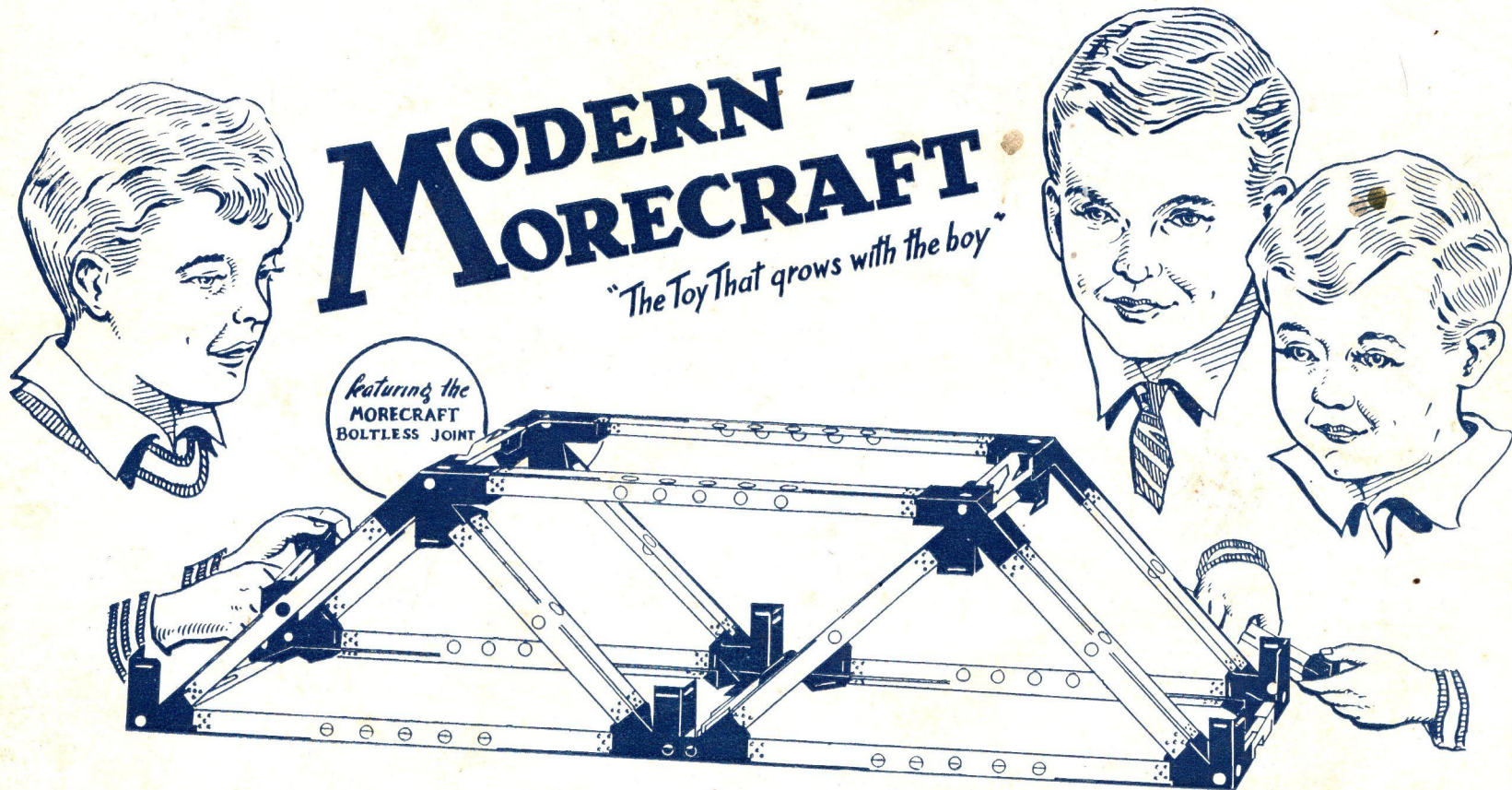


MANUAL of INSTRUCTIONS

MODERN - MORECRAFT

"The Toy That grows with the boy"

Featuring the
MORECRAFT
BOLTLESS JOINT



MODERN-MORECRAFT

"The toy that grows with the boy"

Do you like to make models of things you have seen? Enjoy finding out the *How's* and *Why's*? Want to build brand new buildings?

The **MODERN-MORECRAFT** outfit you now have gives you a chance to do all this and more, too; for **MORECRAFT**, in magic manner, equips you to do your own reproducing, inventing, and creating. Want to start right away? Good! Here's how to do it:

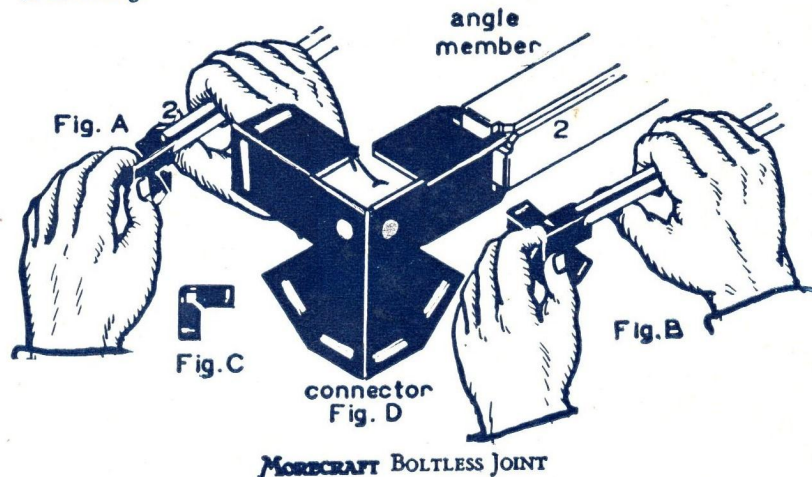
***FIRST:** Get acquainted with the new **MORECRAFT BOLTLESS JOINT**. Its business is to join parts without the use of nuts, bolts, rivets, nails, or rods. Try attaching and detaching the angle members or girders to the different connections or gussets; and learn how to adjust the ends of the angle-member to form a perfect joint. The illustration to the right shows you how. You will find yourself putting **MORECRAFT** together and taking it apart in an astonishingly short time. In the smaller sets of **MODERN-MORECRAFT**, there are no nuts and bolts at all; yet you can build all the models shown for these sets in the **MANUAL OF INSTRUCTIONS** and many others you will think of yourself. With the larger sets, even, you will find you need very few nuts and bolts. Notice that the individual **MORECRAFT** joints are designed to be slightly flexible but that the completed structure is surprisingly rigid and strong.

****SECOND:** Study the pictures of the parts and the **"CONSTRUCTION DETAILS"** at the end of this manual. Engineers, Architects, and Educators all agree that the careful planning of **MORECRAFT** parts allows a larger number of different combinations with a smaller number of parts, and permits diagonal bracing, etc. making **MODERN-MORECRAFT** the ideal construction toy.

*****THIRD:** Select a model to build, beginning with a simple one. You will find that there is an endless store of enjoyment for **MODERN-MORECRAFT** builders whether they be boys or girls, young or old. The four-year-old, too young to build from pictures, will connect pieces here and there and discover for himself the principles of structural design. You can build readily, using model pictures in the manual, real models, or your imagination. Grown up boys particularly enjoy building "easy-to-put-together, quick-to-get-apart" structures to support complicated motor driven mechanisms.

******FOURTH:** Select your parts and start to build. The manual helps you, in building smaller models, by giving you, near each picture, a list of parts required. For the larger models, a blueprint is provided, in addition to the picture in the manual. This blueprint also includes a **"BILL OF MATERIAL"** and necessary instruction. The models pictured in the manual are suggestions. They do not begin to exhaust the possibilities of your set. As you use your **MODERN-MORECRAFT**, new

ideas will come to you. You will gradually accumulate so much valuable knowledge of mechanics and engineering that you can develop these ideas and try your hand at inventing.



MORECRAFT BOLTLESS JOINT

The operation of the **MORECRAFT JOINT** is shown in Figs. A and B.

To attach, hold the members as shown in Fig. A. with the right thumb under the slots of the connector, 1, and press the angle-member 2, down. The projecting ends of the angle-member will spring apart and enter the slots. The position of the parts for making the connection is shown more clearly in Fig. D. To disconnect, hold the parts with the right thumb under the split end of the angle-member near the connector and pull down on the connector with the left hand. The right thumb will spread the ends of the angle-member and the parts will separate. A slight twisting of the angle-member will assist in disconnecting the members. If properly adjusted, the joint is surprisingly strong and rigid. If it is not, the ends of the angle-member may have become bent. This may be corrected easily by bending the ends of the angle-member until they are in the position shown in Fig. C.

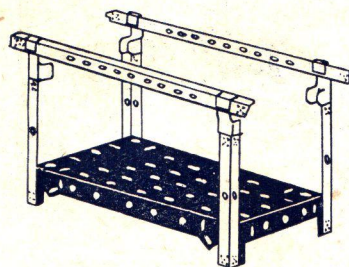
If you have any difficulty building models, if you want to ask questions about **MODERN-MORECRAFT**, if you want to tell us about any of the discoveries that you make in connection with it, write to us! Meanwhile, happy times to you!

Models built with the *CRAFTSMAN SIZE*

Parts required

PARALLEL BARS

P-4	1
A-1	4
A-3	2
C-0	4



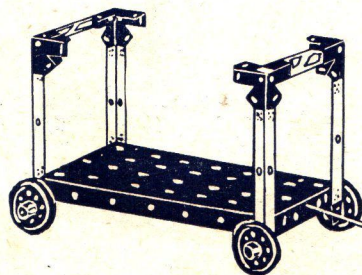
PARALLEL BARS

BAGGAGE TRUCK

P-4	1
A-0	2
A-1	4
C-90-X	4
W-16	4
R-50	2
R-85	1

(Rubber Band-
Not Supplied)

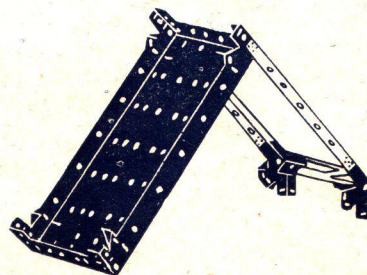
Put a rubber band several times around the end of the tongue before inserting it into the hole in the P-4.



BAGGAGE TRUCK

SAND SIFTER

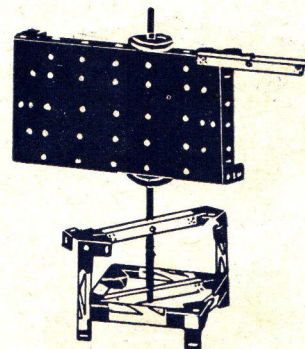
P-4	1
A-0	1
A-2	2
C-135-ZR	1
C-135-ZL	1



SAND SIFTER

WEATHER VANE

P-4	1
A-0	6
A-1	3
C-90-X	4
C-135-ZR	1
C-135-ZL	1
R-85	1
W-16	2
K	1



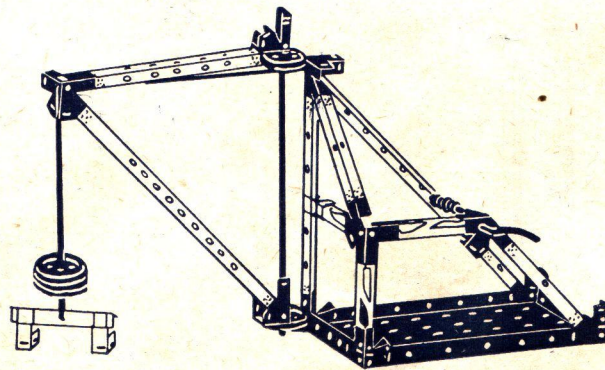
WEATHER VANE

STIFF LEGGED DERRICK

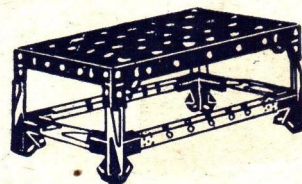
The boom will swing all over your block building. The vertical rod is held top and bottom between the ends of A-0's, reverse connected to the corner of the P-4 and the top C-90-X. See the "Construction Details"

P-4	1	C-135-ZR	1
A-0	6	C-135-ZL	1
A-1	3	W-16	4
A-2	2	R-85	1
A-3	2	CH-1	1
C-0	3	K	1
C-90-X	4	AF	1

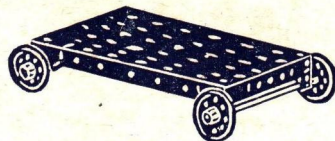
(String-Not Supplied)



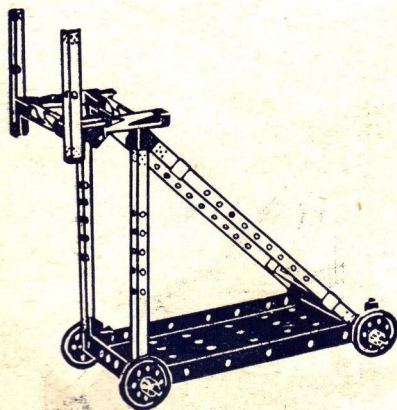
STIFF LEGGED DERRICK

Models built with the *CRAFTSMAN SIZE*

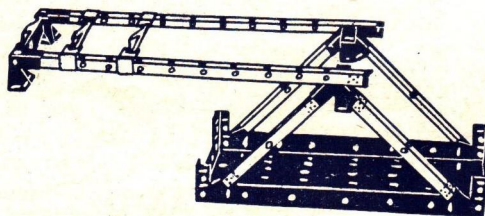
LIBRARY TABLE



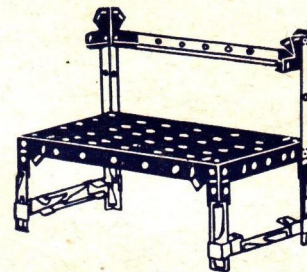
FLAT TRUCK



TROLLEY REPAIR CAR



SPRING BOARD



PARK BENCH

LIBRARY TABLE

P-4	1
A-0	6
A-2	2
C-90-X	4

FLAT TRUCK

P-4	1
W-16	4
R-50	2

TROLLEY REPAIR TRUCK

P-4	1	C-0	4
A-0	6	C-90-X	4
A-1	4	W-16	4
A-2	2	R-50	2
A-3	2		

Parts required

SPRING BOARD

P-4	1
A-0	4
A-1	4
A-3	2
C-0	4
C-90-X	2
C-135-ZR	1
C-135-ZL	1

PARK BENCH

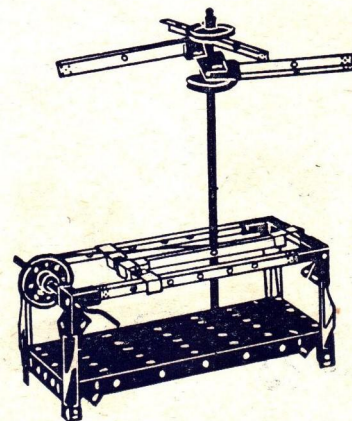
P-4	1
A-0	6
A-1	2
A-2	1
C-0	4
C-90-X	2

WHIRLIGIG

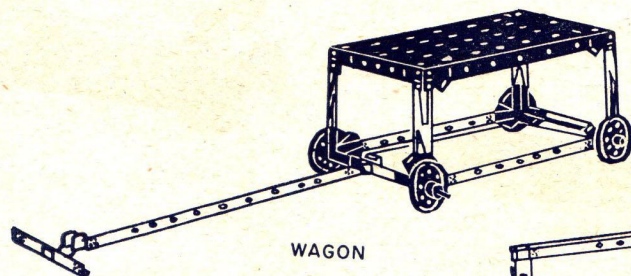
Note: For the construction of the hub of the whirligig see the construction details in the back part of this manual.

P-4	1	C-135-ZR*	1
A-0	6	C-135-ZL	1
A-1	3	W-16	3
A-2	2	R-85	1
A-3	1	CH-1	1
C-0	4	K	1
C-90-X	4		

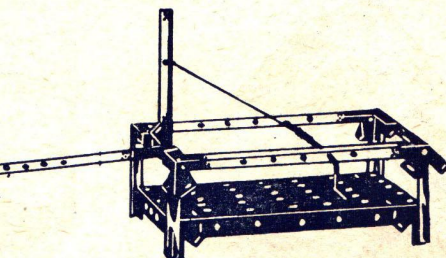
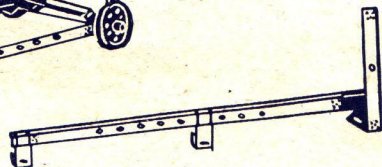
(Rubber Band—Not Supplied)



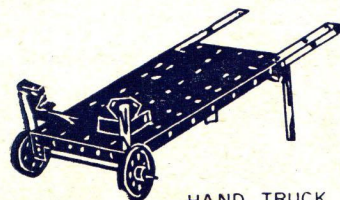
WHIRLIGIG

Models built with the *CRAFTSMAN SIZE*

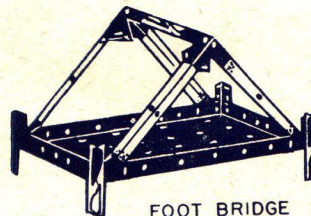
WAGON



RAILWAY CROSSING GATE



HAND TRUCK



FOOT BRIDGE

Parts required

WAGON

P-4	1
A-0	6
A-1	1
A-2	2
A-3	1
C-0	2
C-90-X	4
W-16	4
R-50	2

RAILWAY CROSSING GATE

P-4	1	C-135-ZR	1
A-0	6	C-135-ZL	1
A-1	2	W-16	1
A-2	2	R-50	1
A-3	2	CH-1	4
C-0	2	K	4
C-90-X	4		

(String—Not Supplied)

Note: Spring apart the ends of the gate and press together over the W-16.

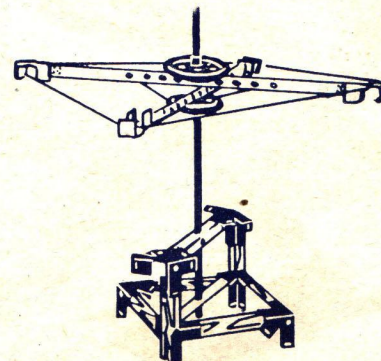
CLOTHES REEL

C-0	4
A-0	6
A-1	2
A-3	2
C-90-X	4
C-135-ZR	1
C-135-ZL	1
W-16	2
R-85	1

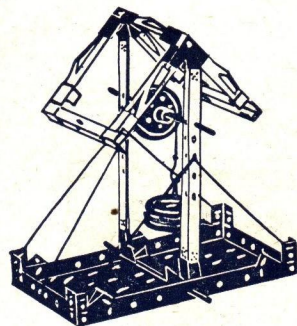
(String—Not Supplied)

FOOT BRIDGE

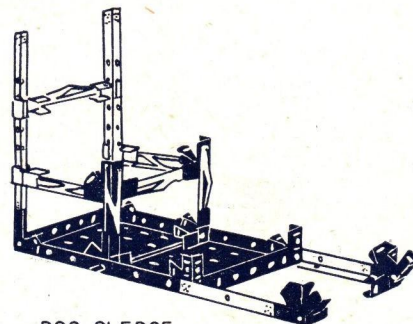
P-4	1
A-0	4
A-1	4
C-90-X	2



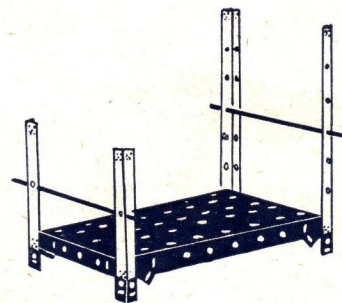
CLOTHES REEL

Models built with the *CRAFTSMAN SIZE*

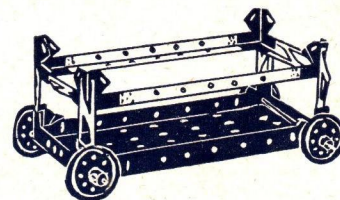
WELL



DOG SLEDGE



FOUR POSTER BED

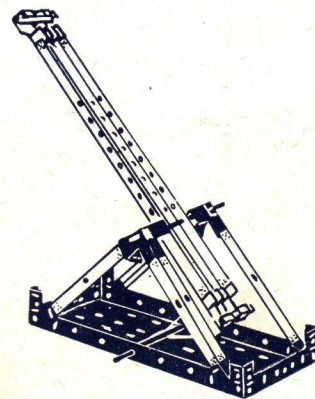


PACKAGE TRUCK

Parts required

WELL		DOG SLEDGE		FOUR POSTER BED		PACKAGE TRUCK	
P-4	1	P-4	1	P-4	1	P-4	1
A-0	5	A-0	6	A-1	2	A-0	6
A-1	2	A-1	2	A-2	2	A-2	2
A-2	2	A-2	2	R-85	2	C-90-X	4
C-0	4	C-0	4	K	4	W-16	4
C-90-X	4	C-90-X	4			R-50	2
W-16	4	C-135-ZR	1				
R-50	2	C-135-ZL	1				
K	3	K	2				
AF	1	R-50	1				

(String—Not Supplied)



CATAPULT

CATAPULT

Place a wad of paper on the upper end of the arm, pull back and release. Wad may be accurately thrown.

P-4	1	C-0	4
A-0	2	C-90-X	2
A-1	4	R-50	2
A-3	2	K	4

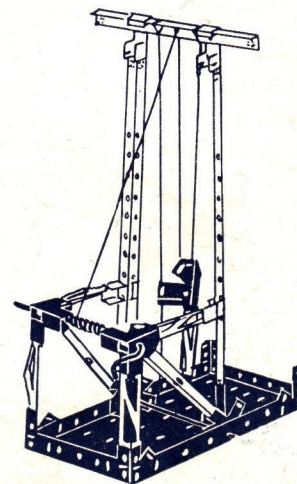
(Rubber Band—Not Supplied)

BUILDERS' HOIST

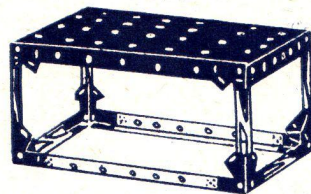
Note: This model illustrates the conversion of circular motion into straight motion.

P-4	1	C-135-ZR	1
A-0	4	C-135-ZL	1
A-1	3	R-50	1
A-2	1	CH-1	1
A-3	2	AF	1
C-0	4	K	3
C-90-X	4		

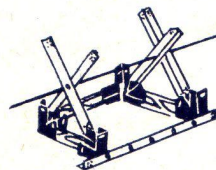
(String—Not Supplied)



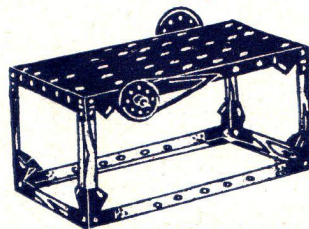
BUILDERS' HOIST

Models built with the *CRAFTSMAN SIZE*

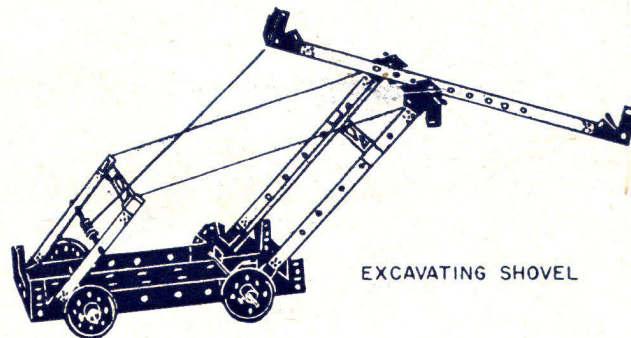
TABLE



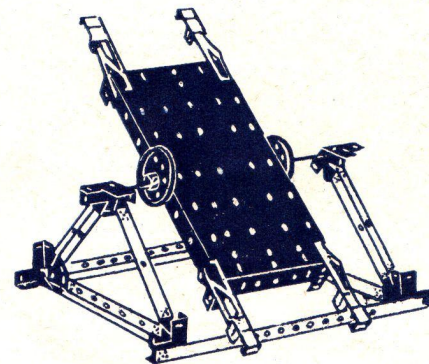
SAW BUCK



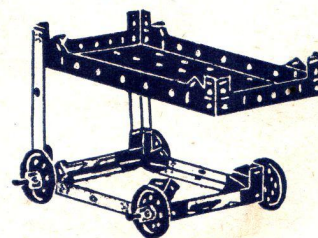
CIRCULAR SAW



EXCAVATING SHOVEL



SEE SAW



BEDSIDE TABLE

Parts required

TABLE

P-4	1
A-0	6
A-2	2
C-90-X	4

SAW-BUCK

A-0	3
A-1	4
A-2	1
C-90-X	4
R-85	1

CIRCULAR SAW

P-4	1
A-0	6
A-2	2
C-90-X	4
W-16	2
R-50	1
CH-1	1
K	2

(Rubber Band-
Not Supplied)

EXCAVATING SHOVEL

P-4	1
A-0	2
A-1	2
A-2	2
A-3	1
C-0	4
C-90-X	4
C-135-ZR	1
C-135-ZL	1
W-16	4
R-50	2
R-85	1
CH-1	1
K	4

(String—Not Supplied)

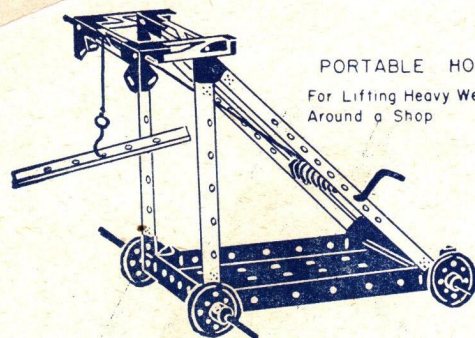
Note: The Circular
saw, shown to the
left, illustrates the
transmission of
circular motion.

SEE SAW

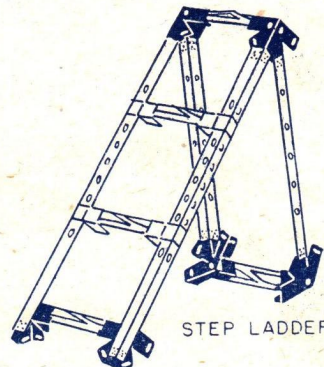
P-4	1
A-0	4
A-1	4
A-2	2
A-3	2
C-0	4
C-90-X	4
C-135-ZR	1
C-135-ZL	1
W-16	2
R-85	1
K	2

BEDSIDE TABLE

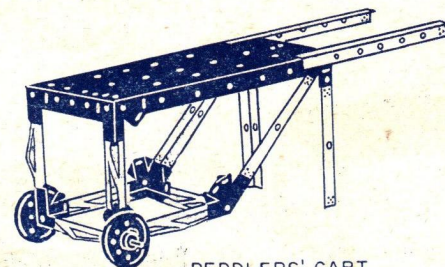
P-4	1
A-0	2
A-1	4
C-90-X	4
W-16	4
R-50	2

Models built with the *CRAFTSMAN SIZE*

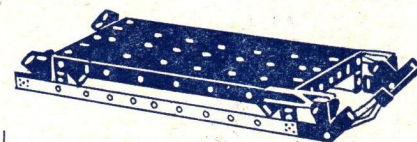
PORTABLE HOIST
For Lifting Heavy Weights
Around a Shop



STEP LADDER



PEDDLERS' CART



SLED

Parts required

PORTABLE HOIST

P-4	1
A-0	4
A-2	3
A-3	2
C-90-X	4
R-50	2
R-85	1
W-16	4
CH-1	1
K	3
AF	1

(String—Not Supplied)

STEP LADDER

A-0	5
A-2	2
A-3	4
C-0	4
C-90-X	4
C-135-ZR	1
C-135-ZL	1

PEDDLERS' CART

P-4	1	C-135-ZR	1
A-0	6	C-135-ZL	1
A-1	4	W-16	2
A-2	2	R-50	1
C-90-X	1		

SLED

P-4	1	C-90-X	2
A-0	4	C-135-ZR	1
A-3	2	C-135-ZL	1

The runners are fastened together front and rear and the P-4 simply rests within them.

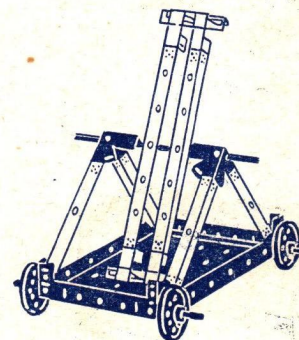
BAND SAW

P-4	1	C-135-ZR	1
A-0	6	C-135-ZL	1
A-1	4	W-16	2
A-2	2	R-50	2
A-3	2	CH-1	1
C-0	2	K	4
C-90-X	4		

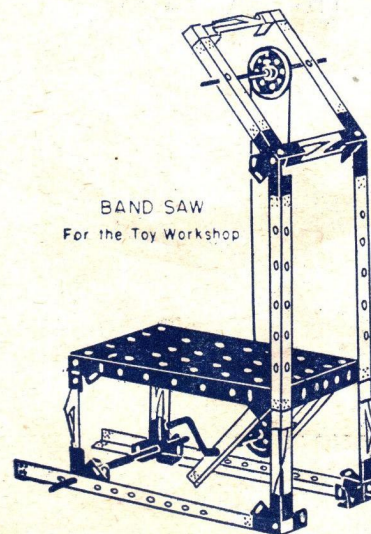
(String—Not Supplied)

HAND CAR

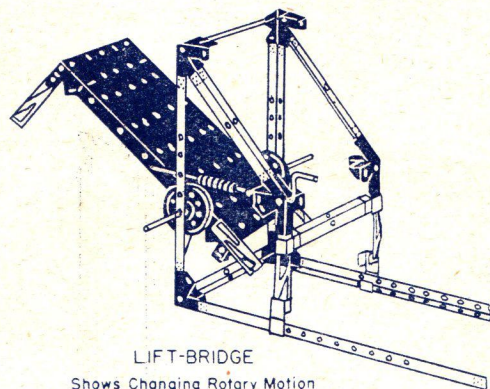
P-4	1	C-90-X	2
A-0	2	R-50	2
A-1	4	R-85	1
A-2	2	W-16	4
C-0	4	K	2



HAND CAR

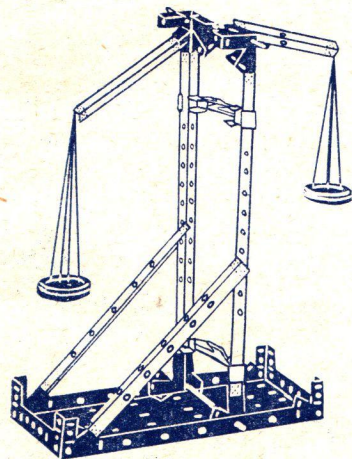


BAND SAW
For the Toy Workshop

Models built with the *CRAFTSMAN SIZE*

LIFT-BRIDGE

Shows Changing Rotary Motion
Into Linear Motion and Changing
Back Into Rotary Motion



APOTHECARIES' SCALES
Used by the Druggist for
Prescriptions

LIFT-BRIDGE			
P-4	1	C-135-ZR	1
A-0	6	C-135-ZL	1
A-1	4	W-16	4
A-2	2	R-50	1
A-3	2	R-85	1
C-0	4	CH-1	1
C-90-X	4	K	4

(String—Not Supplied)

APOTHECARIES' SCALES

P-4	1
A-0	2
A-1	2
A-2	2
A-3	2
C-0	4
C-90-X	4
C-135-ZR	1
W-16	2
R-50	2
K	4

BED WITH CANOPY

P-4	1
A-0	4
A-1	2
A-2	2
C-90-X	4
R-50	2
K	4



BED WITH CANOPY

Parts required

WAREHOUSE CRANE

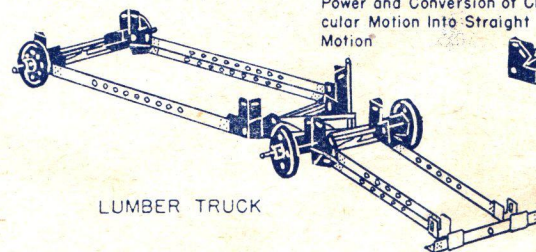
P-4	1	C-135-ZL	1
A-0	3	R-50	1
A-1	3	CH-1	1
A-2	2	W-16	4
A-3	2	AF	2
C-90-X	4	K	2
C-135-ZR	1		

(String—Not Supplied)

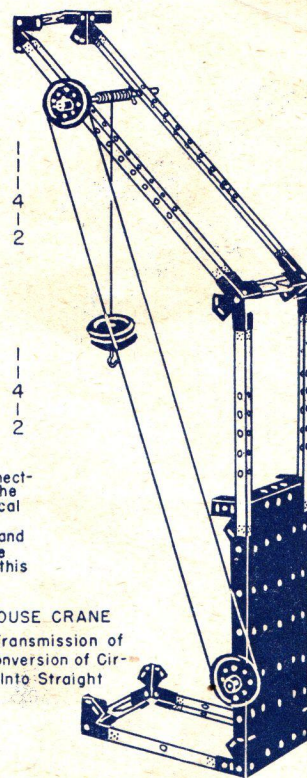
LUMBER TRUCK

A-0	4	C-135-ZR	1
A-1	2	C-135-ZL	1
A-2	2	W-16	4
A-3	2	R-21	1
C-0	2	R-50	2
C-90-X	4		

Note: The ends of the two A-0's, connected to the C-135's, are crossed and the end of the R-21 is inserted in a vertical position as shown thru their slightly spread ends and between the R-50 and the A-1 of the front truck. See the Construction Details at the end of this Manual.



LUMBER TRUCK



WARE HOUSE CRANE

Shows Belt Transmission of
Power and Conversion of Circular
Motion Into Straight
Motion

Models built with the *CRAFTSMAN SIZE*

Parts required

TEETER

P-4	1
A-0	2
A-1	4
A-3	2
C-0	4
C-90-X	2
R-50	1
W-16	2
K	2

PLAYGROUND SLIDE

P-4	1
A-0	5
A-1	2
C-0	4
C-90-X	2

ROPE SWING

P-4	1
A-0	2
A-2	2
A-3	2
C-0	2
C-90-X	4
R-50	1
K	2

(String Not Supplied)

DOCK HOIST

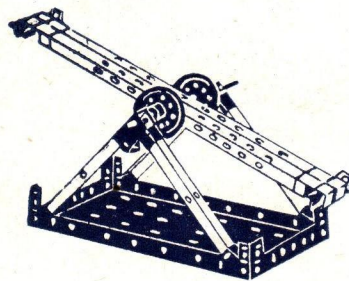
P-4	1	C-135-ZL	1
A-0	6	W-16	4
A-1	3	R-21	1
A-2	2	R-50	1
A-3	1	R-85	1
C-0	4	CH-1	1
C-90-X	2	AF	1
C-135-ZR	1	K	4

(String—Not Supplied)

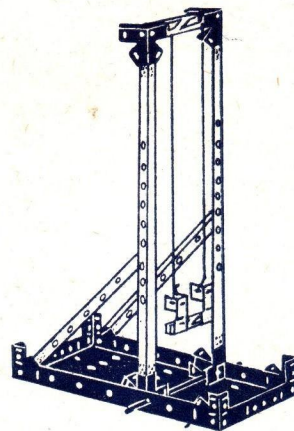
WAGON

P-4	1	C-135-ZR	1
A-0	3	C-135-ZL	1
A-1	3	W-16	4
A-2	2	R-21	1
C-0	2	R-50	2
C-90-X	4	K	1

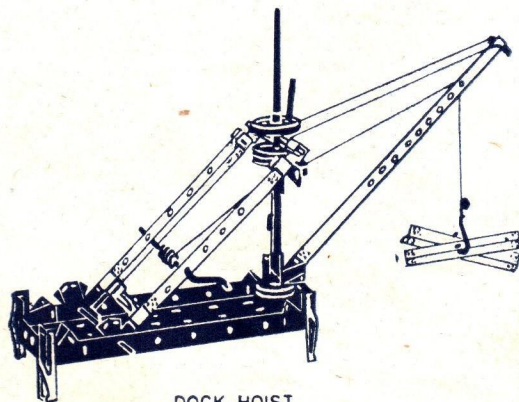
Note: The ends of the two A-0's, connected to the C-135's, are crossed and the end of the R-21 is inserted in a vertical position as shown through their slightly spread ends and between the R-50 and the A-1 of the front truck. The seat and foot rest are simply laid in the positions shown. See the Construction Details at the end of this Manual



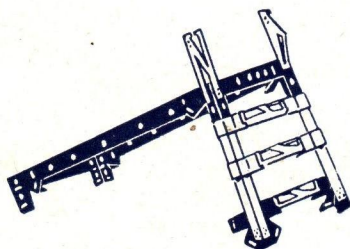
TEETER



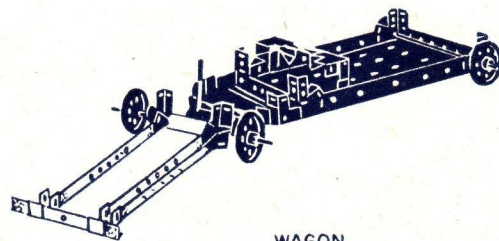
ROPE SWING



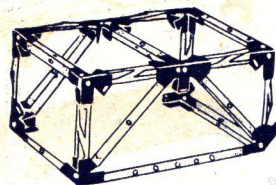
DOCK HOIST



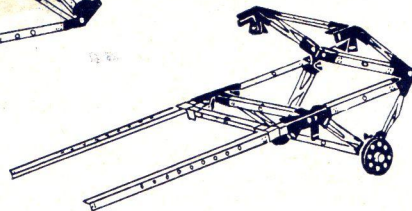
PLAYGROUND SLIDE



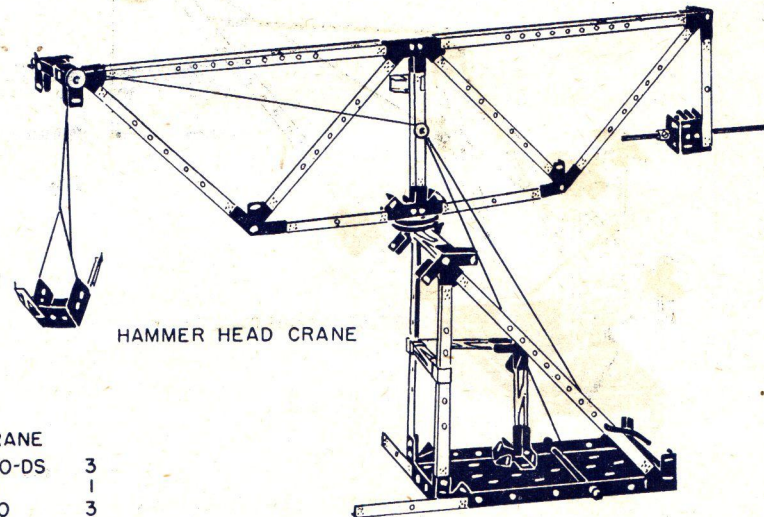
WAGON

Models built with the *CRAFTSMAN SIZE*

WORK BENCH



HORSE SULKY



HAMMER HEAD CRANE

Parts required

HORSE SULKY

A-0	6	C-135-ZR	2
A-1	7	C-135-ZL	2
A-3	2	R-85	1
C-0	2	W-16	2
C-90-X	2		

HAMMER HEAD CRANE

P-4	1	C-180-ZS	3
A-0	7	R-21	1
A-1	6	R-50	3
A-2	6	R-85	1
A-3	4	CH-1	1
C-0	2	W-05	1
C-90-X	6	W-16	4
C-135-ZR	2	K	6
C-135-ZL	2	SN	4
C-180-Z	2		

(String and Rubber Bands—
Not Supplied)

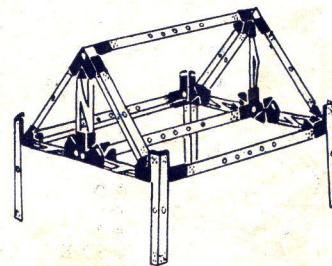
Note To make the bracket see the Construction Details. Both the hoist line and the release line should be wound on the crank.

WORK BENCH

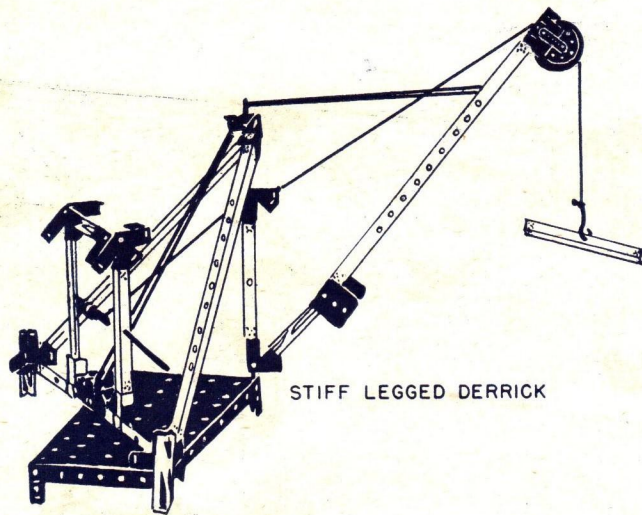
A-0	8	C-135-ZR	1
A-1	8	C-135-ZL	1
A-2	1	C-180-	2
C-90-X	6		

A BRIDGE TRUSS

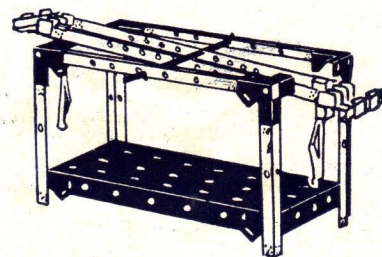
A-0	6	C-90-	6
A-1	8	C-180-Z	2
A-2	4		



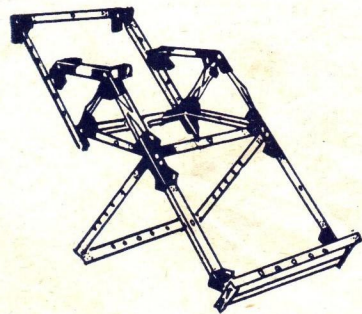
A BRIDGE TRUSS

Models built with the *CRAFTSMAN SIZE*

STIFF LEGGED DERRICK



PHARMACISTS' BALANCE



STEAMER CHAIR

Parts required

STIFF LEGGED DERRICK

P-4	1	C-180-Z	1
A-0	6	C-180-DS	2
A-1	6	AF	1
A-3	4	W-16	1
C-0	2	R-21	1
C-90-X	5	R-85	1
C-135-ZR	1	CH-1	1
C-135-ZL	1	K	4

(String-Not Supplied)

STEAMER CHAIR

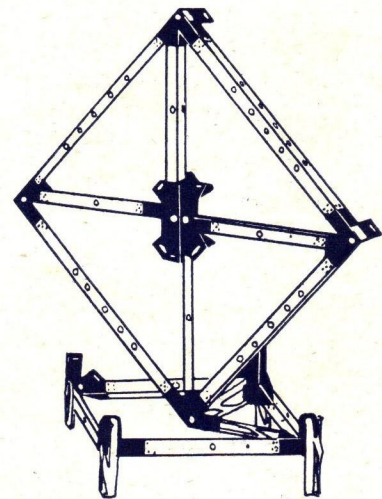
A-0	8	C-135-ZR	2
A-1	8	C-135-ZL	2
A-2	6	C-180-Z	2
C-90-X	6		

PHARMACISTS' BALANCE

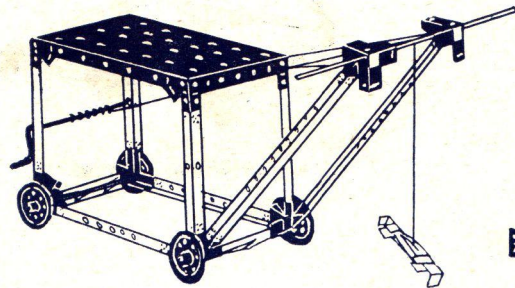
P-4	1	C-0	4
A-0	4	C-90-X	4
A-1	4	R-50	1
A-2	2	K	2
A-3	2		

RADIO RECEIVING LOOP

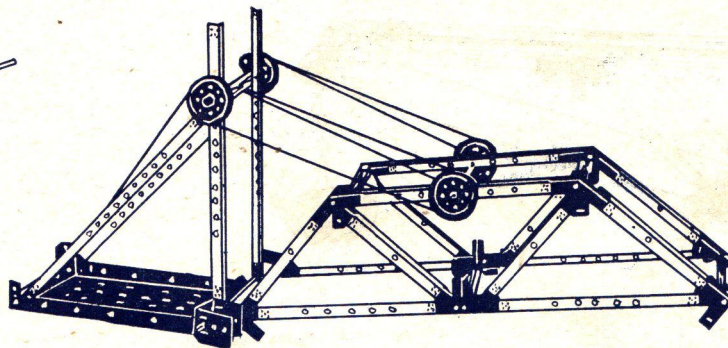
A-0	6	C-135-ZR	1
A-1	8	C-135-ZL	2
A-2	4	C-180-Z	2
C-90-X	6		



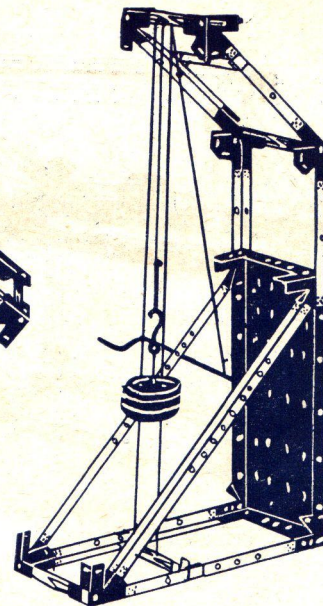
RADIO RECEIVING LOOP

Models built with the *CRAFTSMAN SIZE*

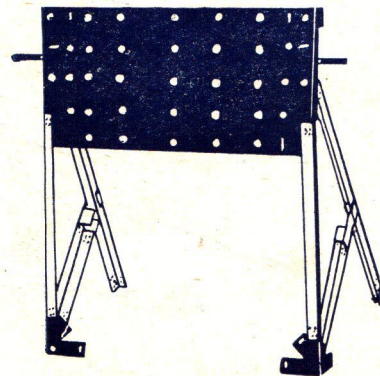
PORTABLE CRANE



LIFT BRIDGE



PILE DRIVER



BLACKBOARD

PORTABLE
CRANE

P-4	1
A-0	4
A-1	4
A-2	2
A-3	2
C-0	4
C-90-X	4
C-135-ZR	1
C-135-ZL	1
W-16	4
R-50	2
R-85	1
CH-1	1
K	1

(String—
Not Supplied)TEA
WAGON

P-4	1
A-0	3
A-1	4
A-2	1
A-3	2
C-0	3
C-90-X	4
W-16	2
R-50	1

BLACKBOARD

P-4	1
A-1	2
A-2	2
A-3	2
C-0	2
C-90-X	4
R-85	1
K	2

The rod holds two
C-90-X's in place
behind the P-4

LIFT BRIDGE

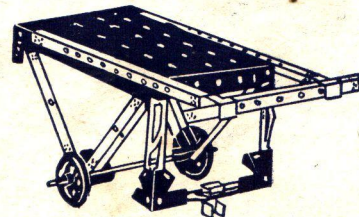
P-4	1	C-180-Z	2
A-0	6	C-180-DS	2
A-1	8	W-16	4
A-2	6	R-50	3
A-3	4	R-85	1
C-90-X	6	CH-1	1
C-135-ZR	2	K	5
C-135-ZL	2		

PILE DRIVER

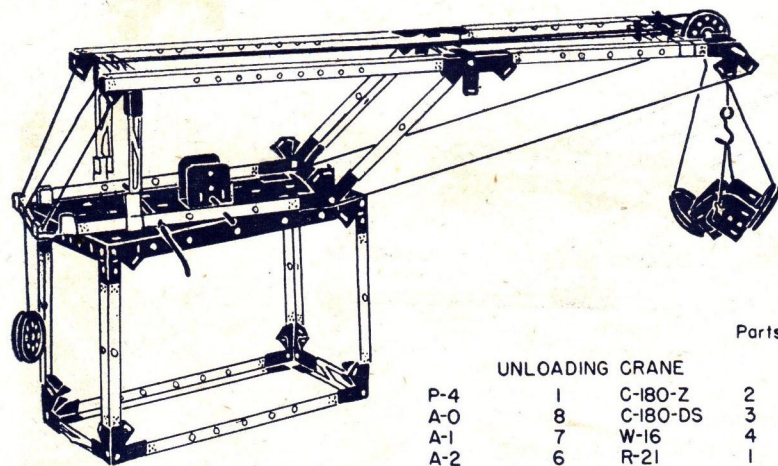
When the hammer is up unhook and let it
drop.

P-4	1	C-135-ZR	1
A-0	5	C-135-ZL	1
A-1	4	W-16	4
A-2	2	R-50	1
A-3	2	CH-1	1
C-0	4	AF	1
C-90-X	4	K	4

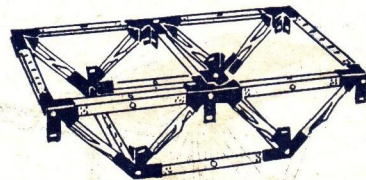
(String—Not Supplied)



TEA WAGON



UNLOADING CRANE



STEEL SCOW OR
INVERTED BRIDGE TRUSS

UNLOADING CRANE

P-4	1	C-180-Z	2
A-0	8	C-180-DS	3
A-1	7	W-16	4
A-2	6	R-21	1
A-3	2	R-50	2
C-0	6	CH-1	1
C-90-X	6	AF	1
C-135-ZR	2	SN	3
C-135-ZL	2	K	6

(String-Not Supplied)

Note: The C-180-DS is pivoted to the base plate P-4 by a snap rivet SN. The wheels W-16 are fastened to the C-180-DS by snap rivets. See Construction Details to make the clam shell bucket.

STEEL SCOW

A-0	8	C-135-ZR	2
A-1	6	C-135-ZL	2
A-2	5	C-180-Z	2
C-90-X	4		

Parts required

PLAYGROUND SWING

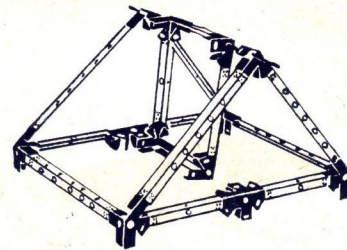
A-0	2	C-135-ZR	2
A-1	6	C-135-ZL	2
A-2	6	C-180-Z	2
C-90-X	6	R-85	1

The Craftsman Size MORECRAFT gives you 5 new parts. First there are two new connection members the C-180-Z and the C-180-DS. Next there is a very useful pulley sheave, W-05. Then there is a new fastening member, the snap rivet, SN, by means of which members may be connected through their holes. These rivets are very useful in forming a pivotet joint. The last new element is the special panel insert, by means of which you may fill in surfaces of your structures to improve their appearance. Learn all these new parts and their uses from the pictures given at the end of the Manual.

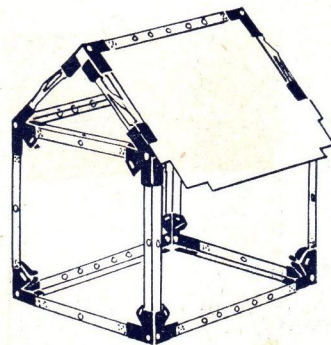
SUMMER HOUSE

A-0	4	C-135-ZR	2
A-1	8	C-135-ZL	2
A-2	5	P-12	2
C-90-X	6		

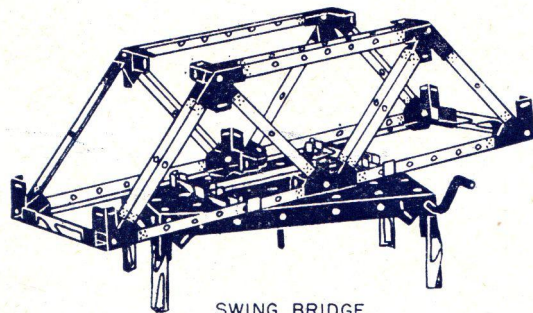
This is the first model to show the use of the panel inserts. See the Construction Details at the end of this Manual.



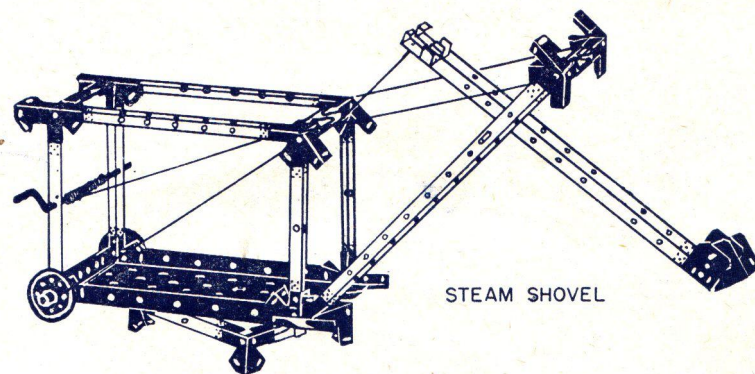
PLAYGROUND SWING



SUMMER HOUSE

Models built with the *CRAFTSMAN SIZE*

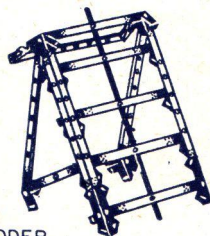
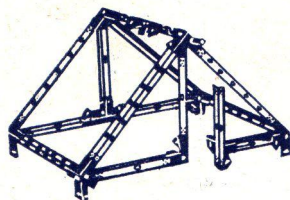
SWING BRIDGE



STEAM SHOVEL

Parts Required

TENT FRAME



STEP LADDER

SWING BRIDGE

P-4	1	C-135-ZL	2
A-0	8	C-180-Z	2
A-1	9	W-16	2
A-2	6	R-21	1
C-0	6	CH-1	1
C-90-X	4	K	4
C-135-ZR	2		

(Rubber Band—Not Supplied)

Note: Place a wheel on the lower end of the rod. Pass rod through center hole of the base plate and place wheel on top of plate. Place bridge span over rod and put a key on top end of rod inside the A-1. Rubber band passes around CH and the lower wheel.

TENT FRAME

A-0	3
A-1	6
A-2	6
C-90-X	5
C-135-ZR	2
C-135-ZL	2
C-180-Z	2
R-85	1

STEP LADDER

A-0	6
A-1	7
A-2	5
C-90-X	6
C-135-ZR	2
C-135-ZL	2
C-180-Z	2
R-85	1

STEAM SHOVEL

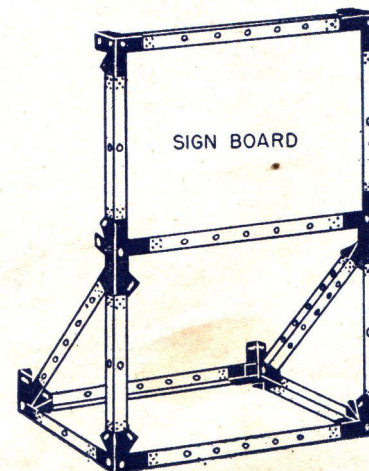
P-4	1	C-180-Z	2
A-0	8	C-180-DS	2
A-1	7	R-21	1
A-2	4	R-50	2
A-3	2	CH-1	1
C-0	4	K	4
C-90-X	6	W-16	2
C-135-ZR	2	SN	1
C-135-ZL	2		

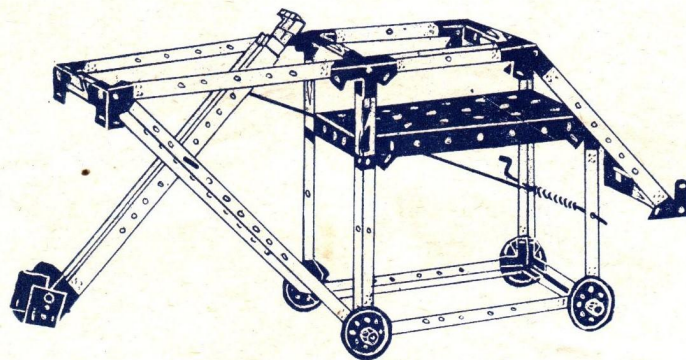
(String—Not Supplied)

Note: The upper ends of the two boom members are connected by an A-0 held by the C-0's connected to the upper ends. The two ends of the base are connected by an A-1 connected to a C-0 at each end. A snap rivet forms the pivot.

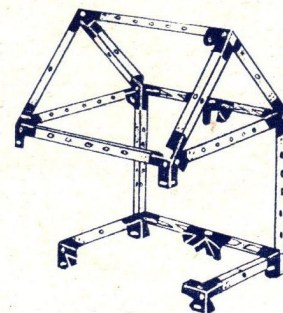
SIGN BOARD

A-1	6	C-180-Z	2
A-2	6	P-12	1
C-90-X	6		

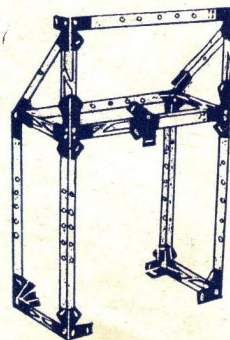


Models built with the *CRAFTSMAN SIZE*

EXCAVATING MACHINE



WAITING STATION



SIGNAL BRIDGE

Parts required

EXCAVATING MACHINE

P-4	1	C-135-ZL	2
A-0	8	C-180-Z	2
A-1	6	C-180-DS	2
A-2	6	W-16	4
A-3	4	R-21	1
C-0	2	R-50	3
C-90-X	6	K	4
C-135-ZR	2	CH-1	1

(String and Rubber Bands — Not Supplied)

SIGNAL BRIDGE

A-0	7	C-135-ZR	2
A-1	3	C-135-ZL	1
A-2	6	C-180-Z	2
C-90-X	6		

WAITING STATION

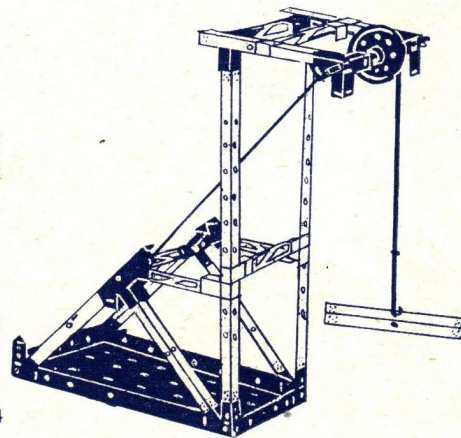
A-0	4	C-135-ZR	2
A-1	6	C-135-ZL	2
A-2	6	C-180-Z	2
C-90-X	6		

Note: Try your panels in the roof of this Model.

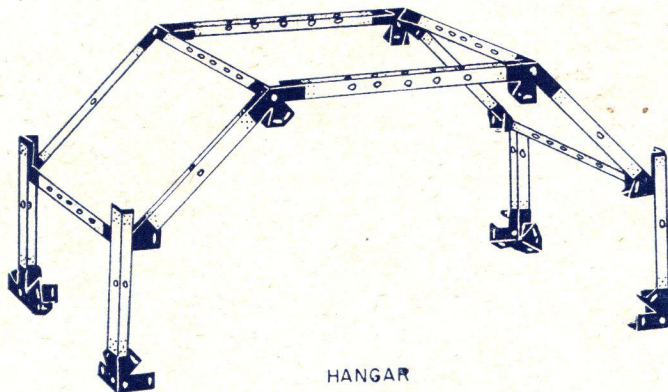
HOIST

P-4	1	C-180-Z	2
A-0	6	W-16	7
A-1	7	R-50	1
A-3	2	CH-1	6
C-0	6	AF	4
C-90-X	4	K	4

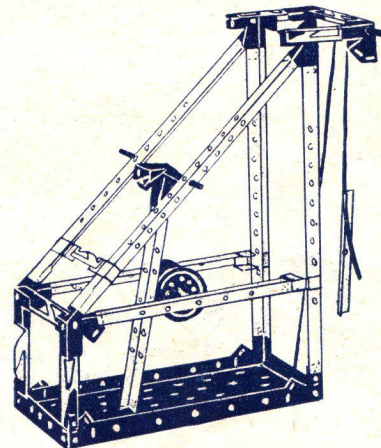
(String—Not Supplied)



HOIST

Models built with the *CRAFTSMAN SIZE*

HANGAR



WELL DIGGER

Parts required

HANGAR

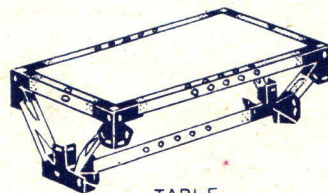
A-1	8	C-135-ZL	2
A-2	6	C-180-Z	2
C-90-X	6	P-12	2
C-135-ZR	2		

WELL DIGGER

P-4	1	C-135-ZR	1
A-0	8	C-135-ZL	1
A-1	1	W-16	2
A-2	3	R-21	1
A-3	4	R-50	2
C-0	4	CH-1	1
C-90-X	6	K.	6

(String—Not Supplied)

Note: Screw the two wheels to the crank and pass the short rod through holes in the wheels and fasten into place with two keys. This forms an eccentric.



TABLE

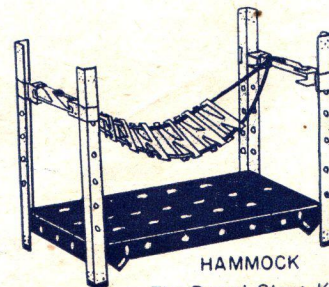
TABLE

A-0	4	C-90-X	4
A-1	2	C-180-Z	2
A-2	3		

HAMMOCK

P-4	1	A-2	4
A-0	8	C-0	4

(String—Not Supplied)



HAMMOCK

The Barrel Stave Kind

Models built with the *CRAFTSMAN SIZE*

Parts required

WINDMILL

P-4	1	C-135-ZL	2
A-0	3	C-90-X	2
A-1	4	C-180-Z	2
A-2	6	W-16	3
A-3	4	R-85	1
C-0	4	CH-1	1
C-135-ZR	2	K	2

(String and Rubber Band—Not Supplied)

Note: For the construction of the hub of the Windmill see the Construction Details.

DOUBLE BRIDGE SPAN

A-0	5	C-135-ZR	2
A-1	8	C-135-ZL	2
A-2	6	C-180-Z	2
C-90-X	4		

CLOCK

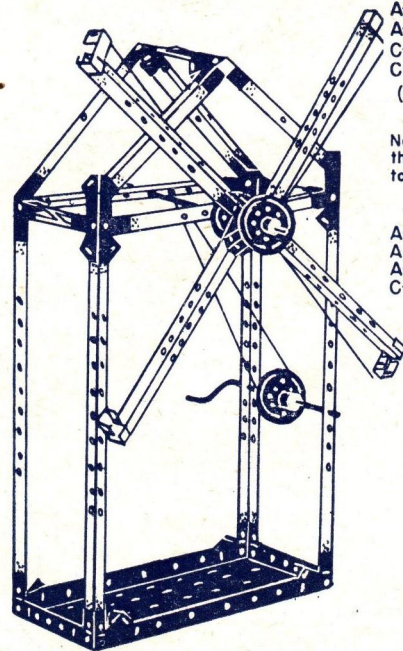
A-0	6	C-135-ZL	2
A-1	6	C-180-Z	2
A-2	5	R-85	1
C-90-X	6	K	4
C-135-ZR	2		

Note: Let the pendulum swing freely on the rod and it will cause the hand to creep around the face of the clock.

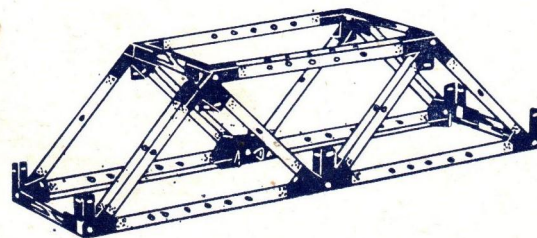
GARAGE

A-0	4	C-135-ZR	2
A-1	8	C-135-ZL	2
A-2	6	C-180-Z	2
C-90-X	6	P-12	2

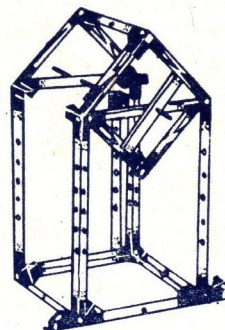
Note: You may cut out 3 extra panels of cardboard or heavy paper, to fill in the walls, using one of your P-12's as a pattern.



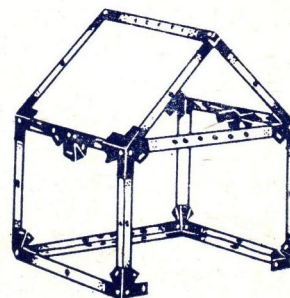
WINDMILL



DOUBLE BRIDGE SPAN

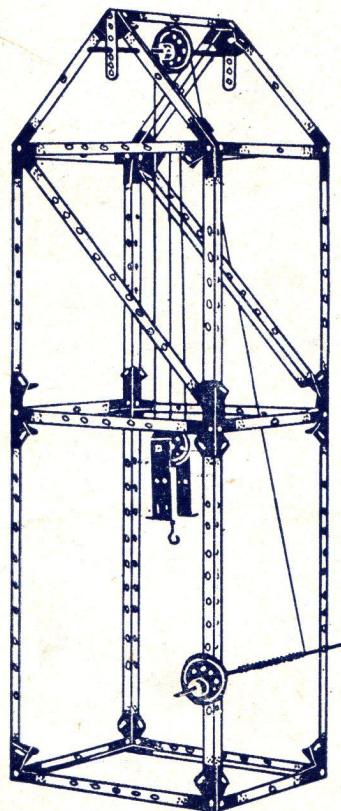


CLOCK

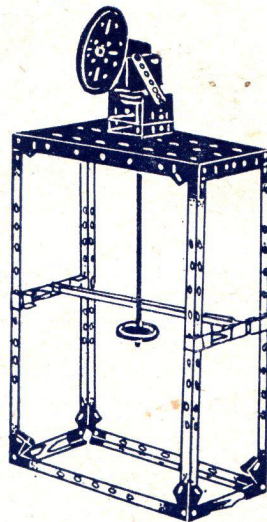


GARAGE

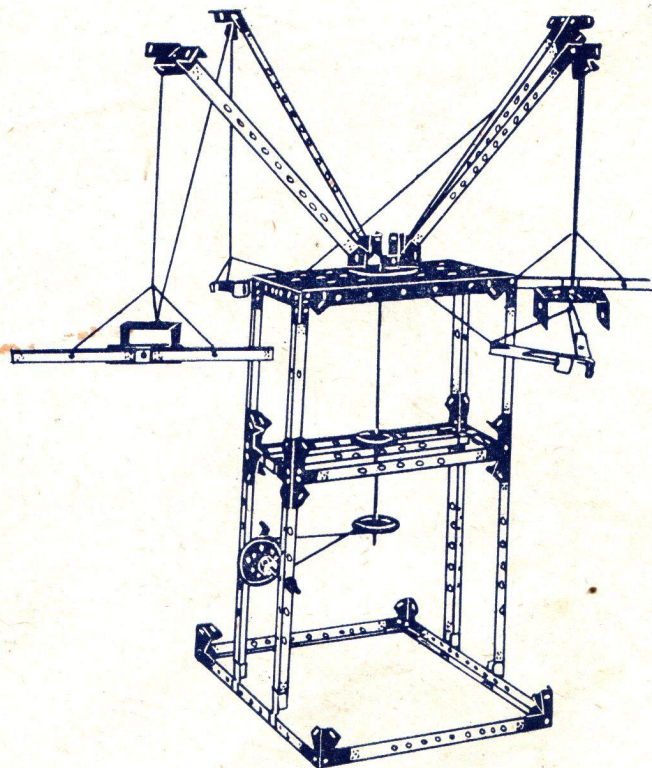
Models built with the *DESIGNER SIZE*



FOUNDRY HOIST
For Lifting Castings and Moulds

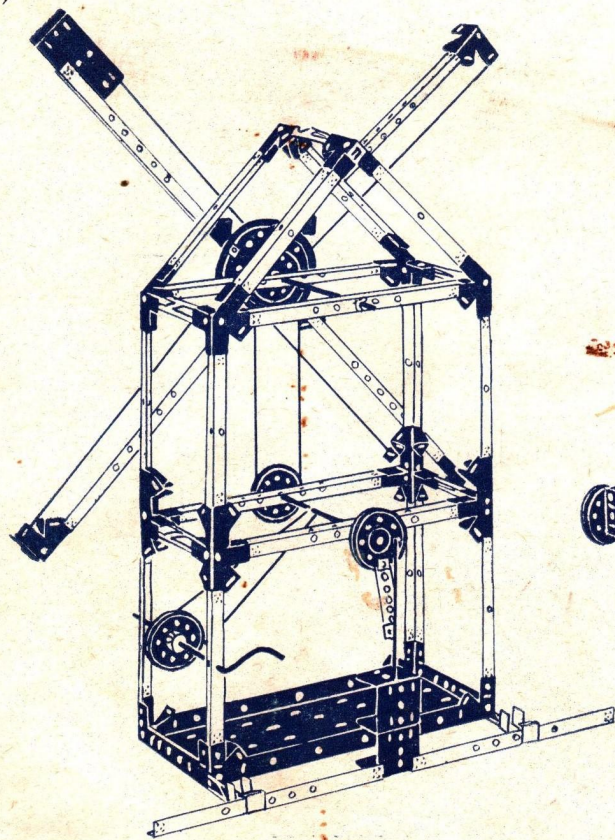


SEARCHLIGHT
May be Turned Right and Left or
Moved Up or Down by a Single
Control

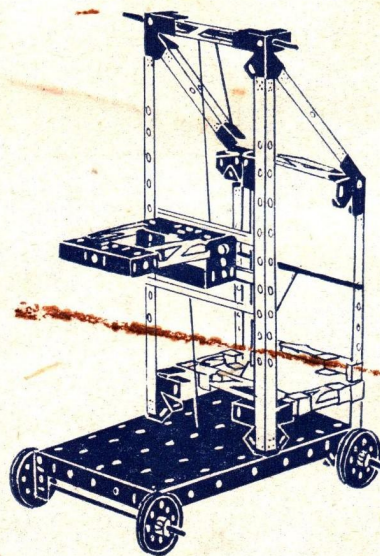


AEROPLANE RIDE

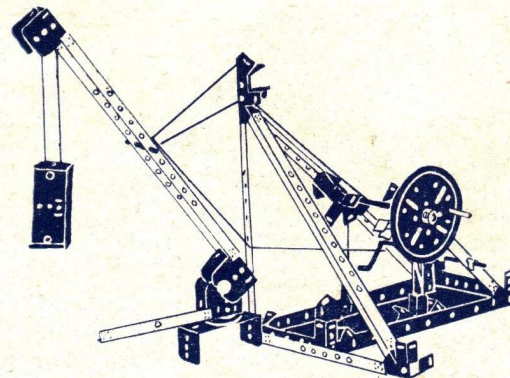
Models built with the *DESIGNER SIZE*



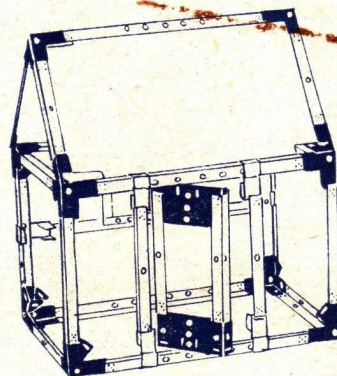
WINDMILL PUMP



TIERING MACHINE

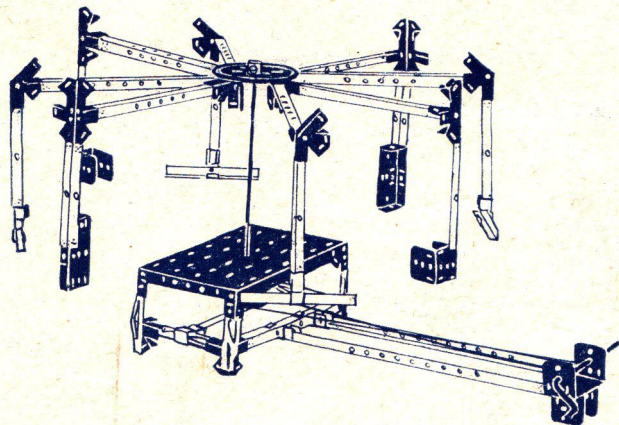


DERRICK

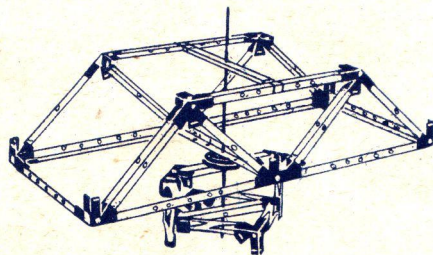


HOUSE WITH DOOR

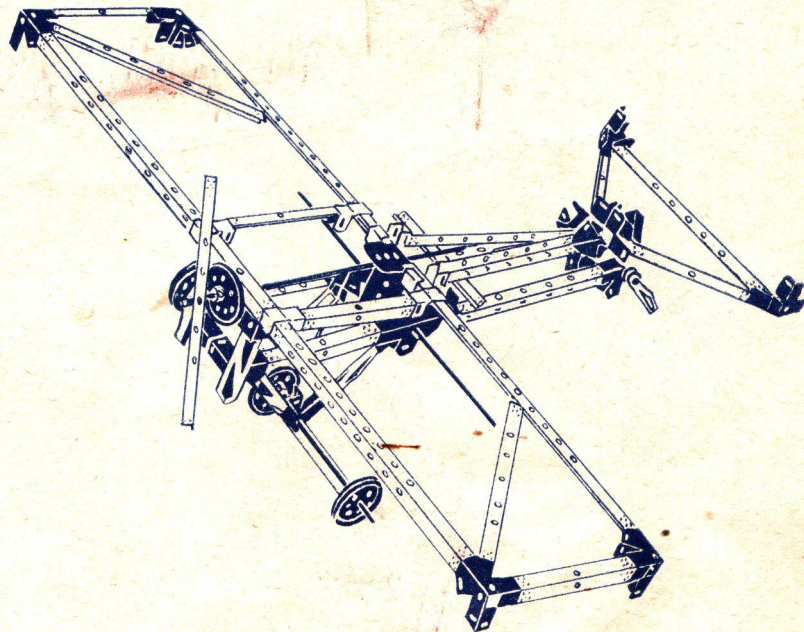
Models built with the *DESIGNER SIZE*



MERRY-GO-ROUND



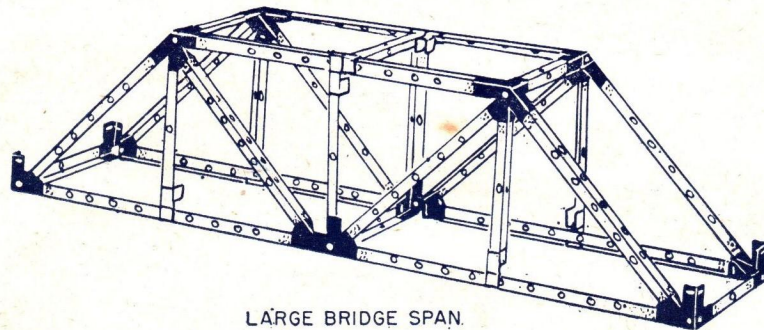
SWING BRIDGE



AEROPLANE

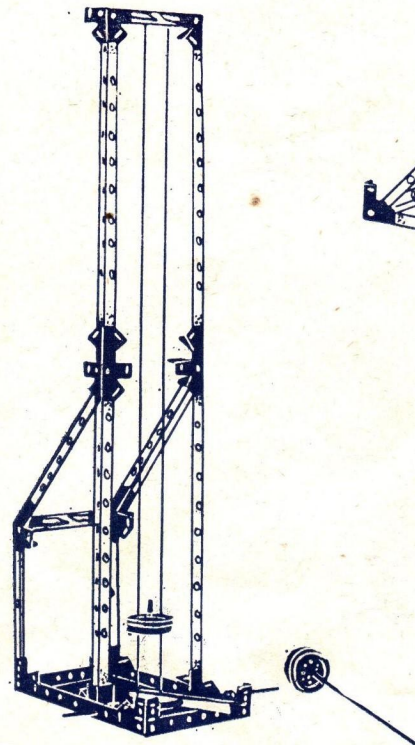
A Rubber Band Around the Center Wheel and the Propeller Shaft Makes the Propeller Rotate as the Plane is Moved Across the Floor.

Models built with the *DESIGNER SIZE*



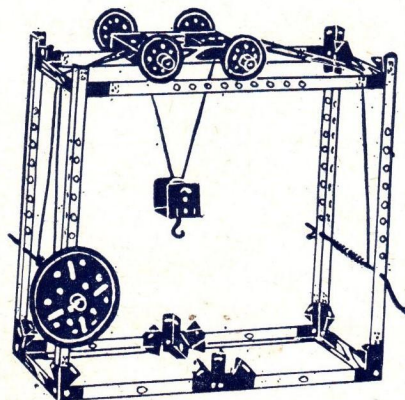
LARGE BRIDGE SPAN.

You Can Use This With Your Small Electric Trains



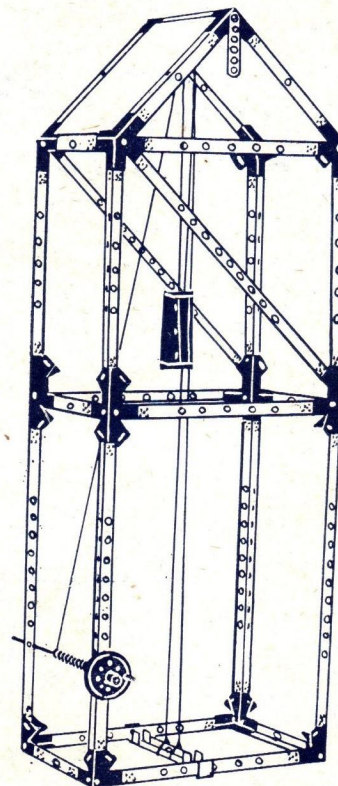
STRENGTH TESTING MACHINE

Use the Hammer to Test Your Skill



FOUNDRY HOIST

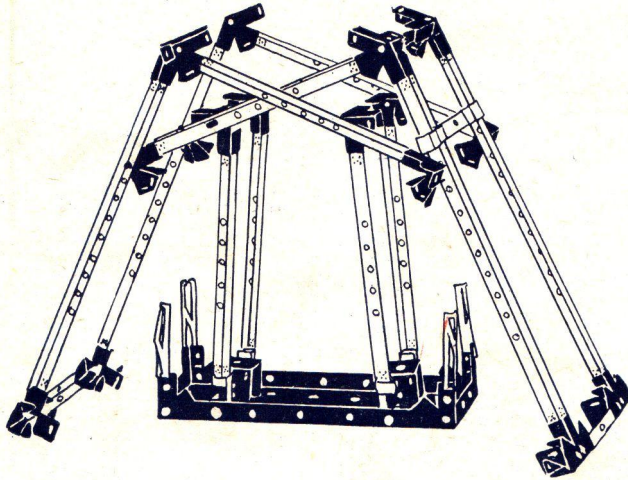
The Wheel Moves the Carriage From Left to Right
and the Crank Moves the Hood Up and Down



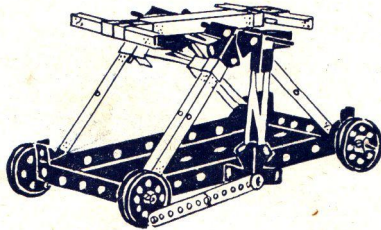
ELEVATOR

Fill in the Walls of the Building With Panels Cut
as Those of Your Set from Heavy Paper or Card-
board

Models built with the *DESIGNER SIZE*

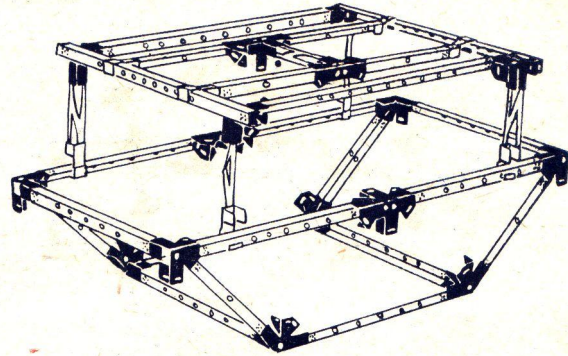


LAWN SWING



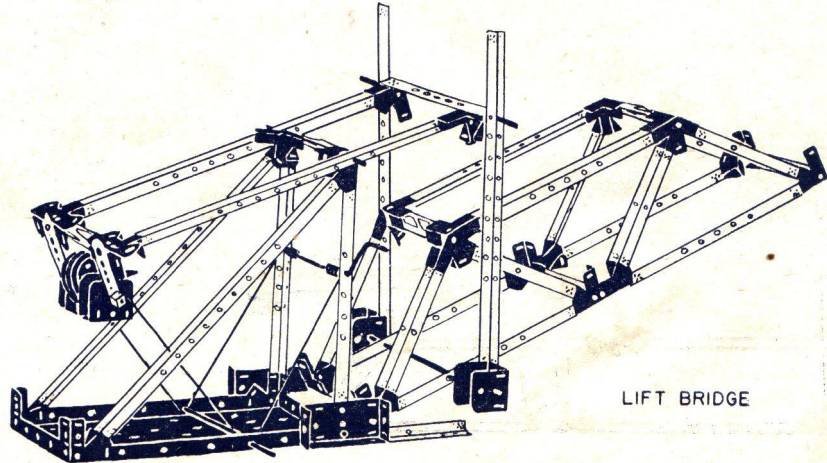
HAND CAR

The Handbars Will Make the Wheels Go 'Round



HOUSEBOAT FRAME

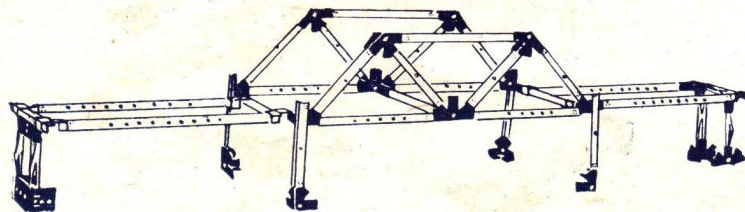
Cover With Cardboard Cut as Your Panels



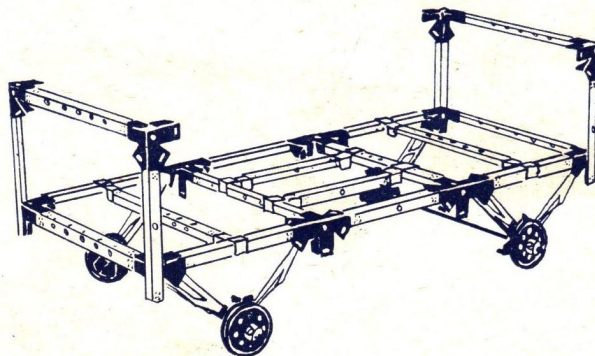
LIFT BRIDGE

Counterweight Balances to Reduce Work of Lifting

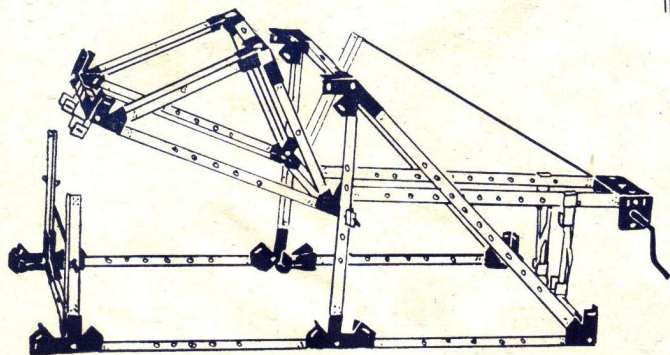
Models built with the *DESIGNER SIZE*



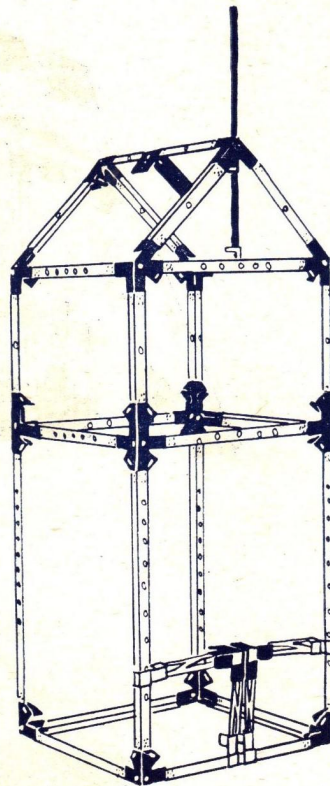
LONG BRIDGE
You May Run Your Largest
Train Over This Bridge



BAGGAGE TRUCK
Complete the Platform With Heavy Cardboard

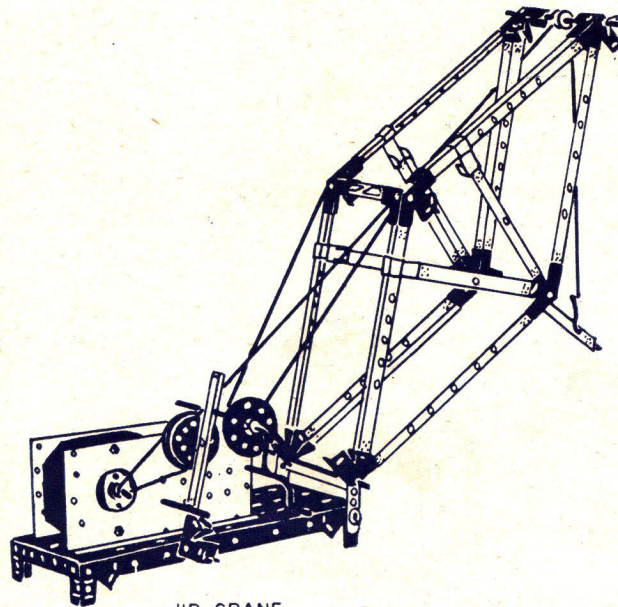


SMALL LIFT BRIDGE

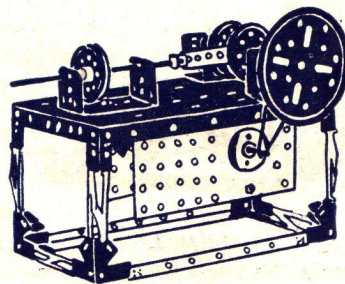


SKYSCRAPER
You May Put an Elevator in this Building

Models built with the *DESIGNER SPECIAL SIZE*

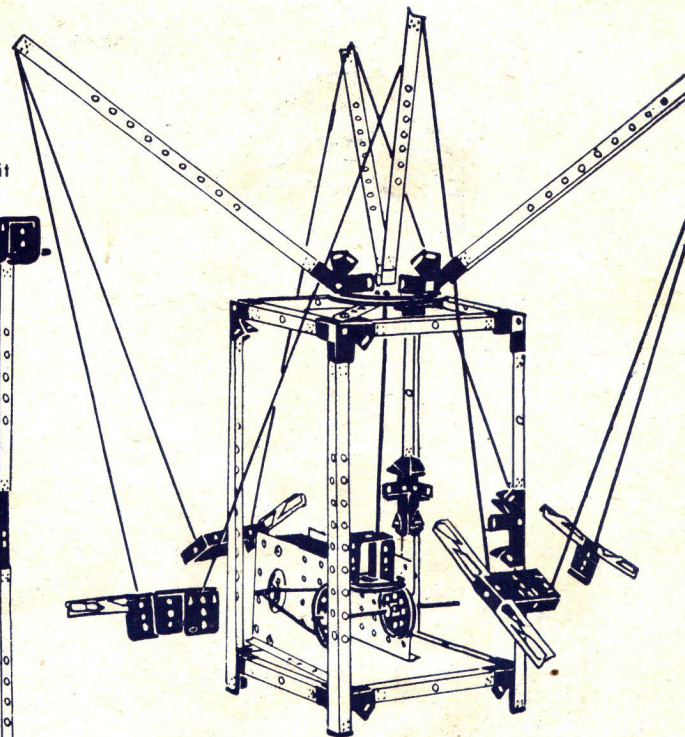
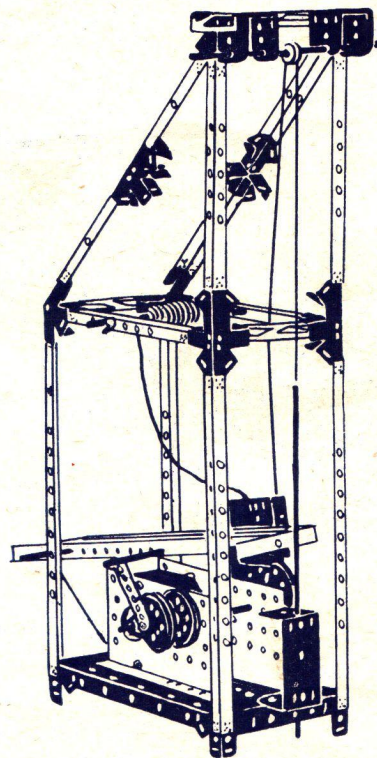


JIB CRANE



ENGINE

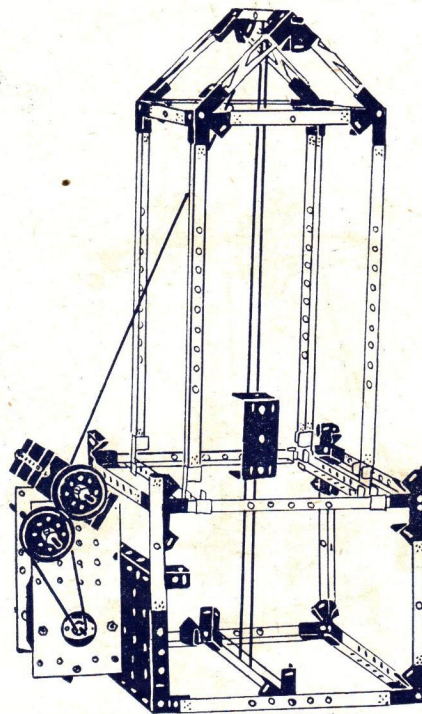
WELL DIGGER
Use a Key to Adjust the Drill So it
Will Be Lifted Each Stroke



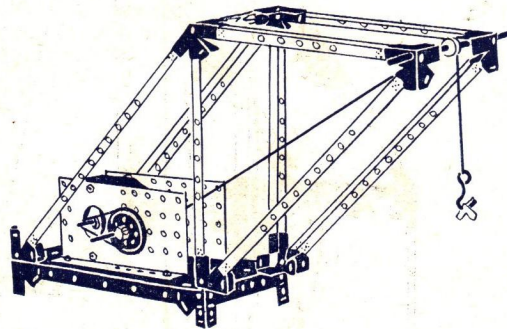
MOTOR DRIVEN AEROPLANE RIDE

THE *DESIGNER SPECIAL SIZE* introduces a motor to the *MORECRAFT* users. Each of the models shows a simple drive arrangement requiring no gearing.

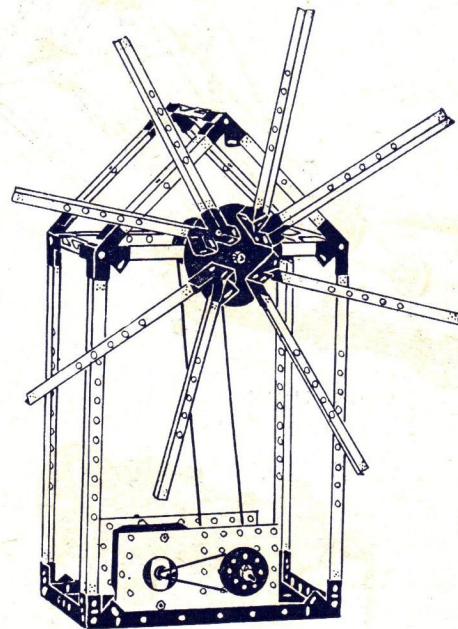
Models built with the *DESIGNER SPECIAL SIZE*



ELEVATOR
A Simple Clutch is Shown

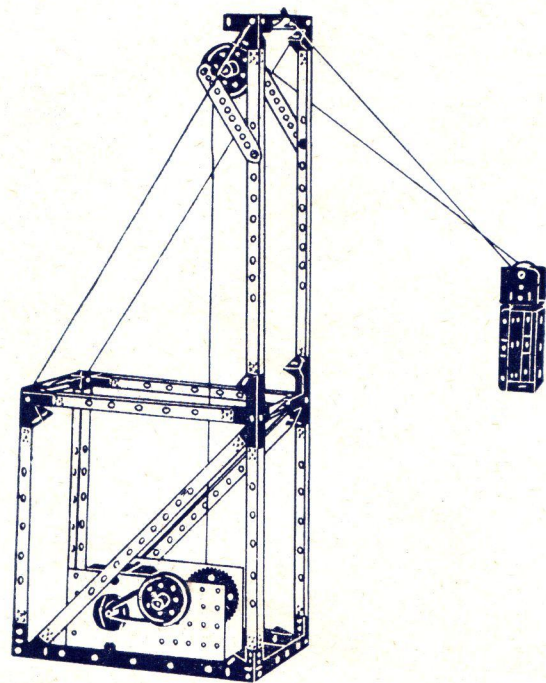


MOTOR HOIST



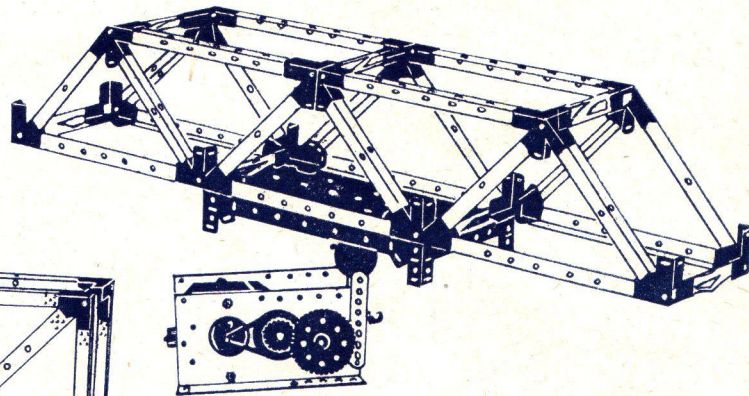
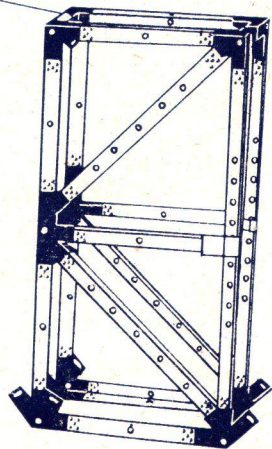
WINDMILL
Make This Into a Windmill Pump

Models built with the *ENGINEER SIZE*



TELPHER SPAN

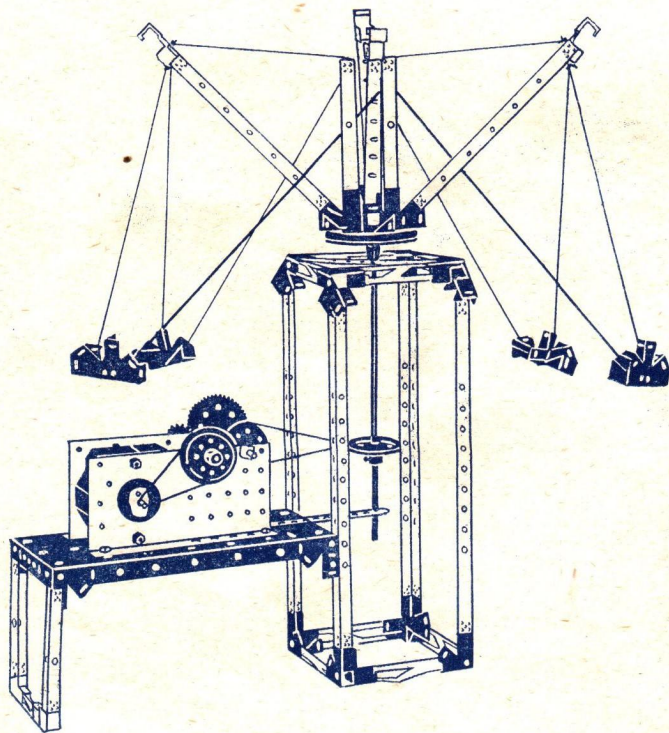
Use Gear Box No 5. Place The Towers About
a Yard Apart And Secure in Place



MOTOR DRAWBRIDGE

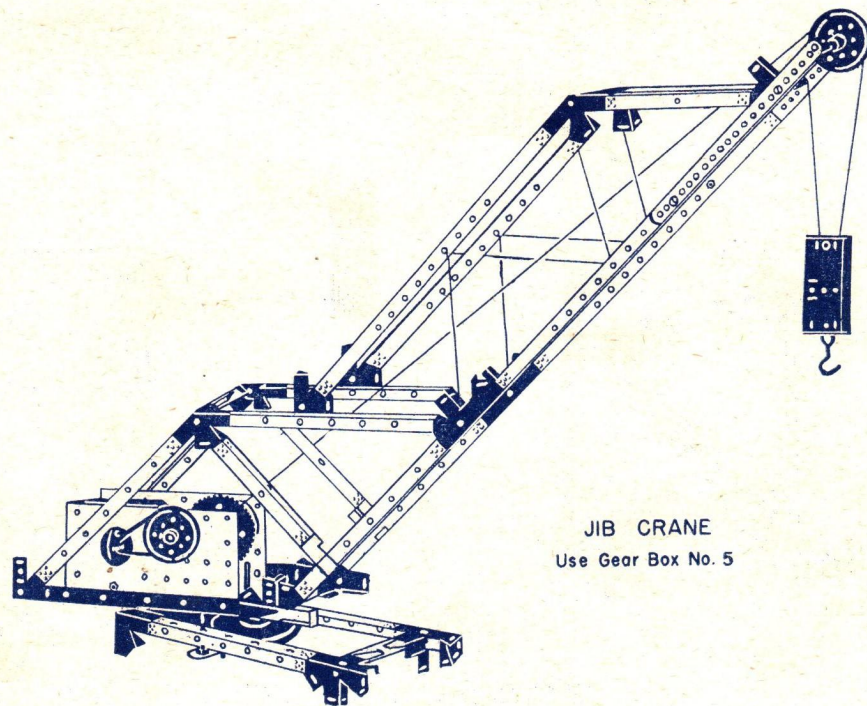
Use Gear Box No 4

Models built with the *ENGINEER SIZE*



MOTOR DRIVEN ROUNDABOUT

Use Gear Box No. 5 Without Release Mechanism



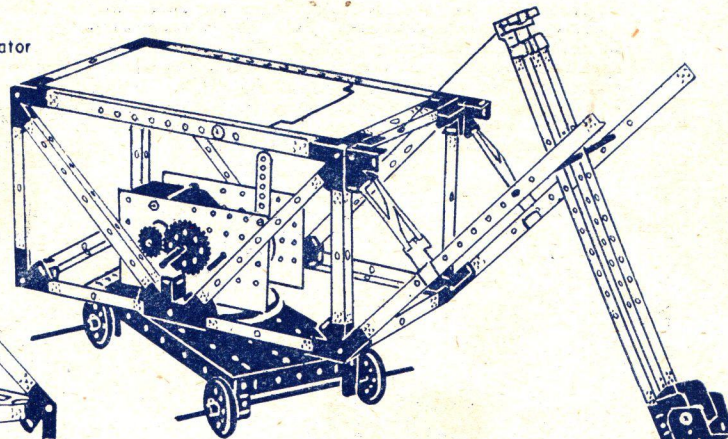
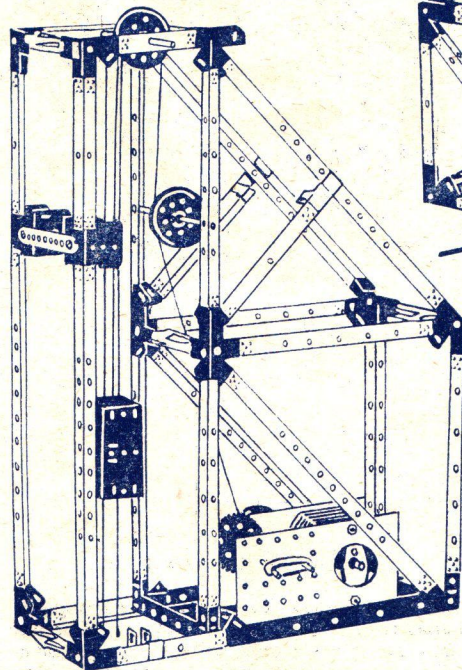
JIB CRANE

Use Gear Box No. 5

Models built with the *ENGINEER SIZE*

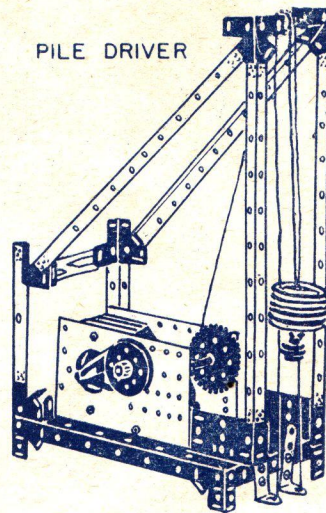
PIT HEAD GEAR

Used Over Mine Shafts to Operate an Elevator



EXCAVATING MACHINE

PILE DRIVER

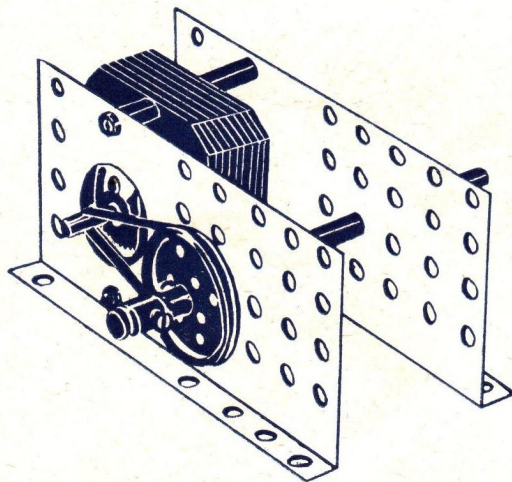


Try Putting Your Motor Into Some of the Models Shown in the First Part of This Manual.

Models built with the *ENGINEER SIZE*

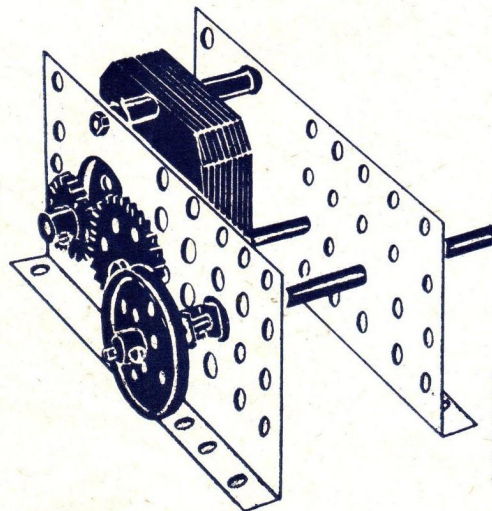
STANDARD GEARING

On this and the three following pages are shown six types of gearing combinations. Each type is designed to fill certain requirements and may be used whenever you have such requirements. Most of the models having motors use one of these gearing arrangements. The arrangement used is indicated near the picture of the model. Try alternative arrangements, note the different results, and use the most suitable combination.



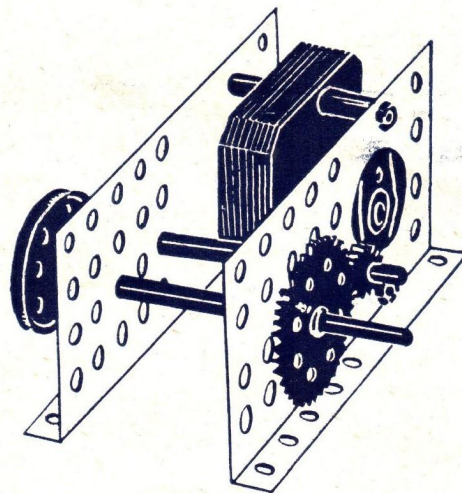
GEAR BOX No. 1

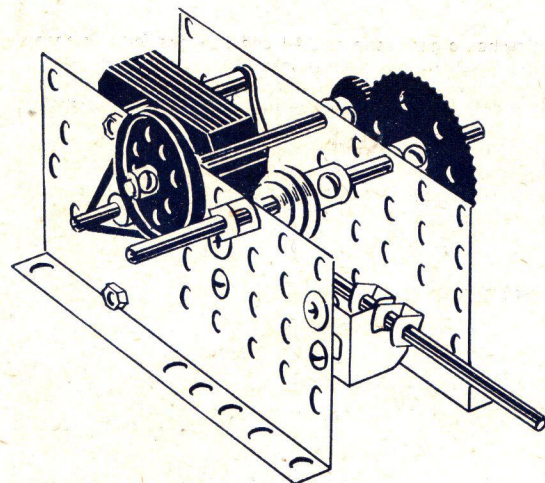
The arrangement shown above gives an 8:1 gear ratio. No gears are used. A rubber band transmits the power from the motor shaft to a pulley, W-16, screwed to the driven output shaft. A motor pulley, W-03, or any other pulley may be used to deliver the power to your mechanism. This arrangement is silent.



GEAR BOX No. 2

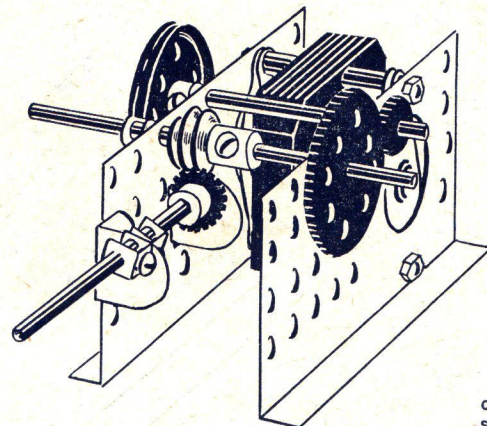
The gear box shown above and to the left gives a 6:1 drive ratio. A gear, G-12, is secured to the motor shaft and drives a gear, G-36, secured to an intermediate shaft. A gear, G-12, secured to the intermediate shaft drives the gear, G-36, secured to the driven output shaft. This arrangement gives a faster drive than Gear Box No. 1 but is more noisy.



Models built with the *ENGINEER SIZE*

GEAR BOX No. 3

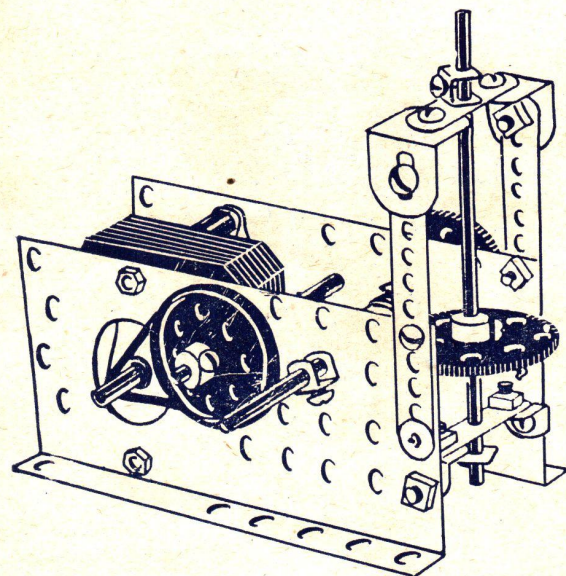
The gear box shown above and to the right has a gear ratio of 270:1. A rubber band drive is provided between the motor shaft and a pulley, W-25, secured to a first intermediate shaft. A pinion, G-12, secured to this shaft, drives a gear, G-36, secured to the second intermediate shaft. A worm gear, W-G, secured to this last shaft drives the driven output shaft by means of the pinion, G-12, secured to it.



GEAR BOX No. 4

The gear box shown above and to the right has a gear ratio of 864:1. This arrangement is therefore suitable for swing bridges. However you may make the shaft horizontal and use it for draw bridges. In this case use an eccentric crank, CR, linked to a convenient point on your bridge. If a faster drive is desired use Gear Box No. 3 with the output shaft vertical if necessary.

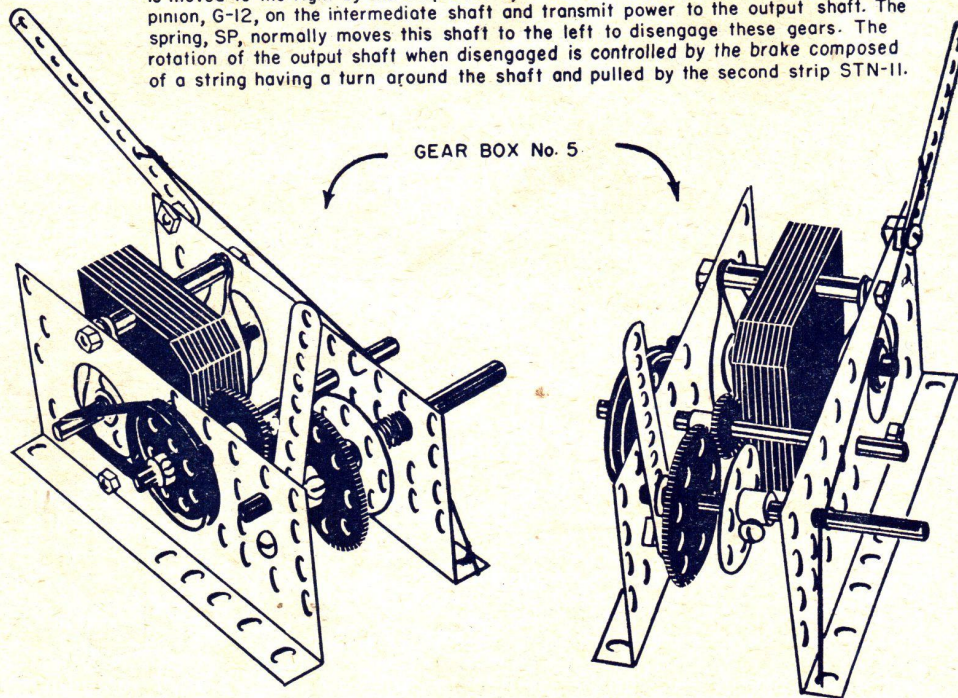
The gear ratio of any gearing combination is the relation of the speed of the input to the speed of the output. Gear Box No. 4 has a gear ratio of 864:1 which means that the motor makes 864 revolutions to one revolution of the output. Furthermore if the gearing is well oiled, the output shaft will have about 864 times as much power as the motor shaft.

Models built with the *ENGINEER SIZE*

GEAR BOX No 4

In this arrangement a first intermediate shaft is driven by a pulley, W-16, by means of a rubber band around the motor shaft. A second intermediate shaft is driven by a pinion, G-12, secured to the first shaft, meshing with a gear, G-36, secured to the second intermediate shaft. A worm gear W-G, on the last shaft drives a gear, G-36, on the vertical output shaft

The combination shown below has a gear ratio of 24:1 and provides for a release and brake. It is suitable for all types of hoists and derricks. The output shaft provides a drum space for winding the hoist line between the pinion, G-36, and the pierced disc, PD-14. If desired a belt driven output may be used. The output shaft, is moved to the right by the strip STN-11, to cause the gear, G-36, to engage the pinion, G-12, on the intermediate shaft and transmit power to the output shaft. The spring, SP, normally moves this shaft to the left to disengage these gears. The rotation of the output shaft when disengaged is controlled by the brake composed of a string having a turn around the shaft and pulled by the second strip STN-11.



GEAR BOX No. 5

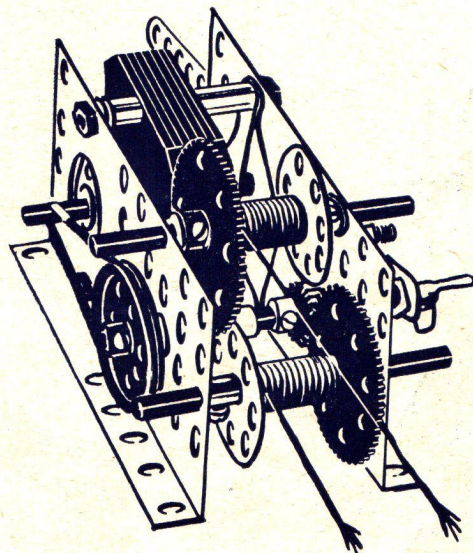
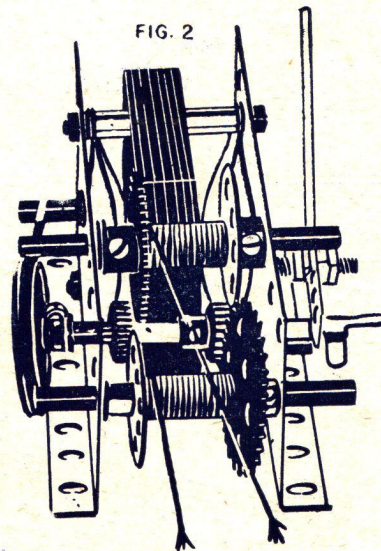
Models built with the *ENGINEER SIZE*

FIG. 1



GEAR BOX No. 6

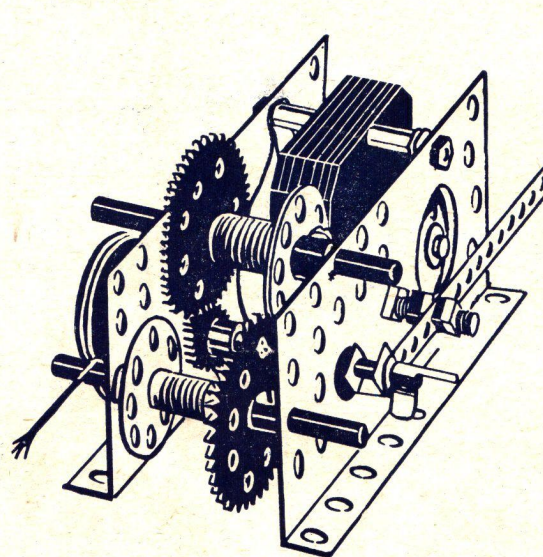


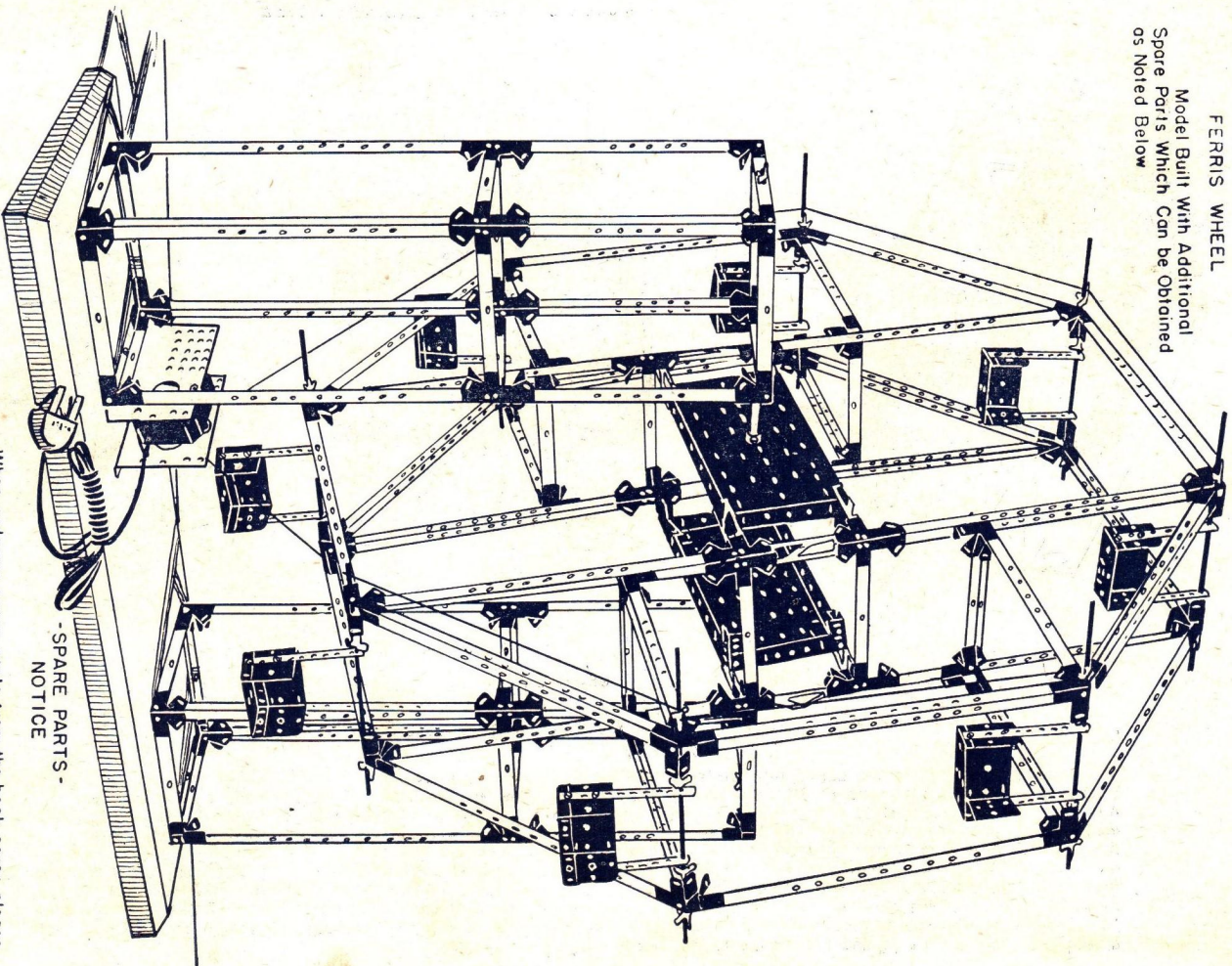
FIG. 3

Double Hoist With Release

In the arrangement shown above, two hoists may be handled by a single motor. A gear ratio of 24:1 is provided to each hoist. An intermediate or jig shaft is driven from the motor shaft by means of a rubber band passing around a pulley W-25 secured to the jig shaft. This shaft may be moved right and left by means of a strip STN-21. The jig shaft has two pinions, G-12 mounted thereon in such position that they may engage gears, G-36, mounted on each of the hoist shafts. As shown in Fig. 2 the jig shaft is moved to the extreme left and both hoist drums are disengaged. In Fig. 1 the jig shaft is moved to the extreme right

and the lower hoist drum is engaged with the right hand pinion on the jig shaft. The upper drum is disengaged. In Fig. 3 the jig shaft has been moved to the right a short distance from the position shown in Fig. 2 and the upper drum is engaged with the left hand pinion on the jig shaft. The lower drum is disengaged. With the jig shaft moved a short distance to the left of the position shown in Fig. 1 both of the drums may be engaged. A brake constructed like that shown in Gear Box No. 5 may be provided for either of the hoist drum shafts.

FERRIS WHEEL
Model Built With Additional
Spare Parts Which Can be Obtained
as Noted Below



-SPARE PARTS-
NOTICE

When ordering spare parts from the back cover, please observe the following

- 1) List all parts by their part numbers.
- 2) Figure and total your order correctly.
- 3) Include remittance to avoid COD charges. We do not recommend sending money through the mail.
- 4) PRINT your name, street address, city, zone and state clearly, as we assume no responsibility for non-delivery of orders due to illegible or incomplete address

MORECRAFT Corporation

MORECRAFT CONSTRUCTION DETAILS



Fig. 1

Fig. 1 shows a C-90-X connected to a single angle-member.



Fig. 2

Fig. 2 shows a second angle-member connected at a 90° angle to the first angle-member.

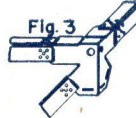


Fig. 3 shows a third angle-member connected to the same connector at an angle of 45° to the first angle-member.

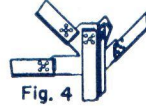


Fig. 4

Fig. 4 shows a fourth angle-member reverse connected to the connector C-90-X. This is a detail found in a large number of the Morecraft models.



Fig. 5

Fig. 5 shows two angle-members connected to a straight-angle connector C-180-Z. This type of connector is used whenever it is desired to make a long structure. The additional slots of the connector provide for bracing as shown in Fig. 6.

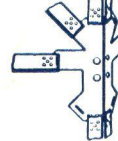


Fig. 6

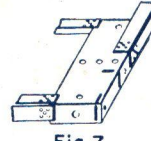


Fig. 7

Fig. 7 shows a boom end, C-360. This connector as shown permits connecting angle-members at right angles to the boom.

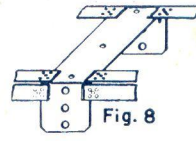


Fig. 8

Fig. 8 shows a double straight angle connector, C-180-D, as used to extend the length of a double boom. A similar connector, the C-180-DS, (see Morecraft Parts) is used the same as the connector shown here.

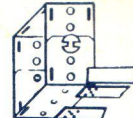


Fig. 9

Fig. 9 shows the use of the C-180-D connector as the pivoted end of a boom. The lower and upper connectors may be pivoted by the snap rivets shown or by a rod or bolted as described in Fig. 26.

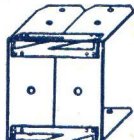


Fig. 10

Fig. 10 shows the use of A-O-S to connect two C-180-D's. Other connections may be similarly connected. See Fig. 11.



Fig. 11



Fig. 12A

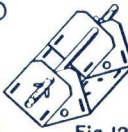


Fig. 12

Fig. 12 shows how to make a clambucket for use with your dericks, etc., using two C-180-D's. The end of the hoist line may be tied as shown in Fig. 12A and one loop slipped over each end of the rod.



Fig. 13

Fig. 13 shows the C-O, which is the most useful Morecraft connector. Fig. 14 shows a C-O in each of four positions on an angle-member to permit the attachment of an angle-member in each of four directions. The end C-O's prevent the angle-member upon which they are mounted, being detached. Fig. 15 shows how it is possible to locate a shaft rod in any desired position regardless of hole spacings.

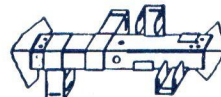


Fig. 14

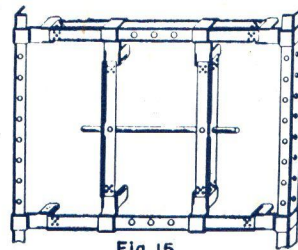


Fig. 15



Fig. 16



Fig. 16A

Figs. 16 and 16A show how to form the hub used in the Whirligig and Clothes Reel models built with the Craftsman Size. Put a rod through the holes in the tops of a pair of C-135-Z connectors. Rotate them into the position shown in Fig. 16. Then force them together as shown in Fig. 16A. Four angle-members may be connected to the two connectors.

Fig. 17 and 17A are plan and side views, respectively, of the arrangement for connecting the front axle pivot in the Lumber Truck and Wagon models for the Craftsman Size. The lower end of the rod is inserted between the axle rod and the angle-member of the front track.



Fig. 17



Fig. 17A

Fig. 18 shows how to connect the upper end of the pivot rod of the model of the Stiff Legged Derrick shown for the Craftsman Size. An A-O is connected to the corner of the base plate, P-4, under the A-O shown and the lower end of the rod passes between its ends. A wheel should be placed on the rod over each C-O.



Fig. 18

Figs. 24 and 24A show the C-U, universal connector. It has many uses—two of which are shown.

Figs. 19 and 19A show how to make a wheel with two P-D-16's, one screw hub and nut.

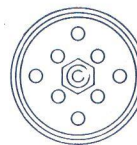


Fig. 19



Fig. 19A

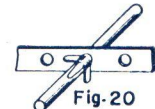


Fig. 20

Fig. 20 shows the use of a key to limit the motion of a rod lengthwise yet permit it to rotate freely.

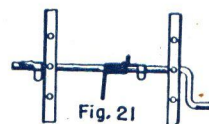


Fig. 21

Fig. 21 shows how to use a key to fasten the end of a string to wind it upon a crank, CH.



Fig. 22

Fig. 22 shows how to fasten an angle-member to a shaft rod. The screw of a collar is removed and the rod is inserted through the collar and one of a pair of holes in an angle-member. Then the screw is inserted through the other hole in the angle-member and tightened to hold the member in the desired position. A connector may be similarly secured. An example of this use is the Hand Car built with the Designer Size.

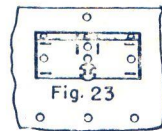


Fig. 23

Fig. 23 shows how to use the snap rivet. The pieces to be joined are placed with holes in alignment and the rivet is inserted with thumb pressure. Use of a single rivet permits a swivel action to be obtained.

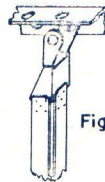


Fig. 24



Fig. 25



Fig. 26

Fig. 24A

To lock two nuts in place put them upon a bolt inserted through holes in the members to be joined and turn in opposite directions as shown by the arrows in Fig. 26. This may be done by the use of two wrenches furnished with all Morecraft Sets supplied with nuts and bolts.

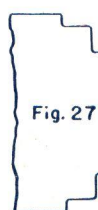


Fig. 27



Fig. 28

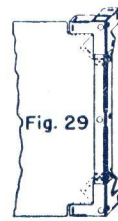


Fig. 29

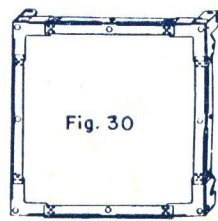


Fig. 30

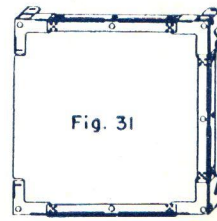
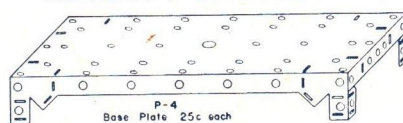


Fig. 31

The above Figs. show how to use the Morecraft Panel Insert. The corners are to be placed on top of the connectors and the sides are to be below the angle-members. First, place the panel shown in Fig. 27, with the assembly shown in Fig. 28, as shown in Fig. 29, then add the parts shown in Fig. 30, and last, complete by connecting the left-hand corners with an angle-member.

MORECRAFT SEPARATE PARTS

CONNECTORS

C-90-X
5c eachC-180-Z
10c eachC-135-ZL
15c per pairC-135-ZR
15c per pairC-U
2 for 5cP-4
Base Plate 25c eachC-0
2 for 5cC-180-D
5c eachC-180-DS
5c eachC-360
5c each

ANGLE MEMBERS



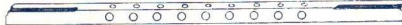
A-0 35c per doz



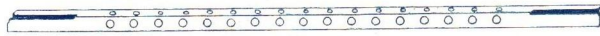
A-1 40c per doz



A-2 45c per doz

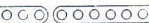
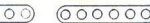


A-3 50c per doz



A-4 60c per doz

STRIP MEMBERS

STN-4
10c per dozSTN-5
10c per dozSTN-6
10c per dozSTN-7
15c per dozSTN-9
15c per dozSTN-12
20c per dozSTN-17
25c per doz

MISCELLANEOUS

Washers

PD-04
5c per dozPD-07
10c per dozS-04
15c per dozS-08
15c per dozS-12
20c per doz

Screws

S-26
30c per dozN-1
5c per dozAF
15c per dozSN
25c per dozK
4c eachS-4
4c each

Threaded Stud

S-26
30c per dozN-1
5c per dozAF
15c per dozSN
25c per dozK
4c eachS-4
4c each

Hook

AF
15c per doz

Snap Rivet

SN
25c per doz

Key

K
4c each

Collar

S-4
4c each

Angle Bracket

B-1
15c per doz

Motor Support Bracket

B-7
15c per doz

Eccentric

CR
10c each

Spring

SP
5c each

Screw Hub and Nut

WS-03-A
15c each

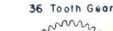
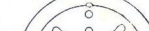
CONNECTORS

PANELS

PT-11
20c per dozP-11
20c per dozP-12
25c per dozP-02
20c per dozP-13
30c per doz

GEARS PULLEYS AND WHEELS

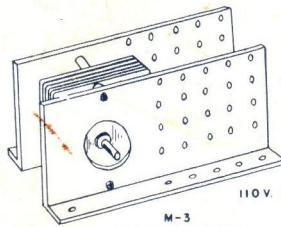
3" Wheel and Turret Plate

W-03
10c eachW-05
5c eachWG
25c eachG-12
15c eachG-36
20c eachPD-30
10c eachW-16
20c eachPD-16
5c eachPD-14
5c eachPD-12
5c each

WRENCHES

WR-2
10c eachWR
5c each

INDUCTION MOTOR

M-3
Complete with Cord
\$ 3.50 each

CRANKS

CH-1
10c eachCH-2
10c each

RODS



R-21 2c each



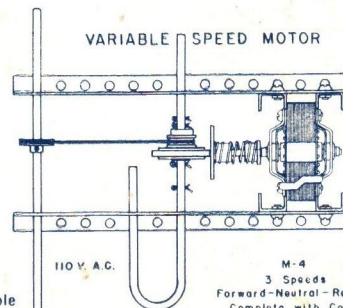
R-28 3c each

R-65
7c each

R-40 4c each



R-50 5c each

R-85
9c each

VARIABLE SPEED MOTOR

110V. A.C.

M-4
3 Speeds
Forward-Neutral-Reverse
Complete with Cord
\$ 6.00 each

Morecraft Separate Parts are interchangeable in all size sets. Different sizes available are the following: SKIPPER TOY SIZE, CRAFTSMAN SIZE, DESIGNER SIZE, DESIGNER SPECIAL SIZE, and ENGINEER SIZE. To order separate parts follow directions inside.

MORECRAFT CORPORATION, NEW LONDON, CONN.