TRIX PERMAG MOTOR AND DYNAMO

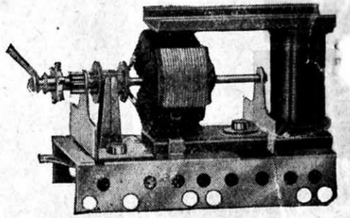
This wonderfully effective motor has many uses for TRIX enthusiasts. It is built with a very powerful permanent magnet and a tripolar armature wound to give the most efficient running with the minimum of current consumption.

It will run on a 3½-volt pocket battery or give more power with two pocket batteries in series or in parallel. It will run off a larger four or eight volt battery or accumulator, anything between the range of four to eight volts.

The Permag is fine for driving a boat.

One of the special features of this motor is its quadruple drive. It is fitted with a pinion for gear drive which can be used to drive Constructional Sets, a sprocket wheel for chain drive, a V-pulley for the usual driving of TRIX models and also a special driver for a propeller shaft, etc.

A unique feature of its base is that the holes will not only pick up and bolt to TRIX parts but also other Constructional Sets.

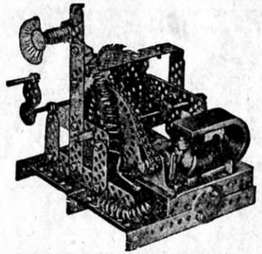


TRIX ELECTRIC MOTOR No. 2161.

Here is the new Field Magnet TRIX Motor, with solid brass base and cowl, suitable for 6—8 volts **D.C.** or 8—12 volts **A.C.** This motor can be operated from alternating current of light or power mains through a suitable transformer.

Size 3½" x 2½".

THE TRIX PERMAG MOTOR AS A DIRECT CURRENT DYNAMO.



ELECTRIC GENERATING SET No. 211.

This marvellous little Permag can also be used for electric lighting. To do this no battery is required, but acting as a dynamo it is driven with a band by a small steam engine or clockwork motor. When sufficient speed is attained a supply of current—enough to light a small pocket lamp bulb—is given off from the terminals.

Here is a TRIX Electric Generating Model specially designed to illustrate this use of the Permag. It has double gearing so that one turn of the hand-crank drives the armature 26⅝ times. This is made possible by the TRIX Gear Set containing a grand assortment of large and small Gear Wheels, Worm Drive, Shafts, Chains, Couplings and other necessary parts for making an endless variety of drives. The current, generated by the swift rotation of the armature, is carried from the terminals by leads to light a small pocket lamp bulb.

Full Instructions and description of Model No. 211 are contained on Page 13 of Book No. 3.

REVERSING SWITCH.

This Reversing Switch, made of TRIX parts, can be introduced into working models or fitted to a boat driven by the TRIX motor. It is simply constructed and will be found very useful for reversing the rotation of the motor.

The parts used are as follows :—

B	1.....10	N	1.....29
E	6..... 2	S	25..... 3
F	5..... 2		

A and B are made of strong cardboard or thin wood and the dotted line indicates that the two outer bolts are connected on the under side by copper wire. One lead from the motor is attached to this wire and the other to the centre bolt. The second and fourth bolts are the "off" position. The leads from the source of current are connected underneath to the two spindles holding the switch arm in position.

Further particulars of how to make the Switch and its application to the TRIX Permag Motor No. 2051 and the Field Magnet TRIX Motor No. 2161 are given in Book 3, Pages 3 and 5.

USE THE TRIX PERMAG MOTOR WITH YOUR TRIX SETS

Follow the TRIX plan and build up your TRIX engineering career set by set.

Suppose you start with TRIX No. 1, the original "Trix." price 6d.

Having built some grand models with the 51 parts provided, pass to Book No. 1. This book with its 74 pages will enable you to tackle bigger and finer models.

Next make for TRIX No. 1a, another 6d. outfit and supplementary to TRIX No. 1.

If you prefer, you can begin with "ELEMENTRIX." This is a combination of TRIX No. 1 and TRIX No. 1a, packed in a fine new Cellulyd Box, but in addition you are presented free with a GRAND BOOK SHOWING NO LESS THAN 150 DIFFERENT MODELS and marvellous to say every one of them can be made with "Elementrix." 150 models for a shilling! Think of that boys!

TRIX Book No. 2 now comes into the picture. This gives you still more scope for your skill and shows many models that can be built with the aid of TRIX No. 2a, yet another sixpenny outfit.

And now your friends will be electrified. Having become a TRIX expert, you are now ready to make models go by electricity!

Your first move in this direction is to get TRICY-TRIX, the Electric Trix and then follow up with Moto-Trix. The latter includes the famous Trix Electric Motor.

Now make a bee-line for TRIX Book No. 3. This shows how to do some really clever work with Trix Gears, various drives, sprocket chains, motors and other thrilling mechanical devices. When you have mastered the models in this book you can proudly say you have fulfilled your TRIX ambition.

Don't forget that only with Trix can you **Build, Drive and Light** *models and* **put them in gear.**

NO EXTRA PARTS TO BUY—NO EXPE[illegible] ACCESSORIES.

KEEP EXTENDING YOUR OUTFIT WIT[illegible]H

6d. Units. TRIX 1, 1A and 2A and TRIX Gear Set at 1/-.

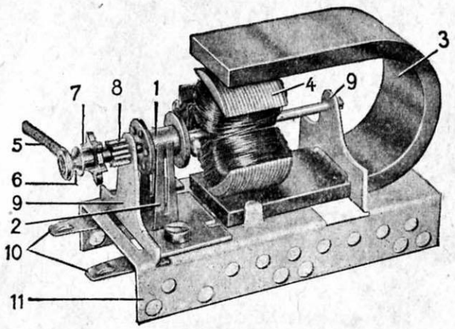
For further information please write to :

TRIX INFORMATION BUREAU,
45 & 47, CLERKENWELL ROAD,
LONDON, E.C.1.

PRIZES AWARDED FOR GOOD ORIGINAL MODELS.

TRIX PERMAG MOTOR

British Patent No. 421,924.

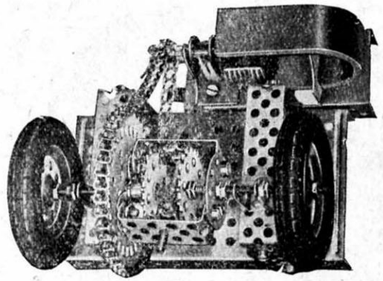


1. **COMMUTATOR.**
2. **CONTACT BRUSHES.**
3. **MAGNE[illegible]**
4. **ARMATURE.**
5. **DRIVER.**
6. **PULLEY WH[illegible]**
7. **CHAIN SPROCKET WHEEL.** This Chain Sprocket Wheel is used for driving Constructional Sets, where chain drive is used.
8. **SMALL GEAR WHEEL,** suitable for Constructional Sets with a gear drive.
9. **BEARINGS.**
10. **TERMINALS.**
11. **BASE** with holes suitable for connecting up to **TRIX** and other Constructional Sets.

DIRECTIONS FOR USE.

1. NEVER CONNECT THE MOTOR TO THE HOUSE LIGHTING CIRCUIT AS THIS WILL DESTROY IT.
2. Use Pocket Batteries or Accumulators 4—8 Volts for driving it.
3. To Reverse the direction simply change the terminal connections.
4. Occasionally oil the bearings with thin lubricating oil.
5. After running some time black deposit may form on the commutator. This should be removed with a little paraffin.
6. Do not bend the contact brushes.

The TRIX PERMAG MOTOR puts Models in Action - - - -



DIFFERENTIAL GEAR.

All you boys have heard of "Differential Gears" and many of you have seen them in Garages and Engineering Shops, but you will hardly believe that you can make a perfect model of a "Differential" with TRIX and show your friends how it works.

Here it is: Model No. 209. Book 3. Page 11.

Made with one each of Sets Nos. 1, 2a and Trix Gear Set, two Model Rubber Tyres and one Motor.

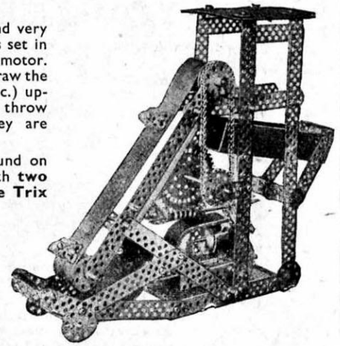
This gearing is used principally in motor vehicles. It operates between the rear driving wheels (and in recent times the front wheels too) and transmits the motive power to these. Its application makes it possible for the particular wheel which takes the outside curve and longest way to turn faster than the inner wheel. We can observe this in the model if we brake either of the rotating wheels.

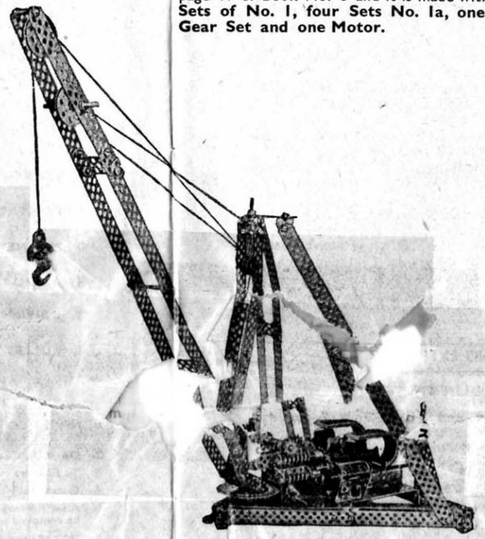
A TRIX PERMAG MOTOR completes the model and supplies the driving power.

CONVEYOR NO. 217.

This is an excellent working model and very fascinating to watch in action. The belt is set in motion by worm and chain drives from the motor. Four scoops fixed to it at regular intervals draw the loads to be conveyed (peas, sand, rice, etc.) upwards from the container underneath and throw them into the upper chute where they are guided into a vehicle ready for transport.

The details of this model will be found on page 19 of Book No. 3 and it is made with **two Sets of No. 1, four Sets No. 1a, one Trix Gear Set and one Motor.**





No. 233. PORTABLE JIB CRANE.

Made with four Sets of No. 1, four Trix Gear Sets, seven Sets of No. 1a, two motors No. 2051 or No. 2161 and one packet of nuts and bolts.

Those of you who have watched building operations may have seen a crane like this, which is often used on account of its portability. It can be erected in a short time and easily dismantled for shifting from place to place. The crane jib turns through 180 degrees by motor control and can be raised and lowered by reversing gear. The second motor controls the ropes which carry the weight. The different operations are changed about by reversing the motor.

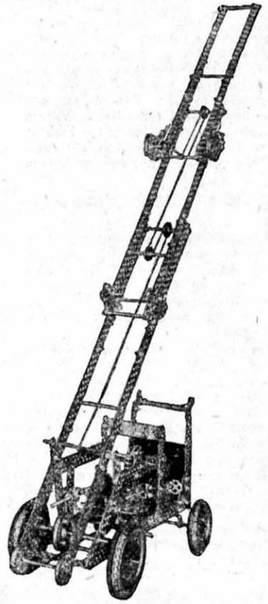
For further particulars refer to Book 3 pages 42 to 48.

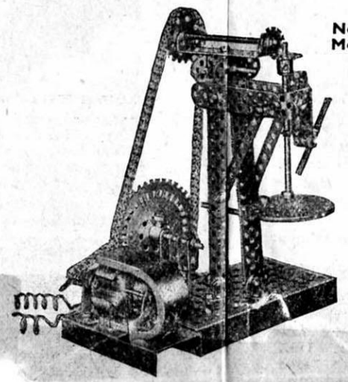
The TRIX PERMAG MOTOR is the Great Driving Power

No. 231. MOTOR FIRE ESCAPE.

At the alarm this automatic Fire Escape can be erected by the TRIX Permag Motor. This is how it is done. The three ladders lying one above the other are raised to a slanting position with cords. When the required angle is reached a second shaft is put in gear to raise the ladders. When the fire is over, the ladders are placed in position again by reversing the motor with switch No. 203. Steering control is fitted to the front wheels.

The model is made with **six sets of No. 1, four sets of No. 1a, two sets of No. 2a, two TRIX Gear sets, 2 large Rubber Tyres, 2 small Rubber Tyres and one motor.** Full instructions are given on pages 37 to 41 of Book 3.





DRILLING MAC[illegible]E No. 213.

Every boy will wa[illegible] truct this fine working model of a Drill[illegible]e driven by the TRIX Permag Motor. T[illegible] drives by chain a sprocket wheel fixed to [illegible]ntermediate shaft. A chain drive from a large s[illegible]ocket wheel on this shaft gives extra speed to the horizontal shaft. A right angle drive transmits the power from the horizontal shaft to the vertical shaft of the drill.

The model is made with **one each of Set Nos. 1, 1a, 2a and Trix Gear Set and one Motor,** and full particulars are given on page 14 of Book No. 3.

WINDMILL No. 230.

TRIX Owners can model one of these Windmill Pumps—a familiar sight of the countryside. This type of mill is used to pump up water from a well or for generating electricity. The driving force of the wind sets the large sails in motion and drives in turn the pump or dynamo.

The sails are automatically placed in the right direction towards the wind by means of the tail vane at the back. In our model, however, the motor does the work and sets the sails in motion.

The model is made with **five Sets of No. 1, six Sets of No. 1a, two Sets of No. 2a, one Trix Gear Set and one Motor,** and is included in Book 3, page 34.