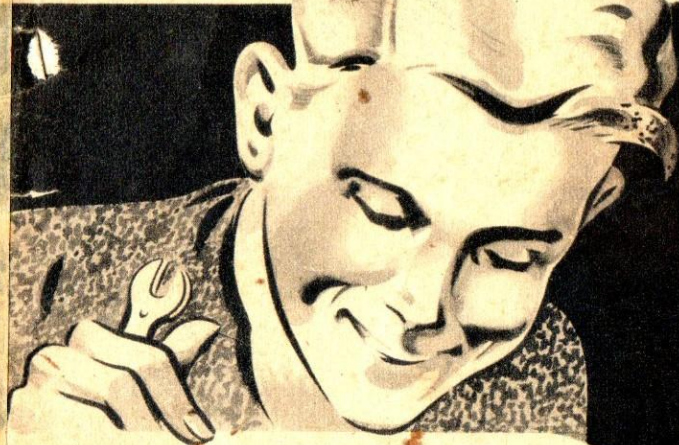


THE TRIX UNIT SYSTEM



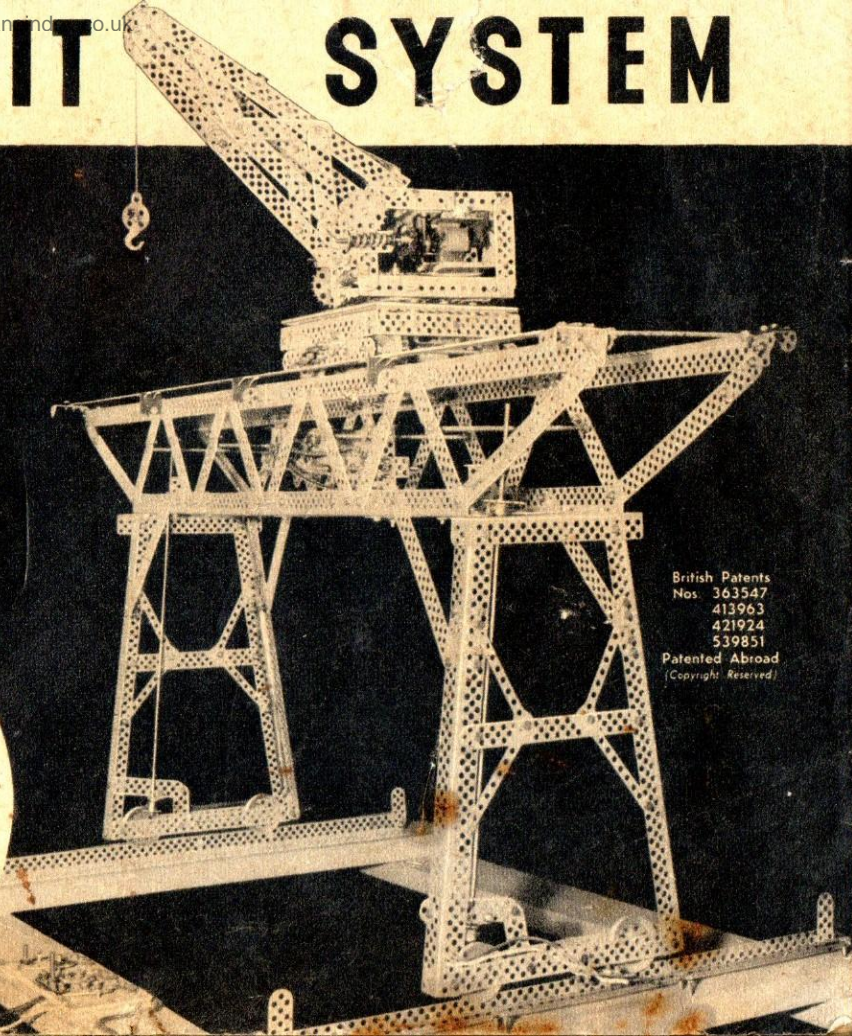
TRIX

Abridged

ENGINEERING MANUAL

To Start you Building

Printed in England



British Patents
Nos. 363547
413963
421924
539851

Patented Abroad
(Copyright Reserved)

TO START YOU BUILDING

This is the age of the Engineer!

Hardly a week goes by without bringing some new wonder that the Engineer has thought out or constructed. Huge bridges carry railways and roads across chasms, giant liners ply the seas, aircraft shuttle to and fro with great cargoes of passengers and merchandise from the farthest coasts of the world. And the Engineers who thought out all these wonders were themselves, not so long ago, boys at school. How did they start to become Engineers?

Well, they had toys and models of a sort, but for the rest they had to "make do."

They did not have the wonderful help that the Trix Unit System brings to you.

With this grand box of 98 parts you can make a start right away and learn for yourself one of the great secrets of Engineering—how to secure maximum strength with minimum weight.

You can learn how to join girders, how to fit braces and struts for strengthening frameworks, how to make levers, cranks and bearings, and you can apply all this knowledge to making up your models just as the

Engineer does in "the shops." This box will teach you the elements of engineering the "TRIX way"—the most absorbing and fascinating way ever invented.

In this book we show you examples of some of the models which can be made. There are, literally, hundreds of other models that can be made from just the parts contained in this box; but the ones we show here have been chosen and grouped together in a special order for a special reason—TO START YOU BUILDING. If you will follow these through and build them up according to the simple directions given, you will, by the time you reach page 19, have mastered the elementary principles of Engineering, and you will then be ready to go on to larger constructions like examples on pages 20-25 and 29-39 and, later on, to still more ambitious models as shown on pages 40-45.

Remember, the great advantage of the Trix Unit System is that you can go on adding to your stock of parts by small Units (each Unit is sold separately). Every new unit added increases enormously the size and scope of the models you can make (you "buy as you save"), and that is why we say that your Trix outfit is always complete yet never finished. Build your first model now and learn to be an Engineer.

TRIX

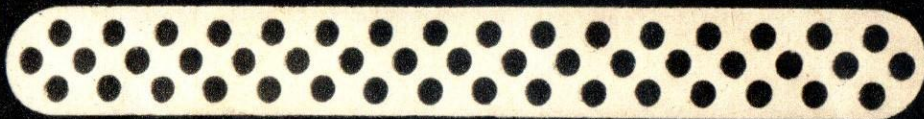
THE TRIx UNIT SYSTEM

Get to know them!

In this box you will find two envelopes, one containing a Unit "A" (51 parts), the other a Unit "B" (47 parts). Together these two Units form the Elementrix set—to start you building. Later you will wish to add to your stock of parts and build bigger models. You can do this by adding further Units (A, B, C, D, etc.) which are sold separately. Every item in the TRIx Unit System is known by a code number; thus a flat strip is called F5, F9, F13, etc., depending on the number of holes in the middle row; P29 is a pierced disc 29 mm. in diameter; S55 is a screwed spindle 55 mm. long, etc. Get to know all your TRIx parts by their code number. You will be referring to them constantly when you follow out the instructions contained in the TRIx Engineering Manuals.

NOTE: Turn to page 27 for Code Numbers of "C" and "D" Unit parts.

F17



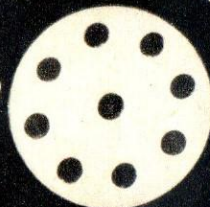
F13



F9



P29



F5



C1



S55



S25



SP

W16



W10



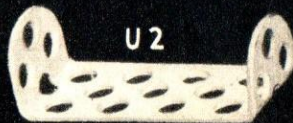
A1



B1



U2



N1

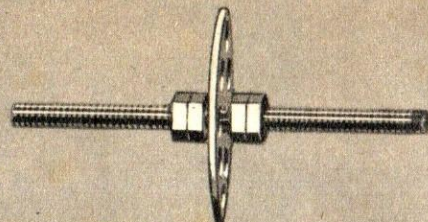


U1



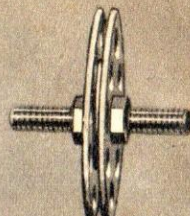
STANDARD CONSTRUCTION DETAILS

As you work through the examples of Trix Models given in this booklet, you will find that certain types of construction will recur. Here we give selected examples of 11 engineering constructions and, when giving you hints on how to assemble models, we shall merely refer you to these constructions by their numbers (e.g., SCD7). Study each one carefully until you know now it is made up and what purpose it serves. Further SCD's are shown on page 28.



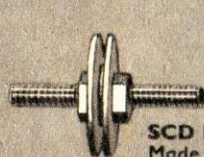
SCD 9 LOOSE WHEEL

Made with
4 x N1
1 x S25 or S55
1 x P29 or W10 or W16



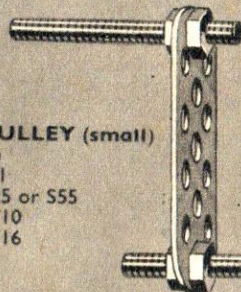
**SCD 10 FIXED PULLEY
(large)**

Made with
2 x N1
2 x P29
1 x S25 or S55
1 x W16



SCD 11 PULLEY (small)

Made with
2 x N1
1 x S25 or S55
1 x W10
2 x W16

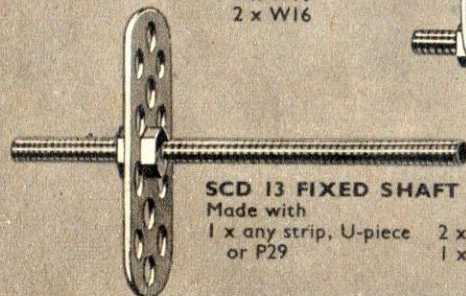


SCD 12 SHAFT COUPLING

Made with
4 x N1
2 x S25 or S55
1 x U1 or U2

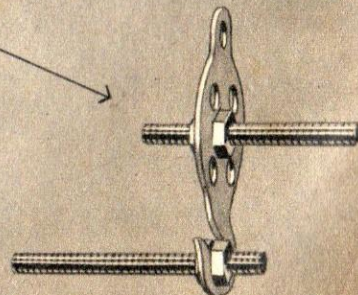
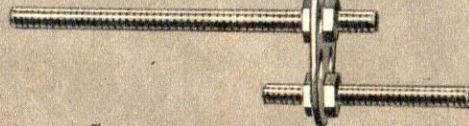
SCD 14 CRANKS

Made with
1 x F5 or P29 or C1
4 x N1
1 x S25
1 x S55

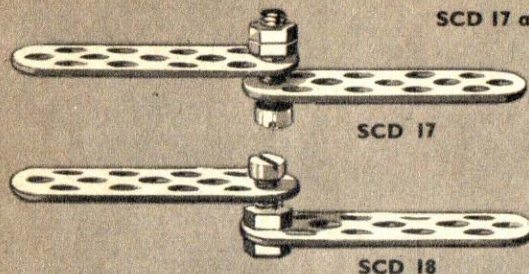


SCD 13 FIXED SHAFT OR AXLE

Made with
1 x any strip, U-piece or P29
2 x N1
1 x S25 or S55



SCD 17 and SCD 18 LOOSE JOINT OR STUB AXLE

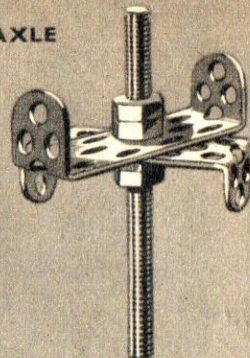


SCD 17

SCD 18

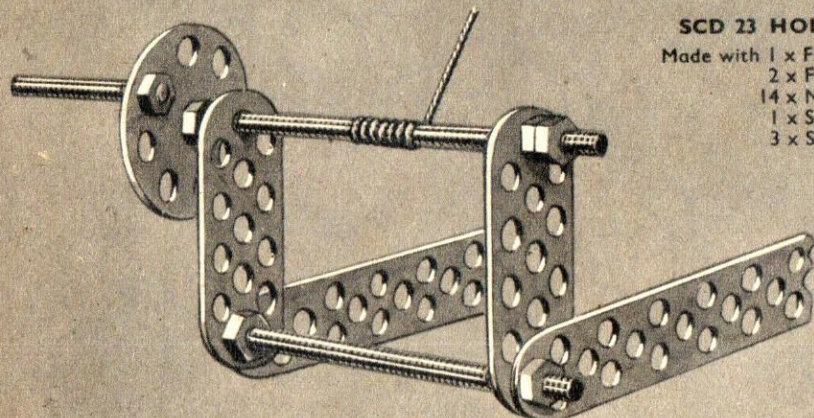
Made with
2 x any combination of
strip, U-piece or P29

1 x B1
2 x N1



SCD 20 REVOLVING BASE

Made with
4 x N1
1 x S25 or S55
2 x U1 or U2



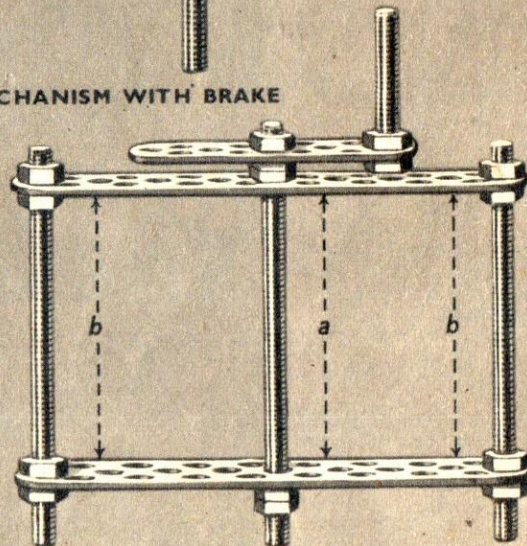
SCD 22 HOIST MECHANISM

Made with 2 x any strip or U2
2 x any strip
1 x C1 or F5 or P29

10 x N1
1 x S25
2 x S55

SCD 23 HOIST MECHANISM WITH BRAKE

Made with 1 x F5
2 x F9 or F13
14 x N1
1 x S25
3 x S55



Tighten up lock nuts on crank spindle so that distance (a) is less than distance (b). The strips then act as brakes.

TRIX

SPECIFICATIONS

Part No.	Required for Model No.				
	1	2	3	4	5
A1					4
B1	5	7	5	8	16
F5	1		4	4	4
F9	2	3	2	4	3
F13	2	2	2	2	2
F17					4
N1	5	7	5	16	16
SS5				2	
U1					1
U2				2	2

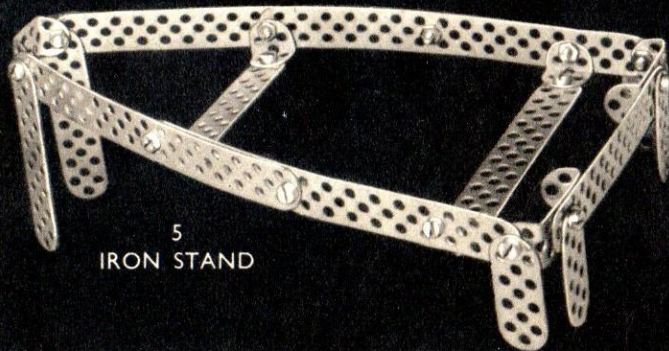
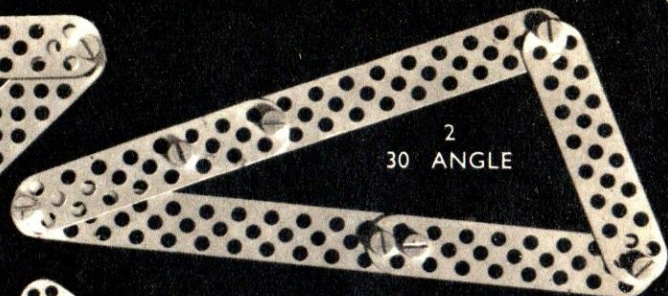
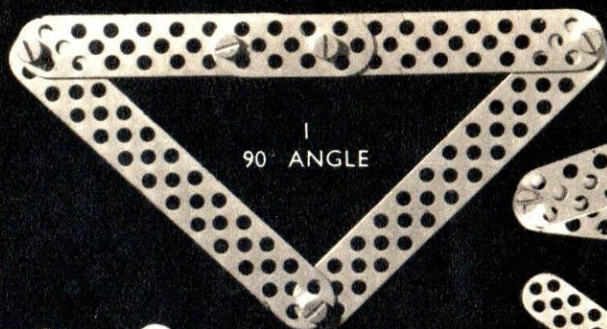
CONSTRUCTION

These models are of rigid construction and made by bolting together the different parts as shown in the photos. When building each model make the nuts and bolts a slack fit until all are in place, and then tighten firmly to give rigid construction.

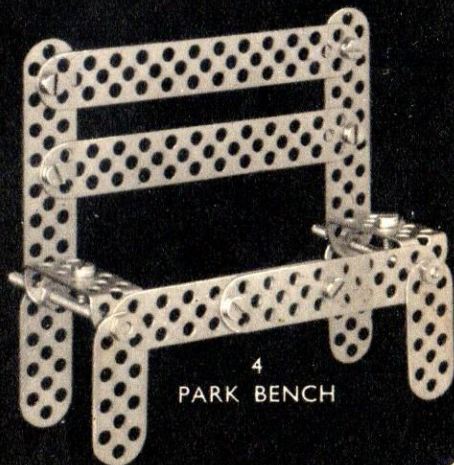
Make seat for Model 4 from card as shown on page 46. Templates shown are exact size.

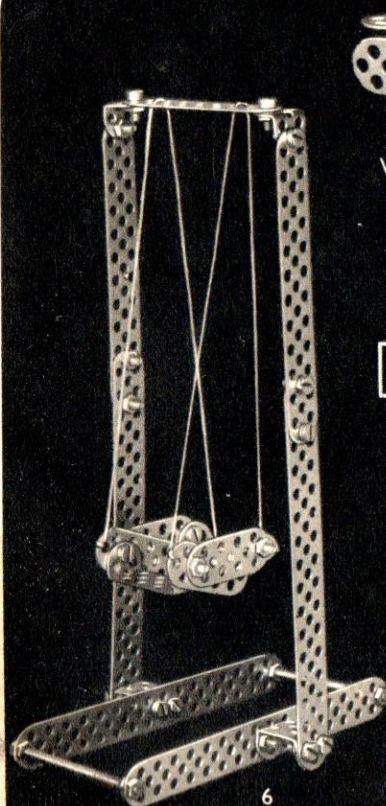
Study each photo carefully and read construction details before starting building model.

The following Rigid models are only a few examples to start you building. Make other models to your own design.

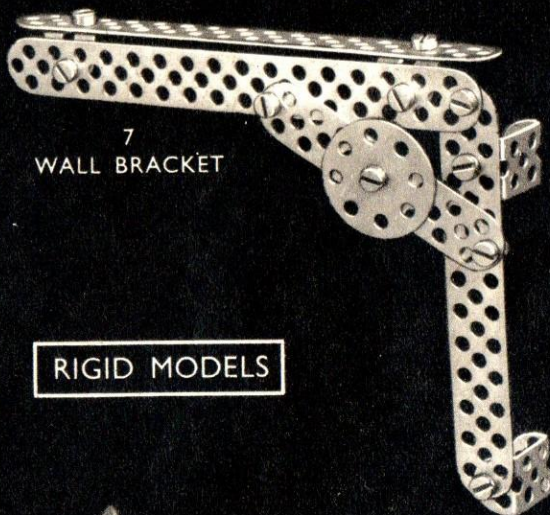


RIGID MODELS



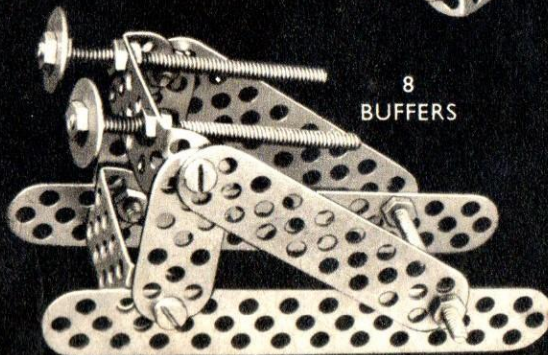


6
SWING



7
WALL BRACKET

RIGID MODELS



8
BUFFERS



9
TELEGRAPH POLE

SPECIFICATIONS

Part No.	Required for Model No.			
	6	7	8	9
A1	2	2		3
B1	20	10	4	22
F5	4		2	
F9	1	1	2	4
F13	2	1	2	2
F17	4	2		3
N1	28	10	16	34
P29		1		
S55	2		3	
U1	2	2		2
U2	2		2	1
W16			2	

CONSTRUCTION

These further models of rigid construction are made in the same way as those on page 6. Use cord to make ropes of swing in Model 6. In Model 8 make the framework first and then add the buffer stops. When making Model 9, fit the N1/B1 representing the insulators on cross trees before these are fitted to upright.

In any case of difficulty or for further advice, write to the TRIX Information Bureau, 5, Conduit St., London, W.1.

SPECIFICATIONS

Part No.	Required for Model No.			
	10	11	12	13
A1	4		4	4
B1	24	11	16	20
C1			1	
F5	4	4	2	4
F9	4	3	3	4
F13	2	1		2
F17	4	1	2	4
N1	27	17	36	28
P29	2	2	2	4
S25			2	1
S55		1	3	2
U1	2			1
U2	2	2	2	2
W16			2	
Sp.	1			

CONSTRUCTION

MODEL 10—Use SCD 18 for wheel and stub-axle assemblies. Make back crossbar from 1 spanner and 2 U1.

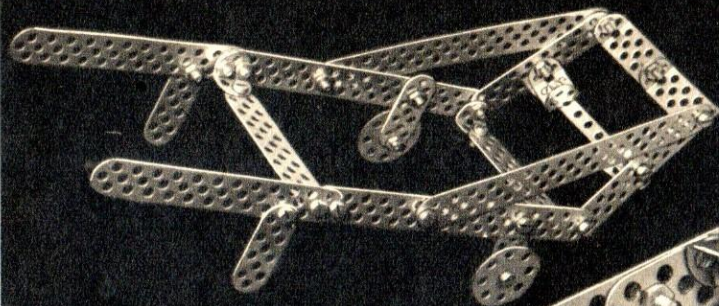
MODEL 11—Use SCD 13 for wheel fastenings.

MODEL 12—Use SCD 9 for axle assembly. Use SCD 13 for handles, hook and end support fastenings.

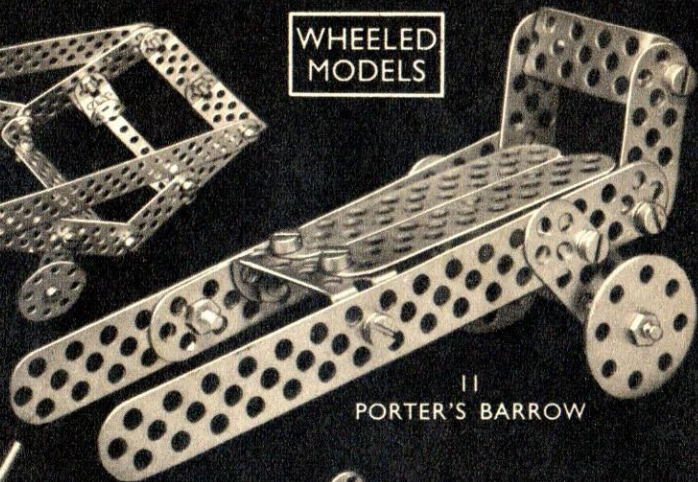
MODEL 13—Use SCD 9 for wheel assembly, and SCD 13 for legs.

The following Wheeled models are only a few examples to start you building.

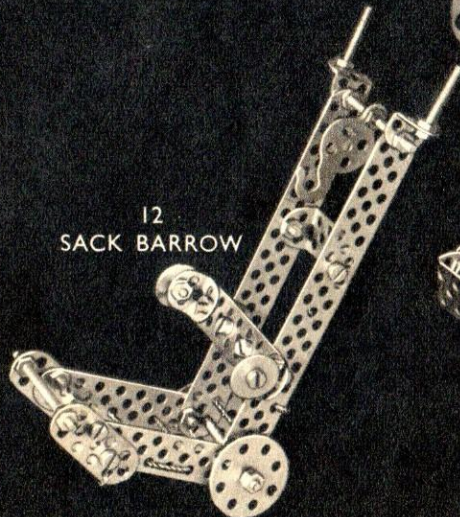
WHEELED MODELS



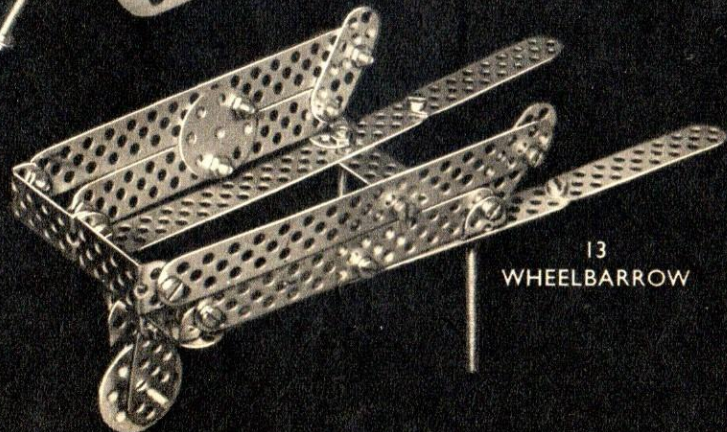
10
LUGGAGE BARROW



11
PORTER'S BARROW

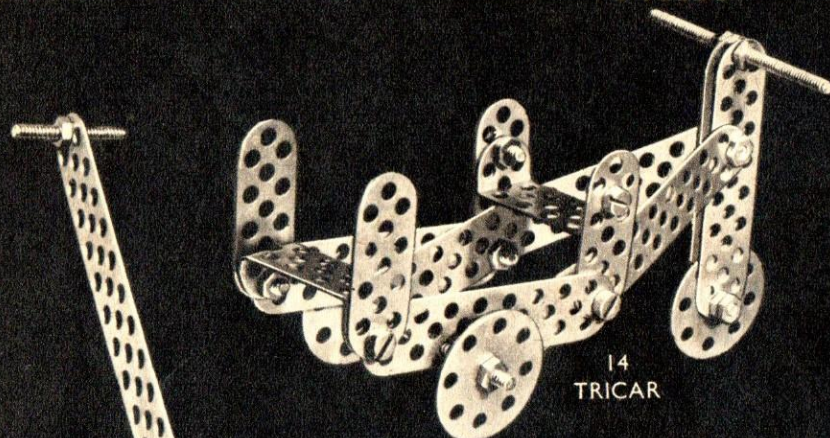


12
SACK BARROW

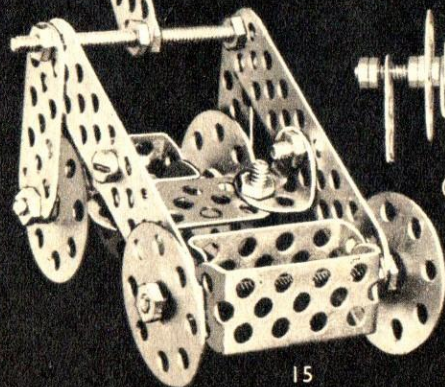


13
WHEELBARROW

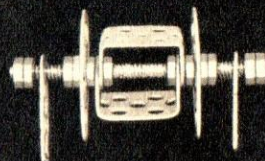
WHEELED MODELS



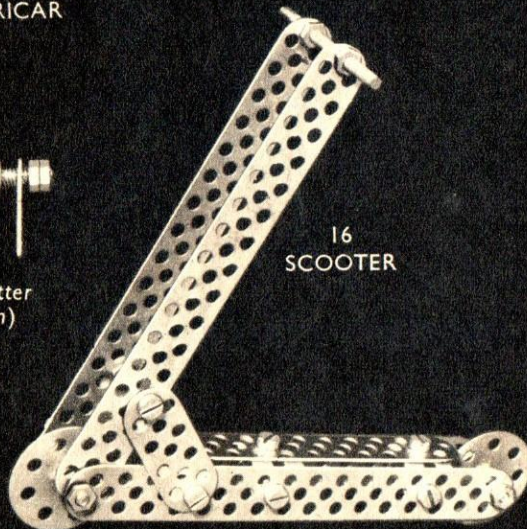
14
TRICAR



15
LAWN MOWER



(View of Cutter
Mechanism)



16
SCOOTER

SPECIFICATIONS

Part No.	Required for Model No.		
	14	15	16
A1		2	
B1	8	4	10
F5	4	3	2
F9	4	2	
F13	2	1	1
F17			4
N1	19	28	26
P29	3	4	2
S25		1	2
S55	2	3	1
U1		2	2
U2	2	2	

CONSTRUCTION

MODEL 14—Use SCD 9 for front wheel and SCD 13 for handlebars and rear-axle assembly.

MODEL 15—Use SCD 9 for front-axle assembly and SCD 13 for handle, front grass box and rear cross-bar. Make cutters as shown in inset photo.

MODEL 16—Use SCD 9 for front and rear wheel assemblies. Use SCD 13 for handlebars.

For advice or further information write to **TRIX Information Bureau**, 5, Conduit Street, London, W.1.

WHEELED MODELS

SPECIFICATIONS

Part No.	17	18	Part No.	17	18
A1	4	4	P29	4	4
B1	20	23	S25	2	1
F5	4	4	S55		2
F9	1	4	U1	2	2
F13		1	U2	2	2
F17	4	4	W16	2	2
N1	32	35			

CONSTRUCTION

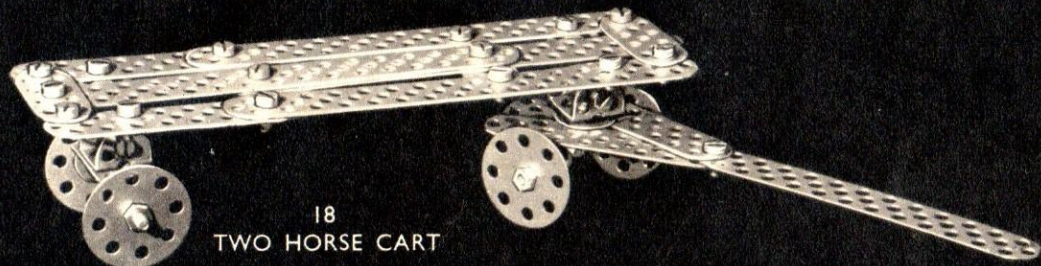
MODEL 17—Use SCD 17 for rear wheels and swivel, SCD 9 for front wheel. Handle is made from 2 W16 and 2 Spanners. Use F9/P29 for front end fitting.

MODEL 18—Make cart platform. Rear axle frame is made from 1 U1/U2 and 2 A1. The 2 A1 are bolted to underside of platform. Make front axle frame from 1 S25, 1 U1 and 2 W16 using SCD 17 and 1 U2 and 2 A1. Fit the 2 A1 to platform.

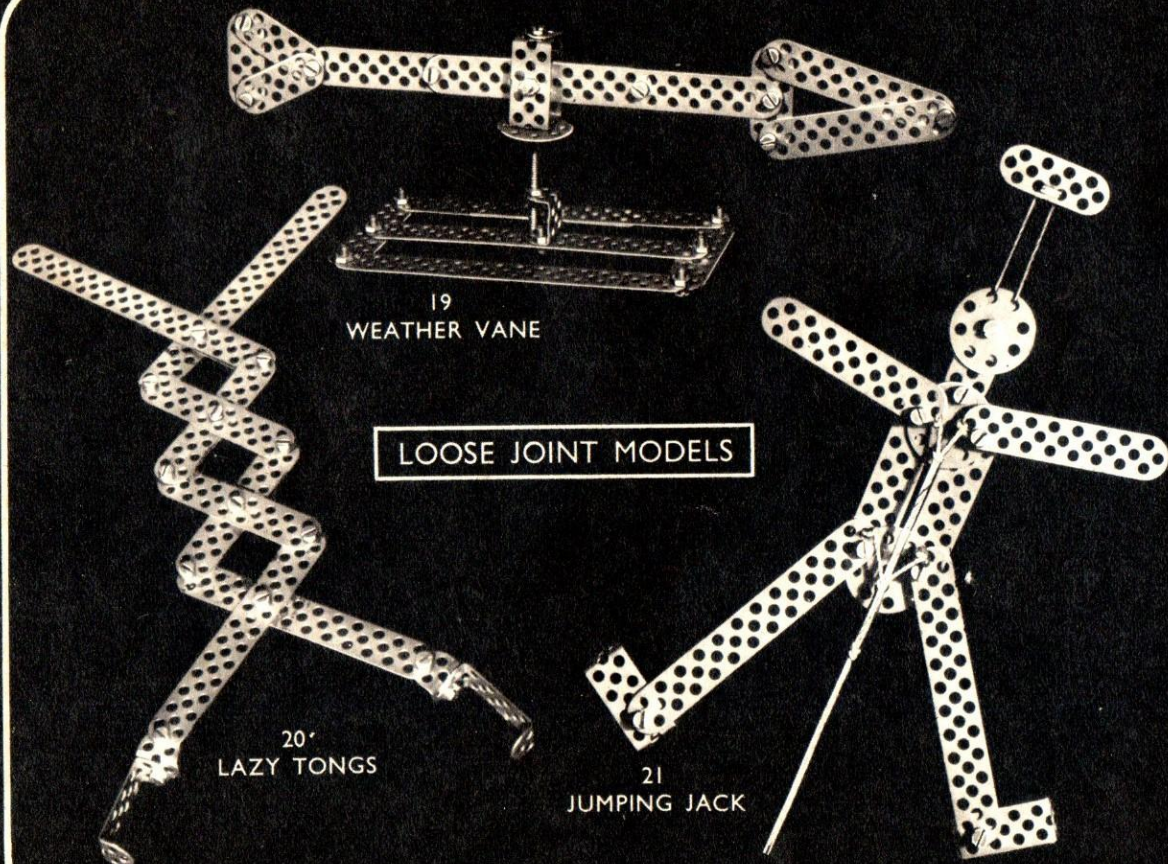
In case of difficulty or for further information, write to TRIX Information Bureau, 5, Conduit St., London, W.1.



17
LUGGAGE TROLLEY



18
TWO HORSE CART



19
WEATHER VANE

LOOSE JOINT MODELS

20
LAZY TONGS

21
JUMPING JACK

SPECIFICATIONS

Part No.	Required for Model No.		
	19	20	21
A1		2	
B1	19	14	8
F5	4		2
F9	4	4	4
F13	2	2	2
F17	4	2	
N1	29	24	12
P29	1		3
S25	1		
S55	1		
U1	1		
U2	2	2	2

CONSTRUCTION

MODEL 19—Make arrow, base and swivel. Fit together. Arrow must balance freely.

MODEL 20—Use SCD 17 for all joints of tongs except where A1's and U2's are fitted.

MODEL 21—Use SCD 17 for attaching arms and legs. Tie cord to innermost hole of each limb and knot together as shown. Tie cord from head to F5. Hold F5 and pull lower cord.

These are only three examples of loose joint models to start you building. Make other models to your own design.

SPECIFICATIONS

Part No.	Required for Model No.			
	22	23	24	25
A1	4		4	
B1	19	8	14	11
C1		1	1	
F5	4	4	4	3
F9	4	4	4	2
F13	2		2	2
F17	4	4		
N1	31	32	36	18
P29	2	4	4	4
S25	1	2	2	
S55	2	3	4	1
U1	1			2
U2		2		
W10	1	1		1
W16	2	2		2

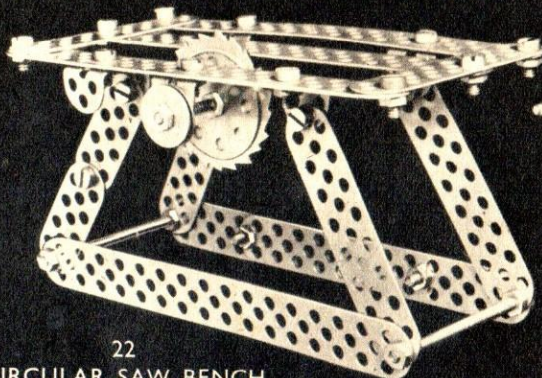
CONSTRUCTION

MODEL 22—Use SCD 11 for pulley and SCD 13 for leg fastenings. Make saw as shown on page 46, and fit between 2 P29.

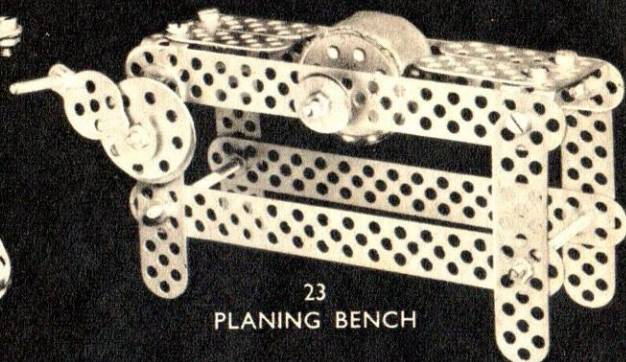
MODEL 23—Make planing wheel as shown on page 46. Use S25 for crank drive shaft with SCD 18.

MODEL 25—Make buff and emery wheel as shown on page 46. Use SCD 11 for pulley.

The following Machinery models are only a few examples. Make other models to your own design.



22
CIRCULAR SAW BENCH

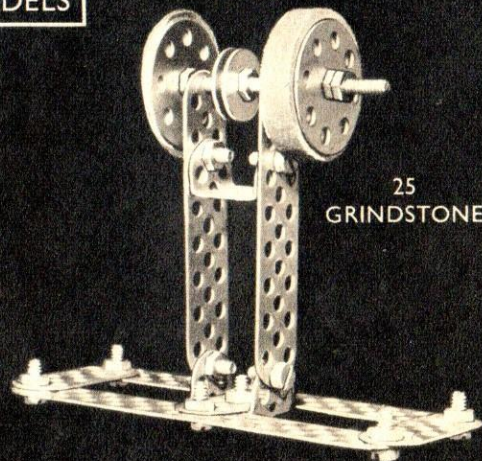


23
PLANING BENCH

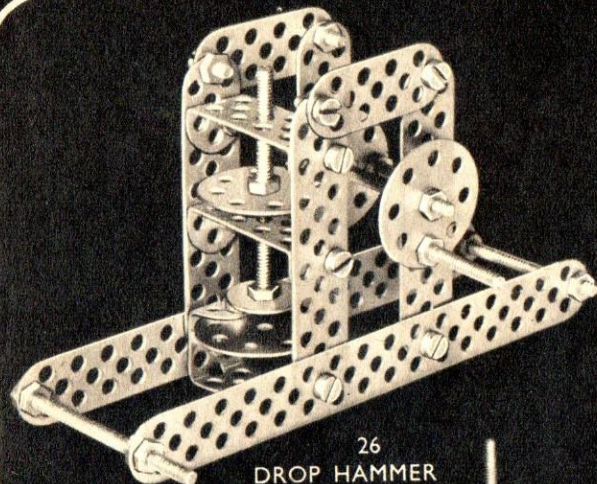
MACHINERY MODELS



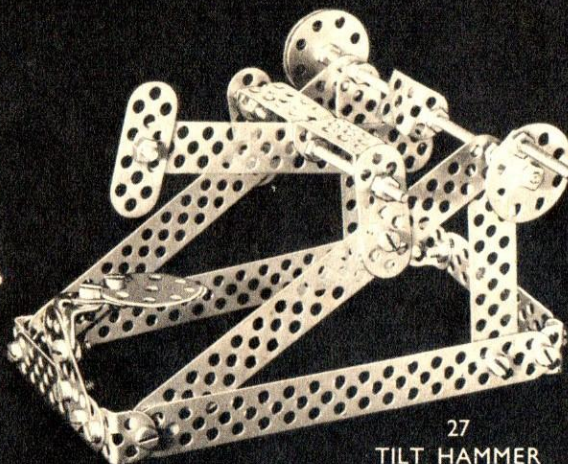
24
WINCH



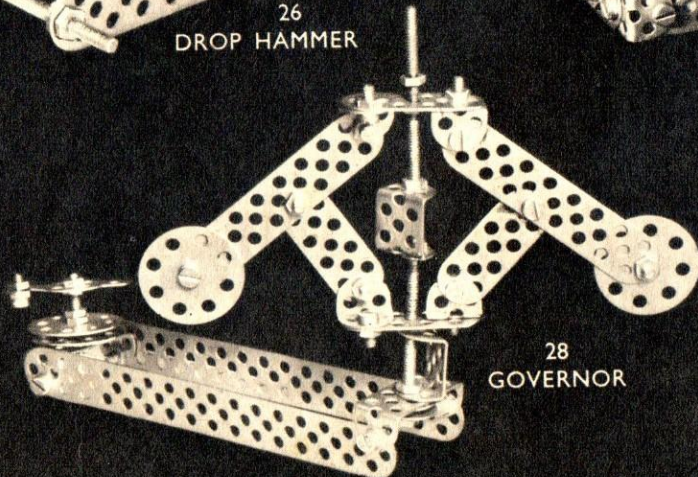
25
GRINDSTONE



26
DROP HAMMER



27
TILT HAMMER



28
GOVERNOR

MACHINERY MODELS

SPECIFICATIONS

Part No.	Required for Model No.		
	26	27	28
A1		4	4
B1	15	18	17
C1		1	1
F5	2	4	4
F9	4	4	2
F13		1	
F17	2	4	2
N1	35	36	35
P29	4	4	4
S25	1	2	1
S55	4	3	2
U1	1	2	2
U2	2	2	2
W10			1
W16	1	1	2

CONSTRUCTION

MODEL 26—Top P29 of hammer shaft is raised by bolt in P29 on crank S55.

MODEL 27—Make table from P29/C1/A1. Use SCD 12 to make eccentric on crank spindle. Hammer shaft is free to swing on cross shaft.

MODEL 28—Use SCD 18 for arms, SCD 11 for lower end of centre shaft, SCD 12 for centre shaft. Use C1 to make crank. Use cord to make belt drive from crank spindle to governor shaft.

MACHINERY MODELS

SPECIFICATIONS

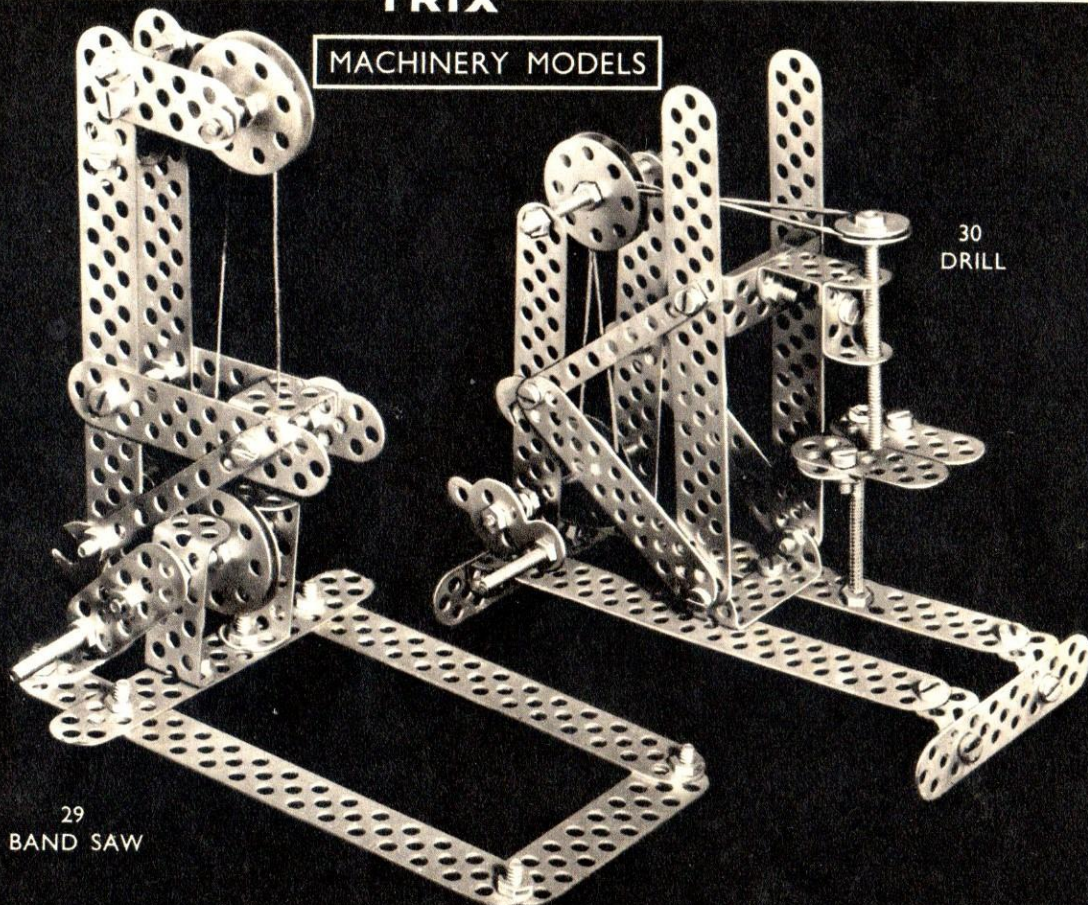
Part No.	29	30	Part No.	29	30
A1	2	4	P29	4	4
B1	24	20	S25	2	1
C1		1	S55	1	4
F5	3	3	U1	2	2
F9	4	4	U2	2	2
F13	1	2	W10		1
F17	4	4	W16	2	2
N1	36	36	Sp.	2	2

CONSTRUCTION

MODEL 29—Use SCD 10 for band pulleys. Make crank and base assembly. Make back frame and saw table. Fit both assemblies. Use 2 spanners for saw table supports.

MODEL 30—Use SCD 10 for crank and counter-shaft pulleys, SCD 11 for drill shaft pulley, and SCD 13 for drill table. Make base and counter-shaft frame. Make drill feed bracket and frame. Fit both assemblies. Add drill table. Use cord for belt drive.

In case of difficulty or for further information, write to TRIX Information Bureau, 5, Conduit St., London, W.1.



29
BAND SAW

30
DRILL

31
DRAW BRIDGE

LIFT MODELS

32
LUGGAGE LIFT

33
FIRE ESCAPE

SPECIFICATIONS

Part No.	Required for Model No.		
	31	32	33
A1	4	4	2
B1	14	11	19
C1		1	1
F5	4	4	1
F9	4	4	4
F13	2	2	2
F17	4	4	4
N1	36	34	36
P29	2	2	4
S25	1	2	1
S55	4	4	4
U1	2	2	2
U2	2	2	2
W10	1		
W16	2	2	

CONSTRUCTION

MODEL 31—Use cord attached to P29 on S55 and crank spindle to raise bridge which swivels on S55. Cord is clamped between 2 W16 on end of crank spindle. Use cord for roadway.

MODEL 32—Use SCD 9 for lift wheel and SCD 22 for hoist. Use C1 for crank. Lift must be sliding fit in shaft.

MODEL 33—Ladder is free to swing on S55 of frame. Raise by cord from rear of ladder to crank spindle. Rungs are made of cord.

SPECIFICATIONS

Part No.	34	35	Part No.	34	35
A1		4	P29	4	4
B1	16	14	S25	2	2
C1	1	1	S55	4	4
F5	4	4	U1	1	1
F9	4	4	U2	2	2
F13	2	2	W10	1	1
F17	4	4	W16	2	2
N1	36	36			

CONSTRUCTION

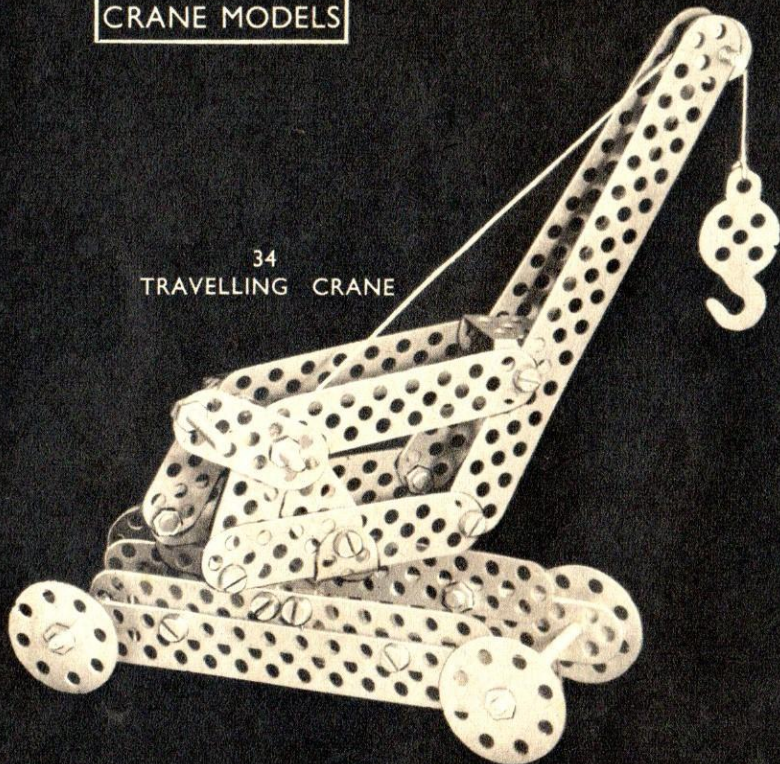
MODEL 34—Use SCD 11 for crane pulley, SCD 20 for turntable, and SCD 22 for hoist. Make crane and undercarriage separately.

MODEL 35—Use SCD 13 for bracing between crane legs. Make swivel from 1 S55 and 2 P29. Make crane and structure separately.

These are only two examples of Crane models to start you building. Make other models to your own design. See pages 22, 42 and 43 for more advanced Crane models made with TRIX CONSTRUCTION UNITS.

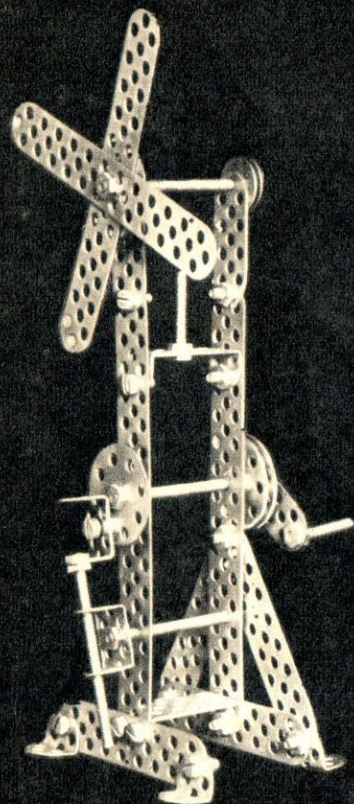
CRANE MODELS

34
TRAVELLING CRANE

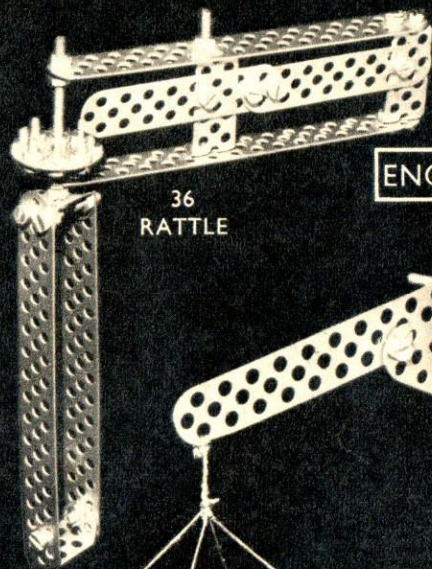


35
DOCKYARD CRANE



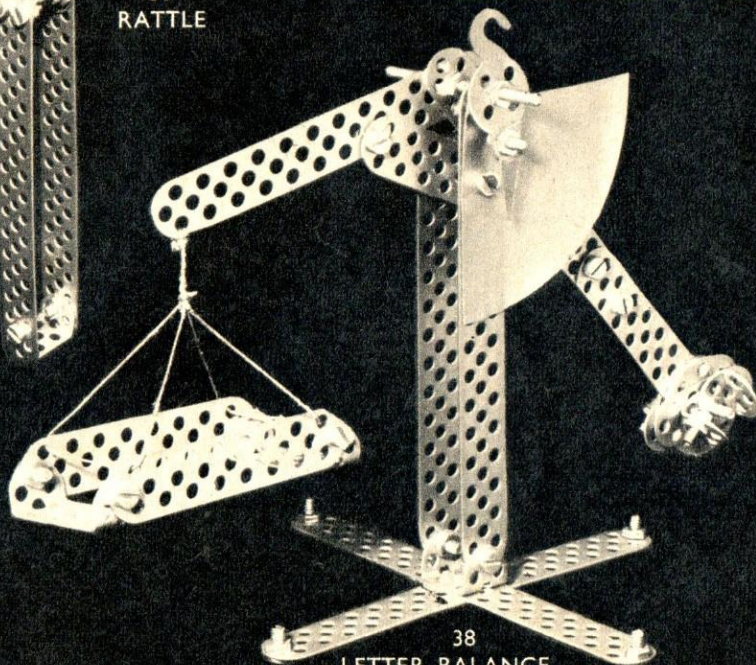


37
WIND PUMP



36
RATTLE

ENGINEERING PRINCIPLES



38
LETTER BALANCE

SPECIFICATIONS

Part No.	Required for Model No.		
	36	37	38
A1		4	4
B1	22	13	20
C1			1
F5		3	4
F9	2	4	4
F13		2	2
F17	4	2	4
N1	36	33	28
P29	1	4	4
S25		2	1
S55	2	4	1
U1	2	2	1
U2	2	2	2
W10		1	
W16		2	

CONSTRUCTION

MODEL 36—Ratchet is made from bolts fitted to P29 and an F17. Use S25 lock nutted top and bottom for swivel at end of handle.

MODEL 37—Use SCD 18 for con-rod to crankshaft wheel. Pump body must be free to oscillate. Use lock nuts for this.

MODEL 38—Exact length of arms and counterweight give balance which can be adjusted to give accurate readings on scale of true weights. Scale is made from card as shown on page 46.

SPECIFICATION

Part No.	41	Part No.	41
A1	4	N1	36
B1	16	P29	2
F5	4	S25	2
F9	4	S55	4
F13	2	U1	2
F17	4	U2	1

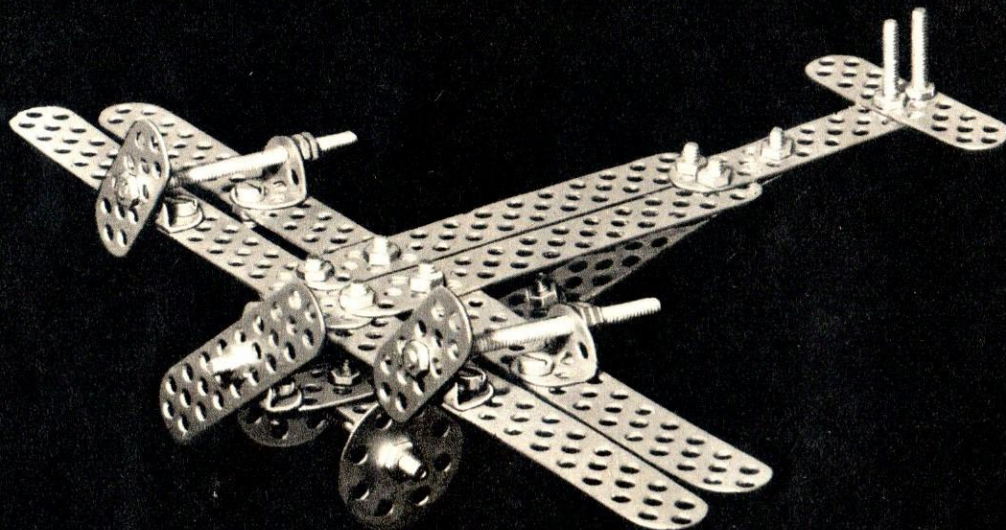
AIRLINER MODEL 41

CONSTRUCTION

The construction of this model is very straightforward and can be clearly seen from the photo. Use SCD 13 for all airscrew fastenings. Lock nut ends of shafts.

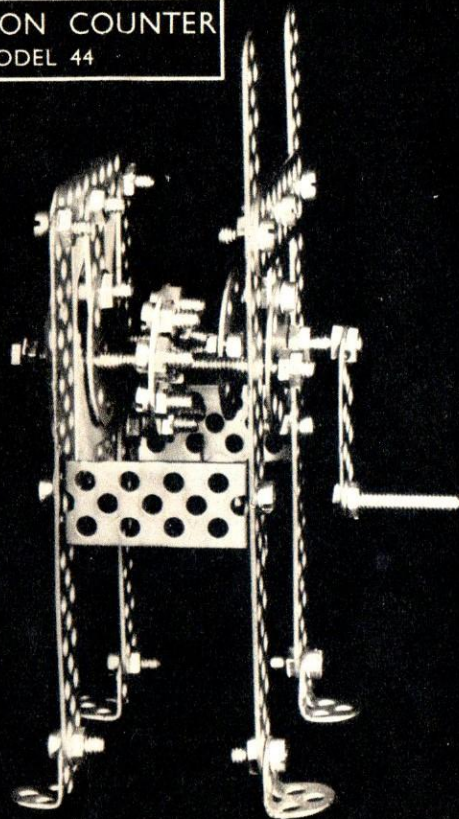
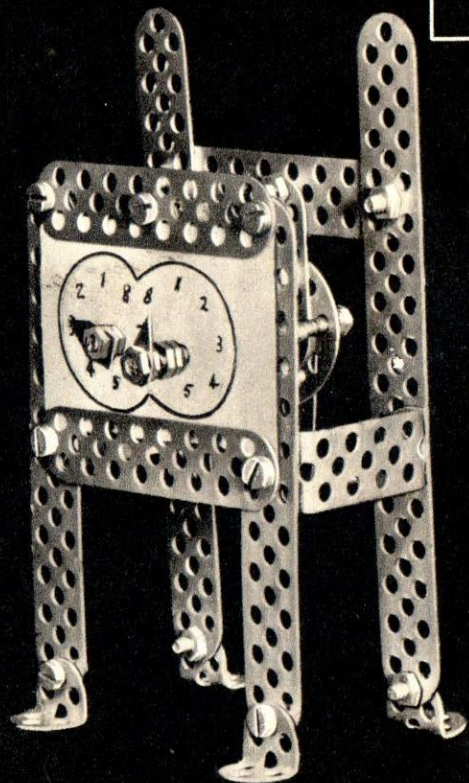
Turn to pages 20 and 23 and see what a fine model of an Airliner can be made with the addition of further Units.

For any further information or advice write to
TRIX Information Bureau,
5, Conduit St., London, W.1.



REVOLUTION COUNTER

MODEL 44



VIEW SHOWING OPERATING MECHANISM

SPECIFICATION

Part No.	44	Part No.	44
A1	4	N1	36
B1	24	P29	4
F5	3	S25	1
F9	3	S55	2
F13	2	U2	2
F17	2		

CONSTRUCTION

Make outline frame. Bolt an F5 (end hole) to front top F9 (centre hole). Bolt P29 (outside hole) to the F5 (centre hole). Make gear assembly by fitting a P29 to S55. Fit 1 N1/B1 to this P29. Make second gear similarly, but with 8 N1/B1. Fit shafts through opposing holes of P29 on frame with bolt ends facing. Fix P29s on shafts so that the 1 bolt end strikes any one of 8 bolt ends. Make P29/F5 as used on frame, and fit to back F9 so that other ends of gear shafts pass through. Lock nut ends, leaving room for crank handle on 1 bolt shaft. Fit crank handle. Make dial (see page 46) and fit. Fit pointers so that 8 bolt shaft overlaps 1 bolt shaft.

— **TRIX** —

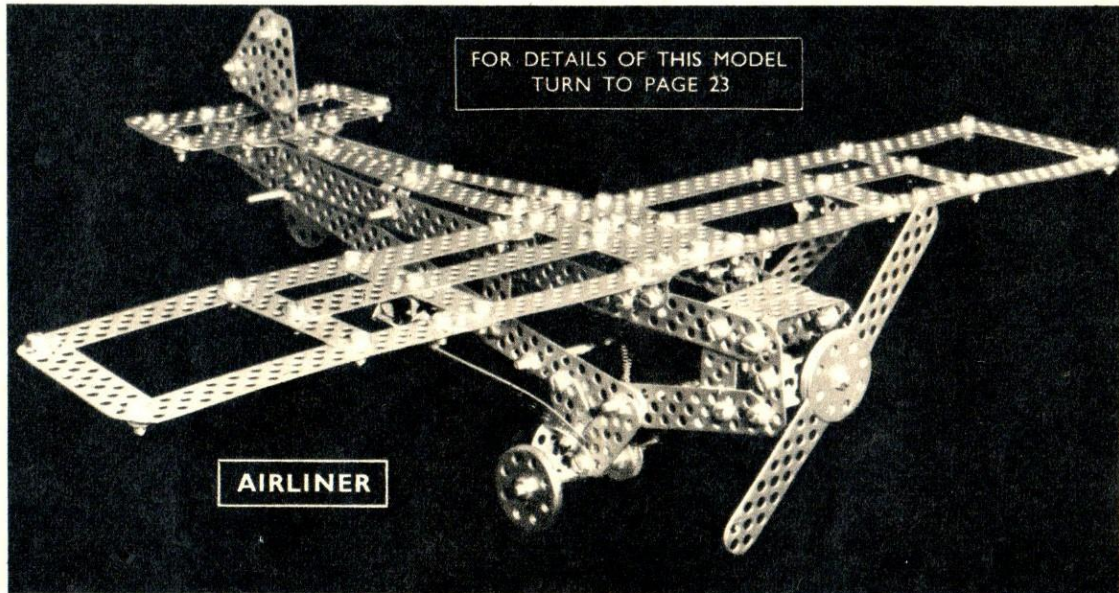
ELEMENTRIX PLUS UNITS 'A' & 'B'

And so by stages we build !

By now you will have mastered the principles of model making under the Trix Unit System and will wish to embark upon the really fascinating part of the hobby, namely, that of adding to your stock of parts Unit by Unit and finding that the scope of models you can make increases enormously with each added Unit.

ONLY TRIX GIVES YOU THIS GREAT ADVANTAGE

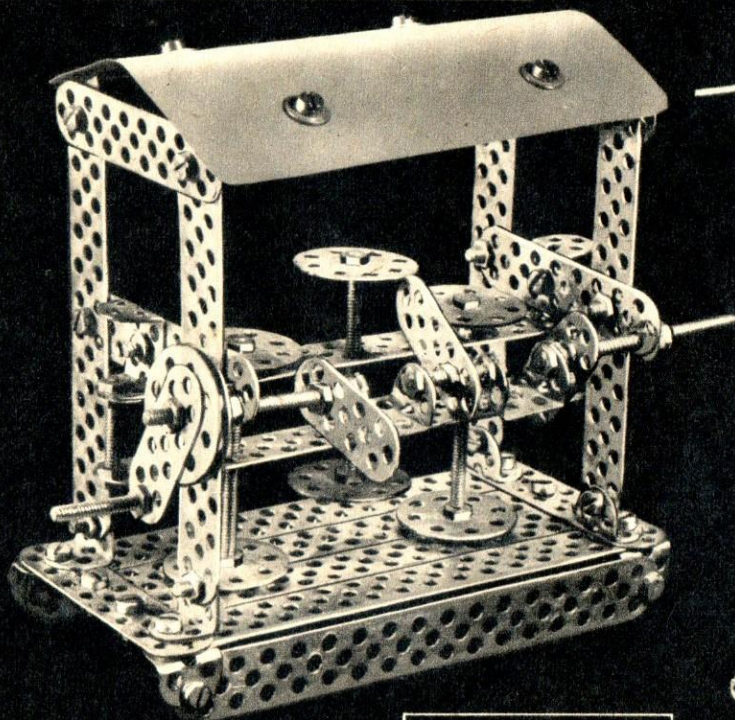
On pages 21-25 we show you just a few examples with constructional details of models which can be made by merely adding extra "A" and "B" Units to your Elementrix Set. Limitations of space prevents us from showing more than these few models, but in the **TRIX COMPLETE ENGINEERING MANUAL** (details on page 46) many new and exciting models are fully illustrated and described. Ask your Dealer to show you the separately packed "A" and "B" Units. The Trix Unit System also includes "C" and "D" Units (see page 26), Unit "E" (page 44), Unit "F" and Unit "G" (see page 40).



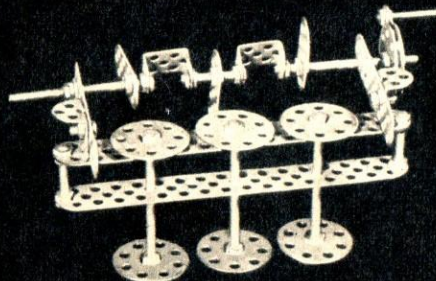
FOR DETAILS OF THIS MODEL
TURN TO PAGE 23

AIRLINER

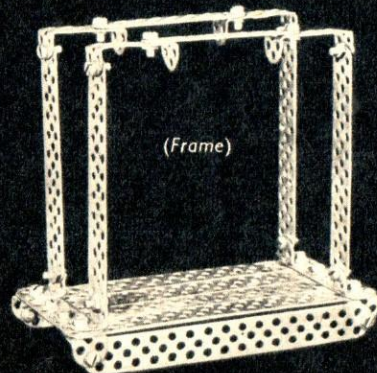
MADE WITH YOUR ELEMENTRIX SET
PLUS 1 UNIT "A" & 1 UNIT "B"



STAMPING MILL



(Stamping mechanism)



(Frame)

SPECIFICATION

Part No.		Part No.	
A1	8	P29	8
B1	30	S25	4
F5	4	S55	5
F9	6	U1	4
F13	4	U2	4
F17	8	W16	2
N1	72		

CONSTRUCTION

Make base and uprights only from 6 F17, 4 F13, 2 F9, 8 A1, 16 N1/B1. Make stamping mechanism from 2 F17, 2 F9, 4 F5, 4 U1, 8 P29, 2 W16, 4 S25, 5 S55, 2 B1, 44 N1 and as shown in small photograph. Fit to frame. Make roof brackets and fit to frame. Cut out roof from piece of card and fit. Use SCD 13 for stampers and cams, SCD 12 for camshaft and SCD 10 for crank.

The TRIX Information Bureau, is at your service. Your enquiry will receive expert and prompt attention. 5, Conduit St., London, W.1.

SPECIFICATION

Part No.		Part No.	
A1	12	P29	10
B1	62	S25	5
C1	1	S55	5
F5	7	U1	6
F9	12	U2	6
F13	6	W10	2
F17	12	W16	5
N1	108		

CONSTRUCTION

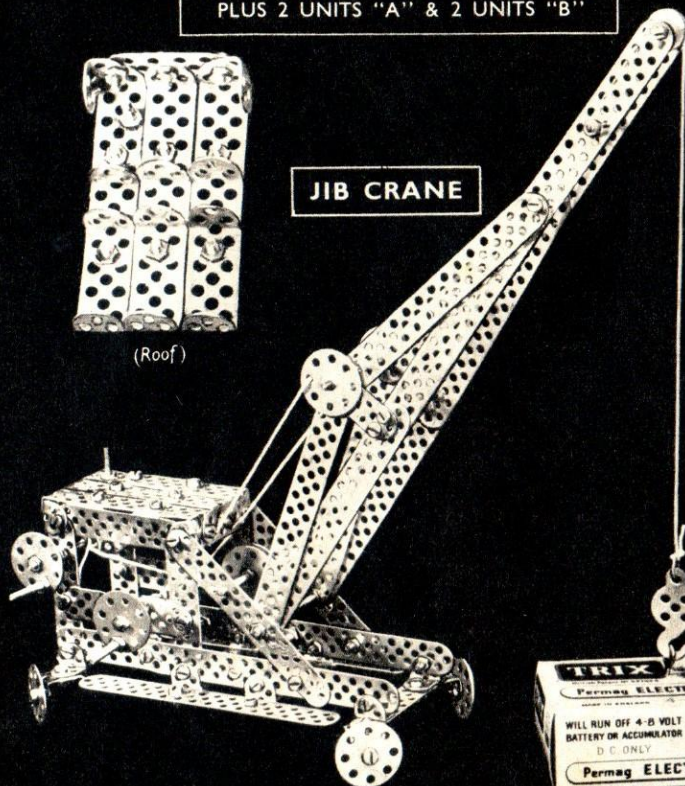
Make base frame and uprights from 4 F17, 2 F13, 8 F9, 8 A1, 24 N1/B1. Add wheels and brackets. Make hoists from 2 F9, 2 U1, 2 P29, 2 S25, 2 S55, 2 B1, 16 N1. Fit to frame. Fit jib supports (2 F13). Add pulley. Make jib from 4 F17, 2 F13, 2 F5, 2 P29, 1 S25, 1 S55, 6 B1, 14 N1. Add top pulley. Fit jib to supports. Jib cable is tied to roof and through P29 on jib back to hoist. Fit crane cable with hook. Make roof as shown and fit to frame. Use SCD 17 for wheel brackets, SCD 18 for axles, SCD 13 for cranks and jib braces, SCD 11 for top pulley, SCD 10 for bottom pulley and SCD 22 for hoists.

MADE WITH YOUR ELEMENTRIX SET
PLUS 2 UNITS "A" & 2 UNITS "B"

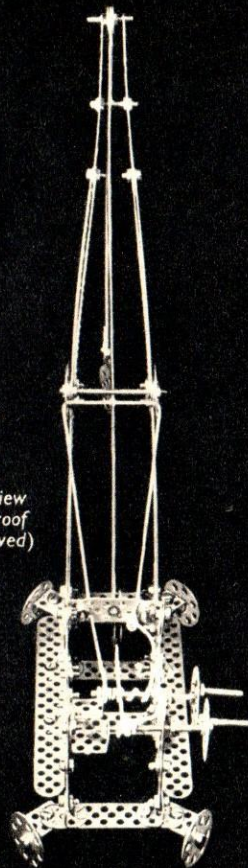
JIB CRANE

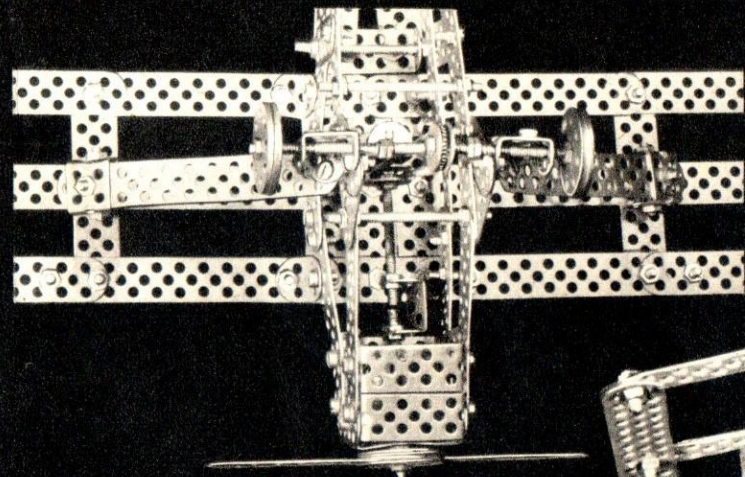


(Roof)



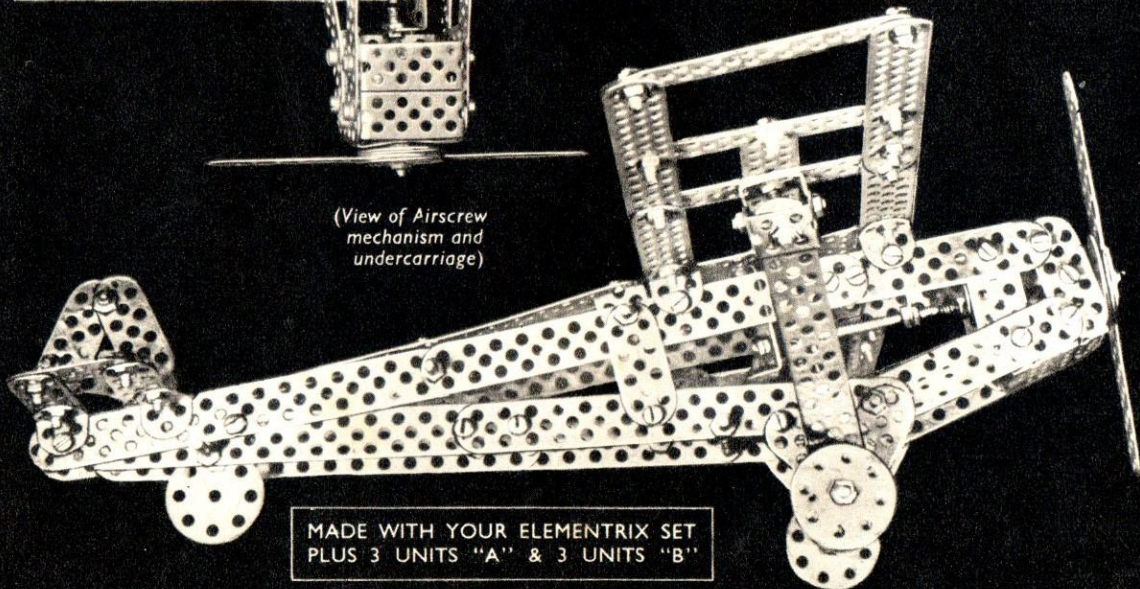
(End view
with roof
removed)





(View of Airscrew mechanism and undercarriage)

AIRLINER



MADE WITH YOUR ELEMENTRIX SET
PLUS 3 UNITS "A" & 3 UNITS "B"

SPECIFICATION

Part No.		Part No.	
A1	11	P29	15
B1	89	S25	2
F5	16	S55	9
F9	16	U1	7
F13	8	U2	8
F17	16	W10	4
N1	133	W16	4

CONSTRUCTION

Another view is given on page 20. Use all views when building.

Make main plane from 6 F17, 4 F13, 10 F9, 2 U1, 27 N1/B1.

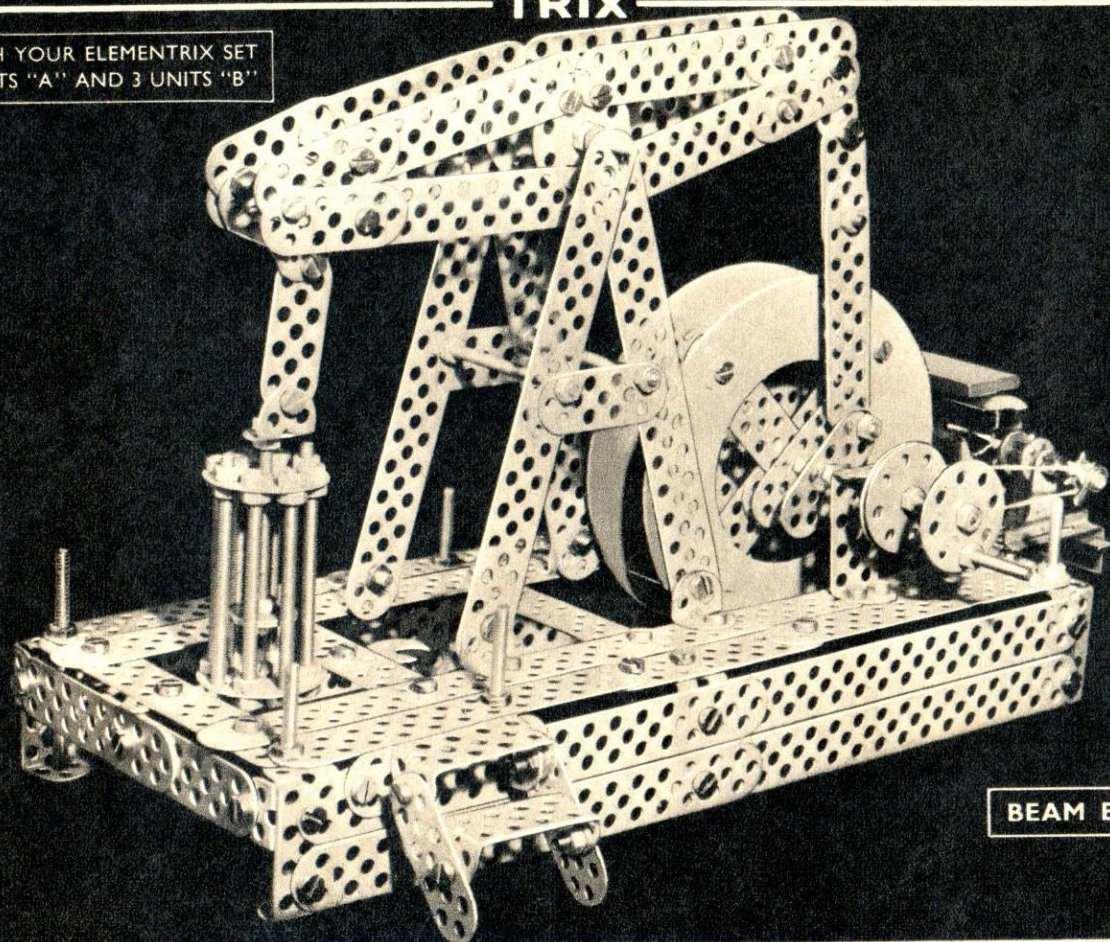
Make tail plane and rudder from 2 F13, 6 F5, 5 A1, 13 N1/B1.

Make fuselage from 10 F17, 4 F9, 6 F5, 4 A1, 7 U2, 3 S55, 31 N1/B1.

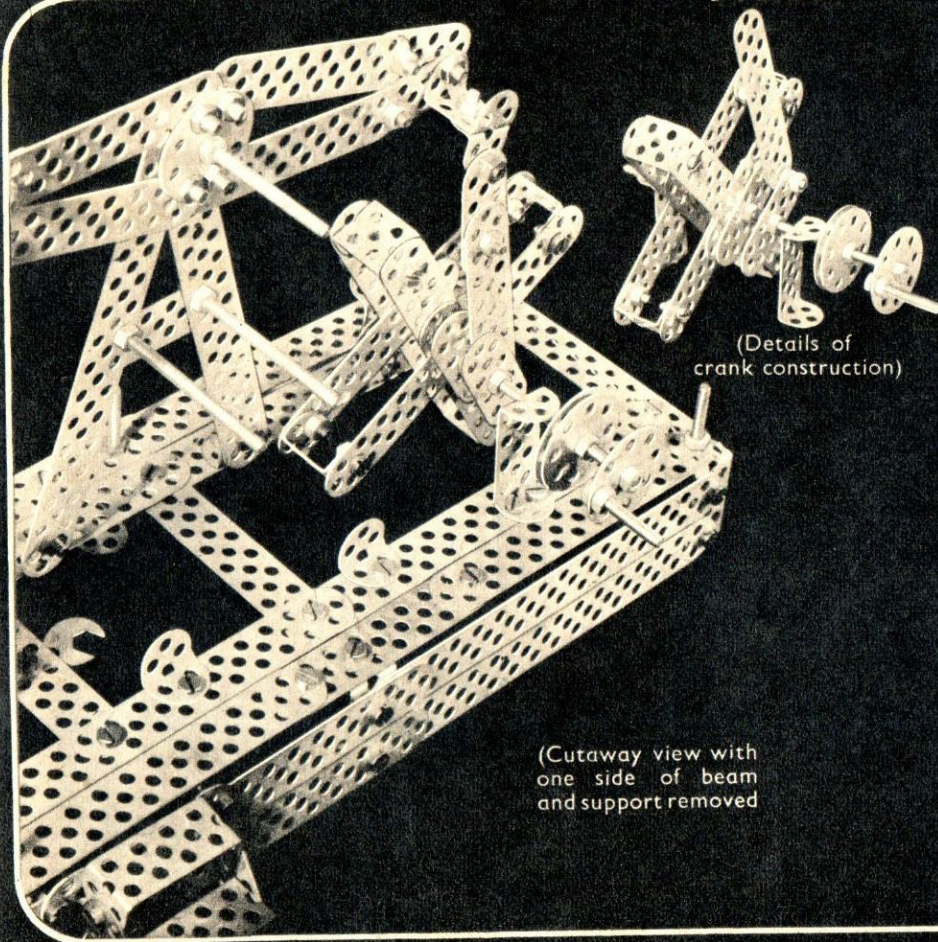
Make airscrew mechanism from 1 U1, 1 U2, 2 W10, W16, 2 S55, 8 N1. Fit to plane. Fit plane to fuselage. Add airscrew. Make undercarriage from 4 F5, 2 U1, 10 P29, 2 W10 W16, 2 S55, 4 B1, 14 N1. Fit to fuselage. Add struts. Fit tail plane and wheel.

— **TRIX** —

MADE WITH YOUR ELEMENTRIX SET
PLUS 4 UNITS "A" AND 3 UNITS "B"



BEAM ENGINE



(Details of crank construction)

(Cutaway view with one side of beam and support removed)

SPECIFICATION

Part No.		Part No.		Part No.	
A1	13	N1	164	U2	10
B1	87	P29	7	W10	3
F5	16	S25	6	W16	4
F9	18	S55	16	Sp.	1
F17	16	U1	6		

CONSTRUCTION

Base sides are made from F17's (overlapped 3 holes) bolted to vertical U2's at centre and ends. Sides are joined together at one end by A1's and F9's (overlapped 4 holes) and the other by A1's and an F13. Three F13's fastened to the U2's form the cross members. Add catwalks made from 1 F9, 2 F13, 2 F17 to each side. Beam is made from F5's and F9's joined at the ends by U1's and in centre to P29's locknitted onto S55, which pivots in the top hole of side supports. Cylinder and piston (SCD 50) is secured to base by an Sp bolted under the end F13 and an F9 near base of supports. Flywheel is made from F9's, F13's and U1's. Use cardboard for side plates of flywheel as shown on page 47. Make crankshaft assembly and con-rod (F9 and F5 overlapped 3 holes) as shown in sectionalised view. Top end of con-rod is attached by loose joint to an A1 fixed to U1 of beam. Loose joints at each end of an F5 are used to couple other end of beam to piston rod.

To drive this model with Motor 2051, see instructions in the TRIX COMPLETE ENGINEERING MANUAL, details of which are given on page 46.

Introducing **UNITS 'C' and 'D'** and **ELECTRIC MOTOR 2051**

For greater realism in action and construction.

TRIX now presents Units "C" and "D" and you will at once see the wonderful possibilities which these new Units offer to the scope of your model making.

ONLY THE TRIX UNIT SYSTEM GIVES YOU THIS GREAT ADVANTAGE

In Unit "C" you will find a new range of parts including pulleys, wheels and small joints, etc. Unit "D" introduces girders in various lengths which give amazing strength and rigidity to your models.

On pages 29-39 we show a few examples of models which you can build by the addition of these new Units to your set. Limitation of space prevents us from showing more than these few models, but in the **TRIX COMPLETE ENGINEERING MANUAL** (details on page 46) many new and exciting models are fully illustrated and described.

Units "C" and "D" are, like all Units in the **TRIX UNIT SYSTEM**, sold separately.

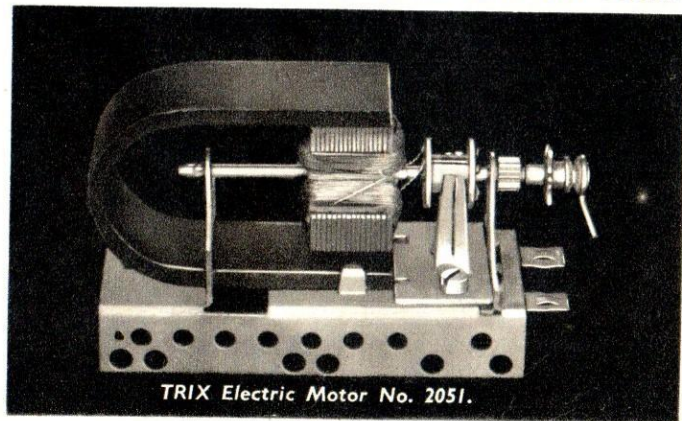
**ASK YOUR DEALER FOR THEM AND START RIGHT AWAY
BUILDING BIGGER AND BETTER MODELS.**

Add power to your Models.

What could be finer than driving your models with a real electric motor? Well, here is the **TRIX ELECTRIC MOTOR 2051** which has been specially designed for just such a purpose.

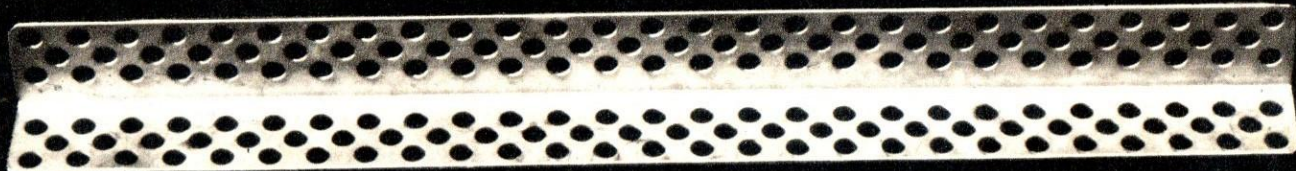
It is safe, robust and reliable. Mounted on a special base for fixing in your models.

YET ANOTHER UNIQUE FEATURE IN THE TRIX UNIT SYSTEM

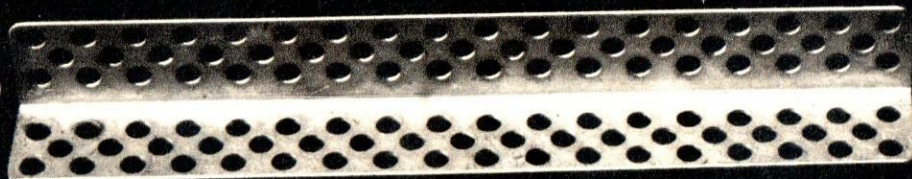


TRIX Electric Motor No. 2051.

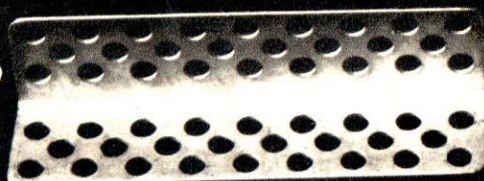
A.27
(Unit D)



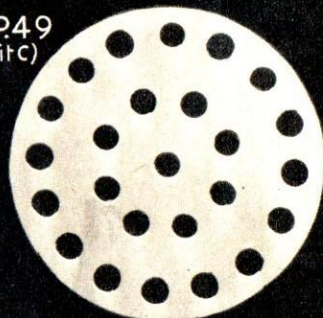
A.18
(Unit D)



A.9
(Unit D)



P.49
(Unit C)



E.1
(Unit C)



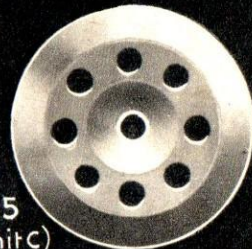
S.U.2
(Unit C)



S.U.1
(Unit C)



V.35
(Unit C)



S.87(Unit C)



U.3
(Unit C)



Here are the new parts—Get to know them!

The additional new components are illustrated here together with their code numbers. In all constructional details you will find that the parts are always referred to by their code numbers.

UNIT "C" contains the following 46 parts:—

U-piece	U3	2
"	SU1	2
"	SU2	2
Spindle	S87	2
Pierced disc	P49	4
Dished pulley	V35	4
Eccentric washer	E1	2
Bolts	B1	8
Nuts	N1	20

UNIT "D" contains the following 50 parts:—

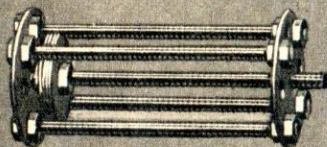
Angle strip	A27	2
"	A18	2
"	A9	2
Flat strip	F5	4
"	F9	4
Bolts	B1	18
Nuts	N1	18

STANDARD CONSTRUCTION DETAILS

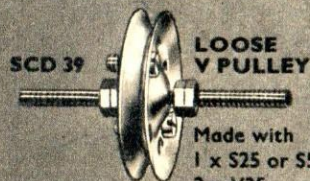
USING UNITS "C" AND "D" PARTS

We show you here, 10 selected constructions which you will find are constantly used in building models made with Units "C" and "D". Use these together with those shown on pages 4 and 5 of your Elementrix Instruction Book, and as given in the construction details for each model.

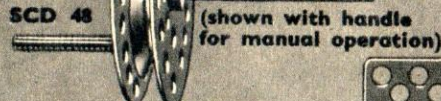
SCD 50 CYLINDER AND PISTON



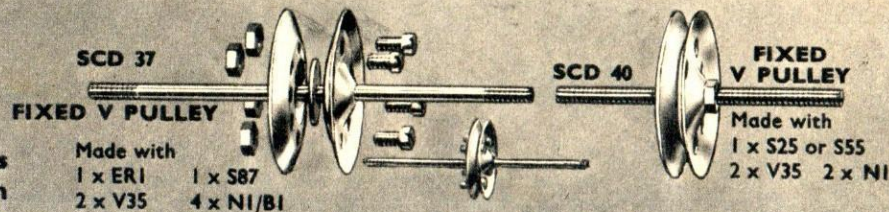
Made with 2 x P29 5 x S55
1, 2, 3 or 4 x W16 18 x NI



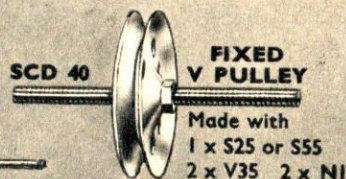
Made with
1 x S25 or S55
2 x V35
2 x BI 6 x NI



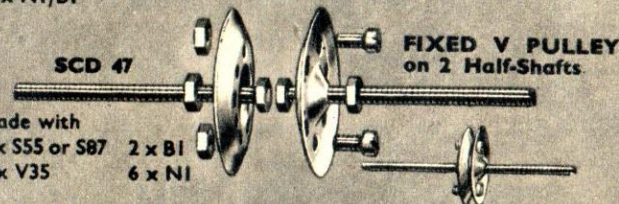
Made with
2 x P49
1 x S25 1 x S55
2 x V35 4 x NI



Made with
1 x ERI 1 x S87
2 x V35 4 x NI/BI



FIXED V PULLEY
Made with
1 x S25 or S55
2 x V35 2 x NI



Made with
2 x S55 or S87 2 x BI
2 x V35 6 x NI



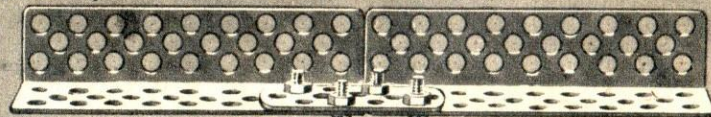
LOOSE WHEEL FOR LARGE TYRES
Made with
2 x P49 1 x large tyre
1 x S25 or S55
2 x BI
6 x NI



Made with
4 x P29
1 x S25 or S55
1 x V35
2 x NI



Made with 1 x S87 1 x SU1 1 x NI/BI



SCD 51 ANGLE STRIP BUTT JOINT
Made with 2 x any combination of A9, A18 or A27 1 x F5 or F9 4 x NI/BI

MADE WITH YOUR ELEMENTRIX SET PLUS
1 UNIT "A," 1 UNIT "B" & 1 UNIT "D"

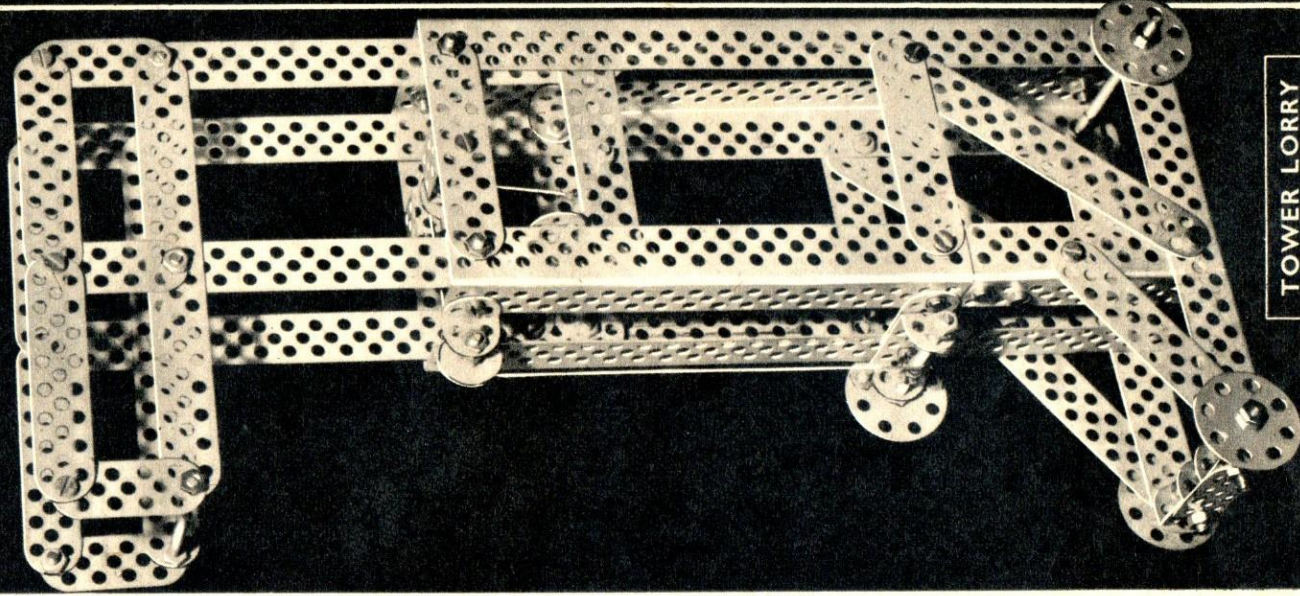
SPECIFICATION				
Part No.	Part No.	Part No.	Part No.	
A1	6	F9	12	S55 7
A9	2	F13	4	U1 4
A18	2	F17	8	U2 1
A27	2	N1	90	W10 2
B1	43	P29	5	W16 4
F5	12	S25	4	

CONSTRUCTION

Uprights of main frame are made from A27's and A18's and A9's (SCD 51).

Sides are joined by F9's and F17's. Back is joined by F5's at top and bottom. Front is joined by A1's and an S25, carrying a loose pulley, made from 2 W16's and 1 W10 kept in place by lock nuts. At lower end of A18's, front is joined together by an F5 and a U2 carrying an S55 and SCD 14 (with B1 as handle). Rear axles are an S25 and an S55 with P29 wheels (SCD 9). Front of base is joined by an F5 and 2 U1's. Front axles are similar to rear. Each side of upper section is made from 3 F17's, 3 F9's and 3 F5's as shown. Join sides together by 3 S55's at platform base and 1 S55 at bottom end of upper section. A1's are added to act as guides at lower end of this section.

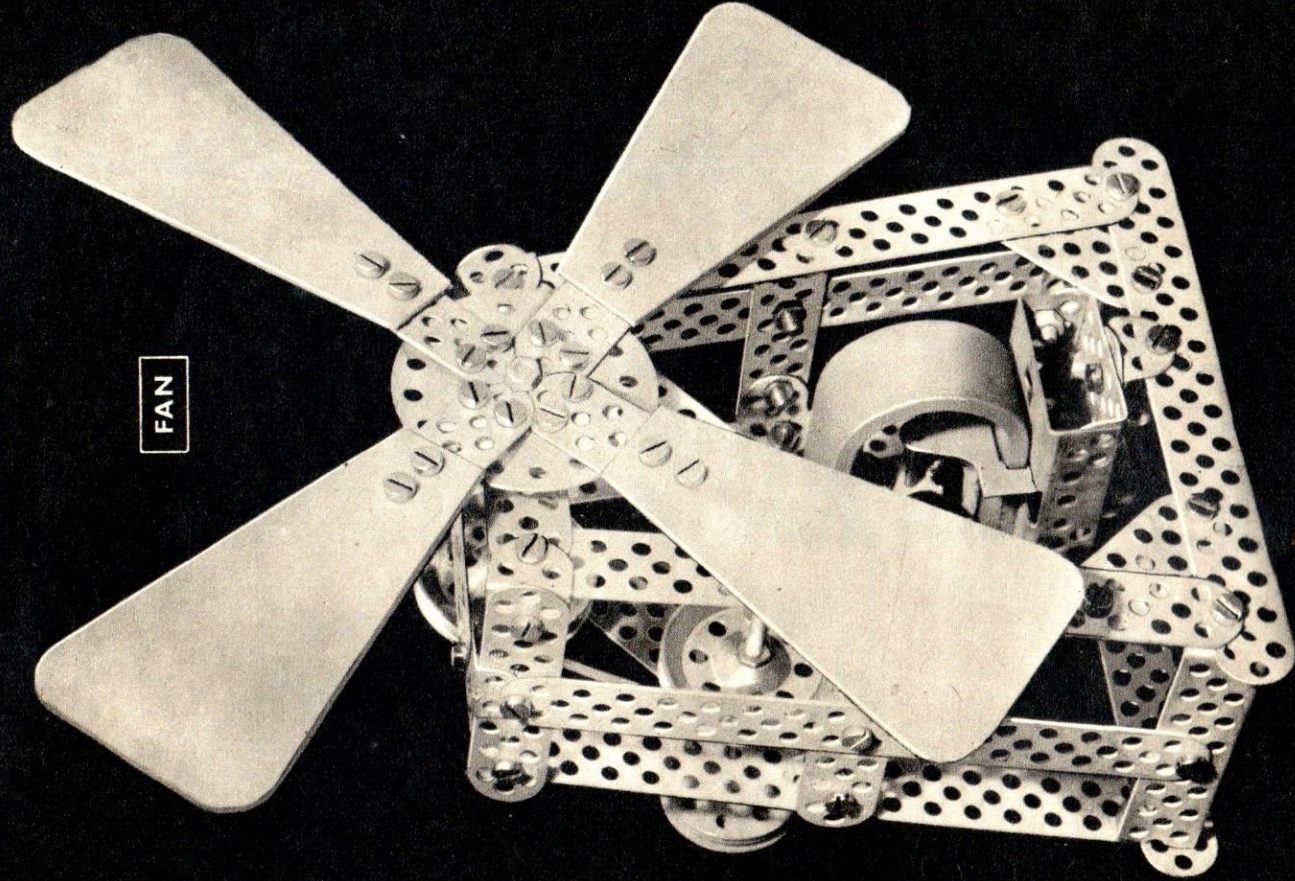
Now insert upper section into main frame, which entails removing top side F9's. Replace F9's and add 2 U1's carrying an SCD 11. Cable is attached from lower S55 of upper section.



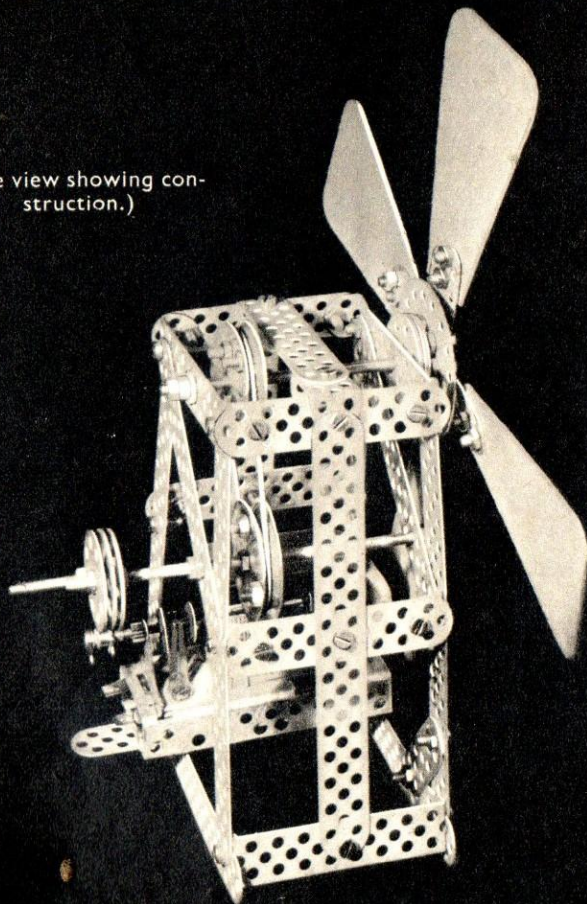
TOWER LORRY

MADE WITH YOUR ELEMENTRIX SET PLUS
1 UNIT "A," 1 UNIT "B," & 1 UNIT "C"

FAN



(Side view showing construction.)



SPECIFICATION

Part No.		Part No.		Part No.	
A1	8	F17	8	S87	1
B1	56	N1	77	U1	2
ER1	2	P29	7	U3	2
F5	6	P49	1	V35	4
F9	7	S25	1	W10	2
F13	3	S55	2	W16	2

CONSTRUCTION

Front and rear of frame are similarly constructed using F17's as base and uprights and top by F9's with A1's at each corner. Join together by U3's at foot and F9's attached to A1's already in place at top. Add bracing of an F9, F17 and A1's to each side. F13's from top corner A1 to centre side bracing A1, one used to carry driving spindle (rear F13 will need to be removed when fitting driving spindle).

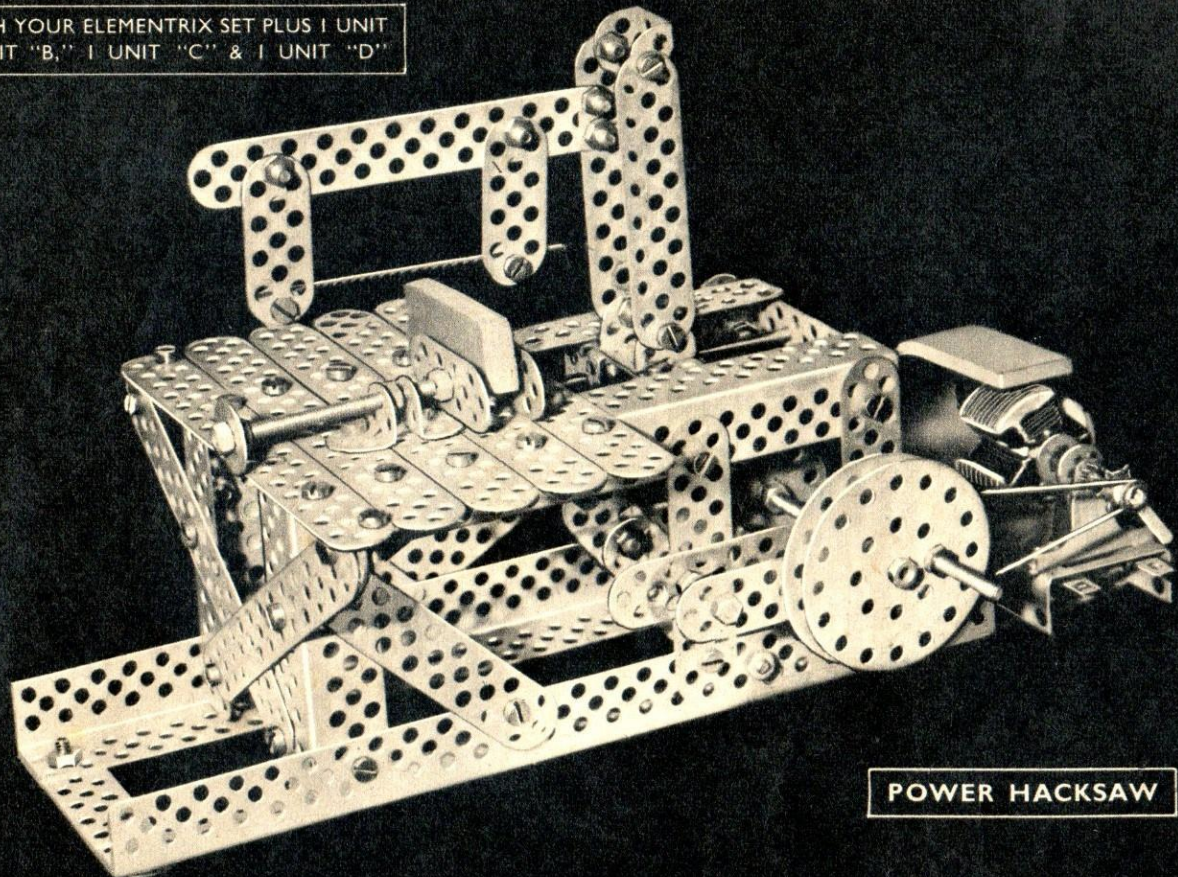
Driving spindle is made from 2 S55's joined by lower pulley (SCD 47). Fit to frame and add pulley SCD 10 with crank SCD 14.

Fan blades are F5's attached by 2 N1 B1 to a P49. To give pitch to blades a nut is placed on one of the bolts between each F5 and the P49. Make fan blades from template as shown on page 47. Fan assembly is fixed to an S87 passing through middle hole of top F9 frame. Four P29's act as spacers between frame and P49. Pulley SCD 37 is now fitted to the S87. Use rubber band as driving belt.

To add realism to this model use Motor 2051. Details of fitting are given in the TRIX COMPLETE ENGINEERING MANUAL.

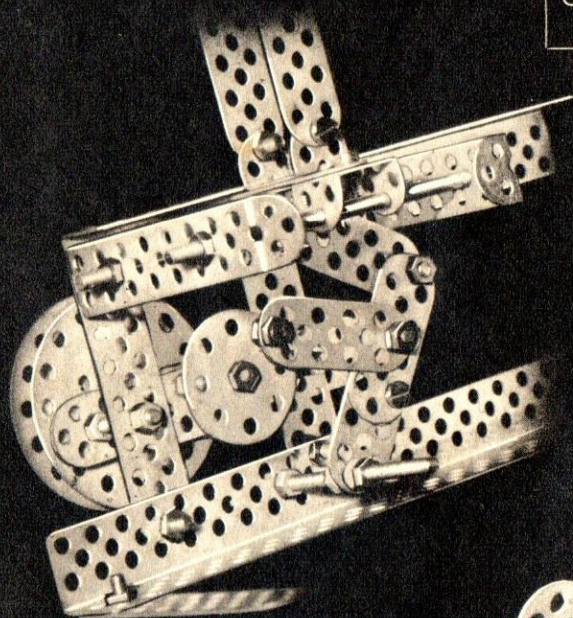
TRIX

MADE WITH YOUR ELEMENTRIX SET PLUS 1 UNIT
"A," 1 UNIT "B," 1 UNIT "C" & 1 UNIT "D"



POWER HACKSAW

CONSTRUCTIONAL DETAILS OF POWER HACKSAW



(Cutaway view showing
operating mechanism.)

(View showing brackets
and operating arm of
sliding frame.)



SPECIFICATION

Part No.		Part No.		Part No.	
A1	7	F13	4	S87	2
A9	2	F17	7	U1	4
A18	2	N1	113	U2	2
A27	2	P29	1	U3	2
B1	69	P49	2	V35	2
F5	9	S25	3	W16	1
F9	12	S55	3		

CONSTRUCTION

The illustrations show very clearly the construction of this model and should, therefore, be studied carefully before building.

Begin by making the framework (less operating mechanism), table and saw frame. Now make operating mechanism as shown in inset cutaway photographs using SCD 48 for flywheel and pulley. Fit to frame, making sure that the U1's of the mechanism slide freely along the S87's.

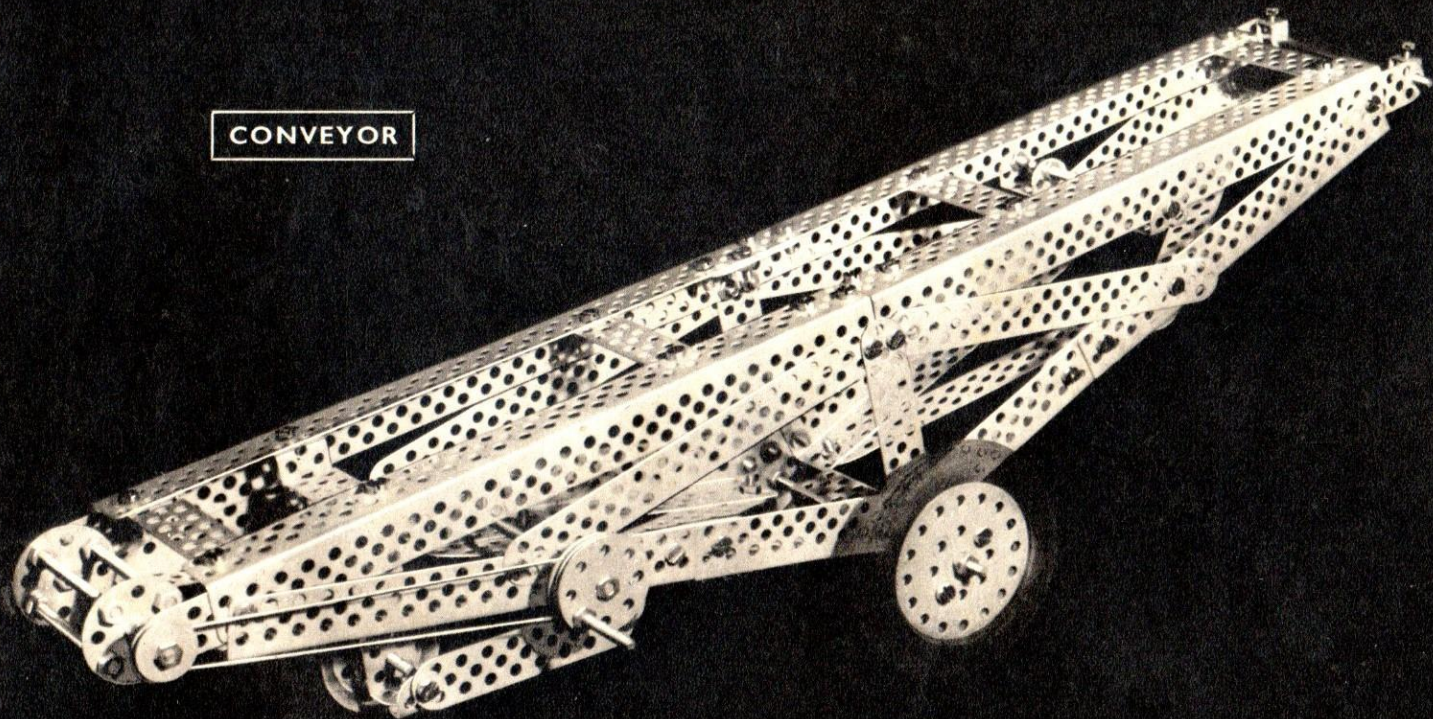
Add saw frame and then the table. Finally fit vice to table. Use piece of fretsaw blade or card for saw blade.

Turn to page 46 for details of the wonderful 112-page TRIX COMPLETE ENGINEERING MANUAL

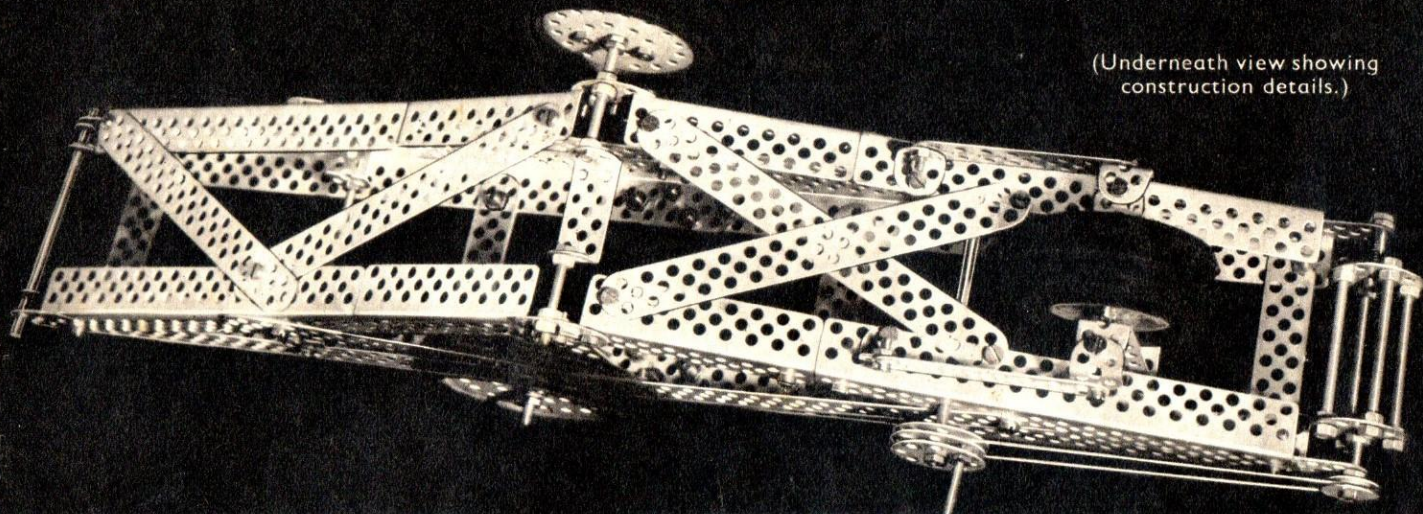
TRIX

MADE WITH YOUR ELEMENTRIX SET PLUS 1 UNIT
"A," 1 UNIT "B," 1 UNIT "C" & 2 UNITS "D"

CONVEYOR



(Underneath view showing construction details.)



SPECIFICATION

Part No.		Part No.	
A1	4	P49	4
A9	4	S25	3
A18	4	S55	8
A27	4	S87	2
B1	68	SU1	2
F5	10	SU2	2
F9	8	U1	3
F13		U3	2
F17	8	V35	4
N1	121	W10	2
P29	7	W16	4

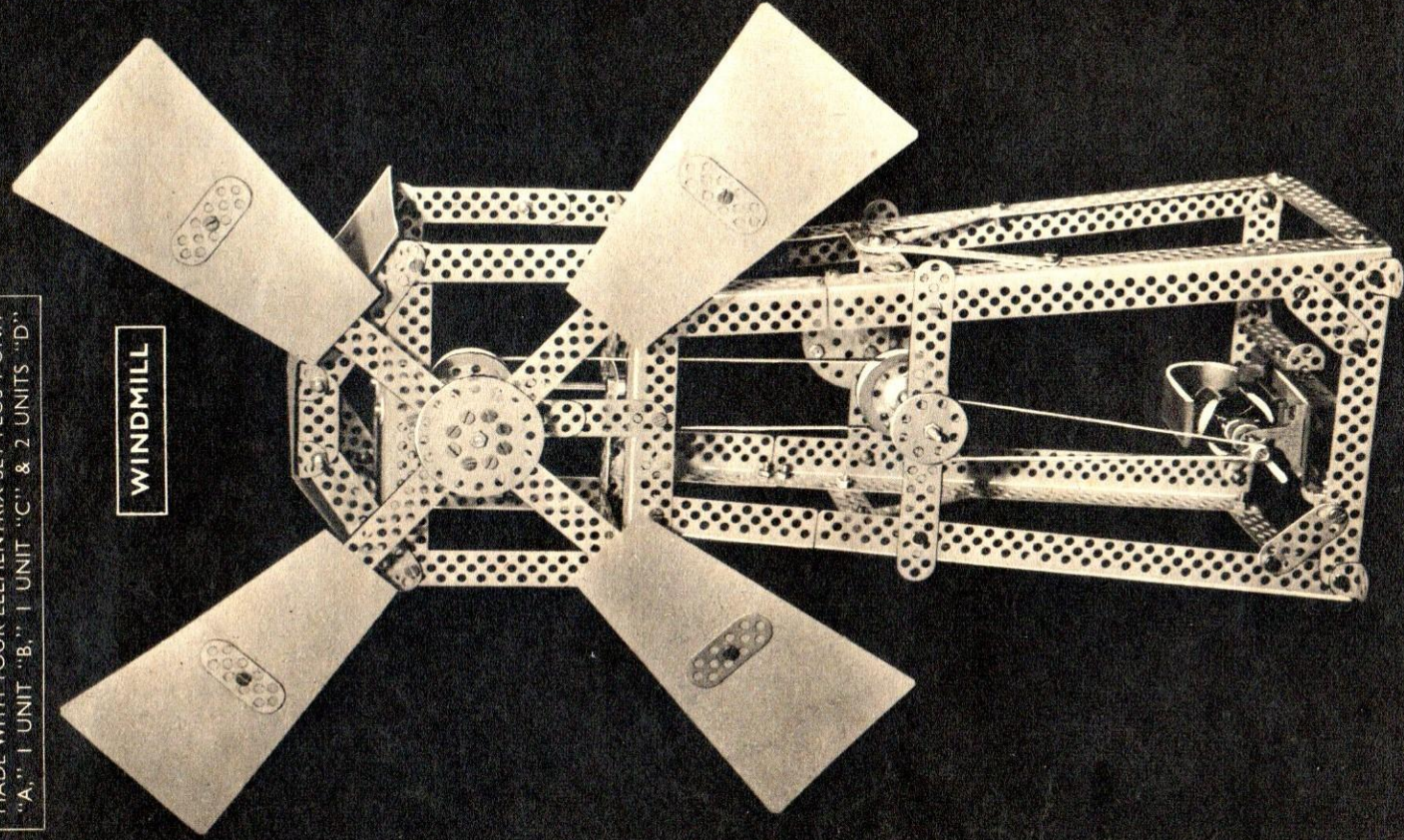
CONSTRUCTION

Each side of upper frame length is made of 2 A27's using SCD 51. These girders are spaced by 4 F9's. Lower frame is made of four lengths A9 and A18 bolted first to the upper frame ends and meeting at P29's to which are attached the stub axles S55's (joined by a U2). Use remaining F17's as bracing struts on sides and under frame as in photograph. Rear wheel assembly consists of a bracket made of U3's carrying 2 small wheels on an S55. (Rear wheel stays are F9's

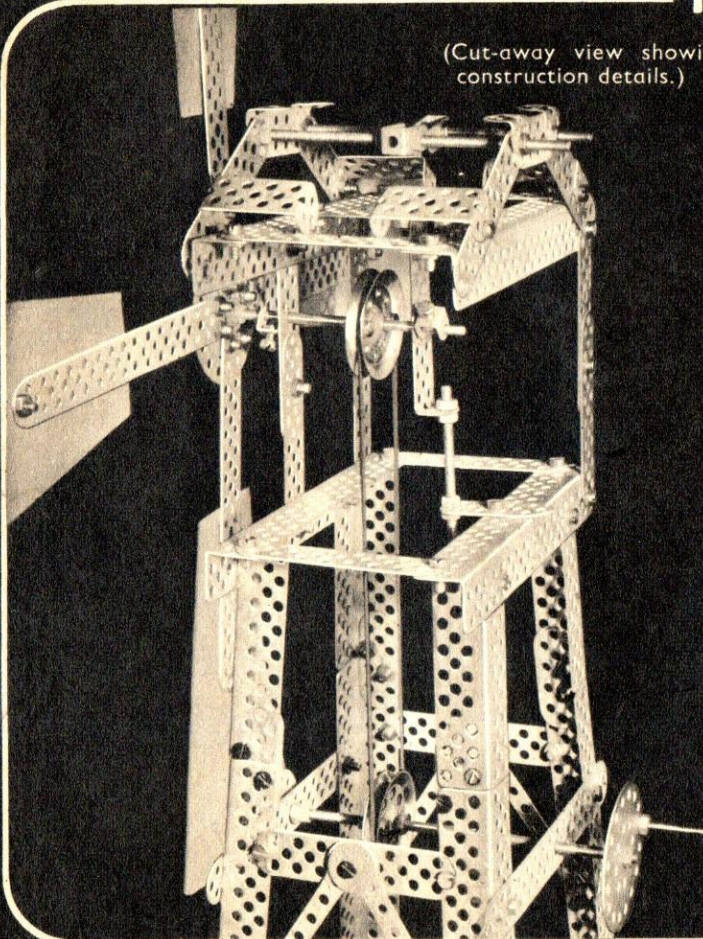
attached to the U3's and frame by A1's.) A roller made of P29's joined by 4 S55's and attached to the frame by S25's (on one of which is SCD 11), carries the conveyor belt at the rear end. At the front end is an S87 to act as a guide. Drum is driven by a band from pulley SCD 10 and crank SCD 14 on an S87 passing through the frame and into a bearing made from a U1 attached to opposite side. Belt can be made from a length of braid, canvas, etc.

MADE WITH YOUR ELEMENTRIX SET PLUS 1 UNIT
"A," 1 UNIT "B," 1 UNIT "C," & 2 UNITS "D."

WINDMILL



(Cut-away view showing construction details.)



SPECIFICATION

Part No.		Part No.		Part No.		Part No.	
A1	8	F9	16	S55	6	V35	4
A9	4	F13	4	S87	2	W10	1
A18	4	F17	8	SU1	2	W16	4
A27	4	N1	128	SU2	2	Sp	4
B1	92	P29	2	U1	1		
ER1	1	P49	2	U2	4		
F5	15	S25	1	U3	2		

CONSTRUCTION

Commence by building the tower, the uprights of which are each made of an A27 and an A9 using SCD 51. Base consists of F17's at front and rear and of F13's at sides. F9's and Spanners are used to brace the sides. Two A18's are then attached horizontally to the top of the tower as the base for the head, the vertical frame of which is made of F13's and F9's, the latter overlapped to match the former length. Sail arms are F17's bolted to a P49 and at the other ends are fixed F5's at right angles to carry the sails.

Make sail arm spindle assembly as shown in cut-away photograph. The front bearing for the sail arm spindle (S87) is made of two F9's bolted to front frame. The rear bearing is a U3 bolted to the top of the head by 2 F5's and the bottom to an S55 secured by an F5 to the rear of the head frame. On this is set a pulley SCD 37.

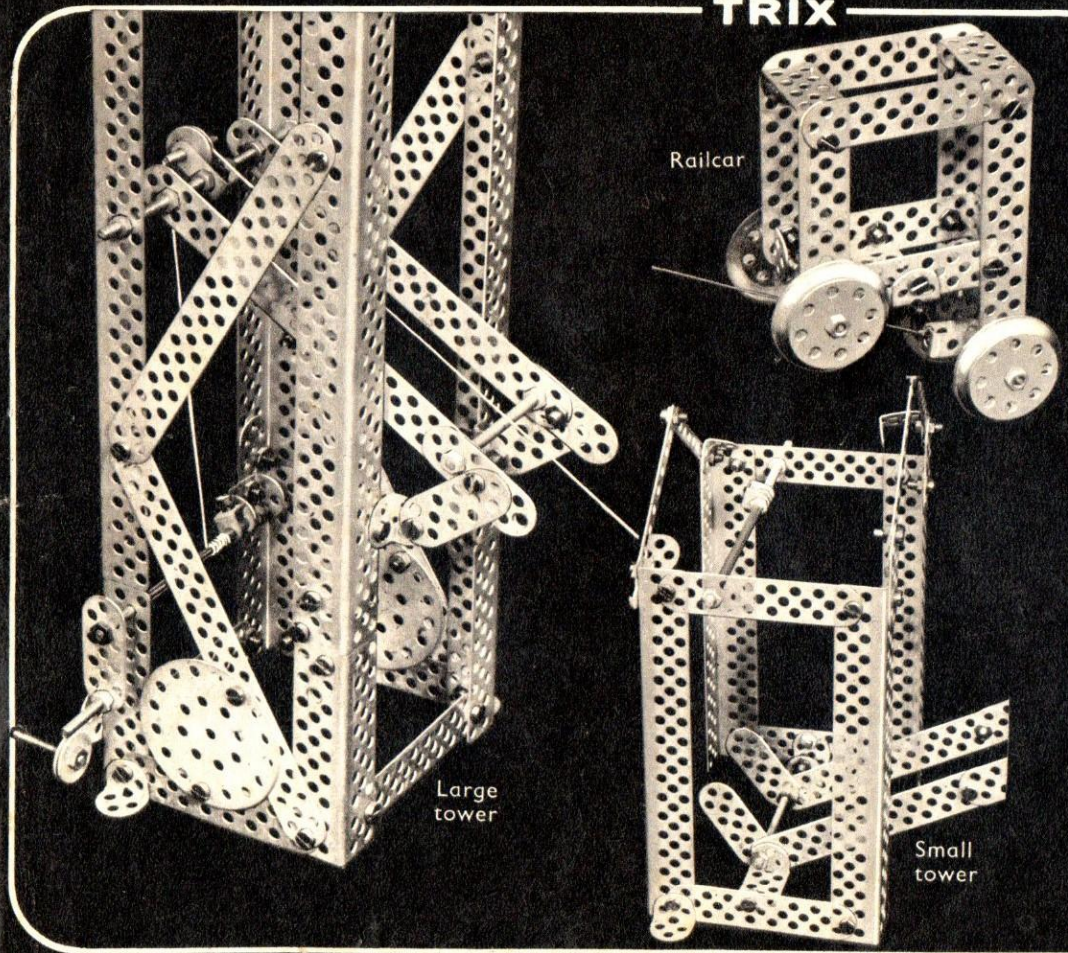
The driving spindle consists of an S87 and an S55 joined by an SCD 47. The driving wheel is a P49 with an S25 as handle. The roof of the head is made of 4 F9's set at an angle and joined by F5's held firmly by S55's joined by SU2's as shown. Make sails and roof from card as templates on page 47. To run this model with motor 2051 (Fig. 1) see instructions in the **TRIX COMPLETE ENGINEERING MANUAL** (details on page 46).

TRIX

MADE WITH YOUR ELEMENTRIX SET PLUS 1 UNIT
"A," 1 UNIT "B," 1 UNIT "C" & 2 UNITS "D"

FUNICULAR RAILWAY

TRIX



Railcar

Large tower

Small tower

SPECIFICATION

Part No.		Part No.		Part No.	
A1	8	F17	8	U1	4
A9	4	N1	128	U2	4
A18	4	P29	8	U3	2
A27	4	P49	2	V35	4
B1	82	S25	3	W10	2
C1	1	S55	8	W16	4
F5	15	S87	2	Sp	4
F9	16	SU1	2		
F13	4	SU2	2		

CONSTRUCTION

Uprights of main tower are made from A27's and A9's joined by SCD 51. Tops and bottoms of all sides are joined by F9's. Add F17's and P49's as bracing to each side. At 12th centre hole from top of rear uprights are 2 S55's joined by an SU2. These secure the upper end of the track. The SU2 carries an SCD 11. Winding gear is made from S87 using U1 as bearing at one end and passing through upright at the other. Add crank SCD14. Brake stop is made from C1 and 2 W16's and S25.

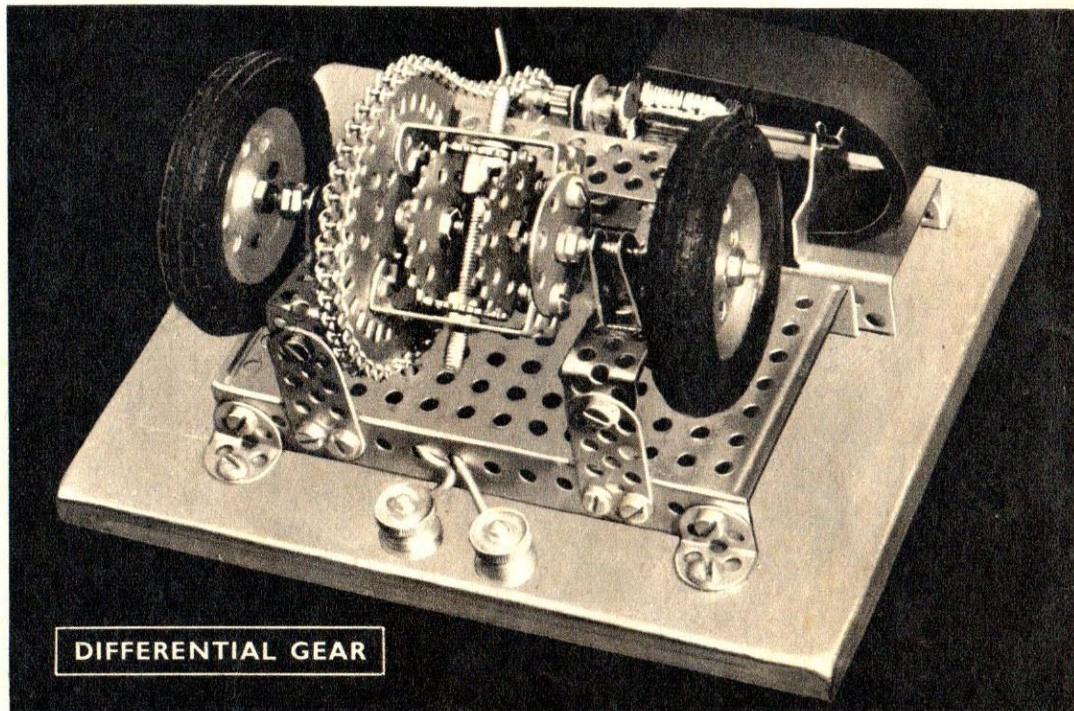
Track is made from F17's and F13's butt-jointed by F5's. Track is kept parallel by 2 S55's which form tie rods placed at butt joints. Rigid fastening to front of main tower is made from F5's and A1's. Side frames of small tower are made from A18's and F9's. These are joined together at bottom by 2 U1's, S55 and 1 U2, to which is fixed the lower end of track. Two F5's are used as rail stops. Top is joined by S87, SU1 and S55. Use 4 Sp's for roof. Short and top sides of car are made from F9's. Long sides from F13's and base from U3's. Sides are joined together by U2's at top corners and middle of base. Use SCD 41 for wheels (note only two P29's are used per wheel). S55's form the axles. The lower axle carries an SU2, to which is attached the cable. See page 47 for templates of roofs and car floor.

— **TRIX** —

And now **UNIT 'G'** for Gears and Drives!

Add realism to your models.

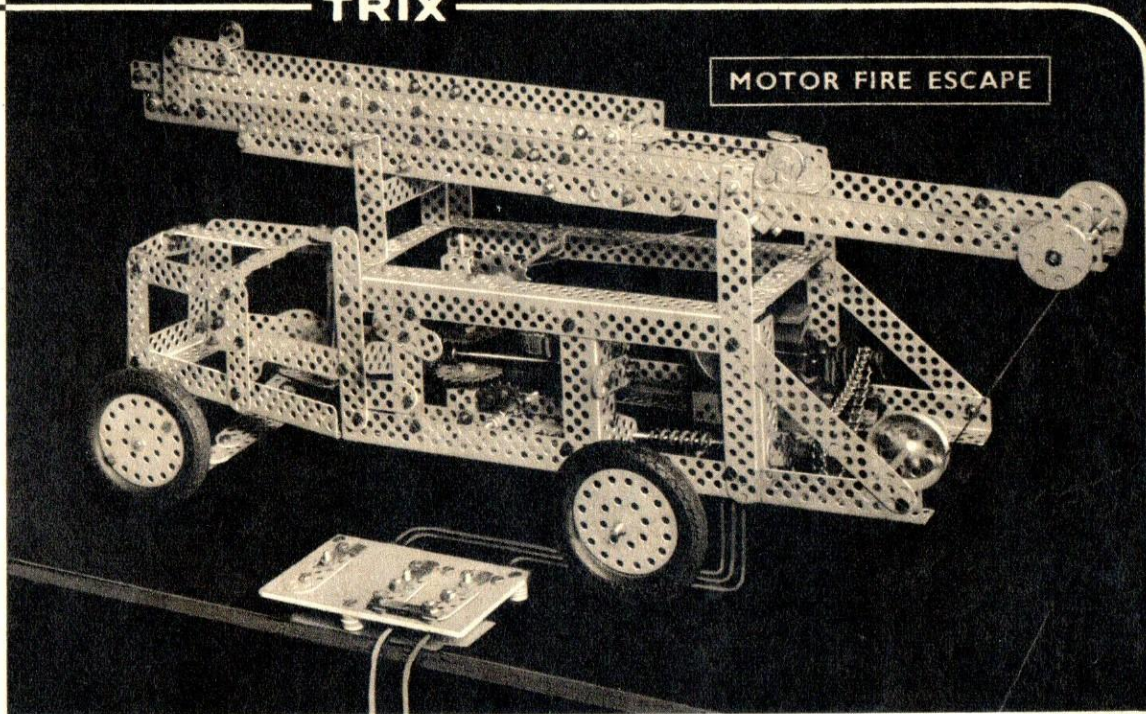
Do you know how the back axle mechanism of a car works? Do you know how to get maximum power from minimum effort? With Unit "G"—a further stage in the TRIX UNIT SYSTEM—you can make working models using many kinds of drives—chain drives, reverse drives, reduction drives, right angle drives and so on. You can make a differential which works exactly



Learn how the differential gear in the back axle of a motor car works. This working model can be made with your Elementrix Set, plus 1 Unit C, 1 Unit F, 1 Unit G and 1 Motor 2051.

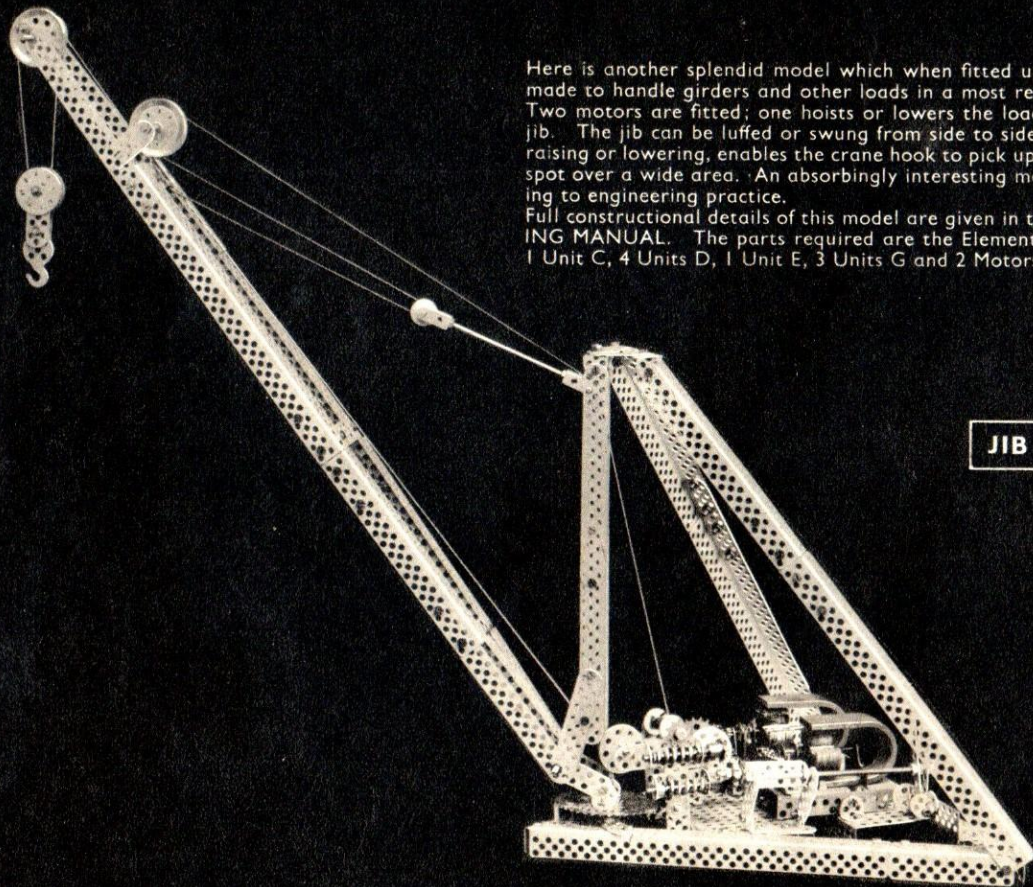
MOTOR FIRE ESCAPE

like the one in a real car. On pages 40-43 we give you a glimpse of but a few of the wonderful working models which you can make when you add Unit "G" to your set. Limitation of space prevents us from showing more than these few models, but in the TRIX COMPLETE ENGINEERING MANUAL (details on page 46) many new and exciting models are fully illustrated and described.



Here is a model that not only "looks the part" and operates in a most realistic manner, but also incorporates a variety of most instructive features. It is fitted with two Permag Motors which can be selected and run either forwards or in reverse at will by the multiple switch shown. One motor drives the back wheels through chain and worm drive and the other, by means of a gear-change lever, can be made either to extend and retract the triple expanding ladder or to raise and lower the extended ladder to the exact height required by the firemen. Full constructional details of this model are given in the TRIX COMPLETE ENGINEERING MANUAL. The parts required are the Elementrix Set plus 2 Units A, 2 Units B, 4 Units C, 5 Units D, 1 Unit E, 1 Unit F, 3 Units G and 2 Motors 2051.

TRIX



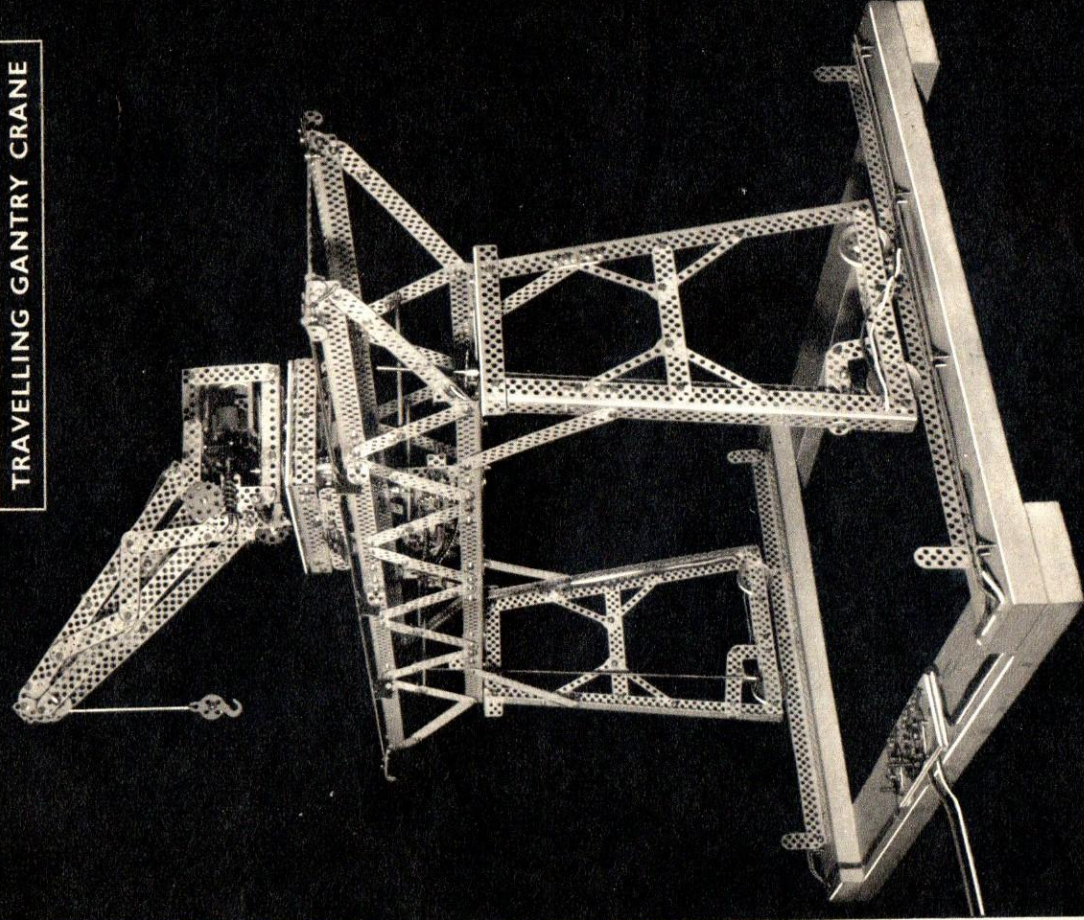
JIB CRANE

Here is another splendid model which when fitted up and secured to its base can be made to handle girders and other loads in a most realistic fashion.

Two motors are fitted: one hoists or lowers the load, the other raises or lowers the jib. The jib can be luffed or swung from side to side and this, in conjunction with its raising or lowering, enables the crane hook to pick up or set down loads at any desired spot over a wide area. An absorbingly interesting model that works faithfully according to engineering practice.

Full constructional details of this model are given in the **TRIX COMPLETE ENGINEERING MANUAL**. The parts required are the Elementrix Set plus 2 Units A, 1 Unit B, 1 Unit C, 4 Units D, 1 Unit E, 3 Units G and 2 Motors 2051.

TRAVELLING GANTRY CRANE



Many constructors consider this to represent the summit of their ambition, and it certainly is a most handsome and impressive model of the cranes you find in many big locomotive shops and shipbuilding yards.

The motors—4 in number—move the gantry along rails, move the crane carriage along the gantry, revolve the crane on its turntable and hoist or lower the load. The TRIX COMPLETE ENGINEERING MANUAL gives you full instructions for making this magnificent model from the Elementrix Set plus 6 Units A, 5 Units B, 3 Units C, 7 Units D, 1 Unit E, 6 Units G, 4 Motors 2051 and 4 packets of nuts and bolts.

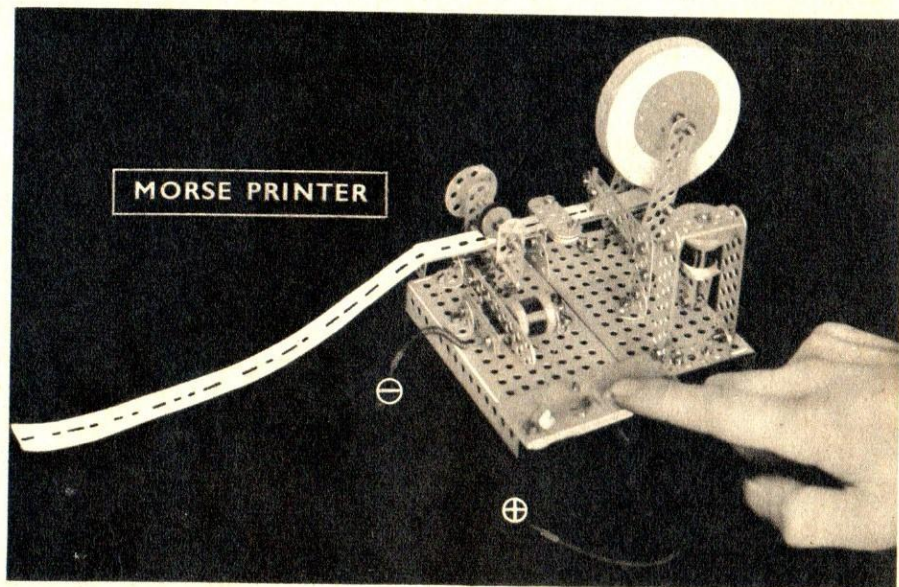
TRIX

UNIT 'E' brings you *Electrical Components*

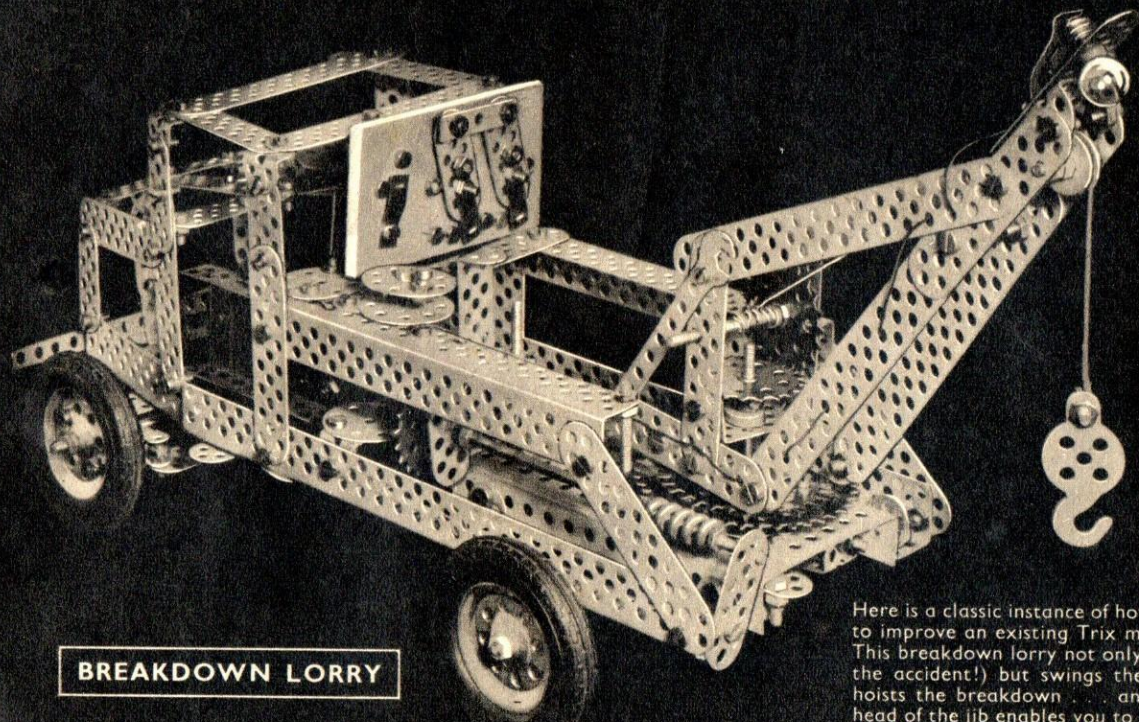
The discovery of Electro-magnetism; or in other words, the process of passing electric current through wire wound on a bobbin and magnetising a soft iron core, marked, over 100 years ago, a new era in the development and application of electricity. Today, as a direct result of this, we have such modern appliances as the telephone, radio, etc. Now you, too, can explore the possibilities of bells, buzzers or electro-magnets with the aid of the Trix Unit System—Unit "E".

Full instructions, illustrations and diagrams will be found in the **TRIX COMPLETE ENGINEERING MANUAL** (details on page 46).

THE TRIX UNIT SYSTEM OFFERS YOU THIS ADDITION TO AN ALREADY UNIQUE CONSTRUCTOR SET.



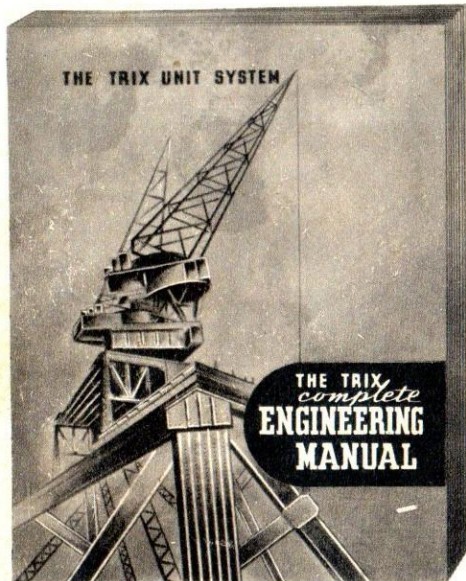
With this most realistic model you can print the dots and dashes of the morse code on a moving paper strip as you tap them out on the key. You can put the key on its own base and wire up to the printer in another room. Two keys and printers enable you to exchange morse messages between two rooms (or even to "next door"!) just like a real post office. The fun and instruction with Trix is unlimited. The printer shown is fully described in the **TRIX COMPLETE ENGINEERING MANUAL** and needs the Elementrix Set plus 1 Unit A, 2 Units E and 1 packet of nuts and bolts.



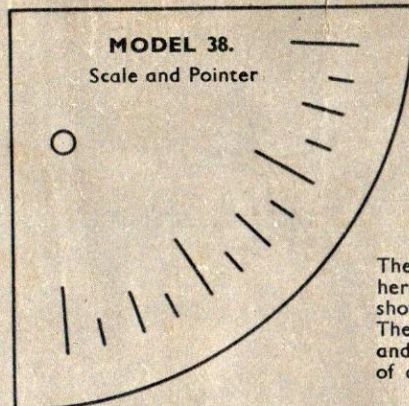
BREAKDOWN LORRY

Here is a classic instance of how the E Unit can be added to improve an existing Trix model. This breakdown lorry not only runs along (to the site of the accident!) but swings the crane into position and hoists the breakdown . . . and the "floodlight" at the head of the jib enables you to deal with a crash by night as well as by day. Full constructional details of this model are given in the **TRIX COMPLETE ENGINEERING MANUAL**. The parts required are the Elementrix Set plus 2 Units A, 3 Units B, 2 Units C, 1 Unit D, 1 Unit E, 1 Unit F, 3 Units G, 1 Motor 2051 and 4 packets of nuts and bolts.

The **TRIX** complete **ENGINEERING** MANUAL



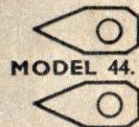
Starting with the most simple constructions and proceeding by carefully graded steps to the most ambitious models, this manual takes you well along the road to becoming a qualified Engineer. Never once does the interest flag. Detailed instructions are given for the "difficult" constructions, and just the right amount is left to your own ingenuity. There could be no finer text book for the Engineer of tomorrow. 112 pages, size 11" x 8½", and fully illustrated.



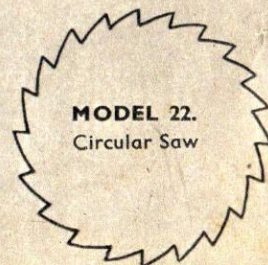
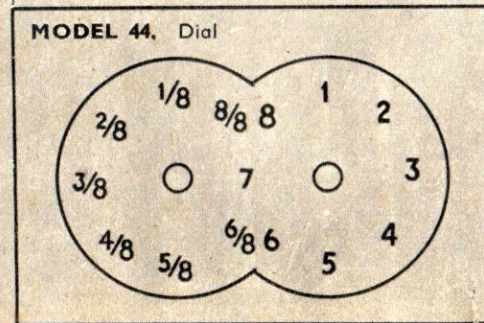
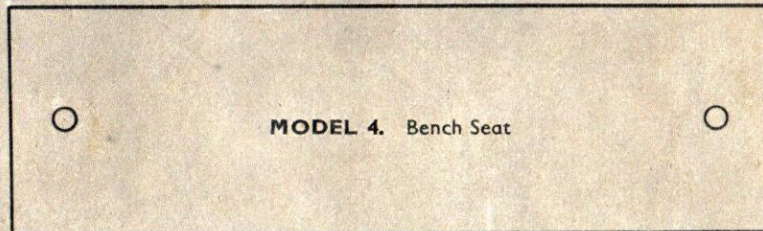
MODELS 23 and 25.
Planing Wheel,
Grindstone and Buff

TEMPLATES

The templates shown here are for models shown on pages 6-19. They are actual size and should be cut out of card or thin wood.



MODEL 44. Pointers



FUNICULAR RAILWAY.

Large tower roof

BEAM ENGINE Flywheel
FUNICULAR RAILWAY.

Small tower roof

WINDMILL. Tower roof

FUNICULAR RAILWAY. Car roof

FUNICULAR RAILWAY. Car floor

FAN. Blade

TEMPLATES

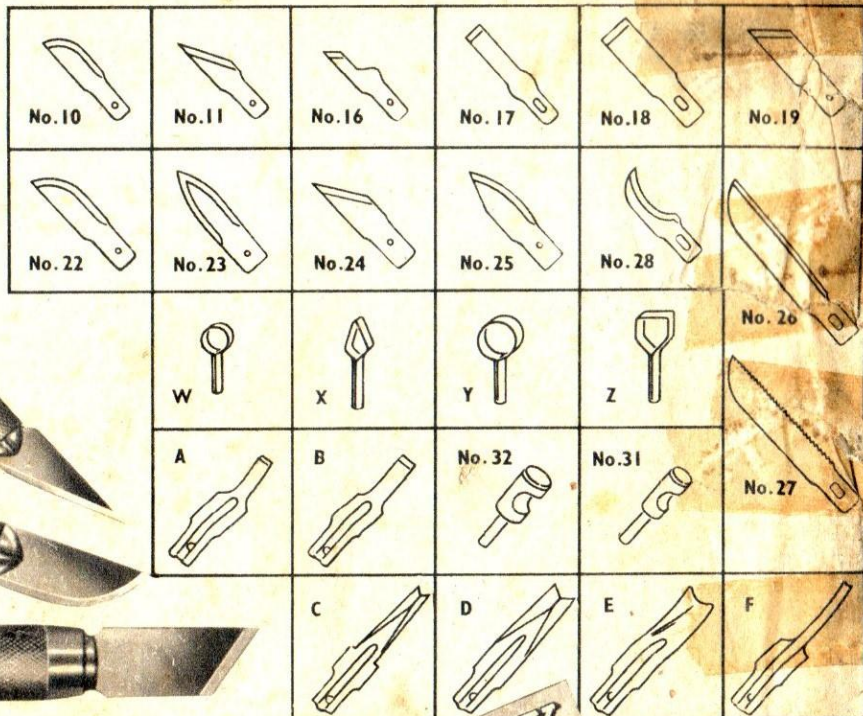
The templates shown here are for models shown on pages 24-39. They are actual size and should be cut out of card or thin wood.

WINDMILL. Sail

WE'RE

keen

TO HELP YOU...



Here are tools that have a sharp way of dealing with the most difficult jobs. Cutting templates . . . carving wood . . . whittling . . . *they add more skill to your fingertips whatever your hobby may be.* Superbly sharp, with blades precision made from the finest surgical steel, X-acto Hobby knives and tools are sold separately as well as in kits. They are fully described and illustrated in a leaflet that will be sent free on request.

TRIX LIMITED, 5, CONDUIT STREET, LONDON, W.1

TRIX
x-acto
HOBBY KNIVES & TOOLS