Next Month: "A MECHANICAL MAN AND HIS DOG." By M. Lorant

MECCANO MAGAZINE

Editorial Office:
Binns Road
Liverpool 13
England

Vol. XXXV
No. 3
March 1950

With the Editor

Names for Passenger Engines

It came as a relief to railway enthusiasts to learn that British Railways decided to continue the practice of naming suitable locomotives. Recently the Executive gave names to nearly 70 express passenger engines built or to be built under current programmes for the Western, Eastern, North-Eastern and Scottish Regions. All these engines are of pre-nationalisation types, as the first British Railways standard locomotives are not due until 1951.

In the Western Region ten "Castle" Class 4–6–0s, 7028–7037, are named, and also ten "Manor" Class 4–6–0s, 7820–7829. In the Eastern, North-Eastern and Scottish Regions, 48 names are allocated to Class A1 4–6–2 locomotives, 60115–60162. Many of these engines, built at Doncaster and Darlington, work into or out of the Scottish Region and accordingly are given names of Scottish origin.

Among the locomotives we find thirteen carrying the names of well-known race-horses, three Derby winners, two St. Leger winners and eight Doncaster Cup winners. Six commemorate famous Locomotive Engineers associated with Doncaster or Darlington Works. Archibald Sturrock was at Doncaster Works when it began operations, and laid the foundation of G.N.R. locomotive practice. Patrick Stirling, who succeeded Sturrock, is best remembered for his famous 4–2–2 "8-footers" which hauled the principal expresses into and out of King's Cross for some 25 years. H. A. Ivatt was the first to use the "Atlantic" type of engine in this country. Edward Fletcher, who helped to build the "*Rocket*" under George Stephenson, controlled North Eastern Railway locomotive matters for many years. Wilson Worsdell introduced the first English 4–6–0 express locomotives. Sir Vincent Raven applied three-cylinder propulsion to several locomotive classes.

Coming now to the Scottish names, one group, including cities and saints, is a revival of names formerly carried by locomotives of the North British Railway. One engine is named "*Sir Walter Scott*," and from the Waverley Novels we get many familiar names. Some of these duplicate those of the ex-L.N.E.R. "Scott" class, but these locomotives are obsolescent.

A list of these named locomotives appears on page 114.

This Month's Contents

Using the Meccano Gears Outfit

By "Spanner"

Dragline Excavator and Performing Musicians

OWNERS of Outfit No. 3 and a Gears Outfit A will be able to build both the interesting models shown in Figs. 1 and 3. Actually the Dragline Excavator seen in Fig. 1 can be built from Outfit No. 2 and the Gears Outfit, but the extra parts contained in Outfit No. 3 will be required to assemble the Performing Musicians, which are most amusing when set in motion by means of a *Magic* Motor.

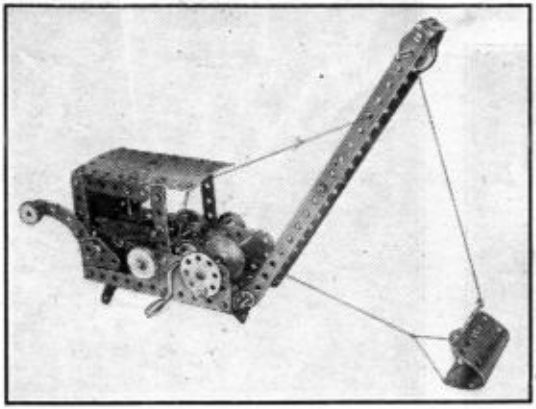

Fig. 1. This dragline excavator uses an Outfit No. 2 and a Gears Outfit.

Dragline Excavator

In building the Dragline Excavator a *Magic* Motor is first bolted to a 5½" × 2½" Flanged Plate. A 5½" × 1½" Flexible Plate is then attached to one side of the Plate, and two 2½" × 1½" Flexible Plates, overlapped, to the other. A Flat Trunnion is also bolted to this side, and is extended upward by a 2½" Strip. Three other 2½" Strips are bolted to the Flexible Plates as shown, and the front and rear pairs are connected at their upper ends by Double Angle Strips. The back is filled by a 2½" × 2½" Flexible Plate attached by Angle Brackets.

The mechanism consists of a Crank Handle that carries ½" and ¾" Pinions that mesh with either 57-tooth Gear 1 or 50-tooth Gear 2.

The Cord that operates the luffing of the jib is attached by a Cord Anchoring Spring to Rod 3. A length of Cord tied to a ⅜" Bolt 5 and taken round a 1" Pulley on Rod 3 and attached to a 2½" Curved Strip, forms a strap brake that prevents the jib from over-running. Rod 4 controls the movement of the bucket, and it carries a handle assembled by fixing a ⅜" Bolt to a Bush Wheel 6.

The jib is made by bolting four 5½" Strips in pairs and joining them at the outer ends by two Angle Brackets. It is pivoted on a 2" Rod mounted in Angle Brackets 7, the Rod being kept in position by Spring Clips.

The bucket is a U-section Curved Plate with a Trunnion bolted to it, and the roof is formed from two 2½" Curved Plates, to which two 2½" Strips are attached by Angle Brackets.

Parts required to build the model Dragline Excavator: 4 of No. 2; 6 of No. 5; 8 of No. 12; 2 of No. 16; 2 of No. 17; 1 of No. 19g; 4 of No. 22; 1 of No. 24; 4 of No. 35; 40 of No. 37; 4 of No. 37a; 4 of No. 38; 1 of No. 40; 2 of No. 48a; 1 of No. 52; 2 of No. 90a; 4 of No. 111c; 1 of No. 125; 2 of No. 126;

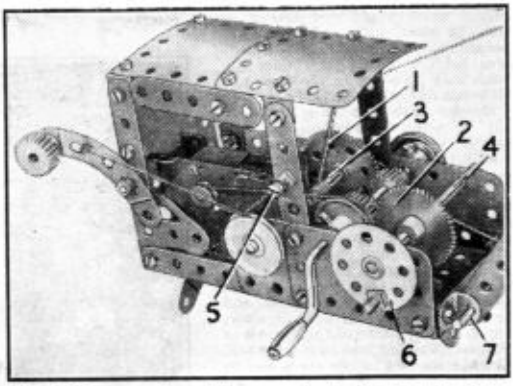

Fig. 2. A close-up view of the excavator showing how the Motor drive is transmitted through the gearing.

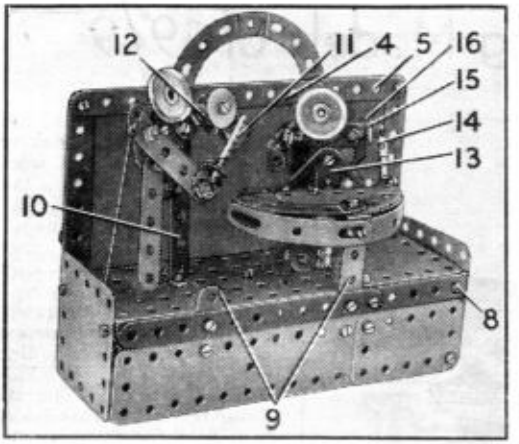

Fig. 3. These performing musicians are amusing to watch in motion. The model is operated by a Magic Motor.

1 of No. 126a; 1 of No. 176; 1 of No. 188a; 2 of No. 188; 1 of No. 189; 1 of No. 190; 1 of No. 199; 2 of No. 200; 1 Gears Outfit "A"; 1 *Magic* Motor.

Performing Musicians

Assembly of the Performing Musicians model is best commenced with the screen that forms the rear of the stage. This consists of two 4½" × 2½" Flexible Plates 1, one 5½" × 2½" Plate 2 and one 2½" × 2½" Flexible Plate 3. It is strengthened by three 5½" Strips, and a further 5½" Strip 4 extended by a 2½" Strip 5 is bolted along the top. A 5½" × 2½" Flanged Plate 6 is bolted to the screen and is extended by a 2½" × 2½" Flexible Plate 7. The ends are plated by two 1 11/16" radius Curved Plates, flattened. One of these is bolted to the flange of the Flanged Plate, and the other to a 2½" × ½" Double Angle Strip, held by Bolts 8 at each side. The 5½" × 1½" and 2½" × 1½" Plates at the front are attached to the Flanged Plate by 2½" Strips 9.

The body of the violinist is formed by a Flat Trunnion to which is bolted a 2½" × ½" Double Angle Strip 10 and a 2½" Strip representing the other leg. His arm, a 2½" Strip, is pivotally attached to the Flat Trunnion, and the bow is represented by a 1½" Rod. The violin is formed by a Bent Strip 11 and a ¾" Washer, and is bolted to the Flat Trunnion by a Reversed Angle Bracket 12. The 1" Pulley forming the man's head is locked on a Fishplate bolted to the Flat Trunnion.

The body of the second figure is built by bolting a Flat Trunnion to a Trunnion 13. Two 2½" Strips are bolted to the Trunnion and curved to represent the legs. One arm is formed by attaching a Fishplate to an Angle Bracket, and is pivotally attached by its elongated hole to an Angle Bracket bolted to the Flat Trunnion. The other arm is a 1½" Rod mounted in a Rod and Strip Connector 14. The Connector is locked on a ¾" Bolt which is then passed through the Angle Bracket 15 and the Fishplate 16 is then fixed on its shank between two nuts.

A Bush Wheel is bolted to the Trunnion 13, and a 2" Rod is locked in this and a 57-tooth Gear Wheel bolted to the Flanged Plate.

The *Magic* Motor is next bolted in place at rear of the screen, in the position shown in Fig. 4. A length of Cord takes the drive from the Motor to Rod 17, which is mounted in Strip 18 and also in a Reversed Angle Bracket bolted to the Strip. The Rod carries a ½" Pinion meshed with a 1½" Contrate Wheel on 4" Rod 19. Bearings for this Rod are made by attaching a Fishplate to a Trunnion and also by bolting a Wheel Disc by a Double Bracket to the Flanged Plate. Two 1" Pulleys on the ends of Rod 19 have Angle Brackets bolted to their bosses. A nut and a Washer are placed (Continued on page 142)

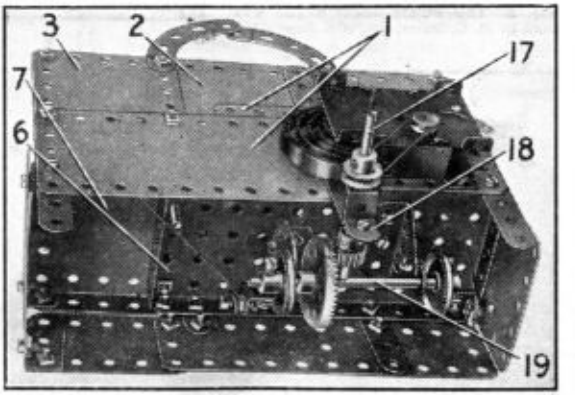

Fig. 4. A view underneath the stage showing how the performing musicians are operated.

Prize-winning Models of 1949

By "Spanner"

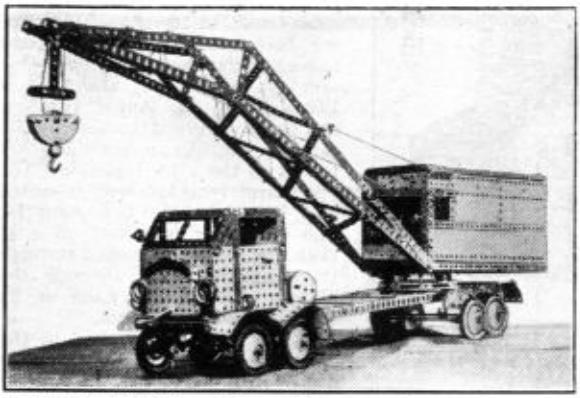

Fig. 1. A striking lorry crane, which won a prize for Guy Hayward, Woodbridge.

ILLUSTRATED on this and the opposite page is a selection of models that won prizes in Meccano Competitions announced in the "*M.M.*" during 1949. The entries in these contests cover a very wide range of subjects. Some of them are elaborate, involving the use of a large number of parts; others are simple in construction and make use of only a few parts. The important point, however, is that all the models have unusual constructional features or qualities that attracted the attention of the competition judges. The few that I am able to illustrate can give only a rough idea of the high standard of work done by competitors, but it is hoped that they will at least provide other model-builders with ideas they can apply in their own model-building.

Among those illustrated, one of particular interest is the giant level-luffing crane seen in Fig. 5, which was built by F. Coltman, Loughborough. This model is 8 ft. 6 in. high, weighs 1½ cwt., and performs all the motions of a real crane of this kind, and it demonstrates excellently the sturdy and realistic girder construction that is possible using Meccano parts. An interesting feature is that the grab can be opened or closed at any point within the height of lift. The model owed its success not so much to its size as to its sturdy construction combined with remarkable realism and good proportions.

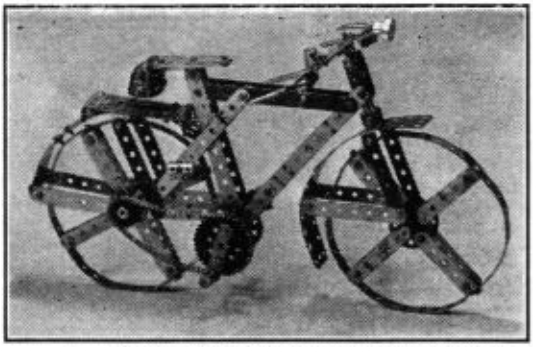

Fig. 2. This simple model bicycle was built by M. G. Slater, Gosforth, Newcastle.

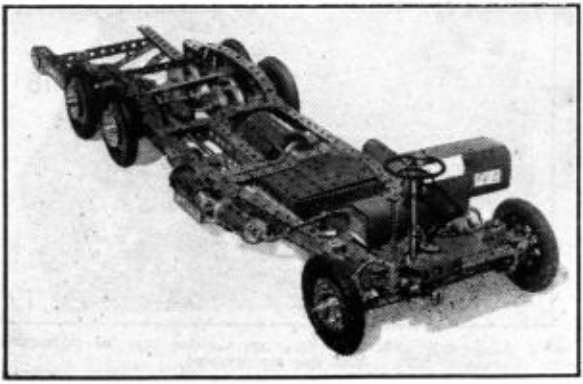

Fig. 3. A finely detailed trolley-bus chassis constructed by Paul K. Coetzee, Pretoria, South Africa.

Not all the prize models

Fig. 4. A Foden Diesel Lorry driven by a 20-volt Motor. It is the work of W. A. Picken, Gainsborough.

were of the giant type, however. Typical of the more simple ones is the realistic bicycle shown in Fig. 2. This was built by M. G. Slater, Gosforth, Newcastle-on-Tyne. Readers will note the detail included in this model and the neat way in which the saddle-bag is constructed. Attention to detail and neatness in reproducing even small items put this model in the prize-winning class.

A more elaborate model, and one that is very realistic, is the Lorry Crane seen in Fig. 1. This is the work of Guy Hayward, Woodbridge.

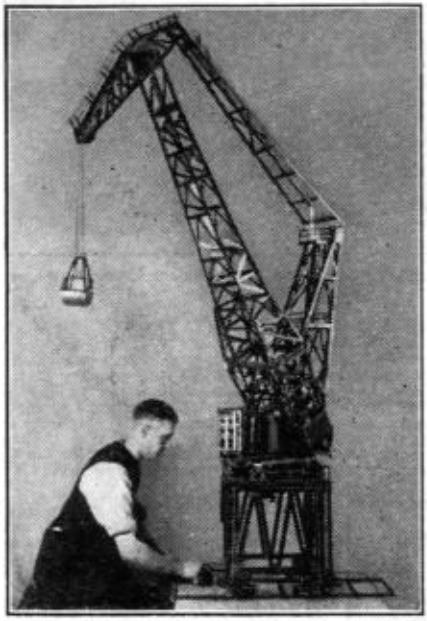

Fig. 5. A giant crane and its builder, F. Coltman, Loughborough.

An Overseas competitor Paul K. Coetzee, Pretoria, won a prize with the well detailed model of a trolley-bus chassis that is shown in Fig. 3. It would take a lot of space to mention all the points of interest in this model, but I hope readers will be able to pick out some details for themselves from the accompanying illustration.

Another outstanding road vehicle was a Foden Diesel Lorry sent by W. A. Picken, Gainsborough, and shown in Fig. 4. It is fitted with a 20-volt Motor geared down through 9:1 ratio gearing and driving through a 3-speed and reverse gear-box to the first and second differentials on their respective rear axles.

A model of very different type is that which won a prize for I. A. Heywood, Macclesfield. This is a reproduction of a "K" class destroyer and is illustrated in Fig. 6. Here again neatness and care in reproducing details brought success to the model, and I would like to mention particularly the bridge construction and the gun mountings. Among the small armament are a multiple pom-pom and a twin barrelled Lewis gun.

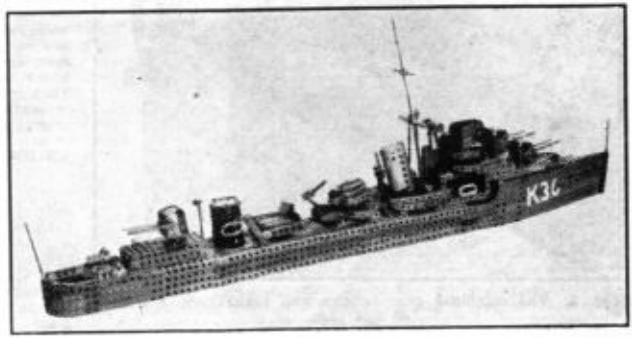

Fig. 6. A realistic destroyer, which won a prize for I. A. Heywood, Macclesfield.

Among the Model-Builders

By "Spanner"

COMBINED GEAR SELECTOR AND BRAKE LEVER

Cranes and excavators of all types are always popular subjects with model-building enthusiasts, but from my correspondence it is apparent that many model-builders find difficulty in fitting a convenient form of brake to the winding drum shafts. One of the simplest and most suitable brakes for these models is made by a belt of Cord passed round a Pulley and connected to a suitable lever, but it may mean that two control levers are required for each power-driven movement, and this is inconvenient in large models where the number of movements makes control difficult. I am therefore describing this month a simple combined gear selector and brake lever that provides forward, neutral and reverse drive to the winding shaft and a positive brake in all positions of the lever. The mechanism is shown applied to one winding shaft in Fig. 2., but it can be duplicated quite easily for a number of separate movements.

A driving shaft 1 is mounted in the gear-box housing and carries at one end a ½" Contrate 2. The Contrate engages with a ½" diam. ½" face Pinion fixed on a sliding Rod 3. This Rod is fitted also with two ½" Pinions 4 and 5 that can be moved into mesh with a 1¼" Contrate. The 1¼" Contrate is fixed on the winding shaft, and a drum is formed by a Bush Wheel and a 1½" Pulley 6.

A control lever 7 is pivoted on a suitable base, and passed between two 2½" small radius Curved Strips fixed to 2" Strips bolted to the base. A connecting Strip 8 is lock-nutted to the lever, and also to a Crank 9 pivoted on a Rod fixed to the gear-box housing. The Crank is extended by a 2" Strip, and a Bolt fixed in the end hole of the Strip engages between a Collar and the ½" diam. ½" face Pinion on Rod 3. Pinions 4 and 5 are positioned so that forward, neutral and reverse drives are obtained by sliding Rod 3.

The brake lever 10 is a 1" Rod held in a Rod and Strip Connector bolted firmly to a Fishplate. The Fishplate is lock-nutted to lever 7, and a short length of Cord tied to the Rod and Strip Connector is fastened also to a Crank 11. The Crank is fixed on a 2" Rod mounted in a 1½" × ½" Double Angle Strip bolted to the base, the Rod carrying also a second Crank 12. A length of Cord tied to Crank 12 is passed round Pulley 6 and is tied finally to the base. A Spring 13, fastened to Crank 12 and to the base, is used to keep the Cord taut and so apply a braking effect to the winding shaft. The brake is released by pulling lever 10 towards lever 7, and thus control of the braking and gear selector can be carried out simultaneously using only one hand.

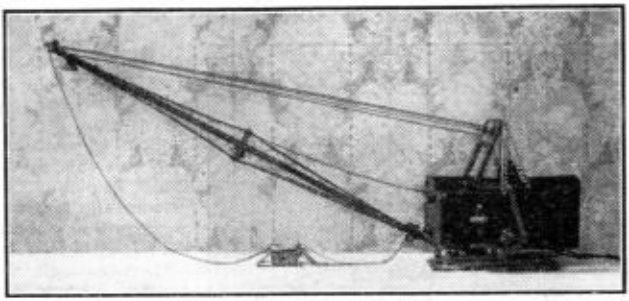

Fig. 1. A fine model walking dragline built by William P. Fisher, Ashland, Pa., U.S.A.

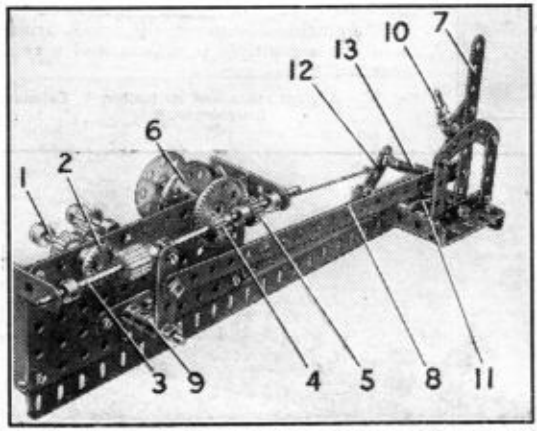

Fig. 2. The combined gear selector and brake lever described on this page.

MECCANO IN THE U.S.A.

Among the prize-winners in a recent Meccano Competition was an American model-builder, William P. Fisher, Ashland, Pennsylvania, who built the very fine walking dragline shown in Fig. 1 on this page. It is based on a Marion type excavator and is operated by two electric motors, one of which drives the walking, hoist and drag movements, while the other operates the boom slewing mechanism. The mechanism is controlled from the rear of the cab, which is assembled from cardboard. The graceful tapering boom is well-proportioned and the entire model has a most realistic appearance.

AN IDEA FOR BUILDERS OF SUPER MODELS

W. N. Cramer, a keen Meccano enthusiast living in Clinton, De Witt County, U.S.A., recently sent details of a large built-up geared roller bearing that is capable of supporting great loads and which will be of particular interest to readers able to indulge in the construction of very large models such as giant hammerhead and block-setting

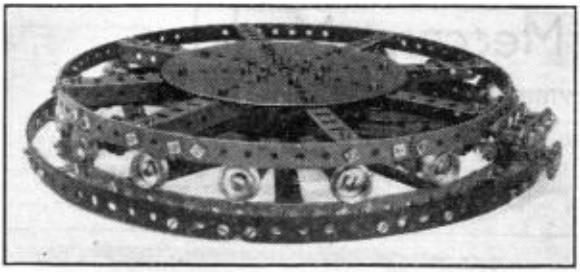

Fig. 3. A built up geared roller bearing capable of carrying a heavy superstructure. It is designed by W. N. Cramer, Clinton, Illinois, U.S.A.

cranes. Details of Mr. Cramer's assembly are shown in Figs. 3, 4 and 5.

The bearing is designed to carry a very heavy superstructure, and the retaining frame for the rollers has the same outside diameter as the Meccano Flanged Ring, Part No. 167b. The details of the assembly and the parts used will be clear from the illustrations, and it will be seen that the rollers run on a ring of Strips. The driving action is given by a Pinion engaging the teeth of a geared ring formed from Rack Strips, this Pinion being mounted on the same axle as a Sprocket driven from the power unit.

The Pinion and Sprocket should be located at the side of the superstructure. A Rod may be put through the centre of the assembly and rotated independently or not as desired.

The bearing is a very interesting and skilful piece of work, its only fault being that Meccano parts must be bent to construct it. However, some model-builders may think this worth while in order to obtain such a serviceable structure.

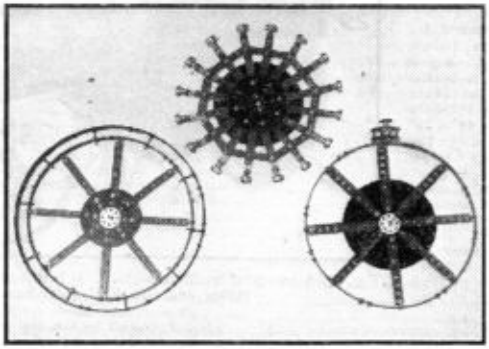

Fig. 4. The three components that form the complete geared roller bearing.

A Meccano Eccentric requires ample lubrication because of its large rubbing surfaces, and this is a point that model-builders should not overlook whenever they use one of these parts in models.

Make a Note of this Competition

A Chance to Win a Useful Cheque

We wish to remind readers that the "Priestman Excavator" model-building Competition which was announced in the January issue of the "*M.M.*" is still open for entries. In this Contest fine Cash Prizes are offered for Meccano models of the Priestman "Wolf" Excavator, a description and illustrations of which appeared in the competition announcement. The Contest is divided into Home and Overseas Sections and is open to readers of all ages living in any part of the world. The First Prize in each Section is a Cheque for **£6/6/-** and there are also 22 other cash prizes in each Section.

The Home Section of this Competition closes on 29th April next, and the Overseas Section on 31st July.

To enter the contest it is not necessary to send the actual model. A good photograph, or failing this a good sketch of the model, together with a short description of its principal features, are all that is required. The competitor's age, name and address should be written clearly on the back of each photograph submitted, and the envelope containing the entry should be addressed: "*Priestman Excavator Model-Building Competition, Meccano Ltd., Binns Road, Liverpool 13.*"

As this is one of the most interesting competitions we have organised for some time we hope that as many readers as possible will decide to send in entries.

HOW TO USE MECCANO PARTS

Eccentrics (*Parts Nos. 130 and 130a*)

There are two kinds of Meccano Eccentrics, part No. 130, which gives three different throws (¼", ½" and ¾"), and part No. 130a, which gives one throw only (¼"). The term "throw" means the radius of eccentricity, so that the total rectilinear movements or strokes obtained for the three rows of No. 130 are ½", 1", and 1½" respectively, while that of No. 130a is ½". The great advantage of an Eccentric is that it provides an easy method of obtaining a reciprocating movement from a rotating shaft without breaking the line of the latter, as in the case of an ordinary crankshaft. On the other hand a disadvantage lies in the fact that, unlike a crank, it can only transform rotary movement to reciprocating, and cannot be used to produce rotary motion unless triplicated. In model-building, as in actual engineering, most frequent use for the eccentric is found in the operation of valve mechanism for reciprocating engines.

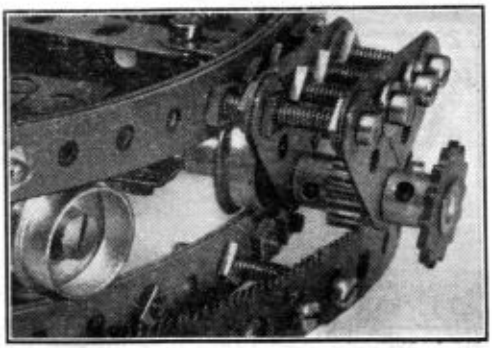

Fig. 5. This illustration shows how the geared roller bearing is rotated through a Pinion engaging a ring of Rack Strips.

New Meccano Model

Showman's Traction Engine

THE model seen in Fig. 1 represents a powerful traction engine of the kind used by travelling showmen for hauling fairground and circus equipment. Engines of this type are usually fitted with a dynamo mounted at the front of the boiler and this supplies electricity for lighting the fairground and amusement machines, etc.

The body of the model is built from a frame of 7½" and 2½" Angle Girders 1 and 9½" and 2½" Angle Girders 2. Each side is filled in with two 9½" Strip Plates, one 5½"×2½", one 4½"×2½" and two 2½"×1½" Flexible Plates.

The boiler is built by attaching four 12½" Angle Girders to a Circular Plate, and curving round the Girders four 12½" Strip Plates. The underside is strengthened by two 12½" Angle Girders bolted together to form a U-shaped girder. A Flanged Disc is bolted to the Circular Plate, the Bolts that hold it having several Washers on their shanks. A 4½"×2½" Flexible Plate attached at the front of the Boiler forms a canopy and is edged by two Formed Slotted Strips and two 2½" Curved Strips. The boiler fittings are now bolted in position. The dynamo is represented by three Boiler Ends, and these are connected together by short Screwed Rods. The dynamo is attached by two 1"×½" Angle Brackets to the canopy.

The cylinder is built by curving two 4½"×2½" Flexible Plates, overlapped four holes, round two Boiler Ends, and then attaching 3"×1½" Flat Plates as shown. A Sleeve Piece with a ½" Flanged Wheel at each end, represents the valve chest and is attached to the cylinder by a ½" Bolt with one or two Washers on its shank. The slide bars are formed by two 3½" Strips 4, and they are attached to the front of the cylinder by Angle Brackets. The Strips are connected at the other end to two 1½" Strips bolted at their lower ends to a 1½"×½" Double Angle Strip 5 bolted to the top of the body. A crosshead is formed by a 1½" Rod which carries two Slide Pieces, and large and small Fork Pieces. A 3½" Rod 6 is held in the small Fork Piece and represents the piston rod. Bearings for the governor are made by bolting a 1½" Strip 7 to the Boiler End and attaching a Double Bracket to it. The governor itself is a small Fork Piece to which two Collars are attached. The boiler is attached to the body by 1"×1" Angle Brackets, which are bolted to the ends of the 12½" Angle Girders and to compound girders at the front of the body.

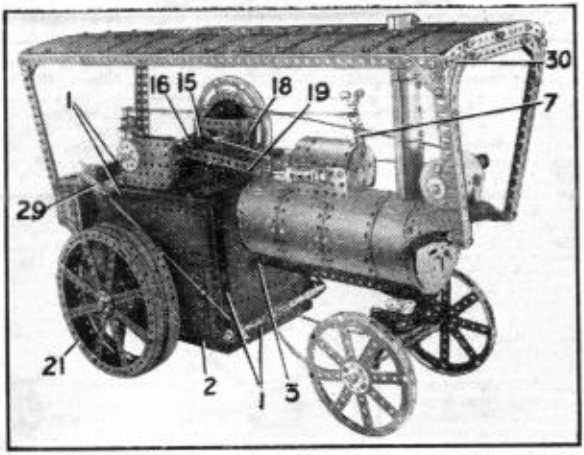

Fig. 1. A powerful traction engine. It is driven by an E20R type Electric Motor and will haul quite heavy loads.

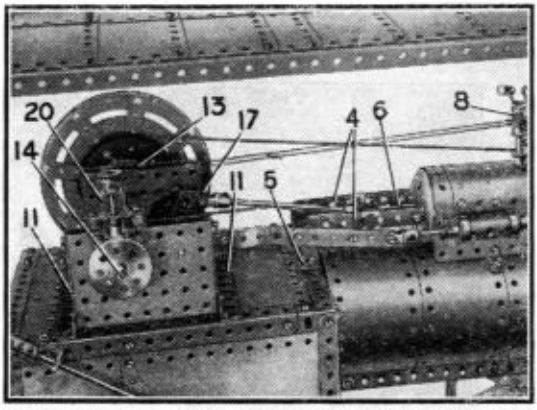

Fig. 2. The engine, showing details of the crankshaft, slide bars, crosshead and the governor drive.

The Motor is bolted to two 7½" Angle Girders 9, which are part of a frame built with two 9½" and two 7½" Angle Girders and two compound girders 10. The sides of the Motor are extended by 2½"×2½" Flat Plates which form bearings for the gear rods. The Motor drives through four stages of gearing each consisting of a ½" Pinion and a 57-tooth Gear Wheel.

The Motor unit complete is fixed in the body by bolts passed through the sixth hole from the lower end of vertical girder 1, and similar girders at the rear of the body. A 1½" Bolt is fixed tightly to the centre arm of the Motor switch, and carries a Collar in which is locked a 3½" Rod that forms a control lever and allows the Motor to be stopped or reversed when the fire-box front plate is in position.

Two 3½"×2½" Flanged Plates bolted

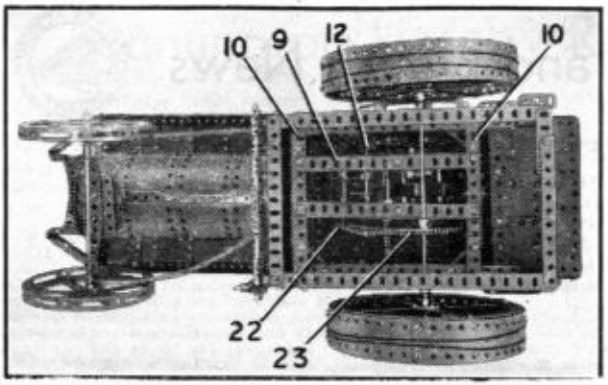

Fig. 3. An underneath view of the tractor showing the Motor unit in position and the drive to the rear axle.

together form each of the bearings for the crankshaft, and each set is bolted to compound girders 11. A length of Chain takes the drive from a ½" Sprocket Wheel 12 to a 2" Sprocket 13, which is mounted on 8" Rod 14 inside one of the bearings. Each crank web is made by bolting a Crank 15 and a Double Arm Crank 16 to a Flat Trunnion. Two of these units are constructed, and are connected by a 1" Rod, on which is a Fishplate 17 bolted to an End Bearing. The connecting rod is locked in the End Bearing and also in the large Fork Piece on the crosshead. A 3½" Rod is locked in each Double Arm Crank 16, and the crankshaft so formed connected to Rod 14 by 1" Sprocket Wheels and Chain, part of which can be seen at 18.

A compound strip 19 made by bolting a 5½" and a 3" Strip together is attached to the arm of a Single Throw Eccentric. At the other end it is pivotally connected to an End Bearing in which is locked a 2" Rod.

The governor drive is taken from the crankshaft through a ½" Pulley fixed on a Rod mounted in a 1½" Angle Girder and Double Bent Strip fixed to one of the crankshaft bearings.

The flywheel is made by bolting a 4" Circular Plate and a 3" Pulley to a Hub Disc. A double length of Cord takes the drive from the 3" Pulley to a ½" Pulley on the dynamo.

The rear wheels are identical in construction, each being built by connecting two Circular Strips 21 by four 1½" Double Angle Strips and curving five 5½" × 1½" Flexible Plates round them. The spokes of the wheels are 3½" Strips. The rear axle is a compound rod made by joining an 11½" Rod and a 1½" Rod. It carries a 3" Sprocket 23 that is driven by Chain from a ½" Sprocket 22.

The front wheel spring 24 is assembled from 5½", 4½", 3½", 2½" and 1½" Strips bolted face to face and bent as shown in Fig. 4. It is then bolted to a 2½" × 1½" Flanged Plate, the bolts by which it is secured holding also a Bush Wheel 25. This Flanged Plate is then connected to a second Flanged Plate by two 1½" Flat Girders. A 2" Rod is fixed in the Bush Wheel and Flanged Wheel 26, and passes through two 1½" Angle Girders 27 and is held in place by a Collar. The Flanged Wheel carries five Metal Balls inside its flange.

The front axle is an 8½" Rod and passes through Double Brackets 28.

The steering column is an 11½" and a 1" Rod joined by Coupling 29. It carries a Worm Gear that engages a ½" Pinion on an 8" Rod that has eight Couplings and a Collar on it. A length of Chain is passed round the Couplings several times, and each end is then connected to a Handrail Support on the front axle.

The roof is built on a frame of two 24½" Angle Girders and two compound girders 30 consisting of a 5½" and a 4½" Girder overlapped three holes.

Meccano Competition Results

June "General" Contest (Overseas Section)

First Prize, Cheque for £3/3/–: A. W. Dickie, St. Clair, Dunedin, New Zealand. Second Prize, Draft for £2/2/–: C. F. Th. von Ziegenweidt, Delft, Holland. Third Prize, P.O. for £1/1/–: P. K. Coetzee, Pretoria, South Africa.

Five Prizes each of 10/6: M. Lomax, Kenya, South Africa; L. Phillips, Westport, New Zealand; S. Pearce, Malta, G.C.; W. N. Cramer, Illinois, United States; W. M. Fisher, Ashland, Pennsylvania, United States.

Five Prizes each of 5/–: B. Fraser, Palmerston North, New Zealand; G. Skinner, Auckland, New Zealand; Jacoob I. Bahemia, Mauritius; R. Stewart, Timaru, New Zealand; J. Xuereb, Malta, G.C.

Meccano Parts Voting Contest (Home Section)

First Prize, Cheque for £2/2/–: N. C. Gray, London N.7. Second Prize, Cheque for £1/1/–: T. Hellaby, London E.7. Third Prize, Postal Order for 10/6: R. Pearse, Romford.

Thirteen Prizes each of 5/–: D. Marrow, Shotton; J. F. Chipping, London E.7; M. J. James, London S.E.9; J. Greenman, Kingston; K. Oakley, Hurst Green; D. Butterworth, Leeds 8; D. H. Tomlinson, Wells Green, Nr. Crewe; D. E. Franklin, London W.7; R. Williams, Edinburgh; P. A. Klassen, Bradford; M. G. Nutt, Cuckfield; R. Martin, Ewhurst.

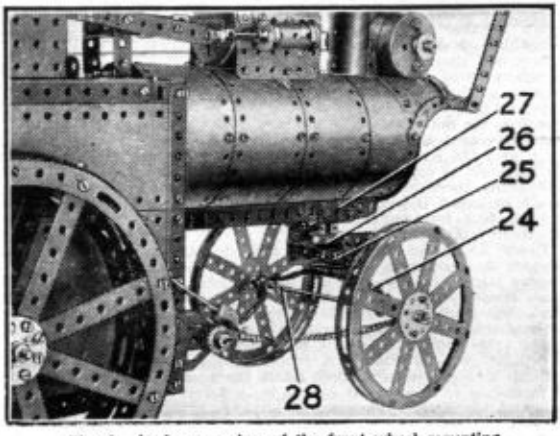

Fig. 4. A close-up view of the front wheel mounting.