

# The MECCANO ENGINEER

*A Magazine for Meccano Boys*

November—December

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1916

## BUILDERS

### *A Word for Parents*

All boys are builders nowadays. Fifteen years ago Meccano showed how, and today there are a million boys whose keenest enjoyment is to build something with Meccano. These boys have realized the joy of building—of making something. They take the steel and brass of Meccano and turn it into things of beauty and usefulness. There is no finer satisfaction to any boy than to watch the great structures which he makes with Meccano grow step by step into perfection. In all the world there is none prouder than the boy who has built something himself. Like the mason who has erected a house, or some one who has built a ship, he experiences all the joy of accomplishment.

Meccano is all fun; it holds the boy because it is pure play. It is so easy to build, there is no study necessary; but there is nothing foolish about it, it is fine, manly play. Boys like to copy the things which men have built, and Meccano gives them this opportunity. It is fine training for the boy; it keeps him busy, mind and body. His mind is trained constructively. You rear him away from the atmosphere of destruction, for that is what it means to be a builder. For boys of all ages, for young men, and men who stay young (boys from five to fifty build with Meccano) there is nothing like it. They grow unconsciously into the world's best citizens—the doers, the builders, designing and building they learn to make the things the world wants.

There is a wrong and right way of building. The wrong way is to get a collection of ill-assorted, unconsidered pieces of steel with holes in them, and to screw them up into models which look like nothing else on earth, and with which nothing can be done when they are built. The right way is the Meccano way—that is, to get a system of parts which has taken fifteen years to bring to perfection; parts which represent correct engineering elements, such as would be used by skilled engineers in their actual work. There is no other system like Meccano, and no other system will build correct engineering models.

With Meccano parts you can build a real Loom just as serviceable as those which are used in weaving mills. You can take it to pieces, and with the same parts build a Clock which will keep time, then an Automobile Chassis, or a superb designing machine like the one shown in the big new Meccano Manual of Instructions, or you can design new engineering movements of your own invention. The genius and thought and skill are in the parts, each one of which will serve a hundred purposes in a perfect manner.

START RIGHT BY GETTING MECCANO.



## OPEN SECRETS

### The Meccano Manual.

The new Meccano Manual of Instructions is now ready and every boy should see that he has his copy. It is full of wonderful new models which any boy can build with Meccano. No matter when you bought your Meccano Outfit, you will double its value by getting a copy of this fine new book. It sells at 35 cents and will be sent prepaid on receipt of price.

### The Meccano Transformer.

A really efficient Transformer at \$2.00 should sound good to every boy who possesses a Meccano Motor. The Meccano Transformer reduces 110 volts alternating current 60 to 130 cycles to the proper current for running the Meccano Motor. It does away with the need for dry cells, which are very expensive now and soon wear out. All you have to do is to attach it to the lamp socket. It makes the house lighting system your own power station.

### Correct Address Is Important.

We still continue to receive letters from boys who forget to write down their full address. Will every one please remember to write down name, town, state, street and house number. Without these particulars we cannot reply to their communications.

### Sense and Nonsense.

It is the best of sense to ask for Meccano and to see that you get it. It is not sense to take a substitute when you can have the original article at the same price. The imitations are poor substitutes of Meccano. See that the trade mark "Meccano" is on your Outfit.

### The Meccanograph.

The wonderful Meccano model which we have named "Meccanograph" should be studied by every boy. It might be called "the model with a brain", it does such wonderful things. See the special article on page 2.

### HOW TO GET THE MECCANO PRIZE MODEL BOOK.

We send it to you post free for 25 cents in stamps; or, if you write down the names of three of your boy friends who do not possess a Meccano Outfit and send them to us we will mail you a copy free.

### The Meccano Prize Competition.

Are you getting ready your model for the forthcoming Meccano Prize Contest? There are big cash prizes waiting for you to win. Send for your entry blank today!

### A Timely Suggestion.

We have received information from a most reliable quarter that Santa Claus is purchasing large quantities of Meccano for distribution at Christmas. Why not ask your parents to make arrangements with him to call your way?

## THE INTERNATIONAL SOCIETY OF MECCANO ENGINEERS

Thousands of boys are having their names entered as members on the books of the above Society. Is your name there?

The Meccano College is a great success. Thousands of boys have been registered as members and still the names continue to come in from every part of the world. It is fine to be a member of this great world-wide brotherhood of Meccano Engineers, with the Meccano College as Alma Mater in study and sport.

The first thing for every boy to do is to get enrolled as a member. To do this, all that is necessary is to fill in the coupon at the foot of this page; you will then be enrolled as a member of the Meccano Society. For the benefit of those boys who did not get a copy of the last issue of the Meccano Engineer we reprint the following information regarding the various degrees which are open to every boy who builds. In our next issue we will give exact and detailed information as to the degrees and honors open for competition to members of the Meccano Society.

**Membership.**—Any boy who possesses a Building Outfit may become a member of the above society by sending us his name and address in order that we may enroll him on the books of the society. He will be provided with a copy of the Meccano Magazine as often as published, and he will be kept up-to-date in all things of interest to Meccano builders.

**Junior Engineers' Degree.**—A member who has been building at least six months and has been enrolled during the whole of this time and possesses a Building Outfit may qualify for the degree of Junior Meccano Engineer. To the boy obtaining this degree we give a fine merit certificate, together with a special button, showing the rank, which he is entitled to wear.

**Senior Meccano Engineers' Degree.**—To those who have obtained the first degree, we offer the possibility of obtaining a further honor to be called the Senior Engineers' degree. This carries with it a second certificate setting forth the new rank, and we give a new button to indicate the higher grade. The boy must have built Meccano models during a further period of six months, have regularly read the Meccano Magazine, and be the possessor of a Meccano Outfit. All instructions for the various degrees will be in the Meccano Magazine, but there is absolutely no study necessary. All you have to do is to build.

Application for enrollment as Member of the Meccano Society.

Please enroll me as a Member of the Meccano Society. I own a Meccano Outfit No.

..... My age is .....

Name .....

Address .....

.....

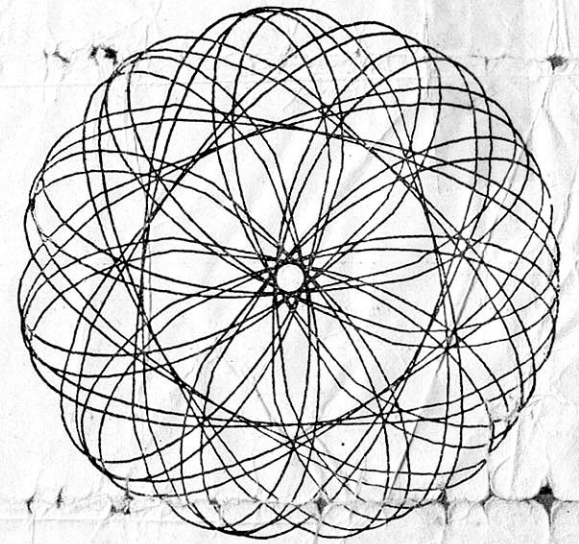
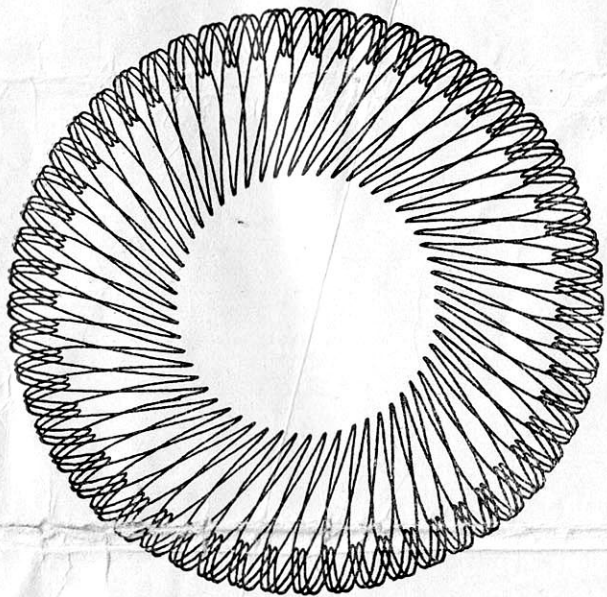
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Date .....

# The Meccanograph

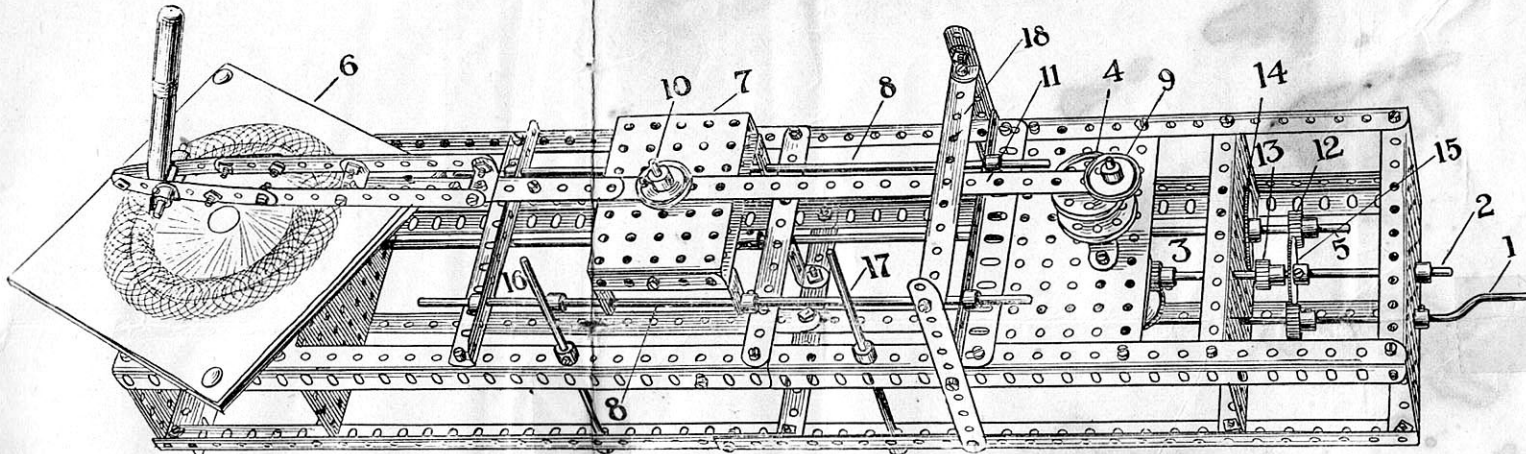
*A Most Wonderful New Meccano Model*

The Meccanograph makes thousands of useful and ornamental designs suitable for decorating china, fancy glass, etc., or as patterns for needlework. The designs on this page were traced by this machine.



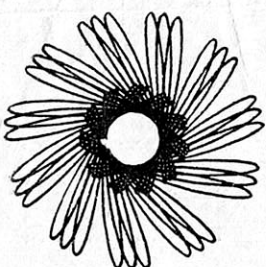
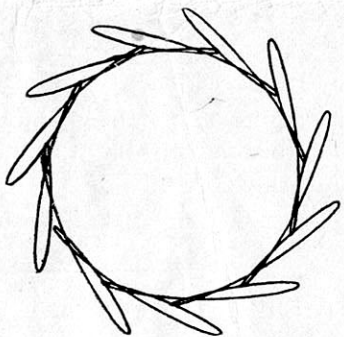
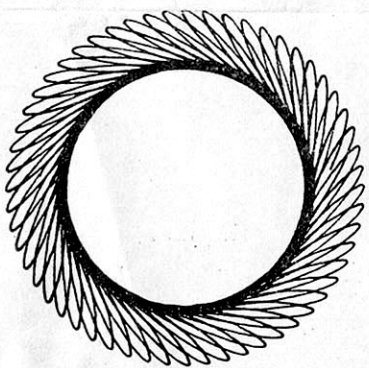
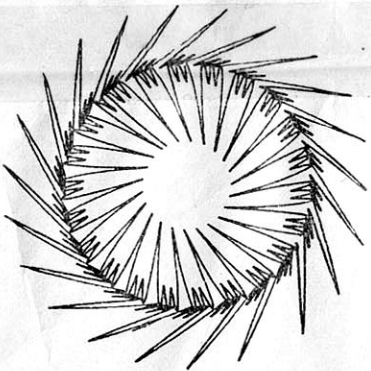
**YOU CAN BUILD IT**

The Meccanograph Manual, price 25c., tells all about this wonderful model and illustrates a large number of beautiful designs.



The Meccanograph can be made from any Meccano Outfit with the addition of a few parts which may be bought separately.

### A few interesting designs



You can build this machine whose magic touch makes numberless designs of surprising variety and beauty. Hundreds of dollars have been paid for a machine to do such work as the Meccanograph will accomplish, but you can make it with your Meccano parts accurately and simple and at trifling cost.

The Meccanograph is a wonderful little artist which with surprising exactness traces both simple and intricate designs of never ending variety. You can make the same design again, and as many copies of it as you wish. At the very trifling cost of the paper on which you draw you can supply your friends with examples of the loveliest and most useful patterns imaginable.

The accuracy of the designs is one of the best testimonials to the care with which Meccano parts are made, and the perfection which has been attained. It is the accuracy of the Meccano parts and gears which makes such symmetry possible.

### HOW TO MAKE IT.

It is really a very simple model to build, and any one who has an Outfit can build it. Look over the list of parts in the Manual, and if you have only a small Outfit and do not possess all the parts necessary you can purchase just those extra few which you require. The instructions for putting the parts together will be found in the new Meccano Manual of Instructions. Every boy should possess a copy of this wonderful book; it is full of illustrations and details of interesting new Meccano models, submitted by boys all over the world.

The illustrations on this page will give you some idea of the wonderful variety and beauty of the work of this machine.

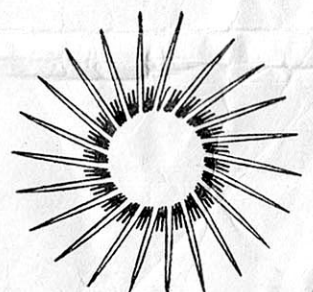
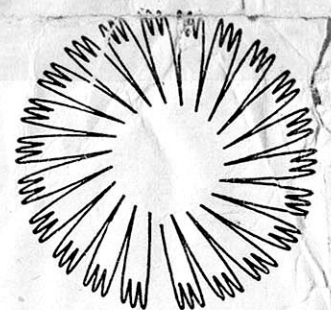
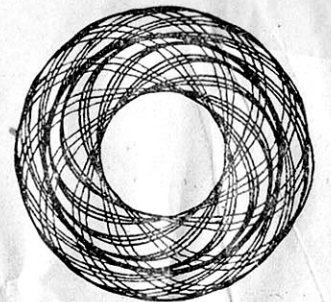
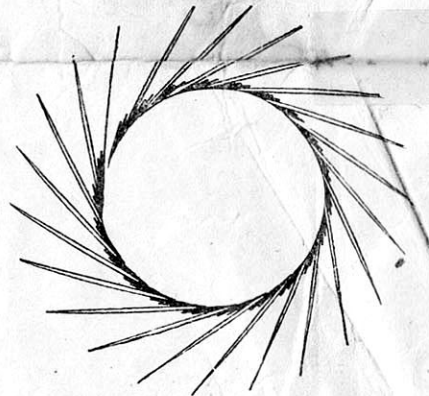
### MORE PRIZES FOR MECCANO BOYS.

We often receive very interesting letters from enthusiastic boys telling us of the pleasure they derive from their Meccano Outfits. In order to encourage our Meccano friends to make a study of the advantages of Meccano we now offer a prize of a \$10.00 Outfit for the best essay on "Meccano as a Help to the Study of Engineering." The essays should not consist of more than 500 words and must be received by us not later than January 1st. Mark envelope upper left hand corner "Essay Contest".

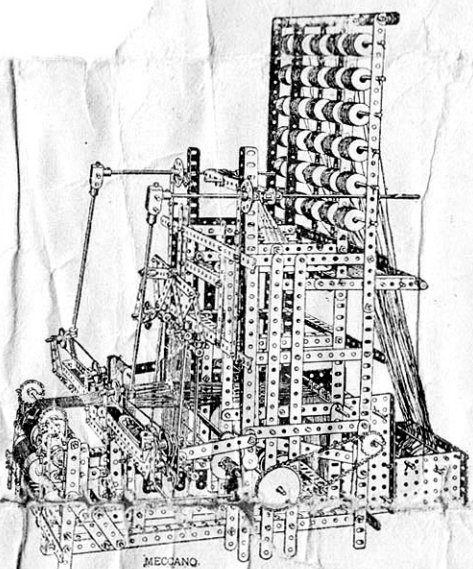
### BOYLAND.

You have all no doubt heard of No-man's land. It is the name given by the soldiers in the trenches to the stretch of territory between the opposing lines. Boyland is that busy world of manly activity where the boy is supreme. It is the wonderland of Meccano with the boy as builder. It is not a world of make-believe, but of fine realities, towers and bridges copies of the real ones, factories of machines built by his own hands and working for him. Meccano has brought a world of new interest into the life of the boy.

### You can invent lots of others



### NEW MECCANO LOOM



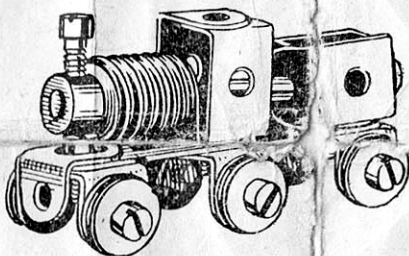
This is a magnificent new Prize Model which every Meccano boy will want to build and use. It automatically weaves ties and belts in all colours. It was designed by a Meccano user, who took for his patterns the great looms at which he worked to earn his living. It is perfect in every detail, like all other Meccano models. Every boy should build

this wonderful model, and learn all there is to know about weaving.

The Smallest Model in the World.

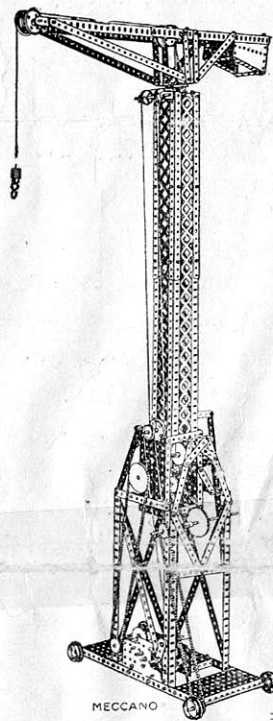
### The MECCANO EXPRESS

This is Model No. 323 in our new Manual and is the smallest model in the world. The illustration shows it full size.



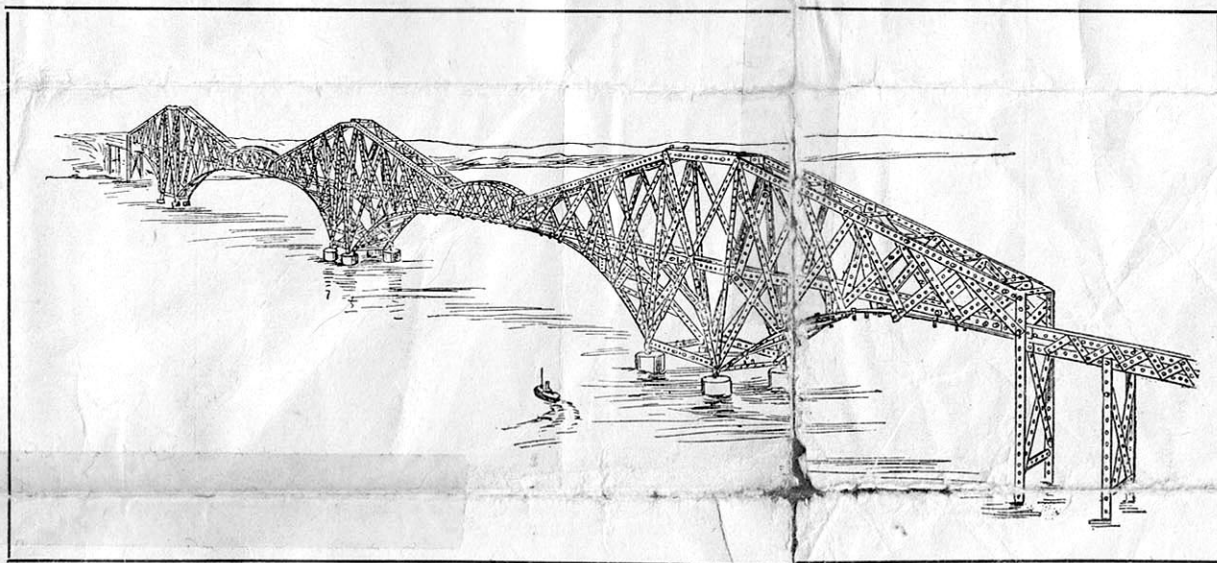
### A Fine New Meccano Crane

This is a Prize Winner in the last Meccano Contest. When run with the Meccano Electric Motor, as illustrated, the jib may be swung, the load raised and lowered, and the crane moved along by means of an independent mechanism. Full instructions for building the crane will be found in the new Manual of Instructions.



## GREATEST MODEL IN THE WORLD

The model illustrated below is a fine representation of the wonderful Forth Bridge. The bridge itself spans the Firth of Forth in Scotland, and is probably the finest example of a cantilever structure in the world. The model is upwards of 30 feet long.



#### AN EXCELLENT IDEA.

Milton Glass, of Chicago, writes us that he has founded a Meccano Club. They have quite a large number of members and he is President. Each boy pays 5 cents a week and in this way they buy Accessories. He tells us further that the Club has a big sign which is made out of Meccano parts.

We are very much interested in Milton's idea and the best suggestion we can give the members is to read carefully the Meccano Engineer. They will get lots of inspiration and good hints from this wonderful boy's Magazine.

A good topic of discussion for their next meeting would be "the Meccano Prize Contest." Every boy could bring a suggestion for a new model and the members could discuss his idea and help him to develop it.

We hope to hear more of Milton and his Meccano Club.

#### ARE YOU AMBITIOUS?

Meccano boys are the great engineering inventors of the future.

They are working in a world of engineering romance and the knowledge they are acquiring may some day help to raise them to a pinnacle of fame as inventors and constructors of some of the most famous and glorious engineering achievements the world has ever seen.

## Great Big Girders with Tremendous Strength

BIGGEST TOY GIRDERS IN THE WORLD.

What every boy engineer should know.

Any boy can put together with Meccano each and every type of Girder. It's fine to be able to build Girders in steel just like the big Engineer uses to build, or hold together, or support structures. No doubt you have noticed how the Engineer designs his Girders, so as to utilize the greatest strength of his materials. You can build with Meccano the biggest toy Girders in the world, and models built with them are very strong; they can be constructed to bear any load you like to put upon them. The professional Engineer uses the Angle Girder and the T Girder. The Angle Girder you have in the Meccano Outfits ready to use; and a very strong form of the T iron Girder can be made in a moment by bolting together two Angle Girders.

Boys, it's just fine to be an Engineer and build in steel just as men do.

The above mentioned types of Girders, together with other interesting constructions which the Meccano parts make possible, are well shown in the accompanying illustrations.

By bolting together Angle Girders, Braced Girders and Meccano Strips all kinds of Girders can be constructed just as the real Engineer does when he erects a skyscraper, designs a derrick, or builds great ships.

Boys, get busy! You can build great things with your Meccano Outfit.

Every boy is a born inventor, and when he is playing with Meccano he is developing his mind on right lines, which is very important, as he is using engineering parts in miniature which act in precisely the same way as the corresponding engineering elements would do in actual practice.

#### MECCANO TRIUMPHANT.

Meccano is the original and best. All similar Outfits are but imitations and very poor substitutes. Always see that the trade mark "Meccano" is on the label.

And they asked us how we did it, And we gave them the following text—

"Always keep inventing  
A little ahead of the next."  
They copied all they could follow,  
But they couldn't copy our mind,  
And we left them sweating and stealing  
A year and a half behind.

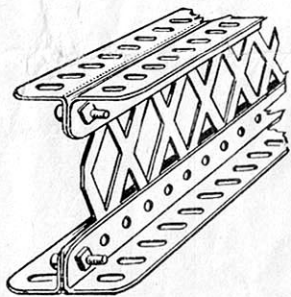
(With compliments to the numerous imitators of Meccano.)

They copy our models, they copy our parts, they copy our Advertisements. One firm has even commenced using our well known slogan, "Toy Engineering for Boys". Don't be deceived—Look for the name Meccano.

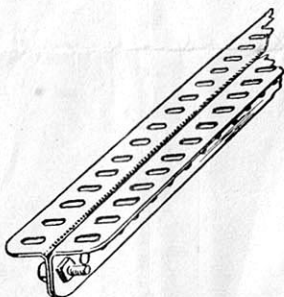
#### THE MECCANO CRANK AND COUPLING.



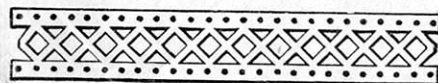
These are specially patented parts, without which it is impossible to build many of the best Meccano models. They are perfect in design and are adapted to hundreds of different uses. It is such parts as these which give Meccano its supreme position amongst constructional toys. New uses for them are being devised every day and every Meccano boy should study them carefully.



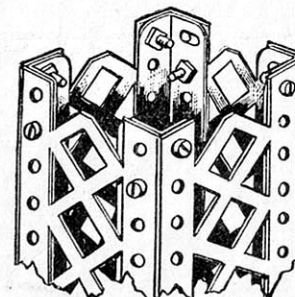
H Girder



T Girder



Braced Girder



Square Girder

# The World Brotherhood OF MECCANO BUILDERS

With Meccano in other Lands  
by the MECCANOMAN

In our last issue we had a talk about the American boy and his enthusiasm for Meccano, and we showed how, as soon as a boy possesses a Meccano Outfit, he becomes a member of a great world-wide brotherhood of young engineers. It is just fifteen years since Frank Hornby invented and took out his patents for Meccano. During these eventful years a million boys of all nationalities and ages have bought and played with Meccano. This series of articles has been written specially to put you in touch with what Meccano boys in other lands are doing and we are sure that you will read every word with interest. In this article we propose to tell you the story of Meccano in the land of Gretchen and Hans.

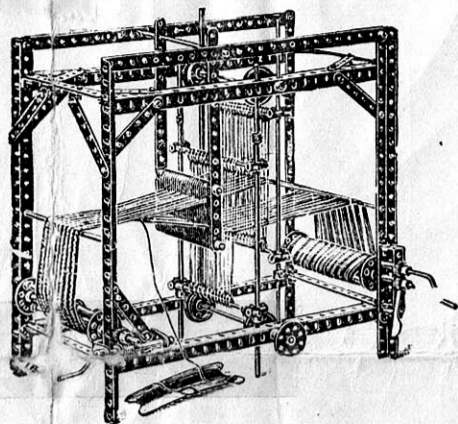
There are no children in the whole world who understand the art of playing better than the little Gretchen and Hans. They live in Toyland, and from their earliest years are brought up to understand and appreciate toys, for in thousands of German homes father and mother and the little children too are engaged all day in making toys.

Meccano is a very favorite toy in Germany, and no boy is happy until he is the proud possessor of a Meccano Outfit. Much younger boys play with Meccano in that land than in any other. Perhaps it is due to the intensive educational schemes on the Continent, but the German boy is older than his years. Quite little boys on the Continent play with Meccano. They make hundreds of simple but pretty models, often built after the pattern of things they see around them. They copy the Signals on the railroads; the Barriers (Model No. 29, No. 0 Manual) which are used instead of gates at most level crossings. The boy copies the Gangway he sees at the ferry; the Scales in the store; the See-Saw in the park, and the Windlass which draws the water from the village well. Pictures and descriptions of all these things are in the No. 0 Manual, so it is quite easy for you to build them.



Until Frank Hornby invented Meccano there was not much for the older boy. They had walking tours and bicycle rides and playing at soldiers, but there was no pastime capable of satisfying his intelligence, for Hans has an active brain. The older boy had opportunities of visiting many a large workshop or factory and found material in his Meccano Outfit for copying what he saw. Cranes of various designs attracted quite a lot of interest, and lots of boys had fine ideas for improving the designs or usefulness of what they

built. The Meccano parts gave them at once a means of materializing their ideas. One boy visited the Mugglesee which is near Berlin and saw there some men driving a pile into the lake with a ram, a model of which he promptly constructed with Meccano on his return home.



A Meccano Loom

The first Meccano Loom was made by a little Munich boy. How proud he must have been when first he set the machine to work for he had invented it and built it himself. Other boys who saw the ties and scarfs he wore were very envious, and they soon purchased Meccano Outfits and started to build.

Germany manufactures large quantities of iron and steel, and in the manufacture of this uses numbers of big machines, power-hammers, etc.

We receive many interesting models from boys who draw their inspiration from the great iron works of Germany. There is a fine bridge over the Rhine at Cologne, which is greatly admired and often built in miniature by boys who have Meccano Outfits. There is great fun in all this building, but there was more, for many a man with a big name to-day began his building and designing with Meccano. Many a boy who began to invent with Meccano is now a man drawing a big salary and occupying an important position. Even government arsenals and dock yards have found Meccano useful in their inventions.

There is no make-believe about Meccano. Boys, it works! Everything you make is real. Just think of it, real machines. One boy is interested in wood turning and he builds a Lathe. It is strong and powerful and he bolts it down to his workshop bench. Soon you hear a hum of machinery as the power is turned on and he is enabled to construct quite a lot of very interesting turned woodwork. Another boy builds a Printing Machine and he prints visiting cards for himself and the whole family.

A very interesting model is the Potter's Wheel (No. 21 in the 0 Manual which every boy has). By means of this he can turn pretty little vases, etc., either in common clay or plasticine. There is unlimited fun in playing with Meccano. You can have a new toy every day for years. No other toy gives you this possibility. The genius, knowledge and experience are in the Meccano parts. These parts are the elements of engineering and machine building. You can build everything with Meccano. This is the reason why Meccano captures the heart of every boy in every land.

### MECCANO PRICE LIST.

We print below a price list of Meccano Outfits which is sure to be a great convenience to our readers in deciding on their holiday purchases.

Meccano Outfits.		Accessories.	
No. 0 Outfit	\$1.00	No. 0A Access'y Outfit	\$1.00
" 1 "	2.00	" 1A "	2.00
" 1x "	3.00	" 2A "	2.00
" 2 "	4.00	" 3A "	4.00
" 2x "	5.00	" 4A "	4.00
" 3 "	6.00	" 5A "	13.00
" 3x "	7.50	Inventors' "	2.00
" 4 "	10.00	" E1 Electric Motor	1.50
" 5 "	14.00	" E2 "	3.00
" 6 "	36.00	Transformer	2.00

# MECCA



## Our Letter Box

### Meccano for Big Models

Lee K. C. writes us: "Quite a few boys near me here have Meccano sets, and we often combine Outfits in making towers seven or eight feet high, or complicated machinery models. We are now building an elevated railway ten feet long, with two stations fitted with elevators. I think the Meccano Engineer is fine."

### A Parent's Appreciation

W. N. S. writes us from Ottawa, Canada: "Personally I must say that I think Meccano the most wonderful game ever introduced for the benefit of the young and, I may say, old as well. It has shown me that it brightens the mind and teaches my boy accuracy and earnestness. I encourage him in his work and aid him by supplying parts needed."

### Meccano Makes Inventors

D. T. L. finds building with Meccano very interesting. It makes him feel like an inventor. He wants us to send him some literature so that he can tell his friends how good it is.

### Better than Medicine

L. K. writes us from Madison, Wis., that Meccano can even cheer up the sick and brighten a hospital. Even the doctor helped with it, and they built together a very large crane. It was strong enough to lift a medicine case.

### Refuse Imitations

R. E. likes Meccano best of all toys. He always demands the genuine Meccano and won't take any substitute.

### Good for Dad.

K. N., of Reeds, Mo., says: "I received a Meccano set last Christmas and I think it is the most interesting and instructive toy ever made. My father was so interested that he played at it with me. Hurrah for Meccano!"

### What a School Teacher Thinks

C. H. G.: "I have a No. 0 Meccano Outfit, which I use in my school room. I think it is certainly a wonderful toy. It teaches the children so much. The girls like it as well as the boys, and the parents are so interested that they are getting Meccano in the homes. I advise every teacher to invest in one for school."

### He Read It Six Times

K. F., Springfield, Mass., writes: "I have read through the Meccano Engineer about six times, and of course want to be enrolled as a member of the Meccano Society right away."

### A Booster of Meccano

M. A. Bartin says: "I am a Meccano boy and like Meccano more than any other toy. It teaches me so the way men build things, mostly everything in the world invented many things build things over and over everybody about Meccano works. I am a Boost toy for the boy. I f