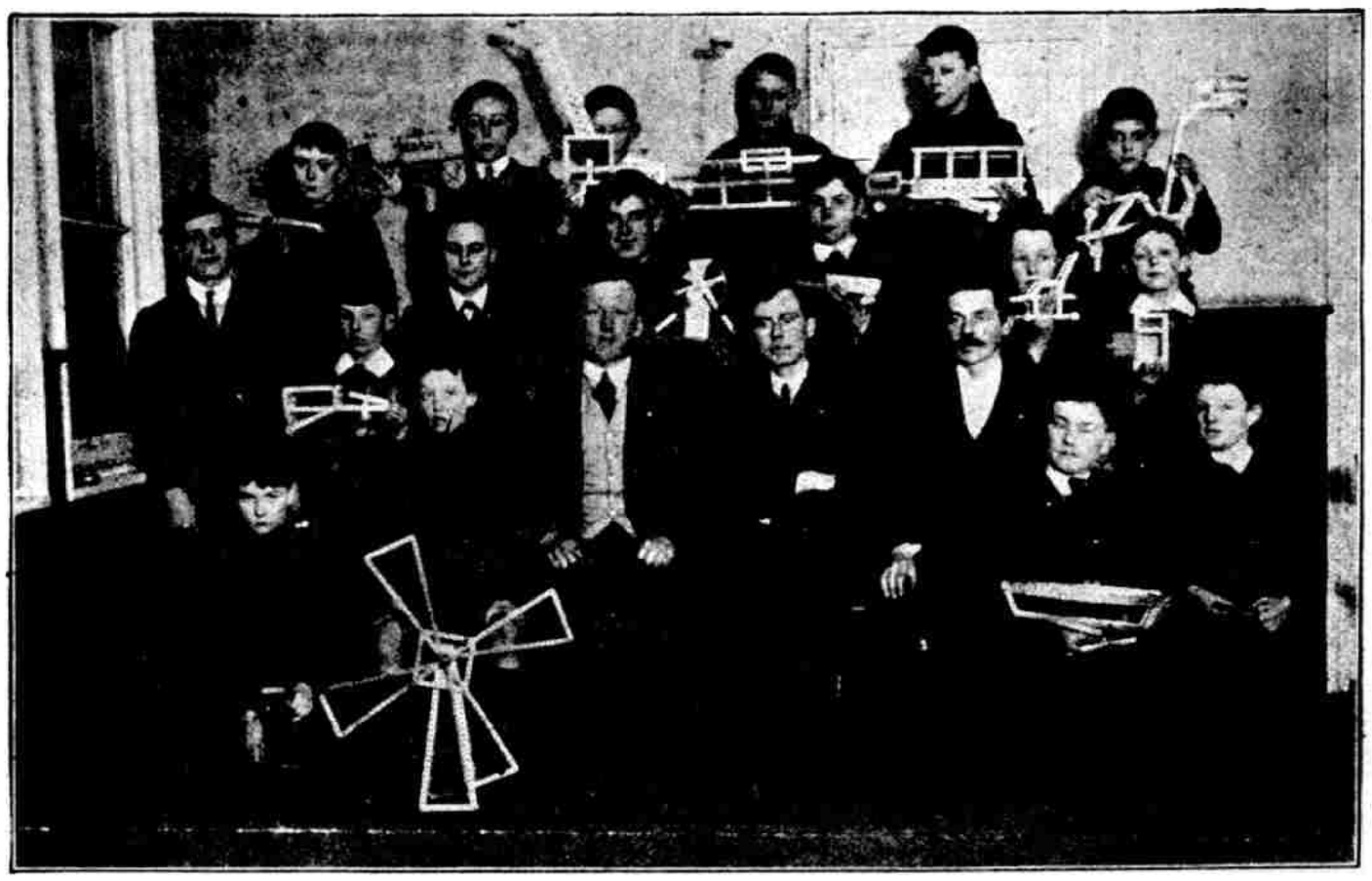
It is the first duty of every member of the Meccano Guild to make the Guild and its objects as widely known as possible, and in order to stimulate and help you in this I shall announce in the next issue of the *Meccano Magazine* a great Recruiting Campaign which will run through the whole of the coming winter-months. I shall tell you how you can do a great service to yourself and to the Guild, and you may be quite sure that those who render the best service in this way will be singled out for special distinction.

In our next few issues I shall be able to say more about the definite advantages and privileges which both individual and Club members of the Guild will possess. Let me say, however, on this point, that no privileges are of any value unless they have been earned and worked for, and it is along these lines that we shall lay our plans.

A very large number of boys have written to me expressing approval of the idea of having a small Meccano Guild certificate suitable for framing and hanging in a bedroom, and have expressed anxiety to possess such a certificate. This matter is now under careful consideration and a decision will be arrived at by the time I make my next report.

I am pleased to tell you that many Meccano Clubs have taken advantage of my offer to provide special Meccano models on loan for exhibition and demonstration purposes, and it is evident that very great interest was taken in these models by the Club members. I am quite sure that the study of these special models will be a great feature at many Club meetings during the coming season.

You will have noticed that in another part of this issue the Editor tells you that future issues of the *Meccano Magazine* are to be enlarged, and this will give me, I hope, much-needed space to tell you more of the Guild's activities than is at present possible.



BRIGHTLINGSEA MECCANO CLUB.

The entries for the Guild Essay Competitions are coming in splendidly and every member, whether he belongs to a Club or not, should send his effort along. Remember if you are a Guild member you may enter all three Competitions.

I have not yet had reports from a number of Clubs for last session. The importance of sending in reports regularly at the end of each session cannot be too strongly emphasized and Secretaries who have not yet done so should let me have their reports immediately.

Club Notes.

I have great pleasure in publishing in this issue a photograph of the Brightlingsea Meccano Club, which is one of the most successful and progressive among the affiliated Clubs. A short time ago the Club lost the services of its able secretary, the Rev. A. B. Grosvenor, who has been called to another sphere in Norwich, where I am happy to say he is still maintaining his interest in the Guild. At a pleasing little function Pastor Grosvenor was presented with a handsome enlargement of the Club photograph. Master W. W. Porter, 26, Church Road, Brightlingsea, is now the secretary.

CLAYGATE MECCANO CLUB.—PRESS ANNOUNCEMENT: "The recently-formed Claygate Meccano Club held its first exhibition on Saturday (April 3rd), when at the Council Schools quite an interesting display of models made by the boys was seen. Considering the ages of the exhibitors—ranging from 8 to 13 years—the ingenuity and skill shown in the building of the models was remarkable, and was commented on in terms of praise by the many residents who visited the exhibition. Mr. J. W. Haynes, the Leader of the Club, and Mr. Brittnel, explained the models to the visitors. Donations placed in the collecting box amounted to £2. 1s. 8d. which is to be devoted to meeting the expenses of the exhibition and to promoting competitions.

Affiliated with the Meccano Guild, the chief object of the Club is to develop the knowledge of the members in mechanical and engineering principles, and Mr. Brittnel, of Vale Road, who has had much experience with machinery, is assisting Mr. Haynes with the Club. Meetings are held every Saturday evening at the Council schools, and residents are invited to see the boys at work. Recently there was an Essay Competition among the members in which the prize-winners were: 1 F. Nightingale, 2 G. Carpenter, 3 H. Carter."

Mr. Haynes and Mr. Brittnel are to be congratulated. It will interest other Clubs to know that the Claygate boys are to have a char-a-banc trip to Brighton very soon.

CIRENCESTER GRAMMAR SCHOOL M.C.—The report received from the Secretary, Master H. W. Inward, is very well drawn up, and shows the Club is established on sound lines. Through the summer months, the secretary hopes to arrange natural history excursions, and visits to the gas and electricity works, and he will also contribute notes to the school magazine on the work of the Club. The finances of the Club are in quite a good state.

HOLY TRINITY M.C.—The Holy Trinity Meccano Club has just completed another very successful session—Model Building, Lectures, Competitions, and an Outing to Barnet and Hadley Woods being among the more prominent features. The Club also assisted in a sale of work, contributing £2. 16s. 8d. (which is £1. 5s. 2d. more than last year) to the funds. The membership now stands at 21, and the treasurer has a good balance in hand.

LEAMINGTON M.C.—Under the capable and enthusiastic leadership of Mr. F. W. Bull, the Leamington Club, affiliated in January, has jumped straight to the front rank. On May 4th, 5th, and 6th a grand bazaar called "Ye Olde Englyshe Fayre" was held in aid of All Saints' Parish Funds (Leamington) and the Meccano Stall run by the Leamington Meccano Club proved a great success. Over 30 large models were on view, and there were about 20 boys always in attendance. A few days later, the members paid a visit to the local gas works to study the machinery and apparatus.

Club Notes (*Continued*).

NONINGTON M.C.—This school Club has made a very promising start under Mr. Eveleigh, one of the masters. Meetings are held each Monday evening and in addition to ordinary model building, there are lectures and competitions. Master B. Munting, through whose efforts the Club was formed, has unfortunately resigned his office as secretary; the duties have been taken over by Master K. Leppard.

NORWICH ENTERPRISE M.C.—This new Club has been established at the instance of the Rev. A. B. Grosvenor who recently left Brightlingsea for Norwich. As it was only affiliated in March, there has not been much time for development, but without doubt we shall hear more of the Club next season.

ST. ANN'S MISSION (WHITLEY BAY) M.C.—Miss Draycott has our heartiest congratulations on being the first lady to have her Club affiliated with the Guild. As energy and enthusiasm invariably lead to success this Club has a splendid future.

SHETTLESTON M.C. (GLASGOW).—The Shettleston Club is making splendid progress under Mr. J. McGlynne's leadership. Mr. McGlynne has got in touch with Mr. Jack, a Glasgow Meccano Dealer, and while Mr. McGlynne sends models made at Club meetings for exhibition at this gentleman's store, Mr. Jack helps by advertising the Club in his windows and allowing a small commission for the models. Such mutual co-operation is very valuable, and the example might be followed by other Clubs, with very beneficial results.

PORTSMOUTH GRAMMAR SCHOOL M.C.—The members of this Club are very keen, and Master B. C. Richards, the secretary, has a lively sense of his responsibilities. He procures a supply of *Magazines* for his members and asks for all the latest literature which he distributes among members. He also arranges football matches, and one with the neighbouring Gosport Meccano Club ended in a win for the latter by 2–1. Master Richards hopes to see the tables turned at the next match.

Mr. Burnham, the Club leader, acknowledging the receipt of the Certificate of Affiliation, wrote: "Please accept our Club's best thanks—also mine. The boys were quite excited when I presented the Certificate to them at the last Club meeting, and they have asked me to thank you. They feel quite proud of it, and they are very keen in all the Club's work. We are forming a cricket club in connection with our Meccano Club, and we already have a football club."

WHITLEY AND MONKSEATON M.C.—The last report from Mr. Noble shows that a tremendous amount of work has been put in by those responsible for the running of the Club. A very successful Whist Drive and Dance organised by the honorary members with a view to further supporting the Club and providing funds for the Exhibition of Models was held on March 12th. A novelty dance, The Meccano Valse was won by the Secretary and his partner, the youngest couple on the floor.

Two competitions have been held and all prizes were given in Meccano parts. Also five papers have been read by members to their Clubmates during the session.

The membership of the Club now stands at 56 active members, six vice-presidents, 20 honorary members—total 82; an exceedingly fine record.

THE WYNBERG (SOUTH AFRICA) M.C.—Master A. J. Lewis, secretary, has forwarded a detailed and interesting report on the Club's first session. In addition to the usual business meetings and model building, a pleasant evening was passed making designs with the Meccanograph, and the Club was favoured with a visit from Mr. Williams, a gentleman who was formerly in the seaplane service. He inspected and commented on models of Aeroplanes made by members, and also told the boys different mechanical contrivances that were used during the war. An interesting programme has been arranged for the next session, and the members hope to hold an exhibition this year.

"WALKLEY" MECCANO CLUB.—This Club has recently been formed under the leadership of Mr. G. Angell. Meetings are held every Wednesday evening in the Ebenezer Schoolroom, South Road, Sheffield, and an interesting programme has been arranged for the summer months. The membership now stands at 23, and as there is accommodation for 50, new members are cordially invited.

Club Lists.

Owing to pressure of space, we are unable to publish the usual lists of newly-affiliated Clubs, and the names of boys who have formed or intend forming Clubs. Copies of these lists may be had on application to the Guild Secretary.

On Guilds.

(*Continued*).

There were rules to ensure fair play in business, and no brother could employ the servants of another brother without his express consent; no brother was allowed to erect a stall to display his wares in the street and so take advantage of one less fortunately placed.

Then there were rules governing apprenticeship and employment. A workman newly arriving in a town had to prove his skill thoroughly before he was permitted to join the brotherhood; a youth was obliged to serve several years' apprenticeship before he was admitted. Nor were the Guild rules for the benefit of members only. The holder of an important office was the "Searcher," whose business it was to search for false weights and scales and bring any offenders to justice.

Each member held himself directly responsible for the actions of his fellow members, and this naturally led each one to very carefully consider his conduct. The rules and regulations were drawn up on the vote of the majority. They were framed for the good of the community as a whole, and for the religious and moral good of the individual. The rules demanded that each member should lead an upright honest life, giving succour to anyone in distress (particularly a fellow member of his family) and doing his utmost to live up to the high ideals of the Craft.

Should a member find his business failing through the markets going against him, it was the duty of his fellow members to help him and save him from going to moneylenders, who charged exorbitant interest.

A determined effort to break down class distinctions was made through the introduction of the apprenticeship system, for no matter how rich and influential a man was, he could not buy the right of entry to the Guild for his son; his son must serve his apprenticeship, live, sleep, have his meals and his games with his fellow apprentices. Promotion to the various offices in the Guild was given on merit alone, and it was possible for the son of the poorest parent to gain the highest honours the Guild had to bestow.

As in the case of the Merchant Guilds, the interests of the Craft Guilds widened, and in addition to the ordinary commercial and social obligations, they took a deep interest in religious and educational matters.

Not only did they strive to make the church services beautiful, but they spent endless time, energy, and wealth in beautifying the buildings in which the services were held, and many churches and chapels bear evidences of their efforts to this day. In some of the oldest there are wonderful examples of wrought-iron work, marvellous wood carvings and tapestries, and priceless specimens presented by the old Goldsmiths and Silversmiths.

This religious tendency is still reflected in the Church, for to-day there is scarcely a church or chapel in the kingdom without a Guild of some sort or other. In educational affairs they spent huge sums in founding and endowing schools and colleges, and they usually engaged the very finest masters it was possible to get.

The Guilds, in the oldest and best sense, received their deathblow in the reign of Henry VIII. A Bill was introduced in Parliament authorising the king to acquire all the property and lands belonging to churches and the Guilds.

(*To be continued*).

EDITORIAL.

A Bigger M.M.

The principal complaint which my readers have made against the *Meccano Magazine* is that it has been too small. This is going to be rectified now, and the next number will appear in quite a new form. The size of the page will be a little smaller but there will be eight pages instead of four. The shortage of paper is, if anything, worse than ever, but fortunately we have secured a good supply, and there is no danger of Meccano boys being deprived of the latest Meccano news.

The Meccano Guild.

The Guild is going ahead at a great pace, and new Meccano Clubs are being formed all over the country. The boys are overcoming their difficulties of securing Club Leaders and suitable rooms for holding their meetings splendidly, and they report enthusiastic meetings, interesting lectures, exhibitions, and successful concerts.

The Big £200 Competition.

The entries for this Competition have been enormous, and the work of adjudication is proceeding as rapidly as possible. We hope to be able to announce the results and despatch all the prizes, in the course of the next few weeks. In our next issue, another big competition will be announced on new lines, which will give ingenious Meccano boys of all ages a chance of winning good prizes.

Meccano at the Jamboree.

The Jamboree which will take place at Olympia in London during the last week in July will be a big event in the Boy Scout movement, and I am glad to announce that Meccano will play a prominent part in it. In addition to a fine Meccano stand at the entrance to the arena, which will be a rendezvous for all Meccano boys who visit the Jamboree, a number of expert Wolf Cubs will be at work all day in the Annex, showing their skill at building Meccano models. The new Meccano electrical parts will be demonstrated at our displays.

Electricity and Meccano.

Electricity will figure largely in the future of Meccano. The new electrical outfits, which are well in hand, will make it possible for every Meccano boy to make his own electric toys. I shall be able to give you full particulars in our next issue.

Meccano Clockwork Trains.

For a long time now we have been urged by the Government and by the public to produce clockwork trains to replace those which used to be imported from the Continent. We have spent much time and thought on these goods, and we are now ready to supply a range of beautiful trains, which will add much to the fame of our factories. The clockwork mechanism is excellent and every train set has the Meccano guarantee behind it.

The Hornby Train System.

We are very proud of this fine clockwork train system, and it will be a great favourite amongst boys. It is built on the Meccano principle, and any damaged part may be instantly replaced by the user himself. Like all Meccano products, it is strong and durable, superbly finished, and absolutely reliable.

The Editor

MECCANO

OUR MAIL BAG

The Editor has a little talk in this column with his Meccano boys. Whether he has space to reply to them all here or not, he is always glad to hear from them. He receives hundreds of letters each day and only those which deal with matters which are likely to interest other Meccano boys can be dealt with here.

Correspondents will help the Editor if they will write on one side of the paper only.

E. Bonal, Manchester.—We have pleasure in publishing your hint to Meccano boys, and we feel sure many will find it useful. "To prevent the cord from slipping over a pulley wheel, rub it with resin—the kind used for violin strings." We hope that by now you have been fortunate in obtaining a suitable Club-room.

Stanley Brewer, Bletchley.—So glad to hear you like receiving letters from us—the feeling is mutual. The "letter exchange" for Guild members progresses, and you will very likely soon see it established, and in working order.

James Besant, Liverpool.—What a hustler you are! always in a hurry. It's a good characteristic though, and we expect to hear more from you as time goes on.

M. S. Edwards, Gt. Crosby.—You seem to be making good progress with your Club, and it should soon be ready for affiliation. Certainly get your chum's mother to accompany you on your rambles, and any other parents or friends too—the more the merrier, and your outings will benefit considerably without doubt.

B. Hardy, Market Hill, Armagh.—We quite agree with you that every boy loves Meccano and,

"With Meccano he will play,
Happy with it all the day."

As you are unable to form or join a Club, look out for schemes for individual members in future numbers of the Magazine.

Court, Newbury.—We can quite understand your disappointment at not receiving the *Meccano Magazine* oftener; it is shared by thousands of other boys, not to mention ourselves, and you can be quite sure that as soon as some of the difficulties connected with paper and printing disappear, the *Meccano Magazine* will be bigger and will appear much oftener than at present.

Frank Whitehurst, Bollington.—

"There was an old woman who lived in a shoe
She had so many children, she didn't know what to do.
So she bought them Meccano, and now just you see
They're thanking their stars there's a Mr. Hornby."

Quite good Frank, and as Meccano is so popular in the village we expect to hear soon that the Meccano Club is in full swing.

S. J. Burge, Bristol.—We have often had letters telling us what a boon Meccano is to boys who are bed-ridden. Your appreciation of the hobby on behalf of Deaf and Dumb boys reveals once more that Meccano leaves all other toys behind in the matter of giving pleasure and joy to its devotees.

S. Malby, Clacton-on-Sea.—We hope you will be successful in establishing a Club in Clacton, and also in convincing your Meccano dealer of the necessity of having a good stock of spare parts. Don't forget to let us know how you go on.

R. Wormersley, Worsley.—Your master is quite right when he says "If you are not progressing, you are going backwards in comparison with the times, even though you are standing still." We note that you are neither standing still or going backwards, but doing all you can to help the cause of the Guild. Good luck to your efforts both in this direction and in the Competition.

John Bleasdale, Manchester.—So you too think R. G. Good's proposal is a "Good" proposal—we agree!

Mr. C. C. Westhorpe, Manchester.—Many thanks for all the kind things you say about Meccano. We can quite understand you are as keen and interested in model building as the youngsters—quite a lot of fathers get the same way. If you can spare the time, why not organise a little Club for your boy and his chums? We will give you all the help you need.

J. C. Lockhart, Handsworth.—Yours is the first Club we have heard of that has an adult Club Leader, and a proper Club-room, yet is short of members. What *is* the matter with the boys of Aston, Handsworth, and Lozells?

Alan C. Young, Folkestone.—If you have built your competition model as well as you have compiled your verses, we shall probably find your name in the list of prize-winners.

"There's nothing like Meccano
To drive your pains away;
And once you've made a model,
You make one every day.
* * * * * *
There are lots of toys to play with,
Of all shapes and sizes;
But the best of all is Meccano
Which you play with, and win prizes."

Tom Thomson, Kilmarnock.—"Although sometimes I feel rather lonely as there is no Club in town, nor any Guild member I know, yet I delight in the *Magazine* and my badge makes me feel as if I were beside all the members of the Guild. I wear it on all occasions and try to live up to its principles."

That's the right spirit, and if you wish to get into touch with other Meccano boys, we shall be delighted to send you one or two names and addresses.

Master Mould, Tipton.—Congratulations on winning the first prize in the Novelty Section of the Fancy Dress Carnival at Messrs. Butler's Works. We expect you will be directing your ingenuity towards the Big Meccano Competition next, and we hope you will be equally successful.

AMATEUR WIRELESS TELEGRAPHY.

The following extract is taken from a letter written by a very enthusiastic Meccano boy, Master Cyril T. Booth:—

"I should be very much obliged if you could put me in communication with a Meccano boy who is also a wireless amateur. I daresay some of the boys who wrote to you respecting the new Electrical sets you intend putting on the market, have mentioned wireless to you. Personally I find Meccano a help to me when building the apparatus. A very good frame aerial can be made, pivoted at top and bottom, to turn in the direction the best signals are obtainable. Of course I do not use the wave method, as it is necessary to have a license for this, and there are many restrictions against amateur wireless stations; I use the 'induction' method, with which I have got good results up to 50 yards, using high tension current through the aerial coil. If any Meccano boys would like to hear about how to make this, I shall be pleased to tell them."

Any boy interested in the subject wishing to correspond with Master Booth should send the Editor his name and address, together with a brief account of his experience in wireless.

Meccano Inventor's Accessory Outfits.

Every Meccano boy should know what hours of fun and pleasure are stored up in these splendid outfits. They increase the scope of Meccano enormously. They contain all the new Meccano parts which have been invented during recent years, none of which are in the regular Meccano Outfits. Every model in the Meccano manuals can be greatly improved by their use, and they are an absolute necessity in building and inventing new models.

"A" INVENTOR'S OUTFIT. Contains a set of big 3in. wheels, 2in. pulley wheels, the new and decorative braced girder, sprocket wheels and chain, for giving a positive non-slip drive, new gear and pinion wheels, rods and washers. Price, 10s.

"B" INVENTOR'S OUTFIT. Contains a splendid assortment of the latest Meccano accessory parts. Bevel gears, 1in. gear wheels, flat plates (four sizes), double angle strips (four sizes), octagonal and strip couplings, threaded cranks, triangular plates, screwed rods, curved strips, architraves, face plates, rack strips, girder frames, hinges, buffers, and train couplings. Price, 25s.

Meccano Manuals of Instructions

There are two Meccano Manuals of Instructions, and no Meccano boy is properly equipped unless he has them both. Book No. 1 is the regular manual which goes with the main Meccano outfits. It contains illustrations and full instructions for making 326 fine models; some of the models have been designed by our own staff of experts, and others are prize-winning models contributed by Meccano boys, from every country in the world. Price 2/6 (postage 3d. extra).

Meccano Manual, Book No. 2, has only just been published, and it contains illustrations and instructions for building 100 entirely new models, very many of them prize winners. It contains Tanks, Guns, Submarines, Searchlights, and other warlike models; also a new series of simple and intensely-interesting scientific experiments which any boy can make and which impart a lot of useful knowledge. Price 1/3 (postage 2½d. extra).

Prices of Meccano

No.				
0	Outfit with full instructions for building			6/-
1	do	do.		10/-
2	do.	do.		20/-
3	do	do.		30/-
4	do.	do.		50/-
5	do.	do.	(Carton)	70/-
*5	do.	do.	(Wood)	100/-
*6	do.	do.		180/

* In well-finished cabinet with lock and key.

Accessory Outfits

No.							
0a	converting a	No. 0	into a	No. 1	..		5/-
1a	do.	do.	1	do.	2	..	11/-
2a	do.	do.	2	do.	3	..	12/-
3a	do.	do.	3	do.	4	..	22/-
4a	do.	do.	4	do.	5	..	17/6
5a	do.	do.	5	do.	6	(Carton)	65/-
5a	do.	do.	5	do.	6	(Wood)	95/-
Inventor's Outfit			...	...	...	...	10/-
Meccano Clockwork Motor			...	...	...		12/6

Each Meccano outfit is complete with all parts and tools necessary for building models. Full instructions are included and the youngest boy can commence to build at once without study. An accessory outfit may be purchased at any time, enabling bigger and more interesting models to be built. Additional parts may also be purchased separately at prices given in our published lists.

Remember that though boys play with Meccano for pleasure, and though they get more genuine fun from it than from any other toy, it also gives them a sound knowledge of engineering. Through playing with Meccano, many a bright boy has been started on a prosperous career in one of the most important and profitable professions—engineering and mechanics.

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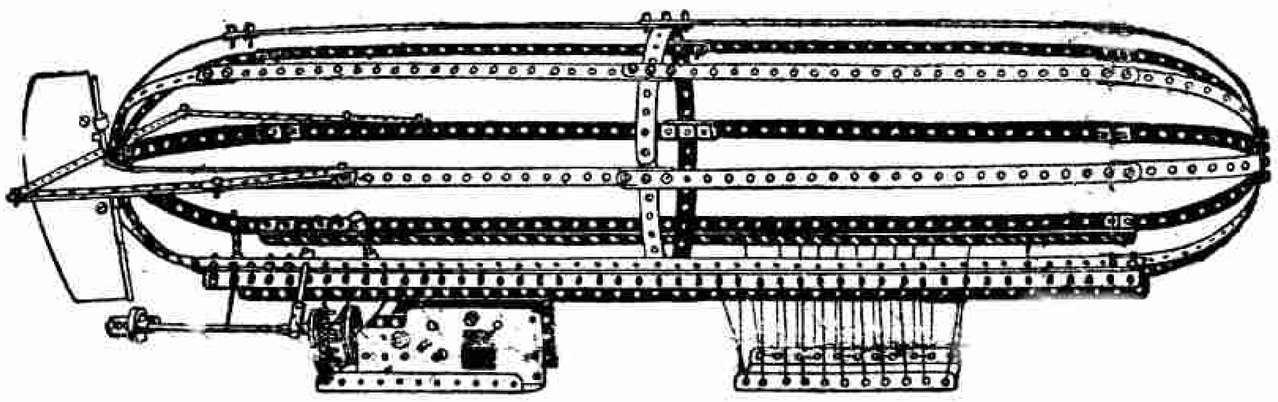
No. 14 SEPTEMBER-OCTOBER, 1920

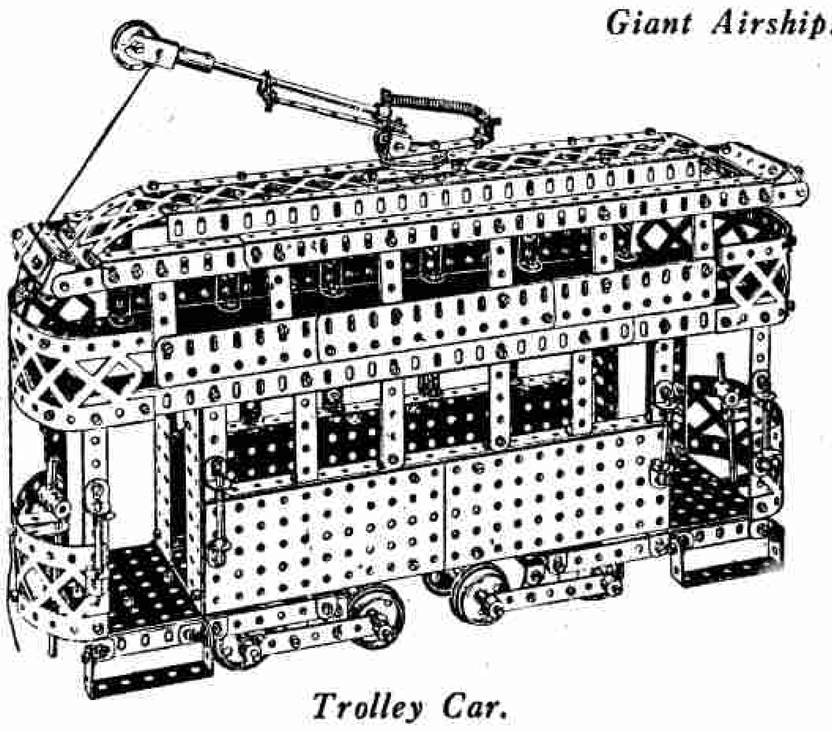
MECCANO MAGAZINE

PRICE ONE PENNY

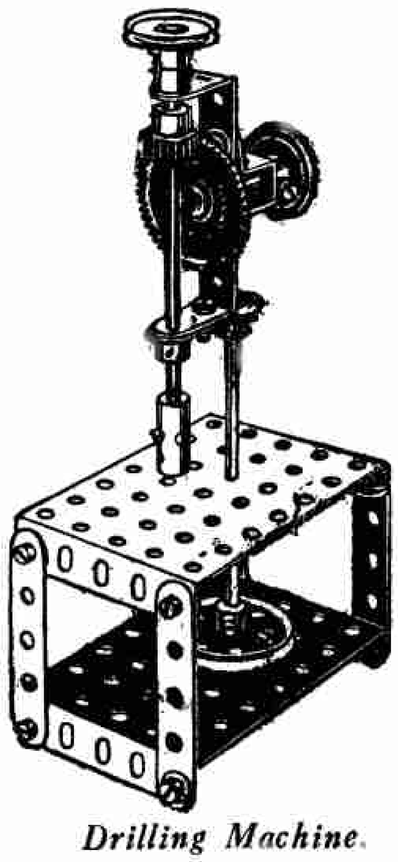
TO HELP MECCANO BOYS TO HAVE MORE FUN THAN OTHER BOYS



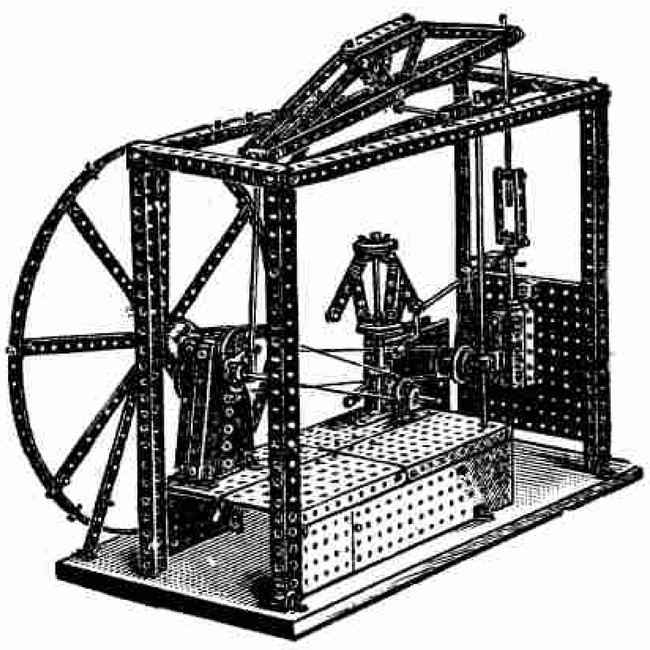
Giant Airship.



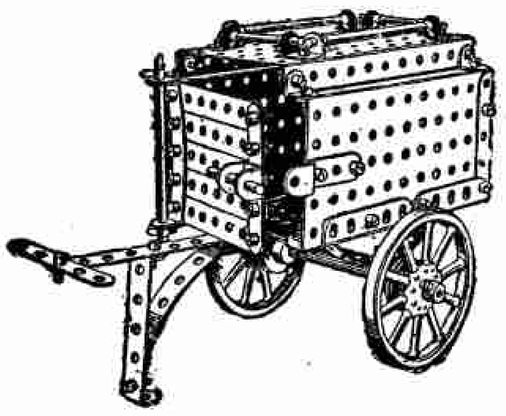
Trolley Car.



Drilling Machine.



Beam Engine.



Delivery Cart.

A few of the Meccano Models that can be built by any boy

EDITORIAL.

A Bigger Meccano Magazine.

I am quite sure that all my readers will approve of the *Meccano Magazine* in its new and bigger form. Even with the increased space, I am obliged to leave over many interesting things for future issues, and it looks as though we shall have to grow bigger still before we can do full justice to all the numerous Meccano topics.

Plenty of Fun This Winter.

The keen Meccano boy is not going to want for fun this Winter. There are Club nights with Lectures, Exhibitions, Concerts and Model-building sessions, and heaps of interesting Competitions of all kinds to keep him busy and happy at home. If you see a boy with a broader smile than usual on his face, you can set him down at once as a fully fledged Meccano boy.

The New Meccano Engineering Parts.

I hope that in their Winter model-building, all Meccano boys will make full use of the splendid new engineering parts which have been added to the Meccano system recently. They improve the models, and increase the fun tremendously. If you are not already familiar with them, send me a postcard and I will see that you get an illustrated list of them.

Our New £250 Competition.

You should get familiar with the new conditions of this Contest without delay. This time it will be divided into sections, enabling boys of similar ages to compete with each other instead of the young ones competing with grown-ups. The last Contest was a big success, and the new one is going to be a record one.

Meccano Easily Obtainable.

We are working hard to perfect the distribution of Meccano right throughout the country, in order that a Meccano boy may be sure of getting at once any outfits or parts he may require, from the regular Meccano dealers in his town. Most progressive dealers are now wise enough to hold a full range of Meccano supplies, and as there is no shortage of either outfits or parts this year, there should be no repetition of the disappointments which were unavoidable during the war period.

Hornby Clockwork Trains

I advise all my readers to see these trains and to satisfy themselves of their great beauty and efficiency. They are meeting with nothing but praise, both from the dealers who sell them and the boys who use them. I want to warn you that supplies of foreign made trains have found their way into this country, and your only protection is to insist that what you buy has been actually made in this country.

The Future of the M.M.

The next issue of the *Meccano Magazine* will be ready on November 15th, and for the present it will be published bi-monthly. If you are not already a subscriber, you should either send in your subscription at once, or instruct your dealer to reserve a copy of each issue for you.

A Message from France.

I have received a letter from the Editor of the *Meccano Magazine* in Paris, in which he tells me that a number of French Meccano boys have expressed a desire to correspond with English Meccano boys on Meccano topics. Will any of my readers who would like to receive letters from a French boy and reply to them, communicate with me. All correspondence of this kind must be conducted on the lines of the Guild Correspondence Club, announced by the Secretary in this issue.

The Editor

On Guilds

(Continued.)

The Guild members banded themselves together and used all their great influence and power to resist the Bill, but although they managed to retain a great many of their rights and privileges from a commercial and social point of view, their colleges, churches and chapels were seized and confiscated.

The Guilds never recovered. The former strict rules were gradually relaxed, and little by little unscrupulous men won their way to power. They altered everything completely, and soon the Guilds became leagues or companies of employers and capitalists, who used them for grinding down the poor workmen and townspeople for their own profit. Efforts were made in Elizabeth's reign to restore the Guilds to their former purity of purpose, but they were of no avail, and with the growth of civilization it is doubtful if they can ever exist again as they did hundreds of years ago.

But although the old ideal of the Guild is dead, the spirit that animated it is as alive to-day as ever.

Members will be interested to know that in choosing the name "Meccano Guild," the idea of starting a movement based on the splendid ideals and traditions of the old Guilds was foremost in our minds, and in assisting to build up a spirit of good fellowship and comradeship they will be creating friendships and happy times that will endure throughout their lives.

(Concluded.)

Life Story of Meccano

By Frank Hornby.

(Continued.)

Great skill is required in setting up these machines in the first place; and even after they are set up they have to be continually watched and fine adjustments made to ensure accurate production.

There are many machines in this department which are exceedingly fascinating to watch. The chain-making machine, for instance, which makes our sprocket chain, through which a plain wire is passed at one end whilst at the other a continuous length of completed chain emerges, is a most complicated and efficient machine which seems to be almost human.

Then there is the special machine for drilling the holes in our couplings. They are all drilled in one operation and it is exceedingly interesting to see the girl operating the handle and all the drills coming together on the coupling at the same time. You can imagine the time saved in using a machine of this type as compared with the usual way of drilling a hole at a time.

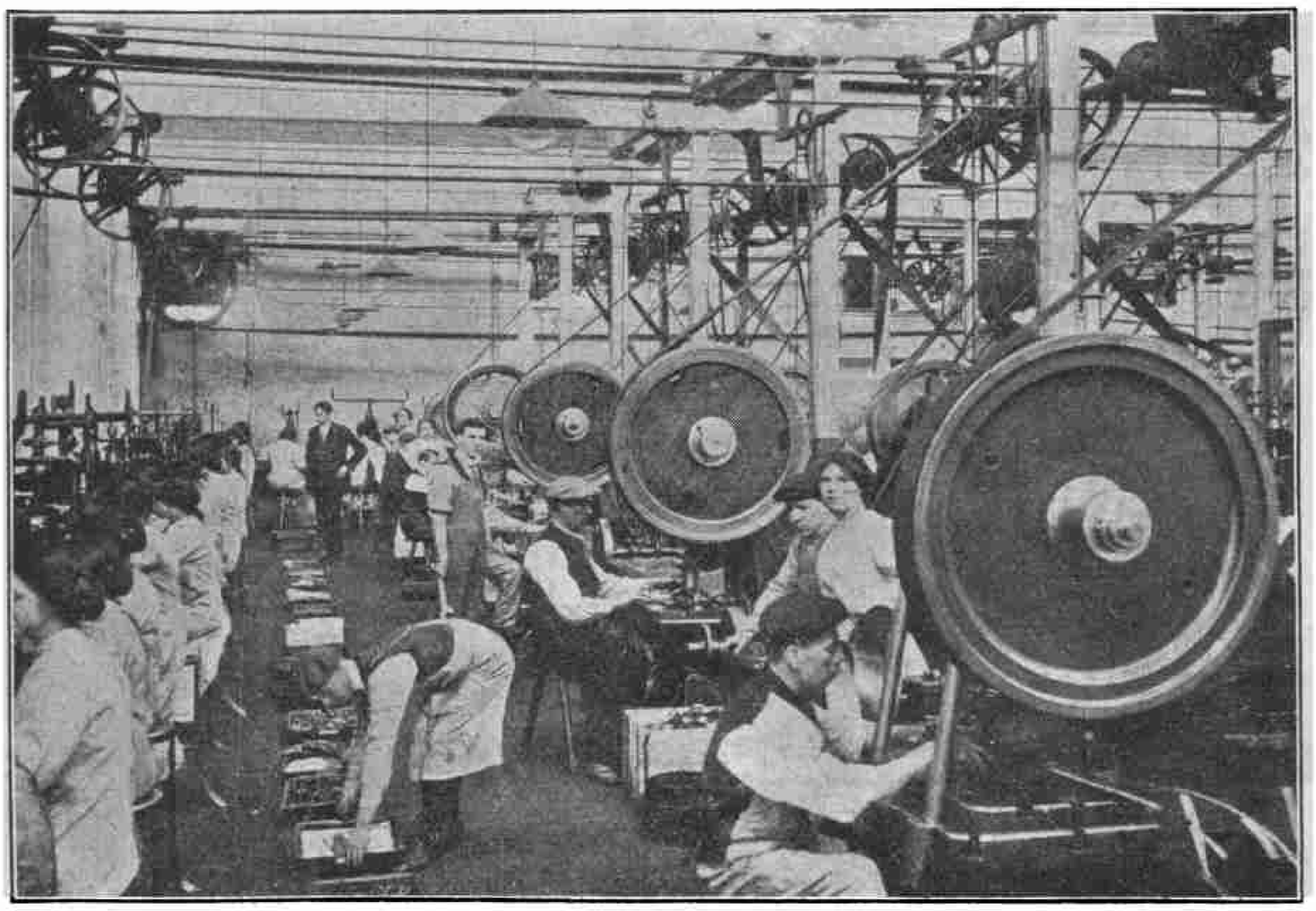
Another useful and ingenious machine is the one which we use for automatically assembling the setscrews into wheels.

I think, however, that the machines which would interest you most are those which are used for making our bolts. The bolts themselves are made from steel rod which comes to us in huge coils. The end of the rod is fed into the machine, which automatically cuts it off at the required length and puts the head of the bolt on it. These machines work at a tremendous pace and give a production of thousands of gross each per week. From every ton of wire which is fed into them, we receive a ton of bolts, there being absolutely no waste of any kind.

The next step in the process is cutting the nick in the head. The bolts are poured into the large hopper of a nicking machine and the machine itself sorts them into perfect order, one behind the other, and they go sliding down a groove which conveys them to a kind of circular saw which cuts the nick, after which, by a little turn of the machine, they are thrown into a container ready for the next process.

The operator then conveys them to another machine which rolls the thread on them. For this process they are again poured into a hopper and by the same mechanism as in the nicking machine they are arranged one behind the other, conveyed down a groove, and to that part of the machine which rolls the thread on them, one by one, as rapidly as you can count. These are the busiest machines you ever saw. They work with a will all day long, producing many, many millions of bolts during the year, exactly uniform in size and shape.

(To be continued.)



View of the Press Dept., Meccano Ltd.

The Meccano Guild

A Fellowship of Meccano Boys

The objects of the Meccano Guild are:

(*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.

It is just 12 months ago since the Meccano Guild was founded and the progress which this great boys' movement has made since then is amazing. The number of members already enrolled runs into tens of thousands. About 60 Affiliated Meccano Clubs guided by adult leaders, holding regular meetings, debates, lectures, concerts, exhibitions, &c., have been successfully launched, and are now in full working order, and some hundreds of Meccano Clubs have been formed and will be granted Guild certificates of affiliation as they comply with the Guild regulations.

The Guild Secretary is in regular correspondence with Club Leaders and Secretaries, and the coming Winter session promises to be one of the greatest activity and enthusiasm amongst Meccano boys. For the benefit of new Meccano boys and new readers of the *Meccano Magazine*, we are enclosing with this issue a re-print of the original announcement of the founding of the Guild so that they may know all that is taking place in the Meccano world.

Any boy who fails to join the Guild is withholding his friendship and help from the best and brainiest boys in the kingdom, and is also depriving himself of their help and companionship. The Meccano Guild stands for pleasure and enjoyment, instruction and progress, clean and straightforward living, and for bringing out what is best and most useful in boys.

After you have read the Guild Secretary's announcements in this issue we are confident that you will want to join up with the movement, give all the help you can to it, and take full advantage of the good things already announced and many others to come.

Club Notes.

By the Guild Secretary.

Ascension.—Club Leader comments upon keenness of members and good attendance at meetings. Congratulations to the energetic secretary, Master M. Prater who recently won a scholarship, being first of 500 boys.

Coalville Meccano Club.—Recently affiliated club. Mr. S. Leivers, the Club Leader, has drawn up an excellent programme for the Club's first session.

Cirencester Grammar School.—An excellent start by those responsible for the promotion of this newly-affiliated club, and with energetic Master H. W. Inward, as secretary, the Club should make splendid progress.

Claygate Meccano Club.—The Claygate Meccano Club makes progress. A visit to the sewerage works proved very interesting and instructive, Mr. Britnell, the Assistant Club Leader, explaining the working of the machinery. Club trip to Brighton was a very enjoyable affair, thanks to the energies of Mr. Haynes and Mr. Britnell. Winter session commences Sept. 4th, and a splendid programme has been drawn up.

Holy Trinity.—Second annual exhibition held on June 26th was an unqualified success. Twenty models on view, including a Crane made from a "1901" set of Meccano. Fretwork models also exhibited, and a clever novel feature of the exhibition was "The Fine Art Gallery." Exhibition well patronised, and out of profits realised, £1 handed to St. Dunstan's.

Gosport.—Members have been kept together during the summer through the cricket club and the activities of Master H. Beane, the secretary; a busy winter session is anticipated.

Ferryhill District.—The progress made by this Club has been amazing. Affiliated with Guild in January, membership now 150. Mr. Banner's report for the session which ended in April, shows that the scope of the Club is both wide and varied. He writes:—

> "The Ferryhill District Meccano Club closed an interesting session by holding an Exhibition in the Town Hall on April 17th and 19th, the Hall being lent free of all charge for the exhibition and all weekly meetings by the Parish Council. Prizes for Meccano Models were given, and a special prize of a Meccano Motor, given by the Club Leader, was won by J. Bowtell. In the Girls' section of the Club, a needlework competition was held. In the Cardboard Model section for boys, the first prize was won by Maurice Harker.
>
> "About £7 was raised by means of this Exhibition, and this together with donations and subscriptions brought the Club's income for the year to a total of just over £15. There is a balance of over £10 with which to start the coming session."

Mr. Banner thanks all who have assisted, and appeals for further help to assist different sections of Club during next session.

Norwich Enterprise.—Personality of the Rev. A. B. Grosvenor is being unmistakably felt in Norwich, and this Club is proving as successful as the one he launched at Brightlingsea. Elsewhere will be found the motto chosen for the Club, and this together with the programme of meetings for coming season is contained in a neat hecktographed leaflet given to each member.

Leeds.—Mr. Spink, the Club Leader, has gathered together a number of very enthusiastic Meccano boys, and Club is being conducted on sound lines. Any Leeds Meccano boys desiring to join a Club should communicate with the Secretary, Master C. G. Wilcock, 10, Park Terrace, Intake Lane, Stanningley, Leeds.

Sparkbrook.—Master J. H. Weake, the secretary, makes a novel and clever appeal for new members through the "Birmingham Weekly Post."

> 138, Kyrwicks Lane, Sparkbrook.
>
> Dear Uncle John,—Will any nephews possessing outfits, living in Sparkbrook, Sparkhill, etc., and desiring to join a Meccano Club, please communicate with me? The Club is held once a week—every Wednesday evening. Full particulars from,—Yours truly, J. H. Weake.

Club continues to make excellent progress under the leadership of Mr. D. Pipes, and there is a full and interesting programme down for the winter season.

Small Heath.—Mr. Edge, the Club Leader, recognises possibilities of a Meccano Club, and at opening meeting of the "Small Heath Meccano Club" impressed upon members that he desired to make the Club "a Club of comrades to assist each other in becoming real men, with active, clear, and clean brains." I have no doubt that Small Heath boys will respond to Mr. Edge's efforts.

St. Martin's (West Acton).—Recently affiliated. Rev. H. C. Williams has kindly consented to become president, and Club has a busy season before it under leadership of Mr. L. H. Sutton.

WALLINGBROOK.—The enthusiasm for the Club has been maintained through the summer as a result of activities of secretary, Master E. H. C. Edmunds. Recently a debate on relative merits of Electricity and Steam Power proved so popular that this new feature has been added to the Club's programme.

YARDHEADS.—Newly affiliated under the leadership of Mr. D. Burgess, schoolmaster—have the use of schoolroom. Members of Education Committee at opening meeting. Boys of Yardhead's School won Leith School Cup last year, and intend putting the same enthusiasm into their Meccano Club as they do in their football.

WASHINGBOROUGH. — Recently affiliated; under leadership of Mr. H. C. Treavett; boys enthusiastic, programme varied and interesting. An Exhibition arranged for early December.

WYNBERG MECCANO CLUB.—Had a very successful second session. Club meetings discontinued during July owing to the severity of the weather.

WALTHAM ABBEY.—Exhibition a big success. Good class of models built by members, afterwards exhibited in dealer's windows. Vicar of Parish has consented to be President of the Club.

LEAMINGTON.—Master G. Hare's excellent report shows that splendid work is being done. Several interesting lectures have been given, thanks to Mr. Bull, the Club Leader. These include "The Working Principles of Engines," by Mr. Jenkins, "Boat Building," by Dr. Harrison Butler, "How a Dreadnought's Guns are Worked," by Mr. Emerson, and "The Hotchkiss Machine Gun," by the Club Leader. Lectures illustrated by drawings, photographs and working models, greatly appreciated by members. The Club's stand at "Ye Olde Englysh Fayre" was very successful, and over £4 was raised. A guessing competition in which visitors were invited to guess the number of nuts and bolts in the Transporter Bridge brought over 100 entries at 3d. each, and the Meccanograph did a roaring trade at 2d. per design, visitors turning the handle themselves. Models built for the stand afterwards exhibited in a Meccano dealer's window, and attracted much attention.

Special Awards for Club Members.

I am most desirous of encouraging as far as I possibly can the reading of instructive papers by members at their Club meetings. This kind of training I consider to be most excellent for boys. To stand up before a meeting of his friends and address them upon a subject with which he has made himself familiar requires some degree of courage for a boy, but it is a splendid thing for him to do. The knowledge gained in reading up his subject is useful, and it is also a very fine thing for him to accustom himself to speaking in public. He is also serving his Club well in providing enjoyable and interesting evenings. I am, therefore, arranging special awards in the form of handsome bronze medallions for this work.

Each Club will be allotted two medallions, one for each Winter session, and they will be given to the boys who deliver the best papers. Any subjects may be selected, Engineering, Electricity, Woodworking, Stamp Collecting, &c. Boys may get any help from parents, Club Leader, or any other source, in the preparation of their papers, which may be illustrated by lantern slides, drawings, photographs, models, or in any other way. After they have been read at the Club meetings, the papers must be sent to me with any comments by the Secretary or Club Leader, and the adjudication will be made at the end of each session.

The medallions are very beautiful in both design and finish, and are being produced specially for us by Messrs. Elkington & Sons, Birmingham. Each one will be engraved with the name of the recipient.

I trust all Club Leaders will help me to make this valuable part of the Meccano Club work a very big success.

Each Member of the Guild gets a beautiful Certificate.

I am able to illustrate here a very beautiful Certificate, which our President wishes me to place in the hands of every member of the Guild. Mr. Hornby wishes each of you to have this Certificate framed in a simple way and put up in your home, preferably your bedroom, as a constant reminder of the splendid Guild objects which you have promised to further.

I am mailing out these Certificates to you as fast as I can have them made up, and each new applicant for membership will receive one along with his badge. I am quite confident that every member of the Guild will set a high value on his Certificate, and that he will treasure it as a sign of his association and friendship with a million of the best boys in the country.

Guild Recruiting Campaign.

How each Member can help the movement.

Hundreds of enthusiastic Guild members have written to me during the past 12 months expressing their keen desire to put in all the work they can on behalf of the Guild, and asking in what way they can help. Now is the time when they and all other Guild members can do a good turn to the movement. Where boys know and understand the objects of the Guild they come in enthusiastically and without hesitation, but there are many many thousands of boys in this country who are using Meccano regularly and who yet have never heard either of the *Meccano Magazine* or the Meccano Guild.

If the Guild is going to be the big success we have aimed at we must get all these boys in, and it is the duty of each Guild member to do his best to spread the knowledge of the Guild amongst them.

If each of our members brings in one Meccano boy our membership will, of course, be doubled, but I want more than that. I want each member to endeavour to recruit at least three new members, and to each of you who does this the Guild will award a very handsome oxidised silver medallion, of which any of you may well be proud. Our illustration is full size and it is one of the most beautiful medallions I have ever seen.

As a special award the boy who obtains the largest number of recruits between September 1st, 1920, and March 1st, 1921, will receive an exact duplicate of the medallion, but in solid gold with his name engraved on it, and to the boy who recruits the next greatest number a solid silver medallion will be awarded, similarly engraved.

Every boy desiring to take his share in this Grand Recruiting Campaign should notify me, and I will send him a number of Guild Application forms. He should write his own name and address and the date on the back of these so that they may be recorded in his favour. He must also send in a full list of his recruits with names and addresses before March 15th, 1921, when the awards will be made.

Wanted—A Guild Motto.

Every one of our members seems to want us to adopt a motto, and after all it is very excellent to set up an ideal in this way, and endeavour with all our might to live up to it. One of our most earnest and capable Club Leaders has adopted for his Club the motto "Keen and Clean," and in a well-worded message to his Club he has urged them to live up to this motto. When we do adopt a motto for the Guild we want it to be the best in the world, and I should very much like our members to give me their ideas as to whether or not we should adopt a motto, and if so, what that motto should be.

Special Cash Prizes for Guild Members.

You will see on another page of this issue that a new £250 prize competition is announced, and I want Guild members to carefully note the new conditions which govern this competition, especially that part of it which offers special cash prizes to members of the Meccano Guild. Neither myself nor anyone else connected with the Guild has anything to do with the awarding of prizes, but I shall certainly watch the next list of awards with great interest. I am keenly anxious that Guild members shall shine in the new big Contest and shall take away some of the numerous excellent prizes which are offered.

Apology to our Readers.

It was intended that this issue of the Meccano Magazine should be in the hands of our readers on September 1st, but, unfortunately, the grave printer's strike which affected Liverpool and Manchester rendered this impossible.

We must express our sincere regrets that so much delay has taken place. In future, the Magazine will be issued regularly every two months.

Meccano Guild Correspondence Club.

Meccano users have for long felt that they were members of a great brotherhood of boys, all thinking the same kind of thoughts, sharing the same pleasures and thrilled by the same ambitions. They yearn to know what kind of lives the other boys are living, to tell them about their own schemes and ambitions and to swap notes about Meccano model building, and all the other things which boys delight in. I have often been urged to start a Correspondence Club, and the founding of the Guild now makes this possible.

If you are a member of the Guild and you would like to correspond with another member in some other part of the country, just sit down and write him a simple letter, telling him where you live, what Outfit you have, which models you like best and anything about your home life or the place you live in which you think might interest him. Then send your letter to me and I will send it on to another member of the Guild in some other part of the country, who also desires to correspond.

Only the first letter need be sent through me, and after that you may correspond direct upon any subject which will make your letters bright and interesting. Meccano topics will, naturally, form the basis of your correspondence, for it is here that you meet on common ground. You can compare outfits, describe your experiences with the hobby and help each other generally to get further pleasure from building and inventing.

I should very much like all boys who enter into correspondence in this way to describe local industries and all that concerns them, as I feel that this will be the means of imparting useful and instructive knowledge. Before writing your letter will you please read the following rules very carefully and see that they are properly complied with :—

1. All correspondence will be arranged by the Guild Secretary.
2. Applications for enrolment with the Correspondence Club must state name, age, and address of applicant and father's occupation.
3. The first letter written must be sent through Head-quarters ; after that, correspondence will be carried on direct.
4. Photographs may be exchanged, but correspondents are not allowed to either send or ask for presents or gifts of any kind whatever.
5. The Guild Secretary has the right to call on any member at any time for the letters he has received as a result of introduction through the Correspondence Club.
6. Boys desiring to discontinue correspondence should mutually arrange with their partners, and also inform the Secretary.
7. A request for enrolment signifies that the applicant accepts these rules as binding and final, and that he intends to loyally abide by them.

Special Club Prizes.

I have been gratified to find that all the Meccano Clubs during the last session have made a special feature of Meccano model building at their meetings, and as I am very desirous of encouraging those features of Club work which provide most enjoyment, it gives me much pleasure to announce that the Guild has decided to make special contributions to the funds of those Clubs whose members excel in this work.

The Club which designs the best model, during each winter session, will receive a cash award of £5, and the Club which designs the second best model, an award of £3. Each model must be the joint work of the Club members, and must be started and finished at the Club meetings under the guidance of the Club Leader. There will be no restrictions in regard to the size or the type of the model, or the number of parts used in making it.

The judge will be our President, Mr. Frank Hornby, whose decision will be final. In judging, no special consideration will be given to the size of the model and the award will be based principally on ingenuity, novelty, and mechanical accuracy. The model itself should not be sent in for adjudication ; all that is necessary being a good, clear photograph or drawing with a simple description of any points which require explanation. Entries must be received at Guild Head-quarters, addressed Guild Competition, Head-quarters, Meccano Ltd., Binns Road, Liverpool, not later than January 15th for the first session, and May 15th for the second session.

Now, boys, here's a chance to do your Club a good turn, confer distinction on it and improve its financial position. Discuss the matter with your Leaders and Secretaries and let me know that you intend to compete.

The New Meccano Catalogue

Every Meccano boy should send for a copy of this beautiful new catalogue, which will be ready early in September. Besides illustrating and describing each outfit and explaining the simplicity and beauty of the Meccano system, it gives full particulars of the new electrical accessory outfits; the Hornby Clockwork train system which is making such a deep impression throughout the country; the Tin Printed Clockwork Trains and Vertical Steam Engines. It also contains a fully illustrated list of the entire range of Meccano parts including the new and valuable ones which have recently been added. It is an exceptionally fine production, and a copy will be sent to you on receipt of your request.

Insist on Meccano

Meccano is a unique building system, each of its parts representing a correct engineering unit, such as would be used by skilled engineers in actual work. There are no parts like them; most of them are patented and cannot be imitated, and without them it is impossible to build correctly.

To be genuine, your outfit must bear the trade name Meccano. If it does not, you will get a worthless imitation and will meet with disappointment.

Meccano at the Jamboree

Those Meccano boys who visited the Jamboree held at Olympia, London, during the first week in August were fortunate boys indeed. The event was well conceived and excellently carried out. We visited it ourselves, and were much impressed by the keenness, enthusiasm, and cleverness of the boys who took part in it. We have never seen so many boys congregated together before, and the organisation must have felt proud of the success which crowned their earnest work. The Meccano stand was, of course, a great object of attraction, and all day long crowds of boys of all nationalities were eager witnesses of demonstrations of electrically-driven Meccano models and Hornby clockwork trains. Parents also came along in very large numbers to talk with our representatives and to register their appreciation of what Meccano had done for their boys, and their warm approval of the Meccano Guild and its objects. The Meccano models on display were an electrically-driven loco. and carriages, a warehouse with elevator, a magnetic crane, a Handley Page aeroplane, and a splendidly designed working model of a coal cutter driven by the Meccano clockwork motor.

In the Annexe, packs of Wolf Cubs were engaged all day in erecting Meccano models. A competition was run through the week and prizes were given to the packs who built the best models and showed the most cleverness. The utmost enthusiasm was shown, and the work was well and quickly done. The winning packs were:—

1st	3rd Chiswick	(100 marks)
2nd	D. Pack, Willesden	(97 marks)
3rd	3rd Salisbury	(95 marks)
4th	6th East Ham	(92 marks)

During the week several models were made by Boy Scouts at their own request, some of the American boys showing up very well in constructing original models.

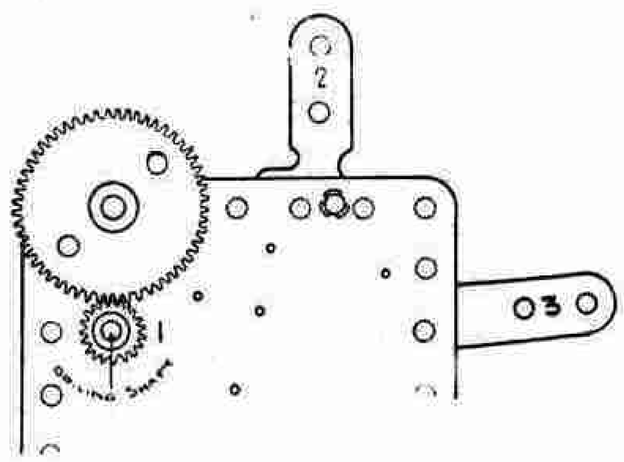
The general public attended all the time in large numbers to witness the boys at work, and the stand proved to be one of the greatest attractions in the Wolf Cub section of the Jamboree. We should like to make special mention of Senior Sixer Robinson, 3rd Chiswick Pack, who showed great aptitude and keenness. He is sending along a photograph of his model aeroplane, which we hope to produce in a coming issue.

The Meccano Clockwork Motor

A large number of Meccano boys now possess the Meccano Clockwork Motor, which they use for driving the simpler models. By means of extra gearing, many of the larger models can also be driven, and our diagram shows how extra gears may be added when more power is required.

The wheel mounted on the driving-spindle is the ½in. Meccano pinion; the wheel engaged by the pinion is the 56-toothed gear.

Properly used, the Meccano Clockwork Motor will do excellent service for



many years, and will greatly enhance the joys of model building by giving life and movement to the models.

Our full guarantee of efficiency is behind each motor, and it is our earnest desire that each one shall give the greatest satisfaction.

A New Grand Meccano Prize Competition £250 in prizes

A new big Meccano Model Building Contest has started, and we want every Meccano boy to know all about it. There will be hundreds of prizes awarded, including nine prizes in cash to the value of £100, and Meccano Outfits to the value of not less than £150. This time the Competition will be divided into three sections.

1. For boys under 10 years of age.
2. For boys between 10 and 14 years of age.
3. For boys over 14 years of age.

In addition to these prizes the Meccano Guild is offering three awards of £5 each in cash to the member of the Guild who gains the best prize in his Section. Forms of entry may be obtained either from your dealer or from us.

There are no restrictions or entrance fees. Any Meccano boy can enter, and the competitor sending in a simple model made with a No. 0 stands just as good a chance of winning a prize as one sending in a complicated model made from a No. 6 Outfit. This Competition will close on April 15th, 1921.

List of Newly Affiliated Meccano Clubs

CIRENCESTER GRAMMAR SCHOOL.
Leader—Mr. P. R. Sutton, 35, Ashcroft Road, Cirencester.
Secretary—Master H. W. Inward, 3, Corin Villas, The Avenue, Cirencester.

MONS CALPE (GIBRALTAR).
Leader—Mr. Ferrando, E. Howes & Co., Police Barracks, Gibraltar.
Secretary—E. A. Canovas, c/o E. Howes & Co., Police Barracks, Gibraltar.

NEW BRANCEPETH.
Leader—Mr. J. Hardy, Post Office, New Brancepeth.
Secretary—Master E. Furby, 9, Unthank Terrace, New Brancepeth.

NONINGTON.
Leader—Mr. C. H. Eveleigh, School House, Nonington.
Secretary—Master K. Leppard, Sunny Bank, Holt Street, Nonington.

NORWICH ENTERPRIZE.
Leader—Mr. Peart, 11, Dover Street, Norwich.
Secretary—Pastor A. B. Grosvenor, 5, Hill House Road, Norwich.

PLEASLEY HILL.
Leader—Rev. A. H. Hatfield, S. Barnabas' Vicarage, Pleasley Hill Mansfield.
Secretary—Master W. Martin, c/o Post Office, Pleasley Hill, near Mansfield.

PORTSMOUTH G. SCHOOL.
Leader—Mr. W. L. Burnham, St. Helen's College Southsea.
Secretary—Master B. C. Richards, 47, Osborne Road, Southsea, Hants.

SHETTLESTON (GLASGOW).
Leader—Mr. G. McGlynn, 138, Budhill Avenue, Shettleston, Glasgow.
Secretary—Master Millar McFarlane, 58, Old Shettleston Road, Shettleston, Glasgow.

ST. ANN'S MISSION.
Leader—Miss J. Draycott, Bentonville, Holly Avenue, Whitley Bay.
Secretary—

STOCKPORT TOWN.
Leader—Mr. G. V. Griffin, 121, Prince's Street, Stockport.
Secretary—Master J. Broster, 51, Sandy Lane, South Reddish.

THORNTON HEATH HIGH SCHOOL.
Leader—Mr. F. E. Bolt, 131, Anerley Road, London, S.E.
Secretary—Master G. Holme, 61, Lodge Road, Croydon.

TOXTETH TECHNICAL.
Leader—Mr. J. Bradshaw, c/o Junior Technical School, Toxteth Technical Institute, Aigburth Road, Liverpool.
Secretary—Master E. B. Hotchkiss, c/o Junior Technical School, Toxteth Technical Institute, Aigburth Road, Liverpool.

THE WALKLEY.
Leader—Mr. G. Angell, 298, South Road, Sheffield.
Secretary—

COALVILLE.
Leader—Mr. S. Leivers, 49, Vaughan Street, Coalville.
Secretary—

ASCENSION.
Leader—Mr. A. Young, 47, Cundy Road, Victoria Dock, London, E.16.
Secretary—Master M. Prater, 96, Alnwick Rd., Custom House, London, E.16

CARLISLE.
Leader—Mr. McVitie, 13, Sheffield Street, Carlisle.
Secretary—Master W. McVitie, 13, Sheffield Street, Carlisle.

GLEVUM.
Leader—L. C. Hobbs, Esquire, 32, Vicarage Road, Gloucester.
Secretary—

LEEDS MECCANO CLUB.
Leader—Mr. J. Spink, 7, Park Cross Street, Victoria Square, Leeds.
Secretary—Master G. G. Wilcock, 10, Park Terrace, Intake Lane, Stanningley, Leeds.

SMALL HEATH.
Leader—Mr. Edge, 131, Whitehall Road, Small Heath, Birmingham.
Secretary—Master W. Edge, 131, Whitehall Road, Small Heath, B'ham.

SPARKBROOK.
Leader—Mr. D. Pipes, 110, Warwick Road, Sparkhill, Birmingham.
Secretary—Master J. H. Weake, 138, Kyrwicks Lane, Sparkbrook, B'ham.

ST. MARTIN'S.
President—Rev. H. C. Williams, Acton, London, W.3.
Leader—Mr. L. H. Sutton, 29, Birch Grove Acton, London, W.3.

YARDHEADS.
Leader—Mr. D. Burgess, 1, Spier's Place, Leith.
Secretary and Treasurer—Mr. P. Henderson, Head Master, Yardheads School, Leith.

WALLINGBROOK.
Leader—Mr. A. Walker, Wallingbrook School, Chulmleigh, N. Devon.
Secretary—Master E. H. C. Edwards, Wallingbrook School, Chumleigh, N. Devon.

WASHINGBOROUGH.
Leader and Secretary—Mr. H. C. Treavett, Kirkby House, 104, Burton Road, Lincoln.
Assistant Secretary—Master R. Hamblett, Washingborough, Lincoln.

MECCANO

OUR MAIL BAG

The Editor has a little talk in this column with his Meccano boys. Whether he has space to reply to them all here or not, he is always glad to hear from them. He receives hundreds of letters each day and only those which deal with matters which are likely to interest other Meccano boys can be dealt with here.

Correspondents will help the Editor if they will write on one side of the paper only.

Mail Bag.

F. Chapman, Rodley.—The way to become friends with all the other Meccano boys and with Mr. Hornby is to read the *Meccano Magazine* regularly, and join the Meccano Guild. Live with them in Meccanoland, and we promise you that your life will cease to be dull and empty.

J. Bridgeman, Dublin :—

There was a young laddie I knew
Who complained he had nothing to do,
That reminds me," said Dad, "Meccano, my lad,
Is a very good hobby for you."

You have told us just sufficient to get us interested in the "young laddie" and then you have dropped him. What happened when he got his outfit, John ?

Norman Cooper, Bebside.—You write a very intelligent letter, and we hope to hear from you often. We feel sure that if you can get your Meccano Club going you will do excellent work for it. Thanks for photograph.

A. Dickens, Stourbridge :—

"I say I like Frank Hornby
For his great invention ;
And when he reaches seventy
We'll make him a nice pension."

Mr. Hornby feels awfully bucked over this, Alfred. He won't have to work so hard now.

P. Moscovitz.—Your suggestion that at some future time we offer free tickets to Liverpool and a tour round the Meccano Works as prizes for Meccano boys is not at all a bad one, and we shall have to seriously consider it.

M. A. Clements, Sparkhill.—We are quite sure that your Magazine "Nuts and Bolts" keeps you busy. It is a very creditable production, and we have read it from cover to cover, and enjoyed it. If you can keep it up to its present standard you will not lack readers.

T. J. Roberts, Liverpool.—You are certainly meeting with many difficulties in the formation of your club, but you display the spirit which surmounts all obstacles. We are sure you will succeed.

Betty Hoddinott, M.G., High Ham.—We are very glad to know of your keenness for model building. Of course you are not growing too old for Meccano. Thousands of girls older than you are getting the greatest enjoyment from the hobby.

David C. Ramsden, Leeds.—"This is the fourth time I have had the pleasure of acknowledging prizes from you, and I hope it will not be the last." We hope so, too, David ! We shall look for your name in future prize lists.

W. R. Webb, Birmingham.—"I congratulate you on the excellency of the Meccano parts. I have constructed a cinema projector using solely Meccano bearings and cogs. The machine has been running with the same bearings for close on two years night after night." This is a most severe test, and we are glad to have such a good report from you.

N. C. Whitehead, Cardiff.—We realise of course that it would be unwise and possibly dangerous for members to wear the Guild badge when playing cricket or football, and the intention is that they shall be worn "whenever possible." We trust your trip to Belgium with the boys will be both enjoyable and instructive. You may be sure that we shall watch the doings of the Cardiff Central Meccano Club with very close interest.

Ernest Atkins, Sutton.—We want to warn you and all other Meccano boys against letters received from native boys in Africa. Most of them simply beg for presents to be sent out to them, and should be ignored. We are glad to see you so enthusiastic on Meccano Club matters, and we hope to help you a great deal this winter.

Allan C. Young, Folkestone.—We note your suggestion that a Competition among Meccano Poets would be popular. We wonder what those readers who are not poets think of this.

F. Smith, Black Hill.—"If the cog wheels had gone fast enough it would have been going yet, I do believe." So do we, and it is just the "if" which has so often beaten the searcher after Perpetual Motion. However, as the earth and other stellar bodies have been moving around for thousands of years without any apparent driving force, it is just possible that the problem of Perpetual Motion will be solved some day.

G. F. Norris, Louth.—Your scheme for raising funds for the cricket club by building a ship and then having a guessing competition as to its weight, at 2d. per guess, and a big box of chocolates for first prize, was a very ingenious one, and deserved all the success it obtained.

G. Marfell, Weston-super-Mare.—We are afraid that this so-called summer has been right against your plan for making Meccano models, &c., in the sand. Better luck next summer.

F. D. Masterson, Sherburn-in-Elmet.—Thanks for your valuable suggestions in connection with the Big Competition. It is far from being true that most of the prizes go abroad, but in any case we hope that all British Meccano boys will put their backs into the job this year, for the honour and glory of Britain.

Leonard Hewitson, Cumberland.—

"Of 'ort fules I iver mit,
There's nin like them that possess
A Meccano Outfit and dident git
The Meccano Magazine."

Not knowing the Cumberland dialect we won't try to criticise the accent, but we quite agree with the sentiment.

How to get the Meccano Magazine regularly

The Meccano Magazine is now sold by most of the regular Meccano dealers, but in order to prevent disappointment you should place an order with your dealer for a copy of each issue to be reserved for you. The price of each issue is 1d. If you experience difficulty we will mail you a copy regularly on receipt of 6d. for the next six issues, or 1s. for the next twelve.

Meccano Manuals of Instructions

There are two Meccano Manuals of Instructions, and no Meccano boy is properly equipped unless he has them both. Book No. 1 is the regular manual which goes with the main Meccano outfits. It contains illustrations and full instructions for making 326 fine models ; some of the models have been designed by our own staff of experts, and others are prize-winning models contributed by Meccano boys, from every country in the world. Price 2s. 6d. (postage 3d. extra).

Meccano Manual, Book No. 2, has only recently been published, and it contains illustrations and instructions for building 100 entirely new models, very many of them prize winners. It contains Tanks, Guns, Submarines, Searchlights, and other warlike models ; also a new series of simple and intensely-interesting scientific experiments which any boy can make and which impart a lot of useful knowledge. Price 1s. 3d. (postage 2½d. extra).

Prices of Meccano

No.			
0	Outfit with full instructions for building		6/-
1	do.	do.	10/-
2	do.	do.	20/-
3	do.	do.	30/-
4	do.	do.	50/-
5	do.	do. (Carton)	70/-
*5	do.	do. (Wood)	100/-
*6	do.	do. (,,)	180/-

*In well-finished cabinet with lock and key.

Accessory Outfits

No.						
0a	converting a	No. 0	into a	No. 1	..	5/-
1a	do.	do. 1	do.	2	..	11/-
2a	do.	do. 2	do.	3	..	12/-
3a	do.	do. 3	do.	4	..	22/-
4a	do.	do. 4	do.	5	..	17/6
5a	do.	do. 5	do.	6	Car,	65/-
5a	do.	do. 5	do.	6	Wood	95/-
Inventor's Outfit "A"					..	10/-
Inventor's Outfit "B"					..	25/-
Meccano Clockwork Motor					..	12/6

Each Meccano outfit is complete with all parts and tools necessary for building models. Full instructions are included, and the youngest boy can commence to build at once without study. An accessory outfit may be purchased at any time, enabling bigger and more interesting models to be built. Additional parts may also be purchased separately, at prices given in our published lists.

Remember that though boys play with Meccano for pleasure, and though they get more genuine fun from it than from any other toy, it also gives them a sound knowledge of engineering. Through playing with Meccano, many a bright boy has been started on a prosperous career in one of the most important and profitable professions—engineering and mechanics.

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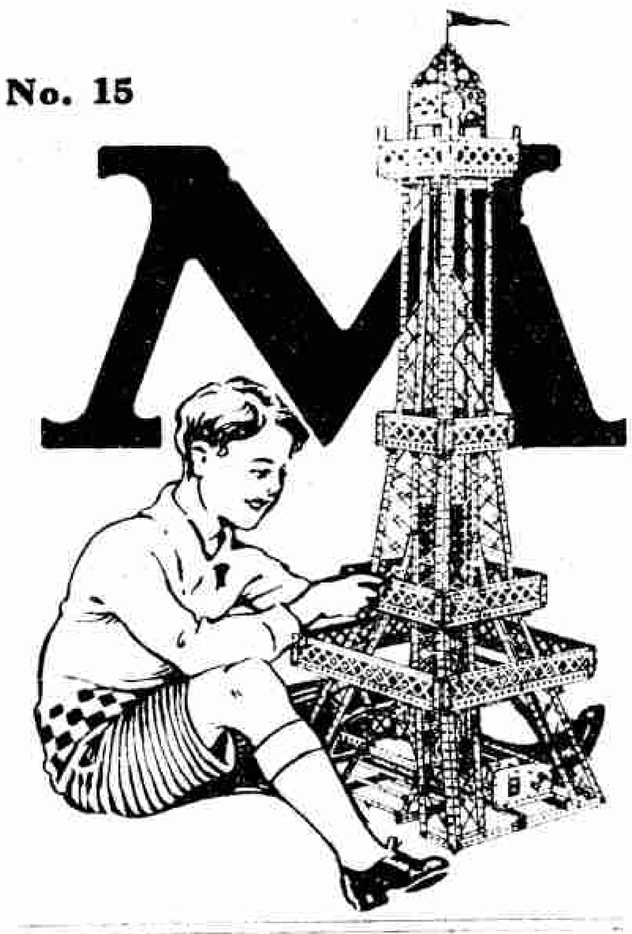
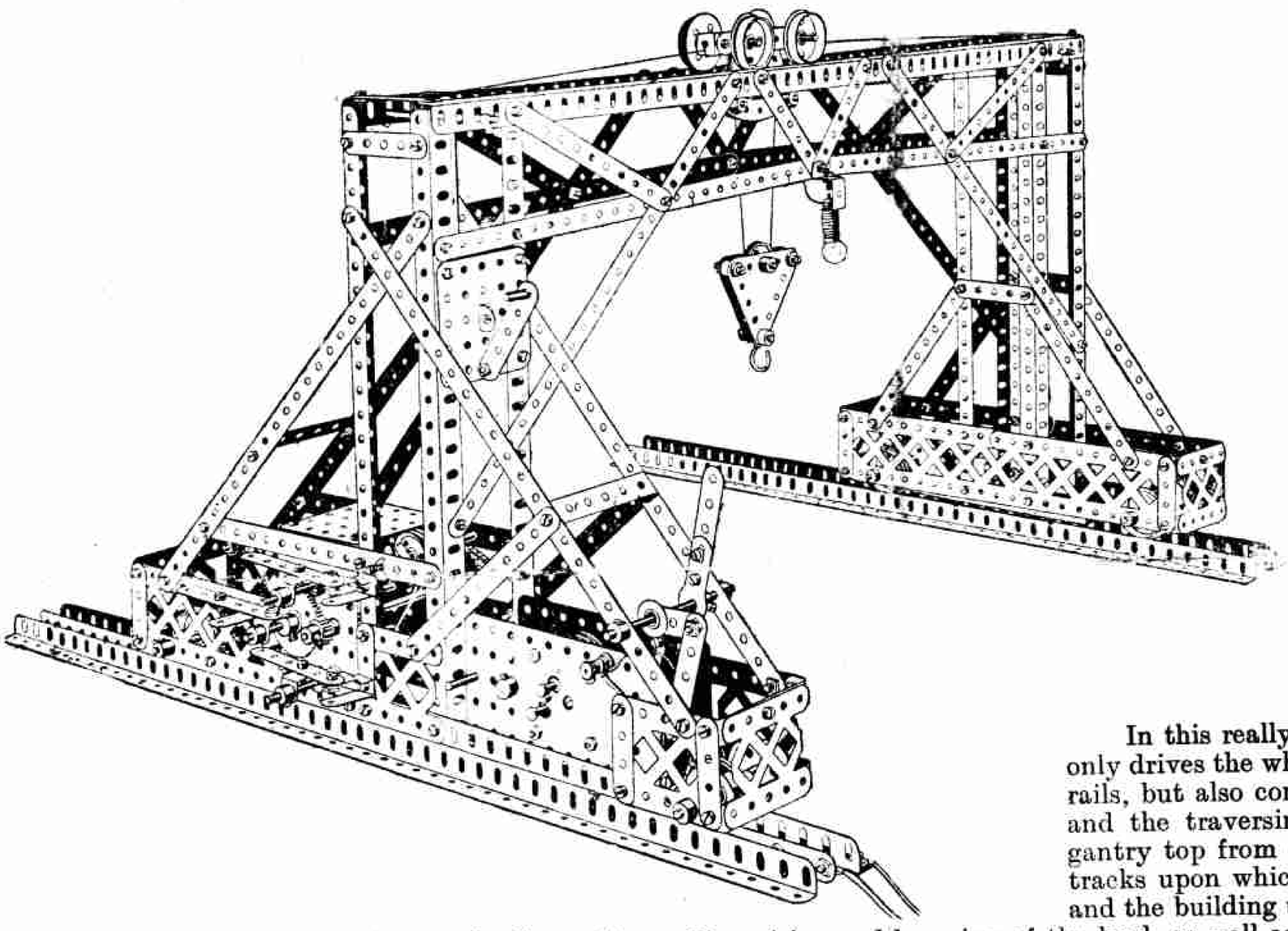


MECCANO MAGAZINE

PRICE 1d

TO HELP MECCANO BOYS TO HAVE MORE FUN THAN OTHER BOYS



Travelling Gantry Crane.

This excellent model was awarded one of the First Prizes in our 1919-20 £200 *Prize Competition.*

Commencing with this issue it is our intention to illustrate in each number of the *Meccano Magazine* an entirely new Meccano Model. These, in many instances will be models which have won prizes in our Competition, of which the above is a fine example. All the models which we shall illustrate will be included in the new Meccano Manual which is now in active preparation. We are glad to give this advance information of good things to come to our readers.

In this really instructive model the Electric Motor not only drives the whole gantry frame to and fro along the lower rails, but also controls the raising and lowering of the load, and the traversing movement of the crane trolley on the gantry top from one side to the other. The two lower rail tracks upon which the gantry runs consists of angle girders and the building up of the gantry feet carrying the travelling wheels, can readily be followed from the illustration. The raising and lowering of the load, as well as the traversing of the crane trolley is controlled by the reversing levers at the front of the nearer gantry base. A small electric globe may be fitted at the centre of the gantry, as indicated, to increase the attractiveness of the model.

Our illustration is small in size as we are limited for space, but this fine model will be fully illustrated and described in the forthcoming new Meccano Manual.

EDITORIAL.

Thanks to my Readers.

It has been impossible for me to reply to each of the thousands of correspondents who have congratulated me on the new style *Meccano Magazine*, and I want to thank you all now. In its new form the *Meccano Magazine* has received a warm welcome, and the many new features which it is intended to introduce will ensure an ever-increasing popularity for it.

New Features.

Up to now a great deal of our space has been occupied by Guild matters, and owing to the immense popularity of this movement, this was inevitable. In future I hope to give more space to purely Meccano matters, and especially to those features which will enable boys to get more pleasure from Meccano model building. We have a lot of new models ready and I am going to see that Meccano boys get first news and proper descriptions of these through the *Meccano Magazine*.

The Fascination of Electricity.

In this issue I am beginning a series of articles on the fascinating subject of electricity. Electricity plays such an important part in our every-day life that every boy should get to know as much about it as possible. I have no hesitation in saying that the boy who adds electricity to his outfit by means of one of the new Meccano Electrical Accessory outfits gets many times more fun than a boy who neglects this wonderful side of the hobby.

More New Meccano Parts.

Since the last issue of the *Meccano Magazine* some new and very valuable Meccano accessory parts have been designed, and these are now in process of manufacture. I hope to be able to give you illustrations and descriptions of them in our next issue.

Exchange Old Meccano Parts for New Ones.

Occasionally I receive letters from boys who tell me that some of their Meccano parts have become damaged or rusty either from accident or through having been left in a damp quarter for a long time, and to each of these boys I write that if they will return the parts to Meccano Limited, they will be supplied with entirely new and up-to-date parts on payment of half-list prices. I want this concession on the part of our Company to be widely known. There is not the same pleasure in building models with defective parts as with perfect ones, and it is the Company's earnest wish that every Meccano boy's outfit should be kept bright and up to date on the easiest possible terms.

Hornby Clockwork Trains.

I am sorry that so many of my readers have had to be kept waiting for these trains. We knew the demand would be very large, but we did not anticipate that it would be quite so big as has proved to be the case. Both dealers and boys are charmed with these trains and those boys who have been lucky enough to obtain them so far are having good times at home. More machines and more workpeople are being added to the Company's Train Department, and very soon I hope all demands will be filled.

The M.M. on Sale at your Dealers.

Do not forget that the *Meccano Magazine* can now be obtained through your regular dealer. To prevent disappointment, however, you should place an order with him to have a copy saved for you regularly. If you prefer to have it direct from us it will be necessary for you to send 6d. in stamps for the next six issues.

The Editor

New Essay Competition.

We have noted with pleasure the great interest taken in the recent Essay Competitions, and the unfailing popularity of this form of competition among Meccano boys. We are, therefore, announcing a new one, and we look forward to receiving a record number of entries.

The subject of the Competition is "How I would run the *Meccano Magazine* if I were Editor."

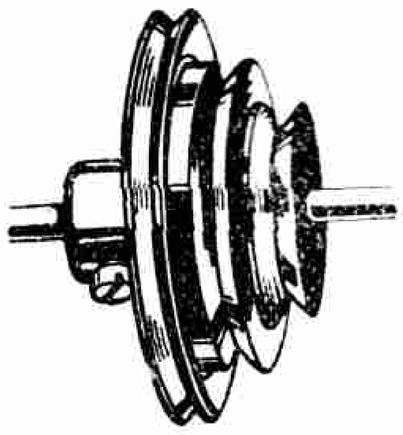
The Competition is open to all readers of the *Meccano Magazine.*

An Inventor's Outfit "B" will be awarded for the best Essay, with other awards for Essays showing special merit.

The closing date is February 19th, and the result will be announced in the March-April issue of the Magazine.

Write on one side of the paper only, about 500 words. Give your name and address and age on the back of each sheet, and address the envelope "Meccano Ltd., Essay Competition, Binns Road, Liverpool."

Meccano Cone Pulley.



A useful new Meccano accessory part which enables the user to drive a lathe or other machine at three different speeds. Our illustration shows the actual size of the pulley.

Meccano Cone Pulley .. 1s. 6d. each.

Life Story of Meccano

By Frank Hornby.

(*Continued.*)

As I have already said, our bolts are made from steel, and if they were sent out to you in the condition they come from the machines they would very quickly rust. To prevent this they are very carefully and thoroughly cleaned with chemicals, after which they are poured into an electrically operated plating vat which coats them with brass. During the whole of the brassing process they are turned over and over thousands of times, and by this means not only plated, but thoroughly polished.

After this they are sent to an Inspection Department where each bolt is inspected before it is assembled to a nut. We do this to fully ensure that faulty bolts will be rejected and not allowed to be placed into outfits. We have scores of girls whose sole work it is to assemble our nuts and bolts together, and although the cost of this is naturally very large, we feel that the results secured and the satisfaction given to all who build Meccano models amply repays us.

In this issue of the *Meccano Magazine* you will notice that we have included a photograph of a section of one of our departments. This is what we call our tool room, and the men employed in it are experienced, highly skilled and highly paid. It is in this room that the whole of the tools for making Meccano parts are made. Our tools are made from what is called high-speed steel, which contains a large percentage of carbon. It comes to us in bars about 12ft. long and when new tools of any kind are required pieces are first cut off from this bar of suitable length by a power operated machine hack-saw.

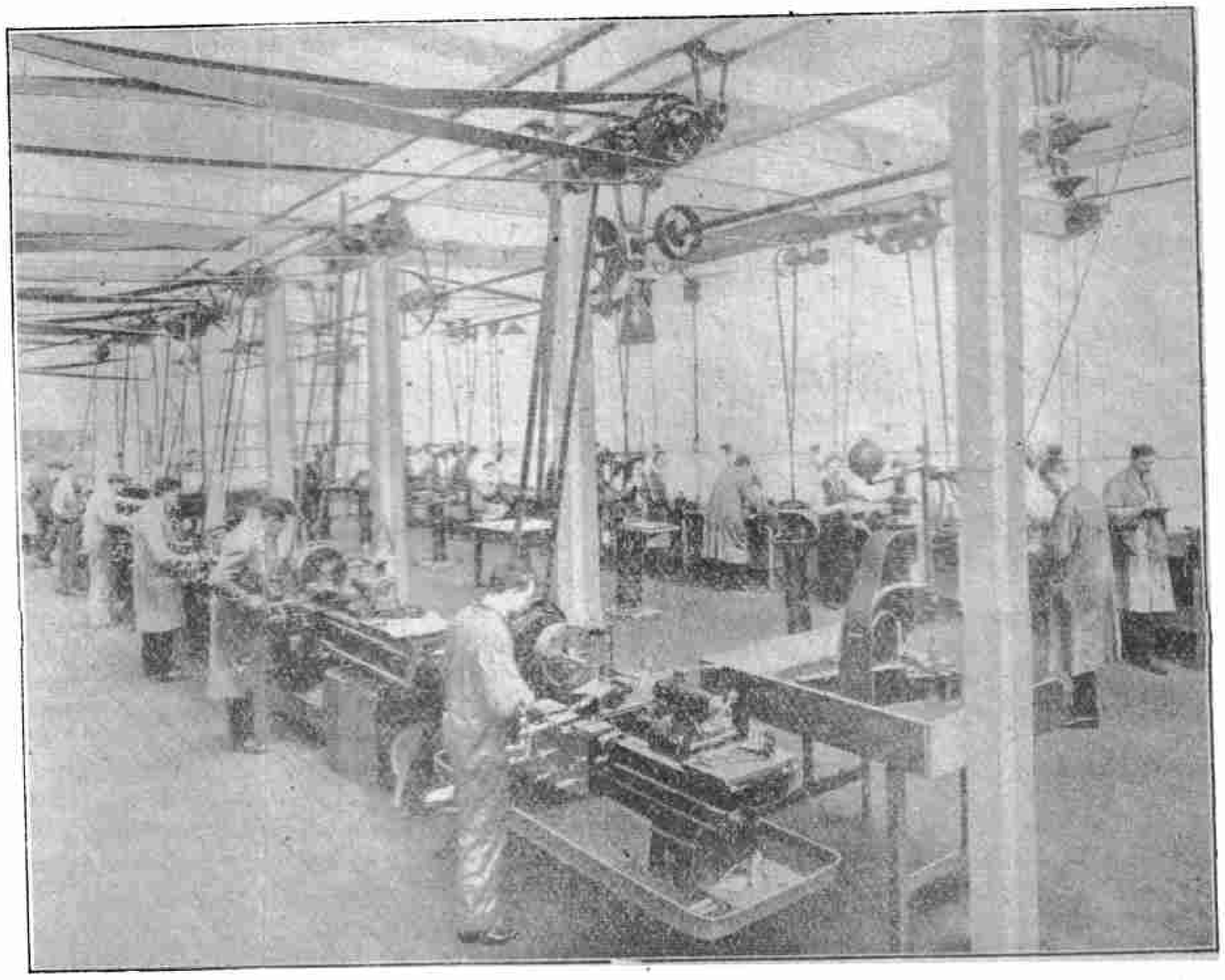
The pieces then go to one of the shaping machines to have all their sides machined flat and true. Some of the shaping machines work horizontally, and these are used mostly for outside flat surfaces; others work vertically, and these are used mainly for inside machining or when a special outside shape is required. From there the shaped pieces go to a tool maker on the bench who takes charge of them from that point, and who is responsible for the final completed tools. He first marks out the shape of each tool on each piece, and then passes them back to a skilled machine man, who either turns them in a lathe, mills the surfaces in a milling machine, or shapes them in a shaping machine, exactly to the markings of the tool maker. The latter workman now takes them back to the bench and finally fits the whole of the parts of the tools together.

Certain parts, principally those which do the actual cutting, are then passed to a hardener to be tempered and hardened. The hardener must be a specialist at his work, otherwise the tools would be spoiled by incorrect handling. After they have been through this process each tool is ground down further to give a good cutting edge and to ensure perfect flatness. The whole of the parts of the tool are then sent back to the tool-maker on the bench, who assembles them and makes the final adjustments.

In this room we make the whole of our tools for producing the various Meccano parts, press tools for blanking and piercing, cutters for cutting gear wheels, all our drills, taps and dies, &c. It is really the quality of our work in this room which decides the final accuracy and quality of the finished Meccano parts, and you will understand, therefore, how essential it is that we employ none but the best class of labour.

The machines in this department work to one-thousandth part of an inch, which, of course, helps considerably to ensure the final accuracy of the tools. There are many kinds of tools but only one best, and that is the kind we believe in. A cheap or badly made tool may do good work for a short time, but it has no length of life, and as we require a very large output indeed from each tool, it pays us to have none but the very best.

(*To be continued.*)



A Section of the Meccano Tool Making Department.

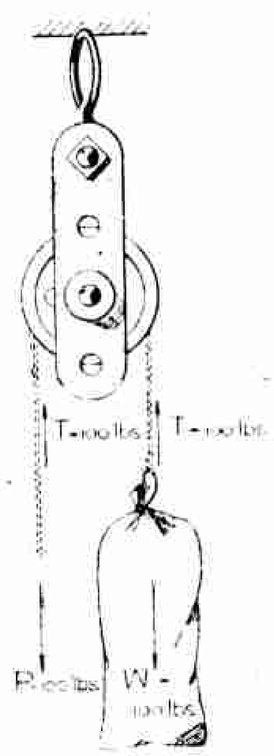
A Simple Explanation of Pulleys.

Ever since man was created he has used his brains to devise means of overcoming the difficulty of moving great masses of material, and one of the first machines he invented was the "Pulley."

A pulley is a circular wheel made of metal or wood, which revolves on its axle. Its circumference is grooved to take a rope or chain, and it is supported by a framework called a block. As a rule, a strong hook is attached to the block for the purpose of hanging the pulley or carrying the weight which is being lifted.

Let us imagine that we are engaged on a building, and that it is necessary to raise blocks of stone weighing about 100lbs. to the first floor. The effort required to lift a block of this weight and carry it up a ladder is very great, but if we rig up a tackle, it can be lessened considerably. A man can pull much better than he can lift, and if we arrange a beam in the wall with one end slightly projecting, and fix a pulley to this, we find that by hauling on the rope which passes over the pulley the weight can be raised much more easily and quickly. A pulley of this kind is called a "fixed pulley," and it will be readily seen from Fig. 1 that the power used in hauling the weight up is just slightly greater than the weight of the object itself. The machine acts just like a scale which balances exactly when each pan carries the same weight. As soon as the weight on one side is increased or decreased the perfect balance is disturbed. If the man holding the rope keeps the block still, the pull he makes is just equal to its weight; if he increases his pull, the load goes up; if he decreases it, the load runs down.

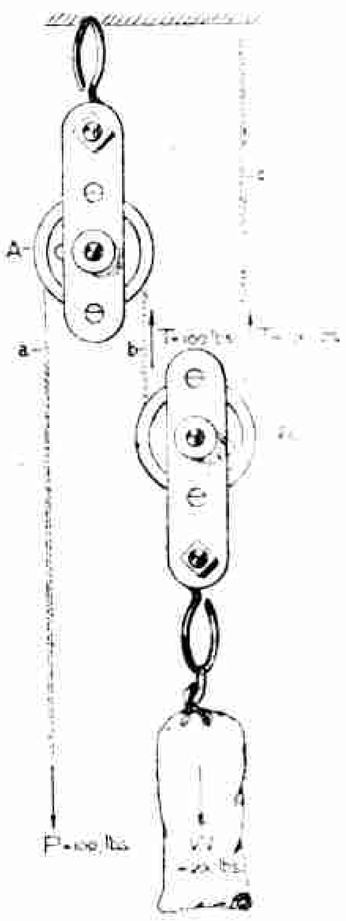
FIG. 1.



The pressure on the beam, however, will be twice the weight of the load, for it has to support the pull exerted by the man as well as the weight of the block itself.

Supposing, however, the weight to be moved is much larger—say 200lbs.—the effort required to haul this up would be double the effort required to raise 100lbs., or in other words, we should have to engage two men. By a little arrangement of the tackle, however, we need still only employ one man.

FIG. 2.



We already have our pulley fixed to the beam, and all that we need extra is another pulley, "B," as shown in Fig. 2. The hook is attached to the load, and if a man hauls on the running end of the rope, he is enabled to raise 200lbs. with the same exertion that he previously raised 100lbs. The explanation is simple. There are two distinct parts in the cord "b" and "c," by which the load is suspended, and the strain on each part must be the same, 100lbs. Now the strain on the two parts of the rope, "a" and "b," passing over the fixed pulley "A" is the same in each case as before—that is, 100lbs., so that the man pulling must only be exerting a force of 100lbs. to lift 200lbs.

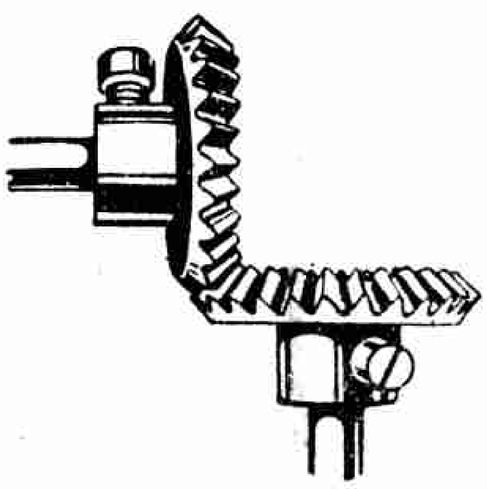
We say that the "mechanical advantage" is 2 because the pulley enables the man to do twice the work he can do alone. It must be borne in mind, however, that he is not doing it as quickly as if the rope were passing over a fixed pulley. As a matter of fact, the load only travels at half the speed, so that what is gained in power is lost in speed.

Interesting Notes for Keen Builders.

The new parts which have recently been introduced in the Meccano system have delighted thousands of Meccano boys, and the following simple illustrations of the uses of a number of them will prove interesting. Boys who have already become familiar with these new parts, and have used them in other ways than those outlined below, may like to make use of this column in order to explain such uses to other Meccano boys. The name and address of any contributor will be printed with his paragraph, and wherever possible a suitable illustration showing the use of the part will be given.

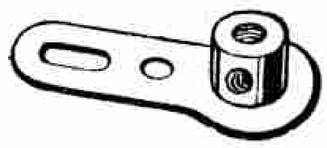
Bevel Gears.

The bevel gears now supplied in the Meccano outfit act exactly in the same way as bevel gears used in engineering. When two rotating shafts or rods are connected together at right angles so that one may drive the other, bevel gears are used, the rotation of one shaft being thus conveyed to the other at the same speed when the bevels are the same size like the Meccano bevels. The two bevels when in mesh form a right angle and the teeth of the bevels are, therefore, cut at an angle of 45°. The illustration shows two shafts connected by bevel gears in this way.



Rods or shafts at right angles have previously been connected in the Meccano system by contrate wheels and pinions, but the bevel gears are much superior and are based on proper engineering practice. There is less friction in the bevels than with the contrate wheel and pinion, and further the bevels do not require such accurate setting.

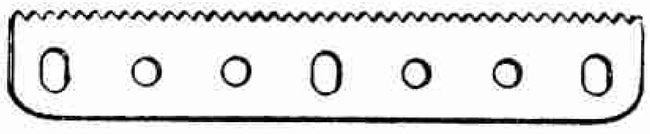
Threaded Crank.



62A. Threaded Cranks ... each 0 6

The boss of this crank is internally threaded which makes the part available for many uses in building models. For instance, it may be used when fitted with a Meccano threaded pin at one end to form a crank handle for setting up the tail stock spindle of a model lathe for gripping the work or, if a screwed rod be inserted through the threaded boss of the crank, rotation of the screwed rod will cause the crank to move along the rod and thus a traversing motion may be given to any part of the model to which the web of the crank is connected.

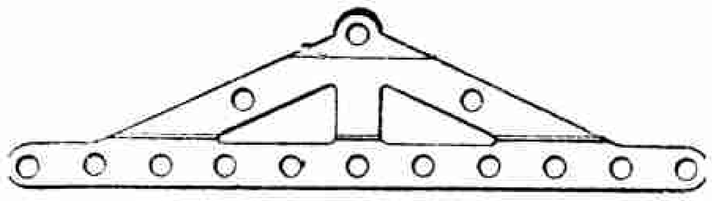
Rack Strip.



110. Rack Strips, 3½" ... each 0 3

This is one of the most useful parts now in the Meccano system, and when used with a pinion or a worm a variety of interesting movements may be obtained, such as a fine adjustment for focussing a camera or for raising or lowering a platform, for adjusting a theodolite or the tool carrier of a lathe By overlapping the ends of several rack strips and connecting them by bolts and nuts a longer rack may be obtained. A very large contrate gear wheel may be made by bolting together a number of rack strips and then bending them round into a circle the spokes of this large gear wheel being made by 5½" double angle strips placed across the wheel and bolted to the rack strips at opposite sides. With such a large contrate wheel a pinion could be arranged to mesh and thus drive with a slow rotary movement a large wheel or other model. The rack strip also, when driven by a pinion, could be used to obtain the to and fro movement of a planing machine, the pinion of course needing to be reversed as the rack reaches the end of the stroke.

Girder Frame.



113. Girder Frames ... each 0 4

The girder frame, besides being useful for decorative purposes such as at the top of a model, can also be used for inserting in models as a strengthening piece. The pitch of the holes in the girder corresponds with the standard pitch throughout the Meccano system and it can, therefore, readily be fitted in with the other Meccano parts. It may also be used as a roof truss, and when inverted the lower perforations at the apex make excellent bearings for the wheel axles of a vehicle. By combining several girder frames together a strong bridge girder may be built, or the legs of a tower. It will be noticed that the ends of the girder frame are slightly set back in order that when one girder frame is connected to another the connected girders are in the same plane.

The Meccano Guild

A Fellowship of Meccano Boys

The objects of the Meccano Guild are:

(*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.

This great movement gathers strength daily, and as Meccano boys all over the country get to know of it they are joining up in increasing numbers. The little enamelled badge of membership worn by Meccano boys is now a familiar sight, and members are glad to recognise fellow-members by this token and to accept them as loyal friends.

The Guild Certificate has met with a warm and enthusiastic reception from all our members, thousands of whom have written to me to say that they are delighted to have it, and that it will be framed and hung prominently in their bedrooms, so that they may always be reminded of the splendid objects for which our Guild has been formed.

To new Meccano boys and to new readers of the *Meccano Magazine* I would say that each member of the Meccano Guild, when he is enrolled, receives a beautiful enamelled badge of membership, and a special Guild Certificate. I am always happy to correspond with any of our new boys, to explain to them fully the objects of the Guild, and to supply them with forms of application for membership.

Guild Notes.

By the SECRETARY.

I repeat the announcement made in our last issue that handsome bronze medallions will be awarded to Club members who read the best papers at meetings of their Clubs. Each Club will be allotted two medallions, one for each Winter session, and they will be given to the boys who deliver the best papers. Any subject may be selected—Engineering, Electricity, Wood-working, Stamp Collecting, &c. Boys may get assistance from any source and they may have their papers illustrated by lantern slides, drawings, models, or in any other way. After they have been read, the papers must be sent to me with comments by the Club Leader.

I most earnestly hope that all Club Leaders will help me to make this part of Meccano Club work very successful.

Let me again remind all Meccano Guild members that special prizes are to be given to members in connection with our £250 Best Model Competition.

Meccano Club activity is now in full swing, and from all quarters Club secretaries are sending me their syllabuses showing their programmes for the winter. The number of affiliated Clubs is steadily increasing and the only difficulty in the way of very many others being ready for affiliation is the want of a suitable room. I am always very happy to help in this matter by corresponding with local authorities, and I am glad to say that in many instances I have been able to exercise considerable influence in this direction.

Quite recently Meccano Clubs have been established in connection with Red Triangle Clubs in Cardiff and Manchester. I have found that the secretaries of Red Triangle Clubs are specially keen and anxious to help boys all they can, and I am quite sure that any boys who approach them on the question of forming a Meccano Club will receive a very courteous reception, and that their proposals will be carefully considered. Every Red Triangle Club should have its Meccano Club and its regular weekly Meccano night.

Club Notes.

BRISLINGTON MECCANO CLUB has now secured a Club-room in the local Parish Hall; members very keen.

"ALL SOULS" MECCANO CLUB (Liverpool).—Excellent start made under the patronage of Rev. Father Southworth. An Exhibition of models is being arranged for December.

CARDIFF Y.M.C.A. MECCANO CLUB.—Club meetings have now been started, and any Cardiff boy wishing to join should apply to the Secretary, Cardiff Central Y.M.C.A.

ELLERSLIE MECCANO CLUB (School Club).—Members extraordinarily keen; a novel feature is an Aero Section of the Club for construction of model aeroplanes; also a Club Library. Mr. E. Wiggett-Thompson, the Club Leader, is arranging lectures, &c., and an interesting season is assured.

CARSHALTON AND DISTRICT MECCANO CLUB, recently affiliated, has very energetic Leader in Mr. E. Atkins. Excellent list of rules and syllabus drawn up which augurs well for future of Club.

ST. ANN'S MISSION MECCANO CLUB (Newcastle-on-Tyne).—Club Leader reports "Club re-opened for Winter session on Monday, September 6th. On October 5th a very successful Exhibition of Models was held in the Mission Room. The models were judged by Mr. Routledge, of Messrs. Hawthorn, Leslie & Co., Ltd., and the prizes were afterwards distributed by Mrs. Routledge. Canon East was also present and spoke words of encouragement to the members of the Club." There is a big list of prize-winners, much too long to print here, and Miss Draycott, the Club Leader, hopes to hold an Exhibition on a much larger scale next March.

ST. THOMAS' MECCANO CLUB (Exeter).—Mr. W. Pelley has kindly consented to act as Club Leader in succession to Mr. Willmin, and a happy successful session is promised.

SMALL HEATH MECCANO CLUB.—Mr. Edge, the Club Leader, is introducing a "Games Night" occasionally, and this should greatly increase the feeling of good-fellowship among members. There is still room for more members, and boys wishing to join should apply to Mr. Edge, 131, Whitehall Road, Small Heath, Birmingham.

SPARKBROOK MECCANO CLUB continues to make excellent progress and Mr. F. E. Bolt, the Club Leader, has interested a Sunday School teacher in the Club, and hopes to get other teachers to help him in the good work among boys. Winter session opened with business meeting and lantern display. A lecture on "Divers and their work" was given by the Club Leader, and members will shortly visit the Bell Foundry of Messrs. Gillett & Johnson. The athletic side is very well looked after, and recently the boys had an exciting five-mile "hare and hounds" across fields and through woods on a beautiful afternoon. Club night is *the* night of the week.

ST. MARTIN'S MECCANO CLUB (West Acton).—Boys tremendously keen. Club is being run in conjunction with a troop of Scouts, but membership is not restricted to Scouts. Now West Acton boys, rally round the enthusiastic Club Leader, Mr. H. L. Sutton, 29, Birch Grove, Acton, W.3, and you are certain of a fine time.

STANLEY ROAD MECCANO CLUB (Worcester), recently affiliated, under the leadership of Mr. C. H. Cook, who, in the words of his Secretary, Master R. J. Greenway, "makes the meetings 100 times more interesting." Mr. Cook's wide experience with boys—he is the Headmaster of Stanley Road Council School—should prove of inestimable value to the Club.

Club Leaders desiring mention in these notes should forward reports of present session before December 31st 1920, for inclusion in the next "Magazine."

Newly Affiliated Meccano Clubs

ALL SOULS' M.C. (LIVERPOOL).
President—Rev. Father Southworth, 39, Sackville Street, Liverpool.
Club Leader—Mr. T. J. Roberts, 170, Dryden Street, Liverpool.

CARDIFF Y.M.C.A. MECCANO CLUB.
Club Leader—Mr. N. C. Craven-Whitehead, Central Y.M.C.A., Cardiff.
Secretary—
Club Address—Central Y.M.C.A., Cardiff.

ELLERSLIE M.C.
Club Leader—Mr. E. Wiggett-Thompson, "Ellerslie," Bickington, Barnstaple.
Secretary—Master E. H. Browne, "Ellerslie," Bickington, Barnstaple.
Club Address—"Ellerslie," Bickington, Barnstaple.

CARSHALTON & DISTRICT M.C.
President—Mr. Andrews, Carshalton, Sutton, Surrey.
Club Leader—Master E. H. Atkins, "Strawberry Cottages," 46, Mill Lane, Carshalton, Sutton, Surrey.

KING STREET M.C. (LUTON).
Club Leader—Mr. S. Burgoyne, 58, Wellington Street, Luton.
Secretary—Master W. Humby, 34, Adelaide Street, Luton, Beds.

OLD KENT M.C. (LONDON).
Club Leader—Mr. W. Chittenden, 285, Old Kent Road, London, S.E.
Secretary—Master W. Filce, 22, Yalding Road, London, S.E.

STANLEY ROAD M.C. (WORCESTER).
Club Leader—C. H. Cook, Esq., Stanley Road Council School, Worcester.
Secretary—Master R. G. Greenway, 173, Wyld Lane, Worcester.
Club Address—Stanley Road Council School, Worcester.

SOUTHVILLE M.C.
Club Leader—Mr. Stickler, 19, East Street, Bedminster, Bristol.
Secretary—Master R. L. Dyer, 4, Morley Road, Southville, Bristol.

Meccano Guild Correspondence Club.

Since my announcement in the last issue of the *Meccano Magazine* I have received large numbers of letters from boys who desire to be put into communication with fellow members, and this is being done as rapidly as possible. No Guild member need now feel lonely. He can correspond with a real friend and learn what is happening outside his own little circle. Members desiring to join the Correspondence Club should read the following regulations carefully. If any boy wishes to correspond with a Meccano boy in any other language than English, or in any other country, he should state his wishes clearly in his first letter.

RULES.

1. All correspondence will be arranged by the Guild Secretary.
2. Applications for enrolment with the Correspondence Club must state name, age, and address of applicant and father's occupation.
3. The first letter written must be sent through Headquarters; after that, correspondence will be carried on direct.
4. Photographs may be exchanged, but correspondents are not allowed to either send or ask for presents or gifts of any kind whatever.
5. The Guild Secretary has the right to call on any member at any time for the letters he has received as a result of introduction through the Correspondence Club.
6. Boys desiring to discontinue correspondence should mutually arrange with their partners, and also inform the Secretary.
7. A request for enrolment signifies that the applicant accepts these rules as binding and final, and that he intends to loyally abide by them.

Wanted a Guild Motto.

The idea of adopting a motto for our Guild appears to have caught on amongst our members. A large number of suggestions have been received, and I give below a few of the best. If you have a suggestion which you think is an improvement on these send it along :—

"Live Pure, Speak True, Right Wrong, and Honour the King."
"Aim High."
"If you fail, try again."
"Unity is Strength."
"He Conquers who Endures."
"I will either Discover a Way or Make One."
"Nulle Secundus" or "Second to None."
"Play the Game."
"Mens sana in Corpore Sano."
"Determined Perseverance will bring Success."
"Better Your Best."
"Good Workers, Good Sportsmen, Good Comrades."
"Push on and Accomplish."
"Hasten Slowly."
"Give and Take."
"Esto Quod Videris" meaning "Be what you appear."
"Progress."
"Be British."
"Deeds, not words."
"Think before you act."
"Strive Hard, and Aim High."

Guild Recruiting Campaign.

The grand Guild Recruiting Campaign, announced in the last issue of the *Meccano Magazine*, has commenced well and already enthusiastic members all over the country are taking part in it. As I said in our last issue, there are many thousands of boys in this country who are using Meccano regularly, and who yet have never heard either of the *Meccano Magazine* or the Meccano Guild. Any member who makes the Guild and its work known to another Meccano boy is doing both himself and the Guild a service. The aim of our President is to bring all Meccano boys into this great movement, to work together for good times, mutual help and friendship, and clean, happy lives.

To each of you who recruits three new members to the Guild a very beautiful medallion will be awarded, which I am illustrating again in this issue for the benefit of the many new readers. This medallion will be despatched *immediately* the three new recruits have been enrolled. A large number have already been won, and I have received letters of high praise for them from the recipients.

As a special award the boy who obtains the largest number of recruits between September 1st, 1920, and March 1st, 1921, will receive an exact duplicate of the medallion but in solid gold with his name engraved on it, and to the boy who recruits the next greatest number, a solid silver medal will be awarded similarly engraved. Every boy desiring to share in this Grand Recruiting Campaign should notify me and I will send him a number of Guild Application Forms. He should write his own name and address and the date on the back of these so that they may be recorded in his favour. He must also send in a full list of his recruits, with names and addresses, before March 15th, 1921.

Change of Address.

Subscribers should immediately notify the Editor of any change of address. Send a postcard *giving the old and new address,* so that records may be kept up-to-date.

Meccano and Electricity.

The introduction of electricity to the Meccano system opens up a world of wonderful possibilities for any keen intelligent boy. Meccano itself, as a building system, is one of the wonders of this progressive age. Not only does one get that deep pleasure and satisfaction of building, but there is the thrill of achievement which comes of constructing a piece of mechanism that is perfect in every detail and that responds instantly to the touch of the builder. Allied with electricity the joy of building is increased a hundred fold—for a boy may now not only build models that can be operated by electricity, but he can carry out his own experiments far off the beaten track.

The purpose of this series of articles is to give boys a clearer insight into the meaning and properties of electricity so that they will be better equipped to understand and carry out their experiments; and boys in difficulties at any time are invited to send in questions which the writer will endeavour to answer as fully and as clearly as possible.

What is Electricity ?

This question has puzzled scientists and thinkers throughout the ages. The early Greeks gave this wonderful power its name from "electron," which means amber, because they found that when amber was rubbed with a dry cloth it developed the mysterious power of attracting light particles of matter. Later it was found that electricity could be generated by using certain acids and metals in conjunction, and that it seemed to run along wires; hence came the idea that it was a fluid, and to-day we talk of a current of electricity. During recent times many important discoveries have been made, and we now believe that electricity is a series of ether waves. Wires are used merely to direct the power in certain channels, and with the introduction of wireless telegraphy and telephony a much wider field is opened up.

Scientists have discovered that the atoms which make up any object, are themselves composed of tinier particles, which are in reality electrons. Thus all matter is composed of electricity or power, and if the problem of releasing this power can be solved, we shall have stupendous sources of energy available, beside which our present sources of power—like steam and hydraulic—immense as we now conceive them, will be small and puny. The solving of the problem may not be far distant for the whole scientific world is now anxiously but confidently awaiting its announcement.

Next Article—
Different Kinds of Electricity.

Results of Meccano Essay Competitions.

The task of adjudicating on the essays sent in for the three recent Competitions has been a very pleasurable one. Apart from the extraordinary large number of entries, the essays submitted were almost all excellently written and well composed. Unfortunately, every one cannot win a prize, but there are many boys who, with a little more care and perseverance, will certainly figure in future prize-lists.

In the two essays concerning the Guild a good many entrants lost marks through putting forward fantastic schemes which are quite impracticable, and these boys should bear in mind that simple, straightforward, commonsense schemes receive more consideration than risky experiments.

In the essay "Which is more enjoyable, building a Meccano Model, or playing with it, and why ?" the standard reached was very high. Sound arguments were put forward for each side, but in some instances the "Instruction derived" was confused with the "Joy of building." Owing to the excellence of the essays submitted in this Competition, we are increasing the awards, as will be seen below :—

Essay Competition No. 1.
Prize : Inventor's Outfit "B."

Master D. Shrapnel (age 13), 254, Court Oak Road, Harborne, Birmingham.

Essay Competition No. 2.
Prize : Inventor's Outfit "B."

Master W. Wigmore (age 14), 14, Sherard Gardens, Eltham, London, S.E.9.

Essay Competition No. 3.
Prizes : Two No. 2 Outfits.

Master Max Covill (age 15), Orchard Leigh, Rodwell, Weymouth.

Master G. P. Meredith (age 16), Wolverley Vicarage, Kidderminster, Worcestershire.

3rd Prize : No. 1 Outfit.

Master E. Joyce (age 13), 8, Edinburgh Road, Walthamstow, Essex.

Prize Essay on "Which is the more enjoyable, Building a Meccano Model, or Playing with it, and Why ?"

However you look at the question, and whatever your own opinion may be, there is one solid fact which cannot be disputed, namely, that in a box of Meccano there is enjoyment for every boy, be he big or small, and whether he prefers building models or playing with them. The pleasure is always there, waiting to make the boy who opens the box whistle and sing at his work as only a happy boy knows how. But there is one kind of boy who gets the most enjoyment of all out of his outfit—the boy who has imagination.

To this boy, the table at which he sits is a great humming workshop, such as the Meccano factory which Mr. Hornby describes in the *Meccano Magazine*, he himself is the chief engineer; the Meccano Manual before him contains his neatly-drawn plans and instructions for the building of the great steel bridge which is to be thrown across a river. At last, this feat of engineering is accomplished, and the bridge spans the water, a well-proportioned structure of shining steel girders. Next day the engineer receives an order for a large crane; and so the game goes on.

When the model is made, however, there is an even greater field for using imagination. Power being supplied by a Meccano motor, the crane raises bales of cotton to the top storey of the warehouse; the bridge swings to allow ships to pass down the river; the loom weaves cloth for the use of the Meccano Girl's dolls, and all the hundreds of other models perform their duties in the smooth, silent Meccano way. A Meccano outfit is a thousand games in one and costs less than many useless toys—just remember that, you parents!

There are so many models illustrated in the fat Manual of Instructions that every branch of engineering is well represented. (I can never decide which to make next!) So that the answer to the question we are discussing depends a good deal on which model is being built. In the case of a large structure such as the Eiffel Tower or the Tower Bridge the chief pleasure is in the building; girder after girder is bolted into its place, and from the table a firm and rigid building shapes itself under the Meccano boy's cunning fingers. But there are some very good examples of the other class; for instance, in making the Meccanograph you are all the time impatient to be making designs, and the fun begins when the model is finished. The same applies to many of the ingenious models with which the Manual is stocked.

While admitting that we learn patience, dexterity, and practical knowledge from the building of Meccano models, I consider that the greatest enjoyment is obtained in playing with them; for while the model is working we may study the movements of its working parts, learn a great deal about machinery, and, at the same time, enjoy a game with a toy which is unsurpassed in good workmanship, popularity, and interest.

Max Covill.

Extracts from some of the Competing Essays.

The young boys who are only starting to build with Meccano, build merely for the fun of working the model. But gradually the engineering instinct overcomes this childish trait of wishing to turn a handle and see it work.—T. Moore, Bray.

When building with Meccano you lose all that "want something to do" feeling, for your brain as well as your hands is employed.—Will Lavis, Heavitree.

And it's a great comfort to mother because it is not a noisy pastime—she likes seeing me build.—Joseph Latter, Portslade-by-Sea.

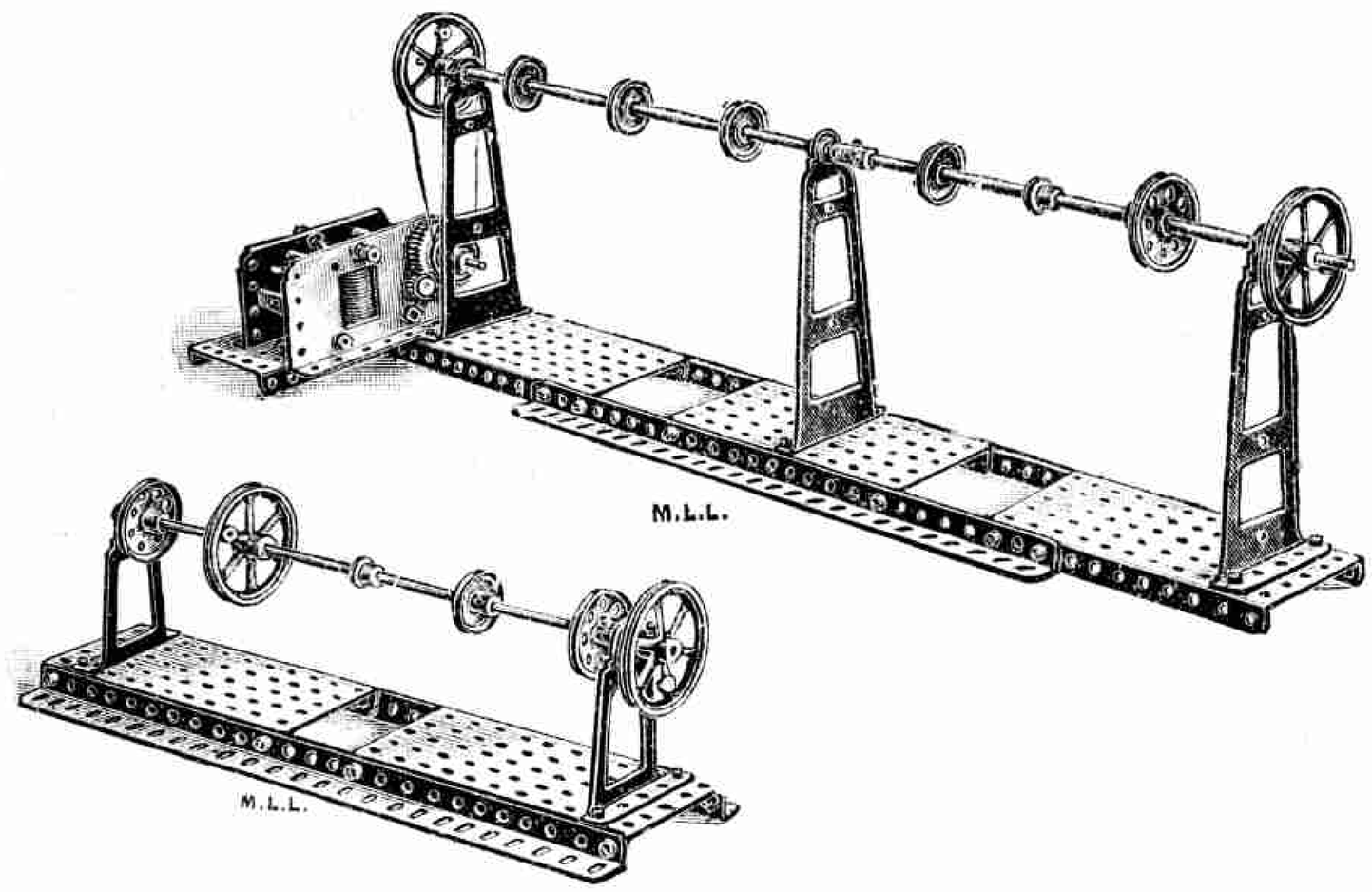
When a model is built it becomes a toy; while it is being built it is a science.—G. P. Meredith, Kidderminster.

No one on earth can understand the joy that is the Meccano Boy's when he overcomes his little difficulties. —W. F. Smith, Crownhill.

Boys with more expensive outfits may have greater enjoyment playing with the big models, but when it comes to building I can have just as much enjoyment as they can.—Chas. Barraclough, Bradford.

Meccano gives to boys the greatest joy on earth—the joy of achievement.—L. Smith, Barnsley.

Meccano Shafting Standards.



Meccano Shafting Standards are designed on the Meccano system with equidistant holes ½" apart. Our illustrations show how, with the aid of these standards and the regular Meccano parts, strong and serviceable shafting may be constructed.

Large Standards	1s. 3d.	each.
Small ,,	10d.	,,

The New Meccano Catalogue

This beautiful new catalogue should be in the hands of every Meccano boy.

Besides illustrating and describing each outfit and explaining the simplicity and beauty of the Meccano system, it gives full particulars of the new Electrical Accessory Outfits, Meccano Clockwork and Electric Motors, the Hornby Clockwork Train System which is making such a deep impression throughout the country; the Tin Printed Clockwork Trains and Vertical Steam Engines. It also contains two full pages of illustrations of Prize-winning Models in the Big Meccano Competitions, and a fully illustrated list of the entire range of Meccano parts, including the new and valuable ones which have been recently added.

The demand for "Meccano Products" following the announcement in our last issue has been very heavy indeed, but there are still thousands of Magazine readers who have not taken advantage of this splendid offer.

We wish every reader of the *Meccano Magazine* to possess one of these beautiful booklets. A copy will be sent FREE on receipt of your postcard. Write to-day.

A New Grand
Meccano Prize Competition
£250 in prizes

A new big Meccano Model Building Contest has started, and we want every Meccano boy to know all about it. There will be hundreds of prizes awarded, including nine prizes in cash to the value of £100, and Meccano Outfits to the value of not less than £150. This time the Competition will be divided into three sections.

1. For boys under 10 years of age.
2. For boys between 10 and 14 years of age.
3. For boys over 14 years of age.

In addition to these prizes the Meccano Guild is offering three awards of £5 each in cash to the member of the Guild who gains the best prize in his Section. Forms of entry may be obtained either from your dealer or from us.

There are no restrictions or entrance fees. Any Meccano boy can enter, and the competitor sending in a simple model made with a No. 0 stands just as good a chance of winning a prize as one sending in a complicated model made from a No. 6 Outfit. This Competition will close on April 15th, 1921.

These are reproductions of Lantern Slides in beautiful colours, which will be used in Cinemas and Theatres all over the country this Winter to advertise Meccano. Meccano boys should look out for these.

MECCANO

OUR MAIL BAG

The Editor has a little talk in this column with his Meccano boys. Whether he has space to reply to them all here or not, he is always glad to hear from them. He receives hundreds of letters each day and only those which deal with matters which are likely to interest other Meccano boys can be dealt with here.

Correspondents will help the Editor if they will write on one side of the paper only.

Walter S. Warner, Manchester.—Glad to hear that you consider your Guild Certificate "simply ripping." You confirm the general verdict. The Meccano Equatorial Mounting which you found so useful in your astronomical work was designed by a prominent scientist for his own use.

K. Connor, Seven Kings.—Sorry you are having such difficulty in securing a Club Room. Why not get into touch with the Scouts officials and get their consent to use one of their rooms one night each week? Get them interested in the Guild movement, as so many of our members all over the country have done. They are always courteous and helpful.

Betty Hoddinott, High Ham.—Certainly you can join the Guild, Betty, and it won't be necessary for you to pretend to be a boy. We welcome both yourself and your brother as members. You would be surprised if you knew the number of girls who build Meccano models, read the *M.M.*, and are members of the Guild.

B. Crawley, Liverpool.—"I am not a proud sort of a chap, but I can tell you that I am proud of belonging to such a fine organisation as the Meccano Guild." This feeling goes right through the Guild, Ben, and it makes us full of confidence for the future. Your musical accomplishments are noted, and when we need a "Guild musician" we will get you to tootle for us.

G. B. Mann, Peckham :—

"There was a poor boy who was sad,
His friends could not make him look glad,
With Meccano, however, he's happy for ever,
He's no longer a sad little lad.'"

Splendid, Charles; we wonder if you could tell us about the young poet of Peckham. Glad you take the new *M.M.*

W. Brunskill, Barrow-in-Furness.—Your suggested motto "Aim High" is very good, and will be considered. We note your suggestion for altering the phrase in our heading.

Jack Reynolds, Sydney, N.S.W. :—

"Meccano is the best of toys,
At Christmas time to give to boys.
They play with it from morn till night,
And never, never, have a fight."

We know the first three lines are true, Jack, but we should have had our doubts about the last line if you hadn't used two "nevers."

E. Barten, Stourport.—If we are any judge at all you will do all the good you can, not only for Meccano, but for anyone with whom you come in contact. Our heart goes out to the hundreds of Meccano boys who, like yourself, have lain in bed for years. They are patient, lovable boys. We are happy to know that Meccano has given you so many pleasurable hours, and we welcome you into our Guild.

Mrs. G. Thorpe, Rhuddlan.—"No wonder all Meccano boys think such a lot of 'our Mr. Hornby. I think we mothers do, too." Our President's friends increase in number daily. We are always glad to have news of your little son Kit.

R. Allan, Blakemore.—We are never too busy to reply to such nice letters as you send us. It pleases us immensely to see that yourself and your young brother are such pals. We have many, many men, twice your age, who are members of the Guild, and are giving much time and thought to furthering its objects. You can do much good work for the Guild and its members if you set your mind to it. We are very glad that Meccano has been your companion for so many years.

G. P. Meredith, Kidderminster.—"You are the first editor to whom I have ever written, and I think your *Magazine* is the best I have ever read. Whenever I meet a boy for the first time I always say Have you Meccano?' and if he has we never lack topics for conversation." It is just that friendliness amongst boys which we are so anxious to cultivate. Any boy who writes as you do has got the right spirit, and is our warm friend.

Bob Harding, Markethill.—"I am delighted with the Certificate. I approve of the objects entirely; as Daddy says, 'Meccano is the best toy and the best firm he has ever come across.'" You make us feel proud, Bob.

Master C. Gaze (and many others).—As you have already signed an application form it will not be necessary to fill up another one to get a new badge. Just send a remittance of 7d. in stamps, explaining that you are a member, but require a new badge, and one will be forwarded to you by return.

S. Messer, Stoke Newington :—

Who invents the Sprocket Chain,
And then the Hornby Clockwork Train?
He must have a tremendous brain,
Frank Hornby!
Who tries to make us happy boys,
With lots of new-invented toys
Like trains that run and make no noise?
Frank Hornby!
Who, when he reads these lines to-day
Will tap his head and gently say,
"Poor kid, his mind has gone astray?"
Frank Hornby!

He didn't do or say anything like that. On the contrary, he seemed highly pleased to receive such a nice tribute.

Mr. J. Blair, Bishopton, writes: "It does not need any testimony of mine to say how delightful boys find the Meccano Outfits; I bought my boy an Outfit at Xmas; I am only sorry I delayed so long." Your tribute to the joys of Meccano is very welcome; allow us to congratulate you for demonstrating it in the practical way of starting a Meccano Club and helping us with this splendid work among boys.

J. Borrowdale, Wellington.—Congratulations on winning first and special prizes at the Wellington show, with your Pit Head Gear. We hope you received your entry form safely, and that you will be equally successful in the Big Meccano Prize Competition.

G. Fairclough, Haydock (and many others).—Bi-monthly means every two months, and not twice a month as many boys imagine.

How to get the Meccano Magazine regularly

The Meccano Magazine is now sold by most of the regular Meccano dealers, but in order to prevent disappointment you should place an order with your dealer for a copy of each issue to be reserved for you. The price of each issue is 1d. If you experience difficulty we will mail you a copy regularly on receipt of 6d. for the next six issues, or 1s. for the next twelve.

Meccano Manuals of Instructions

There are two Meccano Manuals of Instructions, and no Meccano boy is properly equipped unless he has them both. Book No. 1 is the regular manual which goes with the main Meccano outfits. It contains illustrations and full instructions for making 323 fine models; some of the models have been designed by our own staff of experts, and others are prize-winning models contributed by Meccano boys, from every country in the world. Price 2s. 6d. (postage 3d. extra).

Meccano Manual, Book No. 2, has only recently been published, and it contains illustrations and instructions for building 100 entirely new models, very many of them prize winners. It contains Tanks, Guns, Submarines, Searchlights, and other warlike models; also a new series of simple and intensely-interesting scientific experiments which any boy can make and which impart a lot of useful knowledge. Price 1s. 3d. (postage 2½d. extra).

Prices of Meccano

No.			
0	Outfit with full instructions for building		6/-
1	do.	do.	10/-
2	do.	do.	20/-
3	do.	do.	30/-
4	do.	do.	50/-
5	do.	do. (Carton)	70/-
*5	do.	do. (Wood)	100/-
*6	do.	do. (,,)	180/-

*In well-finished cabinet with lock and key.

Accessory Outfits

No.							
0a	converting a	No. 0	into a	No. 1		..	5/-
1a	do.	do.	1	do.	2	..	11/-
2a	do.	do.	2	do.	3	..	12/-
3a	do.	do.	3	do.	4	..	22/-
4a	do.	do.	4	do.	5	..	17/6
5a	do.	do.	5	do.	6	Car.	65/-
5a	do.	do.	5	do.	6	Wood	95/-
Inventor's Outfit "A"					..	..	10/-
Inventor's Outfit "B"					..	..	25/-
Meccano Clockwork Motor					..	..	12/6

Each Meccano outfit is complete with all parts and tools necessary for building models. Full instructions are included, and the youngest boy can commence to build at once without study. An accessory outfit may be purchased at any time, enabling bigger and more interesting models to be built. Additional parts may also be purchased separately, at prices given in our published lists.

Remember that though boys play with Meccano for pleasure, and though they get more genuine fun from it than from any other toy, it also gives them a sound knowledge of engineering. Through playing with Meccano, many a bright boy has been started on a prosperous career in one of the most important and profitable professions—engineering and mechanics.

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