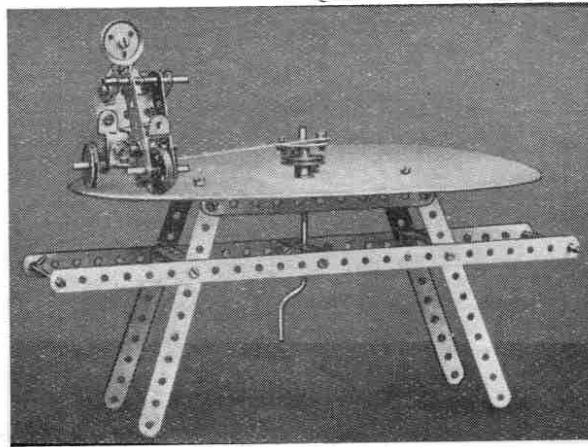


extraordinary speed. I could not help thinking that the brave little fellow would get terribly giddy, but he did not fall off, in fact he seemed to be thoroughly enjoying it!

[MINIATURE CYCLE TRACK. A  $2\frac{1}{2}'' \times \frac{1}{2}''$  Double Angle Strip forms the cross-bar of the cycle, and the front wheel forks and handlebars consist of two  $2\frac{1}{2}''$  Strips and one  $2''$  Axle Rod. The two back wheels are mounted in a Cranked Bent Strip bolted to the second hole from the end of the cross-bar, and set at a slight angle so that the cyclist travels in a circular direction. A Flat Trunnion forms the rider's body, while each leg is constructed from a  $\frac{1}{2}''$  Reversed Angle Bracket and one Angle Bracket, and his arms are formed by Flat Brackets and Angle Brackets. His feet are bolted to the first and third holes respectively of the Strip secured to the Crank Handle in the centre of the track. The circle of cardboard forming the track may, of course, be cut to any desired size.]



The Racing Motor-Cyclist

"Yes, and my friend here is one of our latest recruits," replied the King, waving his arm in my direction.

Presently, the King having dismissed Captain Bush-Wheeler with a "good-day," we moved off again on our tour of inspection.

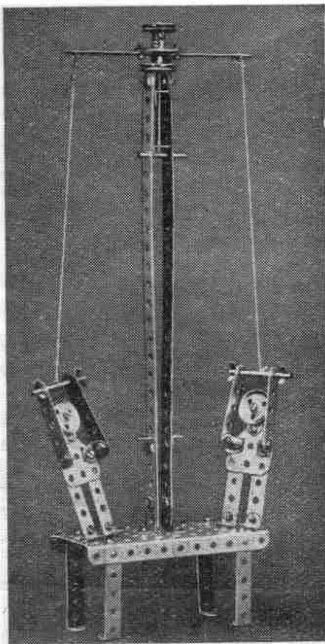
"How would you like a ride on that?" he asked, as we stood watching two Meccanicians, suspended by ropes from the top of a high pole, and flying round and round in space. "I don't think I should like it over much," I replied. "But then I'm not as strongly built as your subjects, you know."

[GIANT STRIDE. This is quite easy to make, for the details are well shown in our illustration. We imagine our Meccanicians must find this a very exhilarating pastime, for a slight turn of the  $1''$  Pulley Wheel at the top of the model will send the little men flying round in space in a most thrilling manner.]

The King next showed me two more exciting "stunts" indulged in by these little people. One that made me feel dizzy to look at was two gymnasts, who, holding on to long revolving arms, were whizzing round like a catherine wheel! In the other one, a little chap was having a fine ride by means of a wheel running down an inclined rope.

[REVOLVING GYMNASTS. This is quite a simple model to construct, but care should be taken to see that the little figures have sufficient clearance within the revolving strips. Their arms should be rigidly fixed in the position shown.

AERIAL FLIGHT. The entire frame rests upon two  $1''$  Pulley Wheels, the Axle passing through a  $2\frac{1}{2}'' \times \frac{1}{2}''$  Double Angle Strip bolted to the underside of a  $5\frac{1}{2}'' \times 2\frac{1}{2}''$  Flanged Plate in the base. When the joy-rider has reached

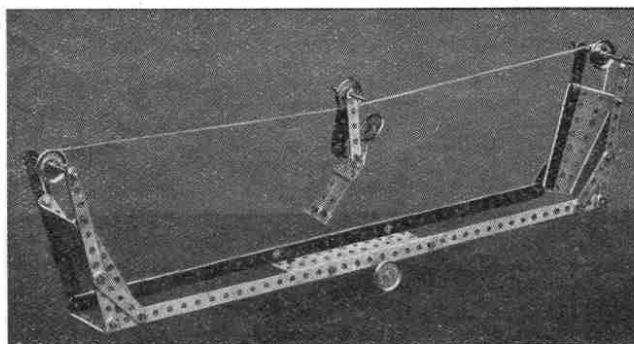


The Giant Stride

While we were standing here I noticed a little figure bustling towards us.

"Hullo!" exclaimed the King, "here is Captain Bush-Wheeler. He's my Chief Engineer and Director of Amusements." In a few moments that gentleman was deep in a discussion with His Majesty concerning some plans for forthcoming improvements in Meccanoland. The conversation developed into quite a heated discussion, the Captain becoming very excited and waving his arms about to such an extent that I feared they would work loose!

"Meccanoland grows almost faster than we can keep pace with," he said excitedly. "Only a few minutes ago I met several hundreds of Meccano boys who have just arrived full of splendid new ideas. I tell you, your Majesty, that these boys are making this the brightest and best country under the sun!"

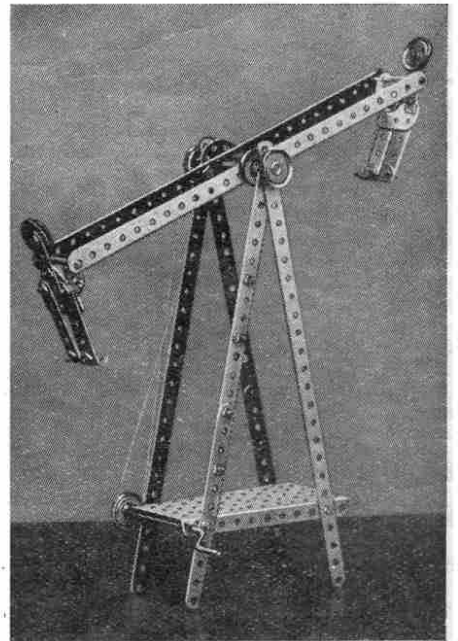


The Aerial Flight

one end of the cord, the model may be tilted so that he returns to the other end.]

It would take pages and pages to describe half the other amazing things I saw and did, or the wonders the King of Meccano described to me. We must have covered many miles altogether, at times riding through the streets on little trolleys that went as fast as you wished, or in the King's splendid limousines. Sometimes we covered mile after mile in the beautifully-fitted Hornby Pullman cars of what must be the finest and most efficient miniature railway system ever built.

However, all good things must come to an end some time or another, and at last the King reminded me that he must now take me home, for it was getting late. I was quite downcast at the thoughts of leaving this sunny land, but he told me that I could enter his country as often as I liked, since I had become a Meccano boy. This cheered me up, and



The Revolving Gymnasts

when I thought of all the things I could tell Jack and show him with my Outfit, I even became eager to get back.

Alighting at Theodolite Palace, the King's residence, he led me inside. Passing down a long corridor we came to a wooden door, which the King opened, bowing gravely as he did so. As soon as I passed through, the door shut with a bang behind me, and I found myself returned to my normal size and once more sitting in my chair with the fire nearly out! As I sat up hurriedly, Jack burst into the room yelling out to me to come and join in a charade. Even as he spoke there seemed to be a hasty movement in my Meccano Outfit, and I was almost certain I saw a Flat Trunnion and a  $1''$  Pulley Wheel jump back into their places just in the nick of time!

THE END.

# Discoveries in Meccanoland

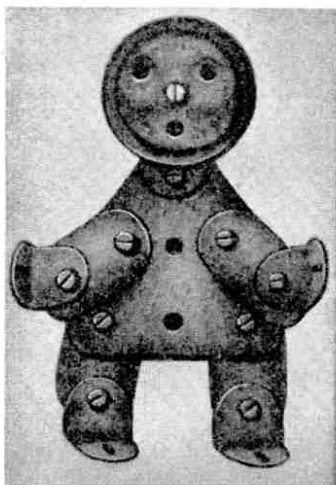
By R. C. Manning

*This is the concluding instalment of the article, commenced last month, in which our contributor has depicted some of the more humorous aspects of Meccano model-building. We have built all the models illustrated, and they all work in a very realistic manner. They all provide great fun, and our young readers will be interested to know they may all be made with a No. 1 Outfit.—EDITOR.*

AS I wandered further with King Meccano I became more and more fascinated with the wonders he showed me, and I actually began to feel regret that I should have to return to the great outside world again. I was comforted to remember, however, that I now owned a Meccano Outfit and that I could quite easily become a regular "inhabitant" of Meccanoland. I began to think of all the fine things I should be able to show Jack, and it seemed to me that he certainly would have to "give me best" this time.

Filled with these exciting thoughts, I began walking quicker and quicker, a fact that I only realised when I found that I had left my royal guide some distance behind, where he was panting and gasping while his bodyguard plied their screwdrivers, for in his hurry he had worked all his joints dangerously loose!

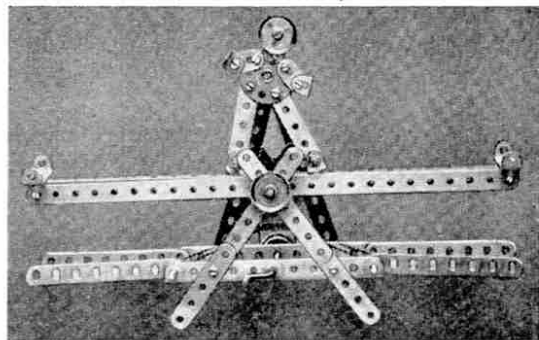
"Hi! there! not so fast," he cried, as soon as he had regained his breath. "I want to introduce you to my friend Professor A. Flat Trunnion," His Majesty



"He looked at me in sheer astonishment. 'Liked going to school, did you say?'"

be sure his pupils find it really fascinating."

Having left the Professor on the broad steel steps of the Sprocket Institute, we strolled down the beautifully laid-out Architrave Drive. We had not walked very far before His Majesty drew my attention to an acrobat going through some extraordinary "stunts" on a see-saw, much to the amusement of a crowd of admirers. Here I also saw two

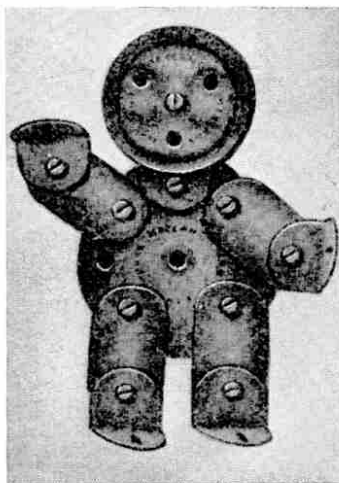


Acrobat and See-Saw

continued when he caught me up. "He is in charge of our Meccano Schools."

The Professor bowed a swift acknowledgment to me and as I returned his greeting I had a horrible fear that this highly-placed personage of the scholastic world might begin to question me on general knowledge or logarithms or something equally boring. However, to my surprise he began merrily chatting away on the most interesting subjects. Indeed, he seemed such an amiable gentleman that I plucked up sufficient courage to ask him if his scholars liked going to school. He looked at me in sheer astonishment. "Liked going to school, did you say?" he exclaimed, "Why, they like it so well that I sometimes have a job to get them to take any holidays!"

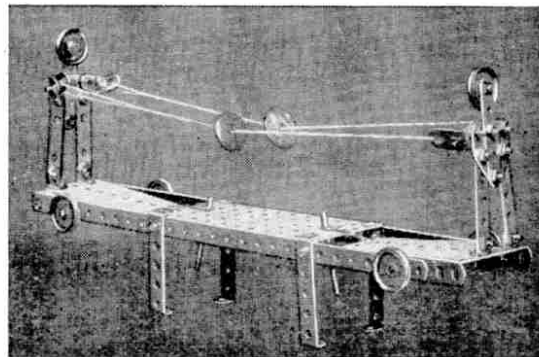
"Of course," interrupted the King, "the reason for that is that the Professor demonstrates all his lectures with Meccano. In fact, he can work out the principles of the most abstruse and complicated movements in this way, and you may



"... Captain Bush-Wheeler became quite excited and waved his arms about."

Meccanicians rocking to and fro at the end of what appeared to be another see-saw, while between them two huge discs—not unlike cart-wheels—whirled round and round with tremendous speed.

[ACROBAT AND SEE-SAW. In this model the beam, composed of three 12½" Strips, rocks about an Axle Rod passed through the four 5½" Strips forming the legs of the model. Two 5½" Strips are bolted to the Flanged Plate in the base of the model, and meet to form a bearing for a short Axle gripped by the Bush Wheel, which represents the body of the Acrobat. The bearing is reinforced by a ½" Reversed Angle Bracket, and the short Axle carries a 1" Pulley Wheel which is connected by cord to the Crank Handle. A Flat Trunnion is bolted to the centre of one of the side strips of the rocking-beam and is connected by thin pieces of elastic to each end of the 5½" Flanged Plate. By using a few additional parts little figures can be fitted to each end of the see-saw.



The Spinning Buttons

Another method of operating this model is obtained by connecting the pieces of elastic to the Sector Plates shown; a slight touch upon either of the latter then being sufficient to send one side of the beam up or down.

THE SPINNING BUTTONS. The Sector Plates, to which the Meccanicians are bolted, are pivoted to the base as shown in the photograph. It is evident that what are described as "cart-wheels" in Meccanoland might in real life be merely good-sized buttons mounted on strong thread, for that is what they are! Now start the model as follows:—Twist the threads a little with your fingers, pull the Meccanicians outwards, then release them sharply. As soon as the buttons are spinning, a slight downward touch on the feet of each figure is sufficient to keep them going.]

A little further along my companion once more drew me aside to point out a daring motor-cyclist, who was revolving round a miniature racing-track at an



# OUR BUSY INVENTORS

## RECENT INTERESTING PATENTS

Every day new inventions and ingenious labour-saving devices are being brought into existence. From time to time the most interesting of these will be described and illustrated in these columns. Readers are invited to send particulars (accompanied, if possible, with photos, sketches, or cuttings) of any interesting inventions or devices that may come to their notice. Payment at our usual rates will be made for any contributions used.

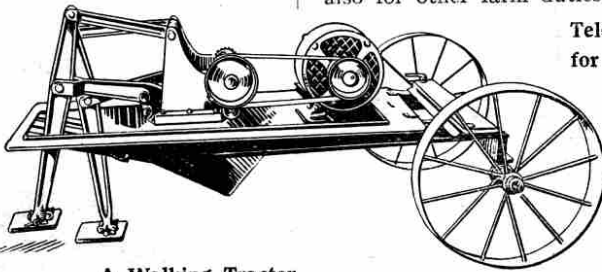
### A Walking Tractor

It is not always possible to use vehicles with wheels, especially when the ground is heavy and the surface uneven. The problem of overcoming the difficulty has long occupied the attention of inventors, and a new type of transmission was evolved when caterpillar action was used for the tanks during the War. One of the latest inventions in this connection is that of Mr. Nilsson, of Stockholm, whose novel "walking tractor" has recently been tested by the Swedish Government.

This tractor moves forward, and hauls or carries a load, without the use of driving wheels or caterpillar action. It uses levers or legs to retain a fixed grip on the ground, and is driven by a motor, mounted midway between the legs and a pair of wheels, which run free. Power is transmitted through gearing to produce a movement of the legs, and this movement is almost identical with that of the legs of a horse, when the animal is hauling a load. The addition of a heavier load to the tractor causes the legs to take an increased grip on the ground. It is only necessary, therefore, to provide the tractor with suitable shoes, which vary according to the nature of the ground on which the vehicle is working.

The legs are directly-gearled members without cams, springs, or chains, and their movement is so timed that both legs are always planted on the ground before a leg is raised. When a leg is lifted, the movement is speeded up and then is greatly decreased, until the leg reaches the ground again, at which point the speed is the same as at the beginning of the step. Thus the action does not force the shoe into the ground, as it might do if it came down with full force in places where the ground is soft.

The method by which the tractor is steered is interesting. The gearing from the motor is connected to the legs in



A Walking Tractor

such a way that, when it is so desired, one leg moves forward more swiftly than the other. This movement is under control of the driver, so that the tractor will move forward in any desired curve. Apart from this, the tractor may be steered by the front wheels.

It is anticipated that the tractor will be particularly useful for agricultural work, for it may be used for hauling ploughs and harrows over rough land, and used also for other farm duties.

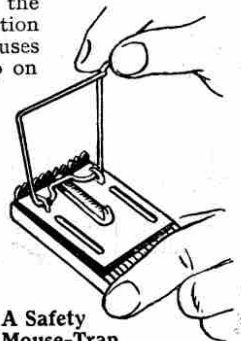
### Telephone Silencer for Navy

The "Hush-a-phone" is the latest device invented for use in our Navy. This device enables

control officers, crowded together in the fighting-top of a battleship, to transmit ranges and other information connected with the firing of the big guns without disturbing each other, or without the noise of gunfire disturbing the officers' speech. The use of this device will increase accuracy in transmitting firing data, and so eliminate errors which often arise when the transmission of the officers' instructions is confused with outside noises.

### Safety Mouse-Traps

Apparently suffering from the fact that many mouse-traps catch more fingers than they do mice, an inventor has devised a new form of trap. By means of a simple twist of wire the trap may be set without danger. The spring is released when the mouse steps upon the raised platform to take the bait.



A Safety Mouse-Trap

### For the Kitchen

Control of the temperature of the water for the kitchen sink is easily obtained by the use of a newly-patented mixer, connecting the hot and cold taps. This fitting consists of a "T-pipe" with a baffle plate, cast in its centre, which gives perfect mixing, regardless of unequal pressure under which the water may be supplied. The device is installed by turning the two taps inwardly to a horizontal position, where they are fastened together by means of two sleeves. These screw on to the mixer and are provided with rubber washers at the ends that go over the taps.

# OUR MAIL BAG



In this column the Editor replies to letters from his readers, from whom he is always pleased to hear. He receives hundreds of letters each day, but only those that deal with matters of general interest can be dealt with here. Correspondents will help the Editor if they will write neatly in ink and on one side of the paper only.

**Geo. Campbell** (Buenos Aires).—For one who has suffered so much, you are extraordinarily cheerful—a regular Meccano Boy in fact! Let us know how your leg is progressing and if you can now get around again. Thanks for your very interesting account of life in Buenos Aires. Write us again soon.

**A. C. Sandwell** (Brentwood).—If we can find room for your article on "The Great Bear" we will publish it. Stephenson was really responsible for the Steam Blast we believe, although others claimed the invention.

**J. Barton** (Wood Green).—We enjoy reading your letters and are glad to hear all about your home friends, including Snooker. We hope to hear more of the cutting machine that you are designing.

**J. Barton, Jr.** (Wood Green).—The weather up here has been just as bad as your own, probably worse. We hope you will have better luck with Jane than you had with Snooker. We will ask Rover to say something useful on motor cycles later on.

**H. Woodman** (Melksham).—Thank you for telling us all about your Meccano class and the Meccano exhibits at the Hospital Carnival. These events are excellent—they keep boys busily and intelligently occupied, and they bring together Meccano boys under the happiest conditions. Your own model, published in our September issue, has provoked much favourable comment.

**R. Savill** (Longton).—"Why I was fool enough to give up the 'M.M.' I cannot say, but since I have begun to take it in again my repentance has been sincere." There is much joy in the Editorial office, R.S., over the sinner who has repented. We will send you all the back numbers available, but unfortunately many are out of print.

**D. Marsden** (Halifax).—According to the Mohammedan legend related in the Koran, King Solomon's Magic Carpet was of green silk. The King's throne was placed upon it when he travelled, and the carpet was large enough for all his forces to stand on it. When all was in order Solomon told the wind where he wished to go, and the carpet with its contents rose in the air and alighted at the place indicated. You will agree, Harry, that this was a very convenient arrangement, to say the least.

**V. J. Ruseton** (Kirkcaldy).—Congratulations on your school successes. We intend to continue illustrating Meccano models and articles on Railways. Your own article is not quite up to standard. Try again, V. J.!

**F. L. Tyler** (Oswestry).—We are not surprised to hear that your boy took a prize at the Carnival. His Meccano costume is both ingenious and attractive judging by the photo that you have sent us. Please convey our congratulations to him.

**E. G. Cowe** (Middlothian).—We shall remember your promise to send us an account of your experiences working in a coal mine, and shall be most disappointed if it does not arrive soon. We will find a suitable correspondent for you in France.

**A. T. F. Reynolds** (Chesham).—Thanks for photo of yourself with your Meccano model, which, we are pleased to learn, took a prize at your Hospital Carnival.

**T. Hatt** (12, Osborne Road, ?).—We have received two letters from you, Tony, and 7d. for a Guild Badge, but we must know where you live before we can send the latter to you. Write us again and give your full address this time!

**W. T. Kay** (Baxender).—We were very sorry indeed to hear of your accident, and we congratulate you on being still alive. We hope you are all right again now. We should be glad to see a sketch or photo of your new model.

**J. E. Goran** (Fort William).—Five prizes in one year is good work, just the kind of thing we should expect from an old Meccano boy like yourself. We certainly count you as one of our old friends.

**N. E. Ngee** (Singapore).—We read your long letter with much interest, and we have sent out to you full instructions for running your loco and hope you will find these helpful. We will pass on your suggestion regarding the Meccano Jersey to the makers.

**R. O. Riordan** (Ealing, W.5).—Now that you mention it, our covers certainly have been rather "hot" for the summer months! As the summer hasn't really been summer at all, however, perhaps we shall be forgiven! We think that the 1925 "M.M." covers will be considered altogether better than any we have used up to now.