Bings' Construction Set

The Up-to-Date Toy

Patents applied for in U. S. A. and other Countries

Trade 

Mark

Bavaria

Instructions and Designs

for Sets Nos. 1—5 and 1a—4a

Interesting—Instructive—Educational

An Unlimited Variety of Models

Easily erected and as easily taken apart

Soundly constructed Models without Screws

No. 2.

BINGS' CONSTRUCTION SET

The Up-To-Date Toy

Patents applied for in U. S. A. and other Countries.

Constructional Outfits of various kinds have been used as toys for many years and their value for the entertainment and instruction of young people has been recognised by the highest authorities in that field.

Since what one teaches should be correct in theory and in practice, it follows that the elementary parts of constructional Outfits should be of correct geometrical form so as to permit of models being assembled which, excepting in size, do not materially differ from the actual machines or other articles they represent.

As Constructional Sets are used by young people just at the time of life when the mind is most receptive, it is of the utmost importance to place before them only such models as would tend by correct forms to cultivate the sense of proportion and to develop skill in construction.

Bings' Construction Sets have been designed and constructed on these lines with striking success.

The Inventor, himself a Schoolmaster, has devoted his whole attention to the purpose of making the Bings' Sets a unique combination of entertainment and instruction.

The Parts of which they consist are of such a nature that they lend themselves to the making of the most diverse models imaginable, beginning with some of the simplest forms of domestic utensils and furniture and ranging to the most interesting and complicated models of machinery and apparatus as found in the most modern Industries.

The work, if one can call it work, is simple and easy to comprehend.

The manipulation of the various parts, with just a little practice, is simplicity itself.

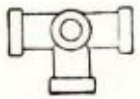
Full details and instructions are appended below.

Instructions for the Use of Bings' Construction Sets.

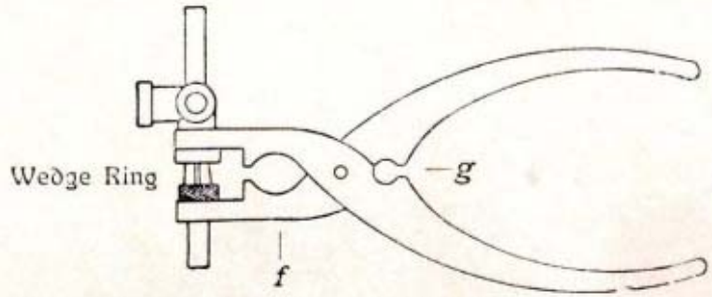
The essential parts which go to make up Bings' Construction Sets are: Standard Bars of various lengths, three kinds of Joints, viz:
Straight Joints. Angle Joints. T Joints. Wedge Rings. Spring Washers. Pair of Pliers.

Straight joint

Angle joint



"T" joint



Bings' Construction Pliers, showing how to fix a wedge ring

Other Supplementary Parts are contained in Bings' Construction Sets varying in quantities according to the number of the Set. All of the Parts may be purchased separately and a detailed Price List of all Parts and Accessories will be found at the end of this booklet.

The mode of building is as follows:—You take a standard bar and slip a wedge ring upon it. Then take a joint and slip it along the standard bar on to the conical neck of the wedge ring. Then take the pliers so that the larger opening of the plier ends goes around the thinner part of the joint just above the collar of same, whereas the smaller opening of the plier ends goes behind the milled collar of the wedge ring. Then give a gentle pressure with the pliers and the joint is made.

Proceed in this way to build any of the models shown in the book of instructions or, in fact, any other model which comes into the mind of the constructor.

In order to take a model to pieces again so that the parts should be available for another, proceed as follows:—

Grip only the milled collar of the wedge ring with the opening in the pliers below the forked ends, marked "*f*" on the illustration with one hand and with the other hand give a gentle twist to the joint which will unwedge the connection. (In the case of the straight joint slip a short bar through it, to make the "untwisting" easier).

When building vehicles, wheels of various kinds are used and in order to keep these wheels in their place, special spring washers are used which will stay wherever they are put by means of a small strong spring inside. They can be moved along on the axles to any convenient point and can be put on and taken off without trouble.

Spring washers are employed specially for keeping wheels in their proper position but in Bings' Construction Sets many other occasions arise in which they are found useful.

When building models upon the base board given with each box, proceed as follows:

Insert the square head of the screw (illustration No. 9/2 at the end of the book) into the groove of the base board and slide it to the right position. This is the only place where screws are used in Bings' Construction work. Use a standard

bar to push it along. Then screw a base block upon the screw and tighten firmly with Bings' Construction pliers. Then screw a Bar with thread into the base block and tighten it with the round opening of the Pliers (marked "*g*" in the illustration). Then proceed to build the model by means of joints and standard bars, as detailed above.

If a revolving axle should be required this should be put into position **before** fixing the joints in which it revolves.

Generally, it will be well to observe that in order to obtain a firm connection the standard bars should at all times be pushed as far as possible into the joints.

The aluminium rungs and short aluminium tubes are used for representing girder construction work or for making a ladder or balustrade, etc.

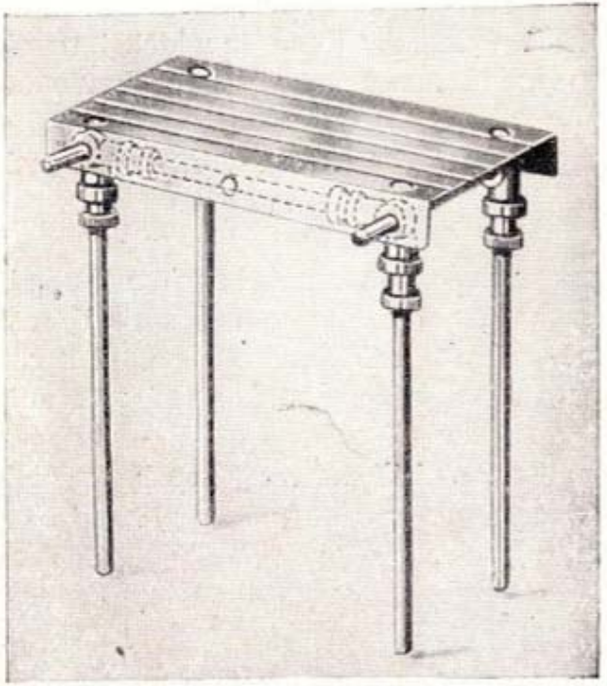
The way they are used is as follows:

Take two standard bars, place them in a parallel line to each other, slip a spring washer upon each and slip both spring washers very near to the end. Then slip a short aluminium tube upon each bar close up to the spring washer. Then take one aluminium rung—place the two holes of the rung over the two standard bars—and slip it along until it comes to rest on the aluminium tubes. Then take two more aluminium tubes, slip them up to the rung, one on each side and so on until the space between the bars is filled out.

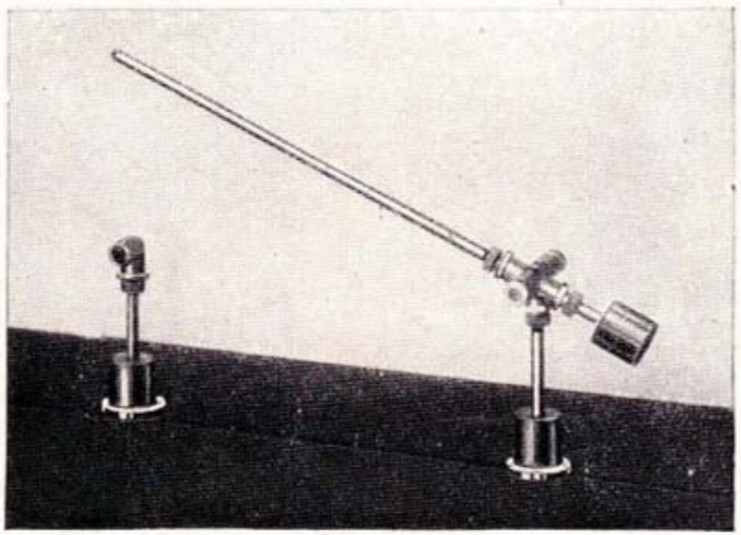
If desired, one tube can be placed on one bar and two tubes on the other so that the rung lies in an oblique position between them. Either way gives a very realistic reproduction of girder work.

The ends of aluminium rungs may be bent in both directions without any trouble.

It can easily be seen from the illustration how the smaller Bings' Construction Set Models are to be built up. For the larger models explicit directions are given in this book, to facilitate their construction.



1



3

Bings' Construction Set No. 1.

No. 1. Table

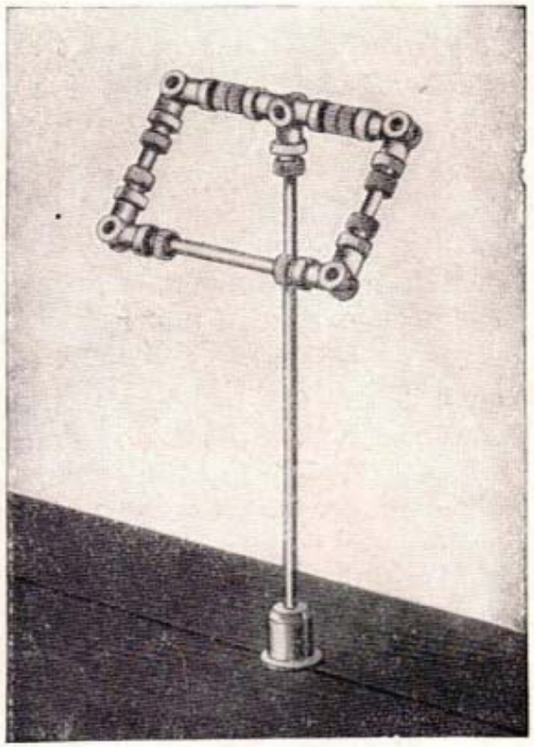
4 Standard Bars 4 in.
4 „ „ $2^{7}/_{8}$ „
4 Angle Joints
8 Wedge Rings
4 Spring Washers
1 Plate bent up on both sides 4×2 in.

No. 2. Music Stand

1 Bar with thread 6 in.
2 Standard Bars $2^{7}/_{8}$ „
2 „ „ $1^{1}/_{2}$ „
4 Angle Joints
1 T Joint
11 Wedge Rings
1 Base Block
1 Fixing Screw
1 Washer

No. 3. Railway Barrier

3 Bars with thread 2 in.
1 Standard Bar 6 „
1 „ „ $1^{1}/_{2}$ „
2 Angle Joints
1 T Joint
1 Spring Washer
5 Wedge Rings
3 Base Blocks
2 Fixing Screws
2 Washers.

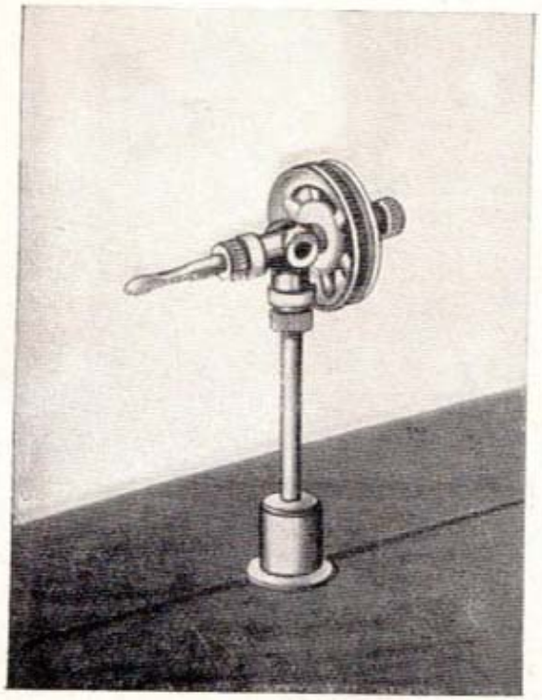


2

Fixing Models upon the Base Board.

1. Slide a square-headed screw into the groove.
2. Slide it to the proper position. (Use a standard bar for doing so.)
3. Put the washer on.
4. Screw on the base block.
5. Tighten the screw with the Bings' Construction pliers.

Bings' Construction Set No. 1.



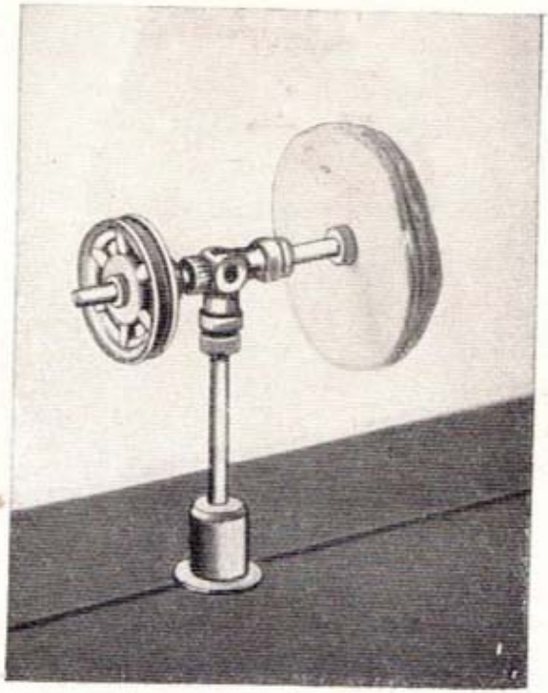
4

No. 4. Horizontal Drilling Machine

1 Bar with thread 2 in.
1 Angle Joint
2 Wedge Rings
1 Spring Washer
1 Base Block
1 Fixing Screw, 1 Washer
1 Pulley Wheel $1^1/_8$ in. diam.
1 small Drill $3^1/_2$ in. long

No. 5. Polishing Machine

1 Bar with thread 2 in.
1 Standard Bar $2^7/_8$,,
1 Angle Joint
2 Wedge Rings
3 Spring Washers
1 Pulley Wheel $1^1/_8$ in. diam.
1 Base Block
1 Fixing Screw, 1 Washer
1 Polishing Buff made up of 10 cloth discs



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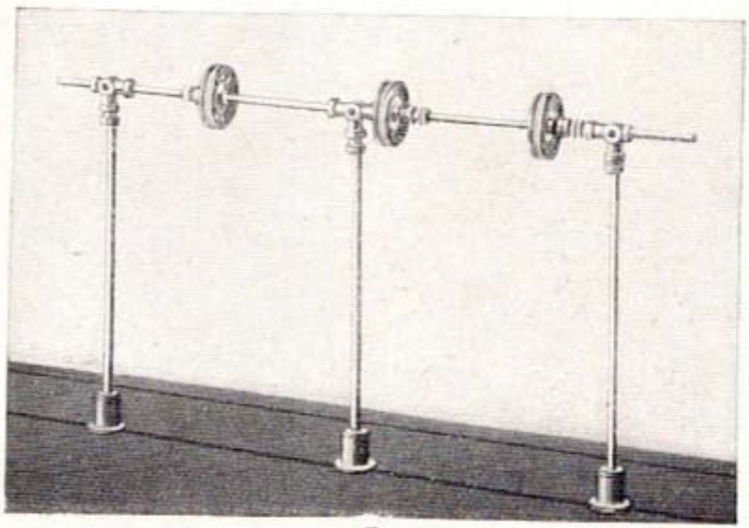

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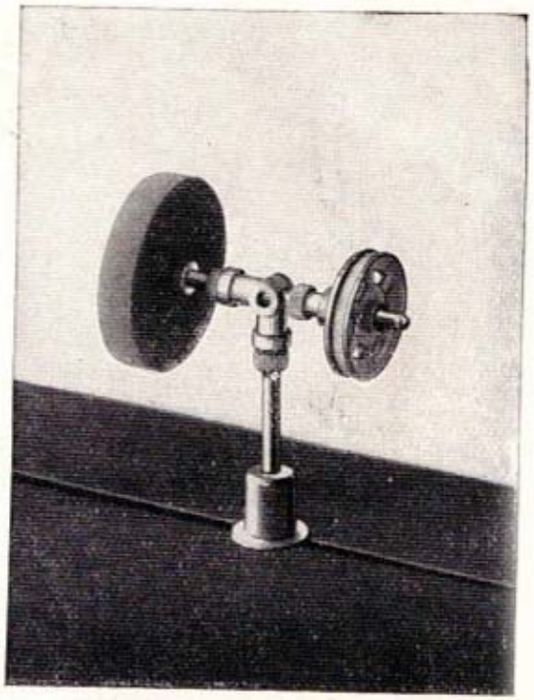


6

No. 6. Scouring Machine

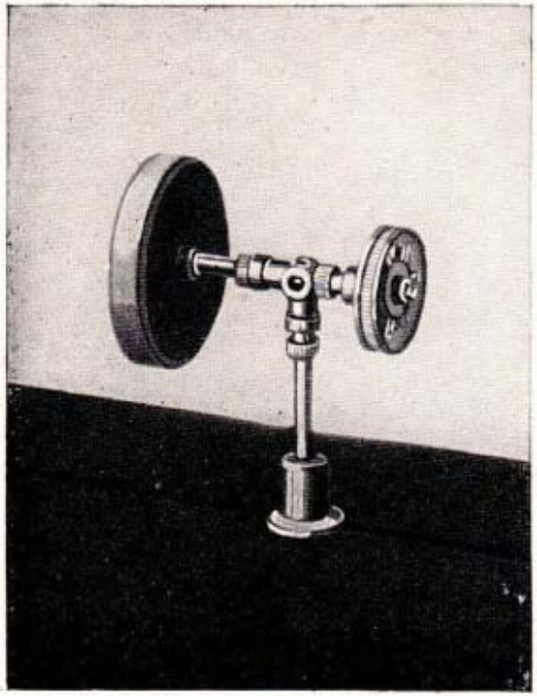
1 Bar with thread 2 in.
1 Standard Bar $2^7/_8$,,
1 Angle Joint
2 Wedge Rings
1 Base Block
1 Fixing Screw, 1 Washer
1 Pulley Wheel $1^1/_8$ in. diam.
1 Scouring Wheel
3 Spring Washers

No. 7. Shafting with Pulleys

3 Bars with thread 6 in.
1 Standard Bar $11^3/_4$,,
1 T-Joint, 2 Angle Joints
6 Wedge Rings
2 Spring Washers
3 Base Blocks
3 Fixing Screws
3 Washers
3 Pulley Wheels $1^1/_8$ in. diam.

When building working models take care that the bar can turn easily within the T or Angle Joint, as the case may be. For this reason it will be well to insert the horizontal bar (which serves as an axle) before tightening the upright bar.

Bings' Construction Set No. 1.



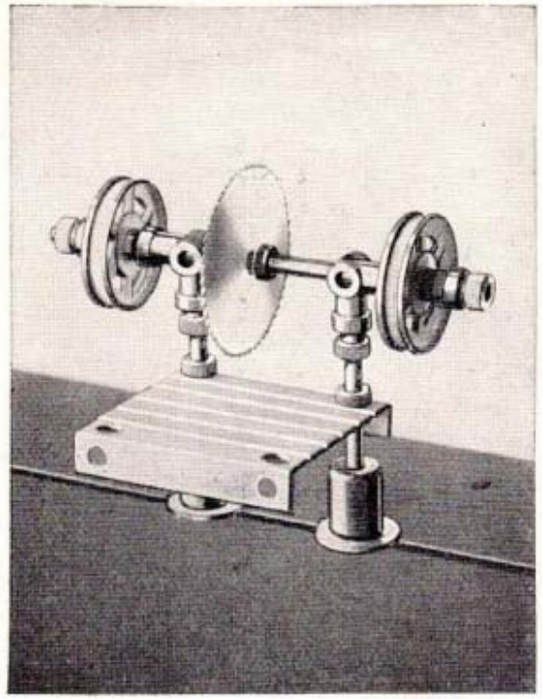
8

No. 8. Polishing Machine

1 Bar with thread 2 in.
1 Standard Bar $2^7/_8$ „
1 Angle Joint
2 Wedge Rings
3 Spring Washers
1 Base Block
1 Pulley Wheel $1^1/_8$ in. diam.
1 Leather Polishing Disc
1 Washer
1 Fixing Screw

No. 9. Circular Saw

2 Bars with thread 2 in.
1 Standard Bar 4 „
2 Angle Joints
5 Wedge Rings
4 Spring Washers
2 Base Blocks
2 Pulley Wheels $1^1/_8$ in. diam.
1 Circular Saw
1 Plate bent up on both sides 2×2 in.
2 Washers, 2 Fixing Screws



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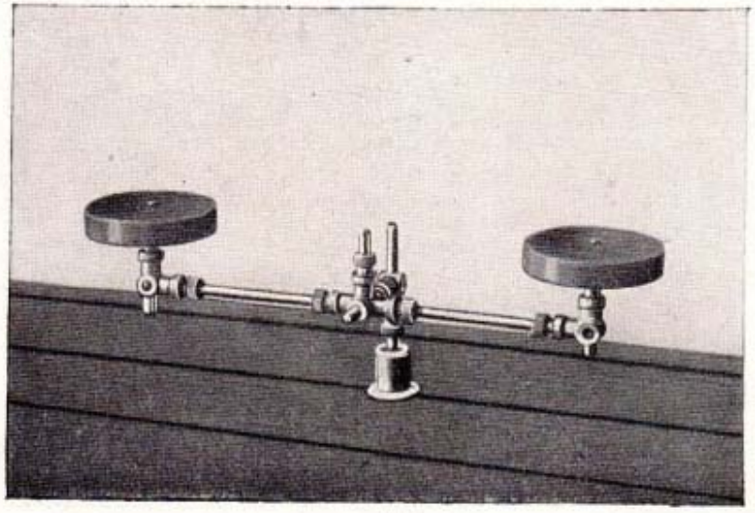
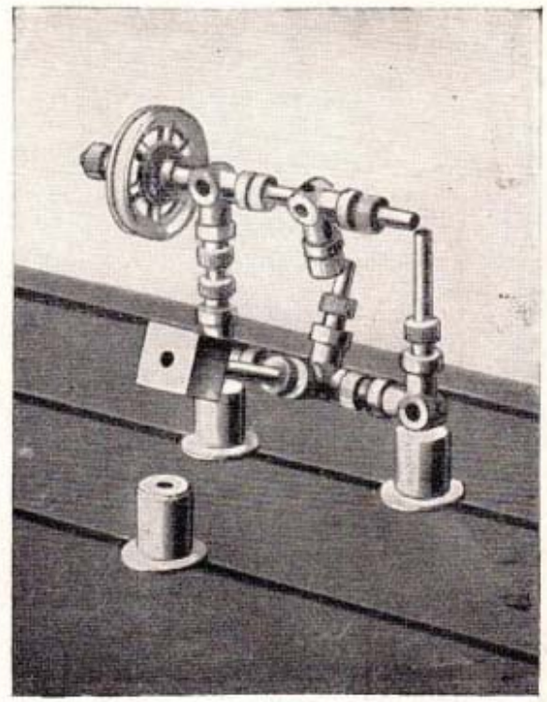


11



10*)

No. 10*). Forge Hammer

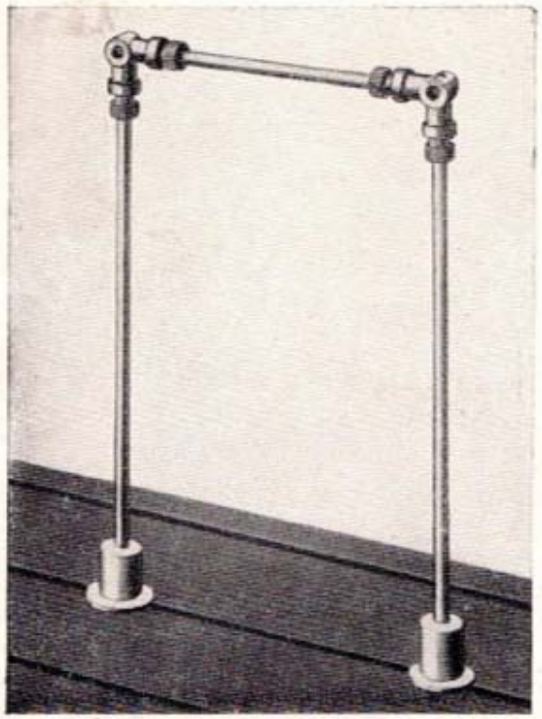
3 Bars with thread 2 in.
1 Standard Bar $2^7/_8$ „
1 „ „ $1^1/_2$ „
1 „ „ 1 „
4 Angle Joints, 1 T Joint
10 Wedge Rings
2 Spring Washers
1 Pulley Wheel $1^1/_8$ in. diam.
1 Hammer, 3 Base Blocks
3 Fixing Screws, 3 Washers

No. 11. Scales

1 Bar with thread 2 in.
2 Standard Bars $2^7/_8$ „
3 „ „ $1^1/_2$ „
1 „ „ 1 „
3 Angle Joints, 1 T Joint
9 Wedge Rings
2 Spring Washers
1 Base Block, 1 Fixing Screw
1 Scouring Wheel } as scale
1 Polishing Disc } trays
1 Washer

***) Note to No. 10. Take care that the angle joint which causes the hammer to lift, strikes exactly against the lever bar, pushing the latter gently backwards thus raising the hammer. The pulley wheels should always be firmly fixed.**

Bings' Construction Set No. 1.



12

No. 12. Horizontal Bar

2 Bars with thread 6 in.
1 Standard Bar 4 „
2 Angle Joints
4 Wedge Rings
2 Base Blocks
2 Washers
2 Fixing Screws

No. 13. Garden Gate

2 Bars with thread 2 in.
2 Standard Bars 2⅝ „
1 „ „ 1½ „
4 Angle Joints
6 Wedge Rings
2 Base Blocks
2 Fixing Screws
4 Rungs
6 Short Tubes for filling out intervals
2 Washers

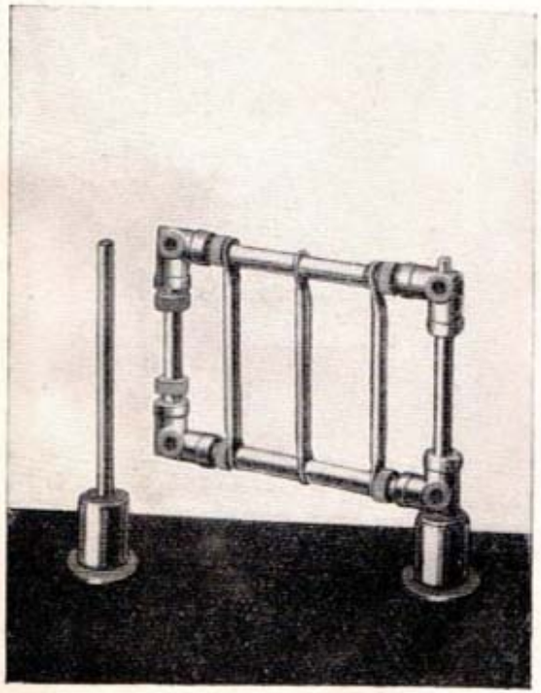
No. 14. Climbing Pole

1 Bar with thread 6 in.
1 Standard Bar 11¾ „
1 „ „ 1½ „
2 Angle Joints
3 Wedge Rings
1 Base Block
1 Fixing Screw
1 Washer

No. 15. Ladder

2 Standard Bars 4 in.
4 Spring Washers
6 Rungs
10 Short Tubes for filling out intervals

The use of rungs necessitates the employment of the short tubes (to hold the rungs away from each other at the right distance.)
See especially No. 15, which illustrates the use of short tubes.



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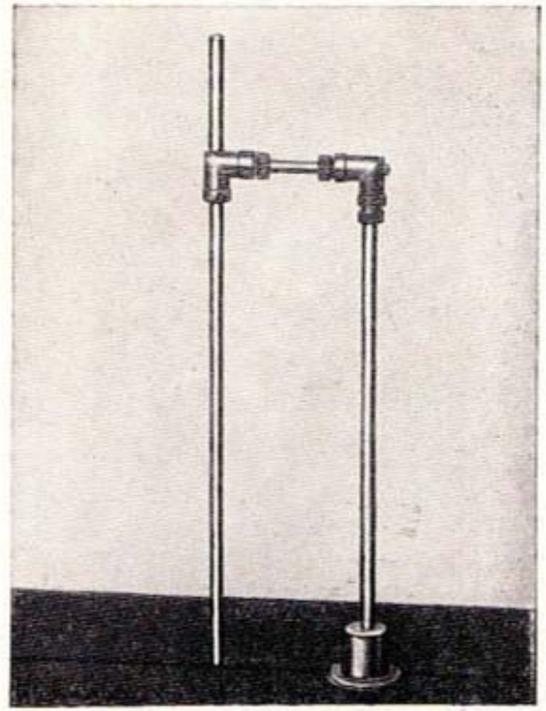

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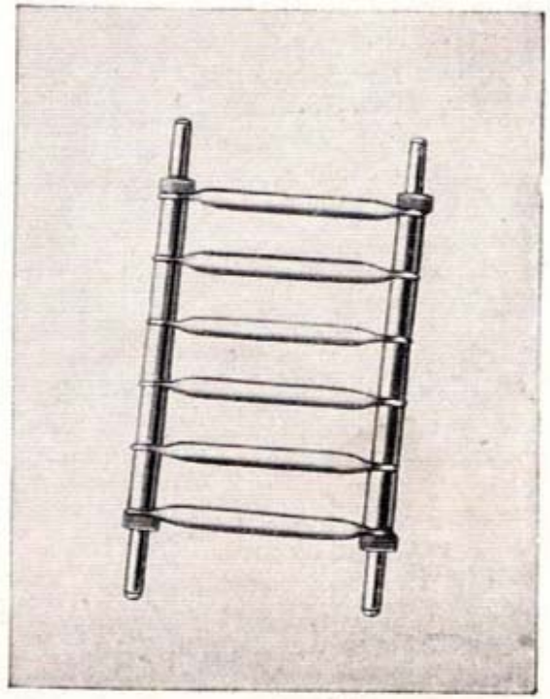

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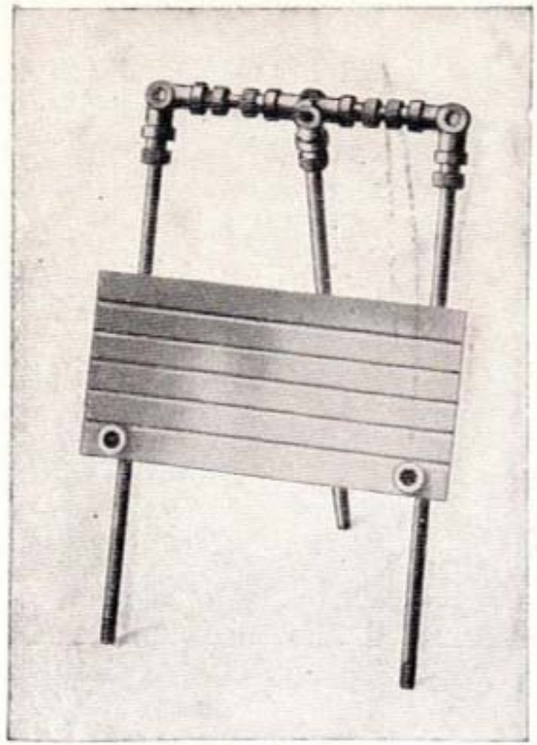


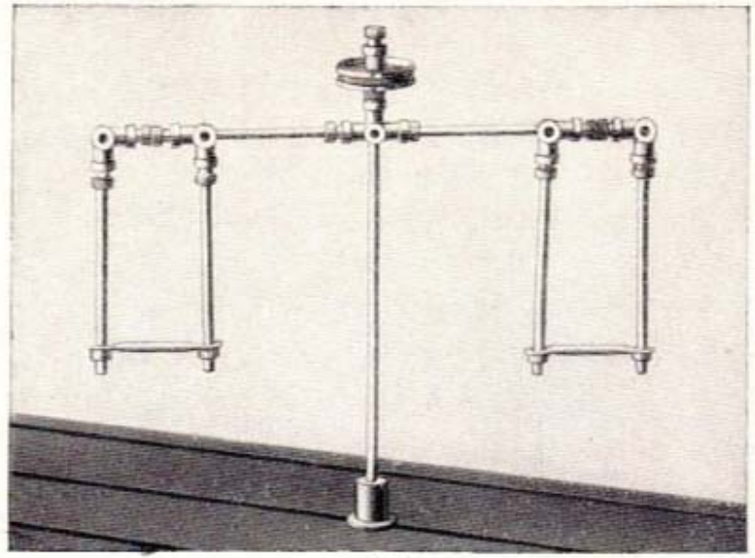
16

No. 16. Easel

3 Bars with thread 6 in.
1 Standard Bar $2^{7}/_{8}$ in.
4 Angle Joints
1 T Joint
11 Wedge Rings
1 Plate bent up on both sides 4×2 in.

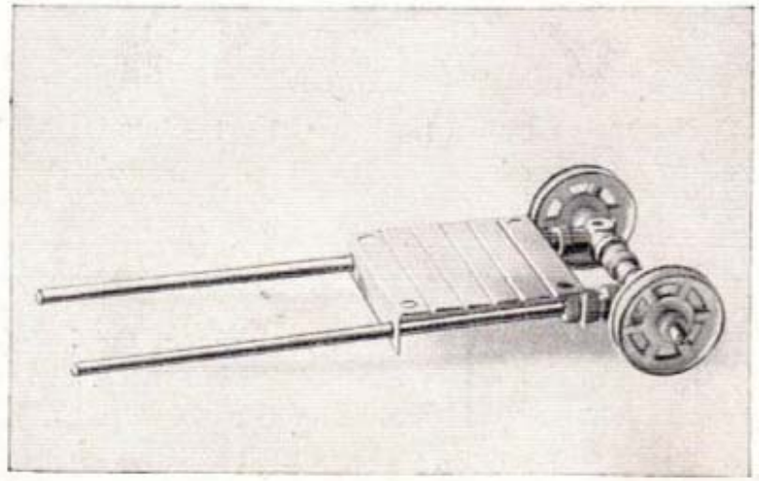
No. 17. American Revolving Swing

1 Bar with thread 6 in.
2 Standard Bars 4 ,,
4 ,, ,, $2^{7}/_{8}$,,
1 ,, ,, $1^{1}/_{2}$,,
4 Angle Joints, 1 T Joint
12 Wedge Rings
4 Spring Washers
1 Base Block
1 Fixing Screw
1 Pulley Wheel $1^{1}/_{8}$ in. diam.
2 Rungs
1 Washer



17

Spring washers should be used wherever a freely turning part is to be kept from sliding out of position. No. 17 and 18 may be mentioned as instances where these spring washers hold the rungs (used as horizontal bars) and No. 19 where they hold the wheels in position.



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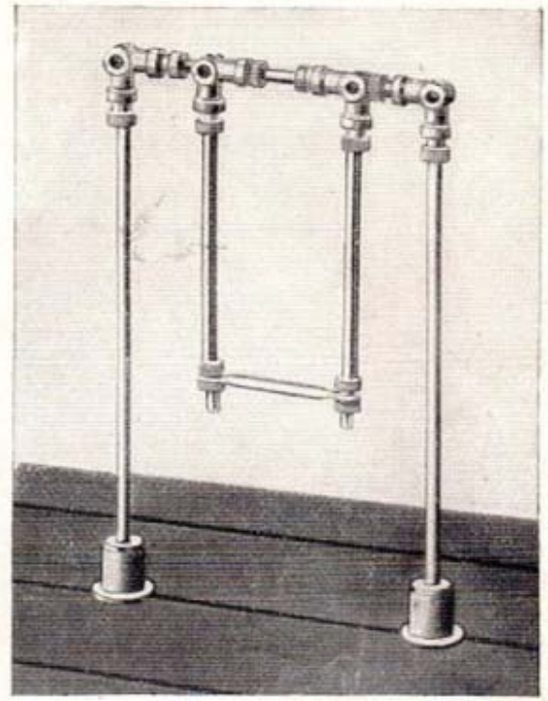


18

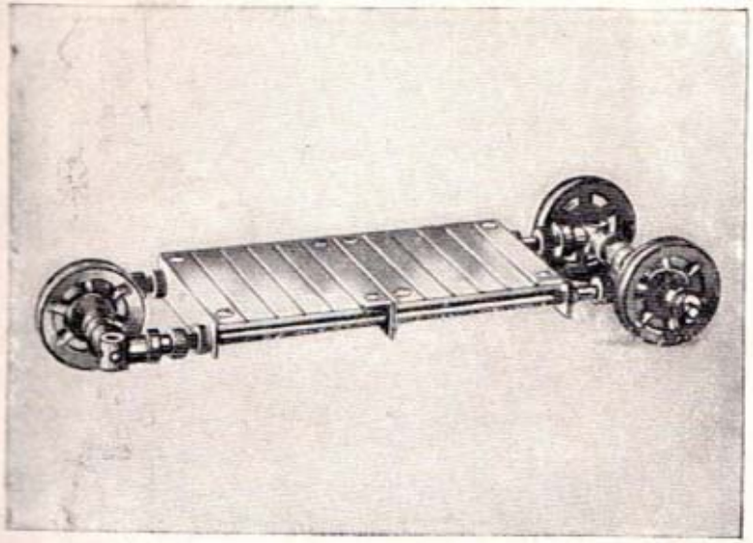
No. 18. Swing

2 Bars with thread 6 in.
3 Standard Bars 4 ,,
4 Angle Joints
6 Wedge Rings
6 Spring Washers
2 Base Blocks
2 Fixing Screws
1 Rung
2 Washers

No. 19. Two-Wheeled Truck

2 Bars with thread 6 in.
1 Standard Bar $3^{1}/_{2}$,,
2 Angle Joints
4 Wedge Rings
4 Spring Washers
2 Pulley Wheels $1^{1}/_{8}$ in. diam.
1 Plate bent up on both sides 2×2 in.

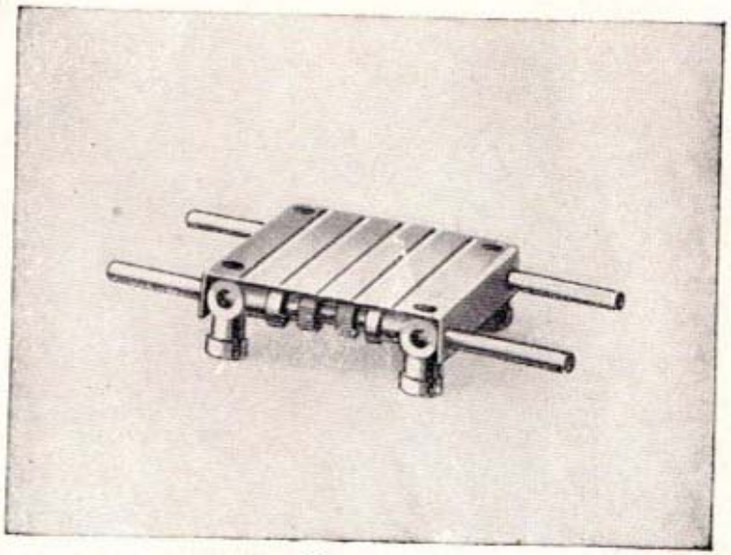
Bings' Construction Set No. 1.



20

No. 20.
Three-Wheeled Truck

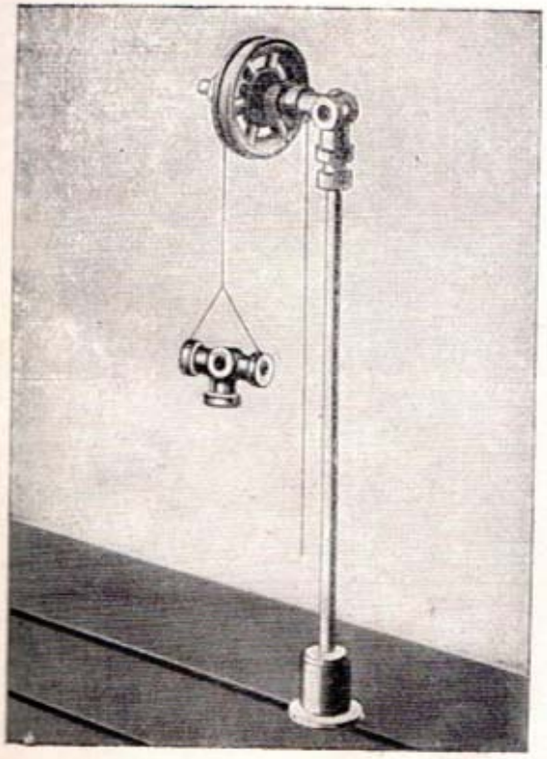
2 Bars with thread 6 in.
1 Standard Bar $3\frac{1}{2}$ „
1 „ „ $1\frac{1}{2}$ „
4 Angle Joints
6 Wedge Rings
6 Spring Washers
3 Pulley Wheels $1^1/_8$ in. diam.
2 Plates, bent up on both sides 2×2 in.



21

No. 21. Stretcher

2 Standard Bars 4 in.
4 Angle Joints
4 Wedge Rings
1 Plate, bent up on both sides 2×2 in.

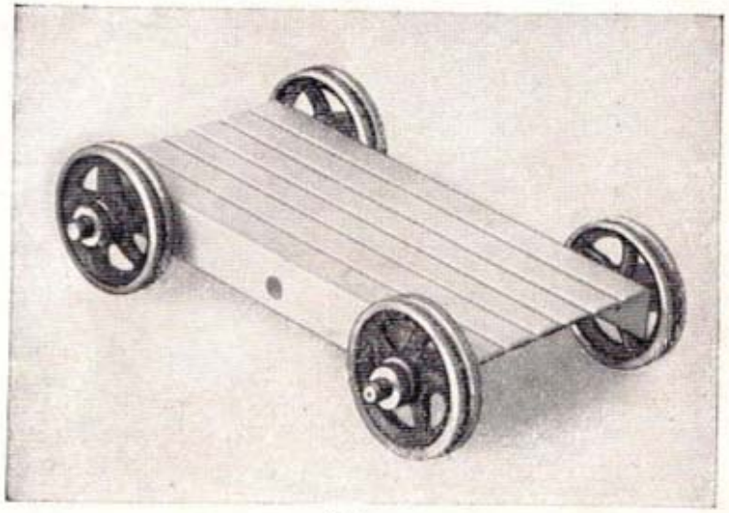


22

No. 22. Lifting Tackle

1 Bar with thread 6 in.
1 Standard Bar $1\frac{1}{2}$ „
1 Angle Joint
2 Wedge Rings
1 Spring Washer
1 Base Block
1 Fixing Screw
1 Pulley Wheel $1^1/_8$ in. diam.
1 Washer
Driving Band 8 in. long

Weights for Cranes and Lifting Hoists may be chosen from any of the articles contained in the Bings' Construction Set. In No. 22, for instance, we use a T-joint.

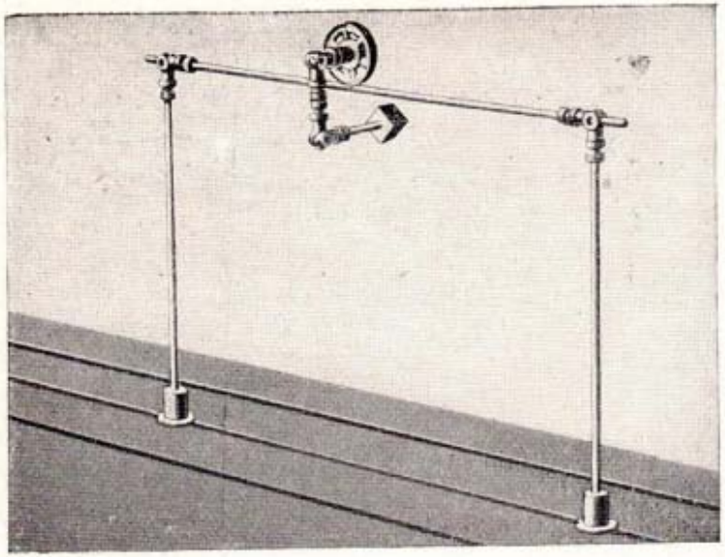


23

No. 23. Station Truck

2 Standard Bars $3\frac{1}{2}$ in.
4 Wheels $1^1/_8$ in. diam.
1 Plate, bent up on both sides 4×2 in.
4 Spring Washers

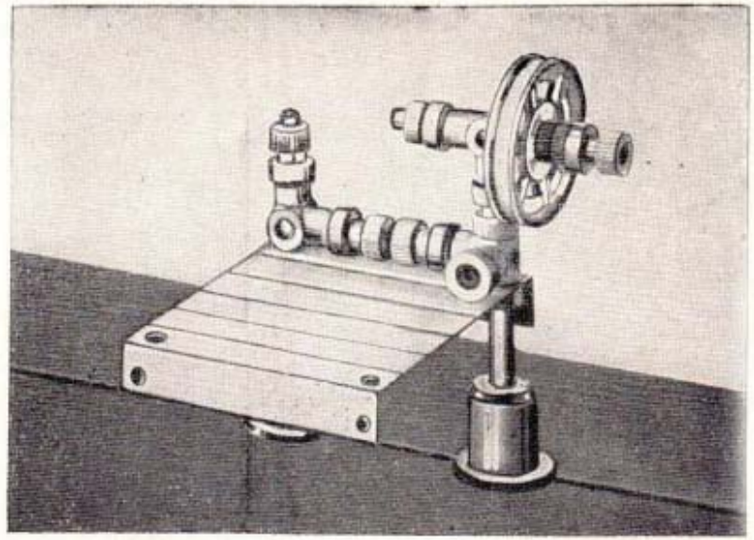
Bings' Construction Set No. 1.



24

No. 24.
Suspension Carrying Gear

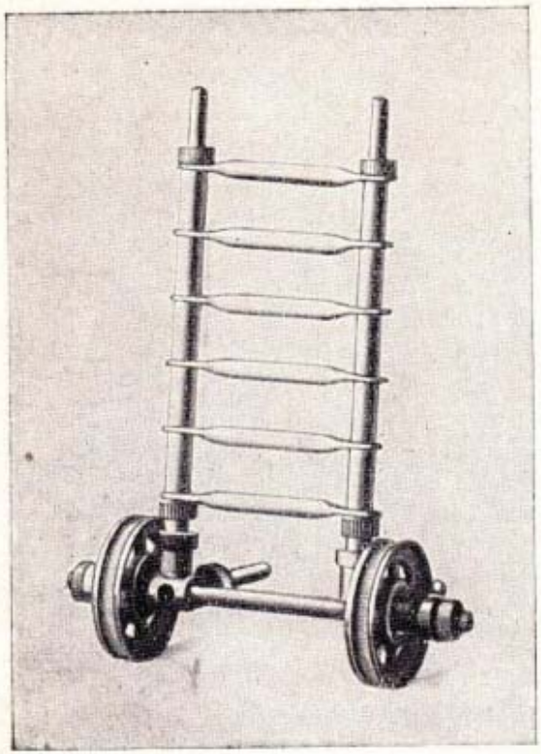
2 Bars with thread 6 in.
1 Bar „ „ 2 „
1 Standard Bar $11^3/_4$ „
2 „ „ $1^1/_2$ „
4 Angle Joints
8 Wedge Rings
1 Spring Washer
2 Base Blocks
1 Pulley Wheel $1^1/_8$ in. diam.
1 Hammer
2 Washers
2 Fixing Screws



26

No. 25.
Small Fire Ladder

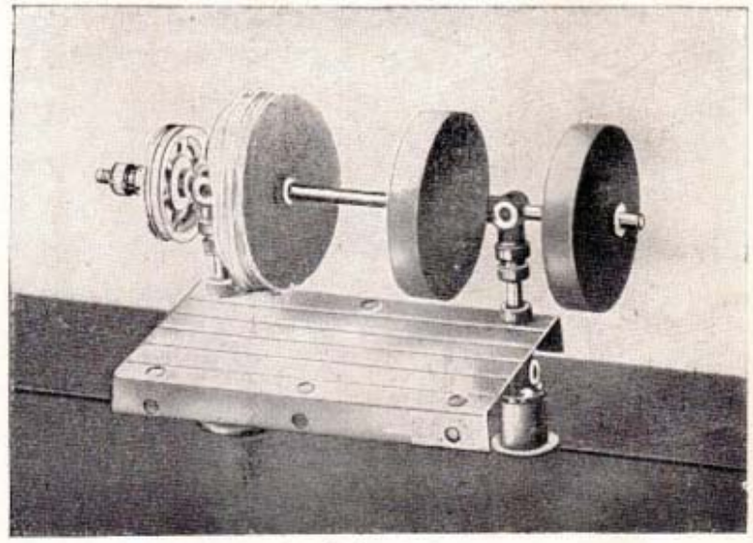
2 Standard Bars 4 in.
1 „ „ $3^1/_2$ „
2 „ „ $1^1/_2$ „
2 Angle Joints
4 Wedge Rings
4 Spring Washers
2 Wheels $1^1/_8$ in. diam.
6 Rungs
10 Short Tubes for filling out intervals



25

No. 26. Small Lathe

2 Bars with thread 2 in.
1 Standard Bar $1^1/_2$ „
1 „ „ 1 „
3 Angle Joints
5 Wedge Rings
3 Spring Washers
2 Base Blocks
1 Pulley Wheel $1^1/_8$ in. diam.
1 Plate, bent up on both sides 2×2 in
2 Washers
2 Fixing Screws



27

No. 27.
Double Polishing Machine

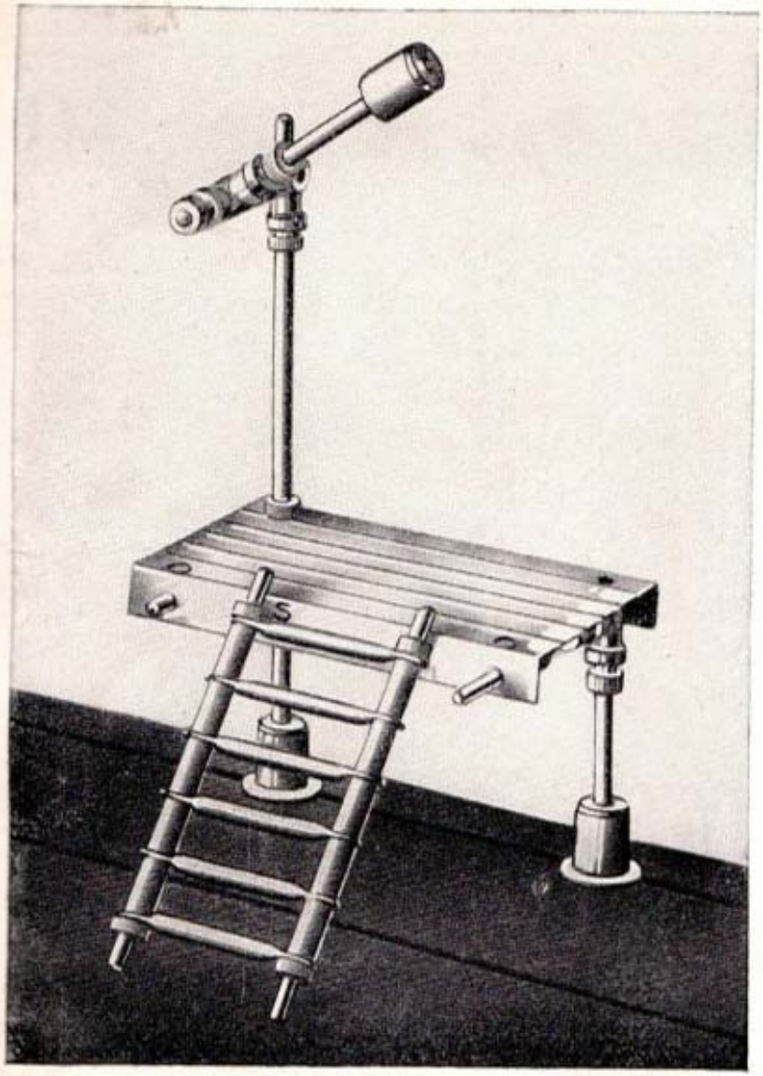
1 Bar with thread 6 in.
2 „ „ „ 2 „
4 Angle Joints
5 Wedge Rings
6 Spring Washers
2 Base Blocks
2 Fixing Screws
1 PulleyWheel $1^1/_8$ in. diam.
1 Leather Polishing Pad
1 Polishing Pad
1 Emery Wheel
1 Plate, bent up on both sides 4×2 in.
2 Washers

Bent up aluminium plates may be used as tabie tops and fixed in two different ways upon the vertical bars.

1. by using spring washers to support the plate as in Fig. 26 or

2. by using T or angle joints as supports, as in Fig. 27, by employing wedge rings which pass through the top holes of the plate.

Bings' Construction Set No. 1.



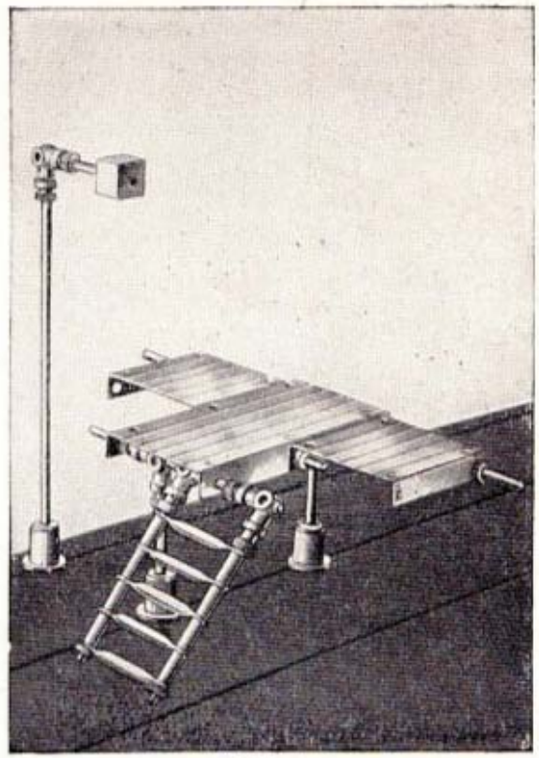
28*)

No. 28*). Signalling Platform

1 Bar with thread 6 in.
2 Bars " „ 2 „
2 Standard Bars 4 „
2 „ „ 2 „
1 „ „ 1½ „
4 Angle Joints
8 Wedge Rings
6 Spring Washers
3 Base Blocks
2 Fixing Screws
2 Washers
6 Rungs
10 Short Tubes for filling out intervals
1 Plate, bent up on both sides 4×2 in.

No. 29*). Goods Platform

1 Bar with thread 6 in.
3 „ „ „ 2 „
3 Standard Bars 4 „
3 „ „ 2⅞ „
4 Angle Joints
1 T Joint
10 Wedge Rings
4 Spring Washers
3 Base Blocks
3 Washers
3 Fixing Screws
5 Rungs
8 Short Tubes for filling out intervals
1 Plate bent up on both sides 4×2 in.
2 Plates bent up on both sides 2×2 in.
1 Hammer head (representing lantern)



29*)

*) **No. 28. Signalling Platform**—Fasten two base blocks upon the wooden base-board at a distance of 3⅛ in. and screw two bars one 2 in. and the other 6 in. in length into these. Fix an Angle Joint upon each of these bars at an equal height. Into these two joints fix two bars, 2 in. long, horizontally towards you, and upon these a plate of 4×2 in is fastened by means of spring washers. At the end of the 6 in. bar we again fix an angle joint holding another bar 1½ in. in length. Upon this horizontal bar we fix another angle joint which carries the signal consisting of a base block and a 2 in. bar with thread. By means of a wedge ring we can adjust the signal at any angle. The ladder is made as in Fig. 15 and leans against the bridge.

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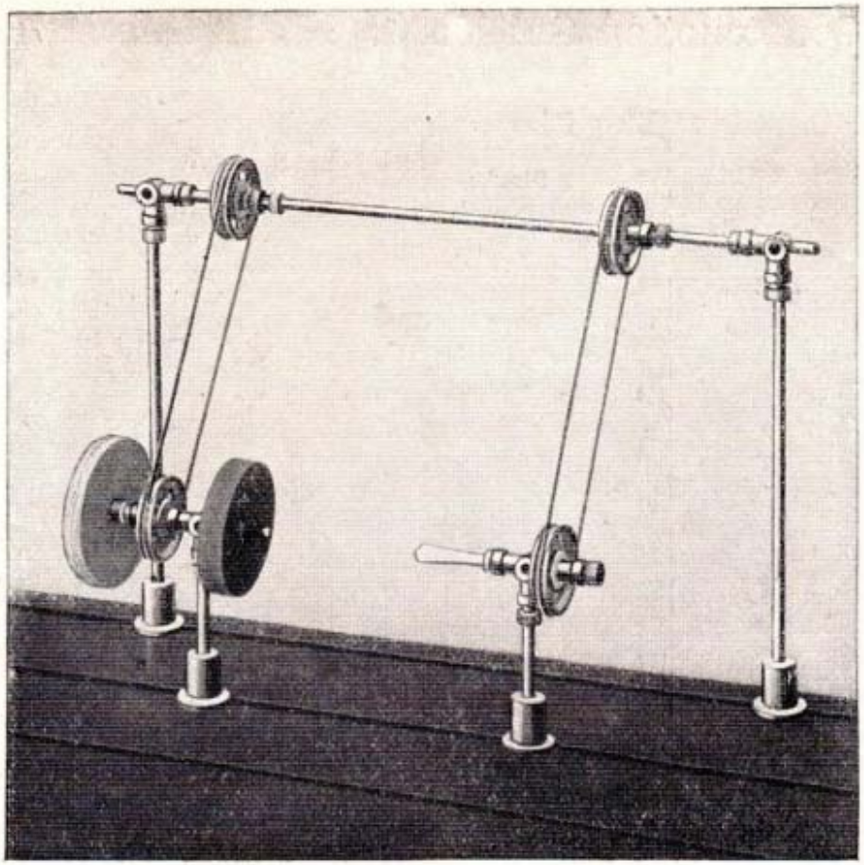
*) **No. 29. Goods Platform.** First fix two base blocks into a groove in the base-board at a distance of 3⅛ in. apart, then fix two 2 in. bars with thread firmly into the base blocks and on the one bar an angle joint and on the other a T joint. Into the T joint fix a further two bars 4 in. long and parallel to these wedge another 4 in. bar through the angle joint. The three bars are to be wedged firmly in after the plate measuring 4×2 in. has been fastened to the bars in such a way that the joints come between the bent edges of the plate (see illustr.). The two plates measuring 2×2 are to be wedged upon the 4 in. bar of the T-joint on either side of the large plate and held in a horizontal position by a 2⅞ in. bar. The latter is to be fixed through the middle holes in the large plate. The picture plainly indicates how the ladder and lamp are to be constructed.



30

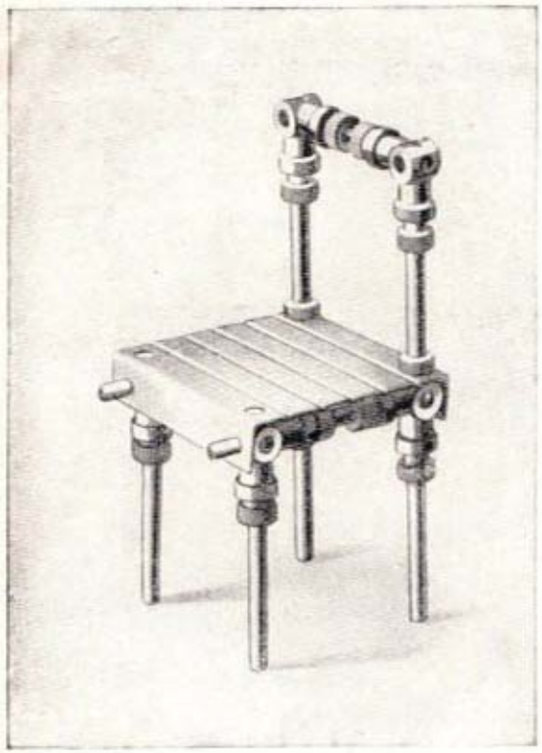
No. 30. Factory No. 1.

2 Bars with thread 6 in.	4 Base Blocks
2 Bars with thread 2 in.	4 Fixing Screws
1 Standard Bar $11^{3}/_{4}$ in.	4 Pulley Wheels $1^{1}/_{8}$ in. diam.
1 Standard Bar $2^{7}/_{8}$ in.	1 Leather Disc
4 Angle Joints	1 Polishing Pad
8 Wedge Rings	1 Small Drill $3^{1}/_{2}$ in. long
6 Spring Washers	4 Washers
	2 Driving Bands 10 in. long

First two bars with thread 6 in. long are fixed by means of the base blocks upon the wooden boards at a distance of $9^{3}/_{4}$ in. and upon each an angle joint is fixed, through which a long bar is introduced which revolves lightly within these joints. Laterally the long bar is held in position by 2 spring washers, as can be seen from the illustration. Nos. 4 and 5, or 5 and 6 may be taken as working Models.

With the 30 models enumerated, we conclude the first series of models for Set No. 1. By means of the material contained in Set No. 1 the young architect may construct models evolved from his own imagination, and it is just this almost limitless variety of subjects which may be made which teaches the child to think out for himself the construction of other models, and he will find that with the parts he has in his box and other single parts which can be purchased, he can continue to produce new and original structures.

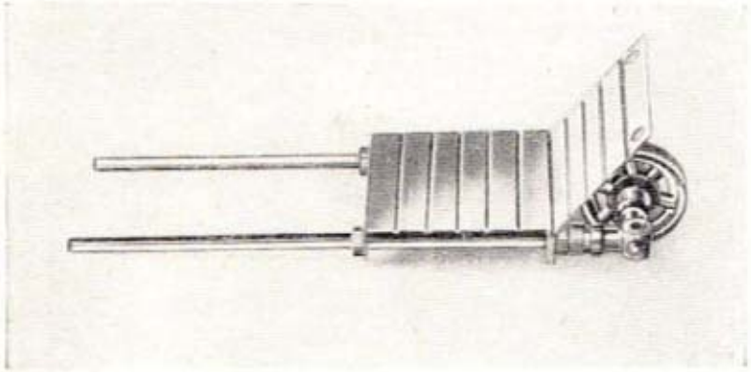
Models from Bings' Construction Set No. 2 or from No. 1 and 1a.



32

No. 32. Chair

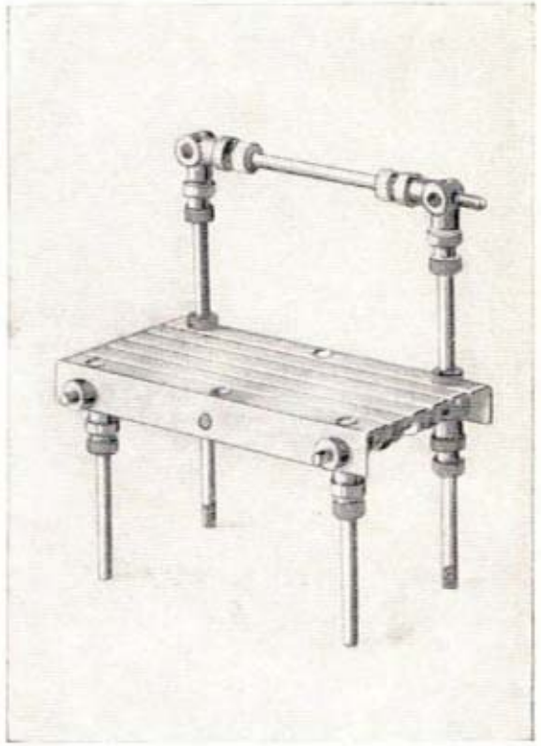
2 Standard Bars 4 in.
5 ,, ,, 2 ,,
6 Angle Joints
12 Wedge Rings
2 Spring Washers
1 Plate bent up on both sides 2×2 in.



31

No. 31. Trolley

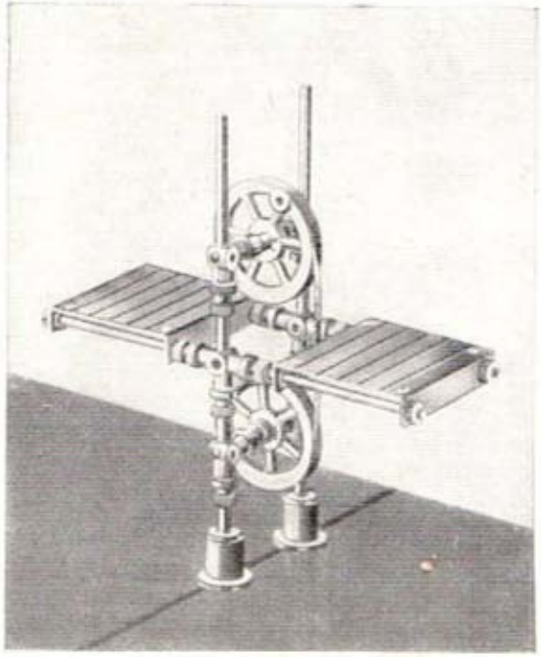
2 Standard Bars 6 in.
1 ,, ,, 2 ,,
2 Angle Joints
2 Wedge Rings
5 Spring Washers
1 Pulley Wheel $1^1/_8$ in. diam.
1 Plate bent up on both sides 2×2 in.
1 Plate, flat 2×2 in.



33

No. 33. Garden Seat

3 Standard Bars 4 in.
4 ,, ,, 2 ,,
6 Angle Joints
12 Wedge Rings
4 Spring Washers
1 Plate bent up on both sides 4×2 in.



34

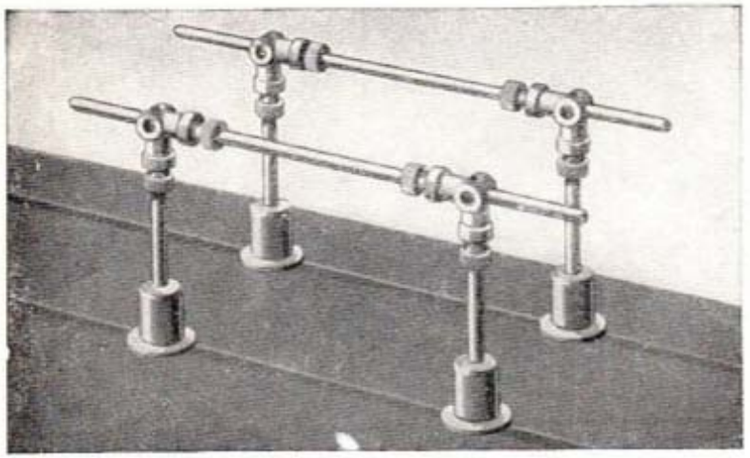
No. 34. Band Saw

2 Bars with thread 6 in.
4 Standard Bars $2^1/_8$ in.
2 ,, ,, 1 ,,
2 T Joints
4 Angle Joints
10 Wedge Rings
6 Spring Washers

No. 34. Band Saw.

2 Base Blocks
2 Plates bent up on both sides 2×2 in.
1 Band Saw Blade
2 Band Saw Pulley Wheels
2 Washers
2 Fixing Screws

Models from Bings' Construction Set No. 2 or from No. 1 and 1a.



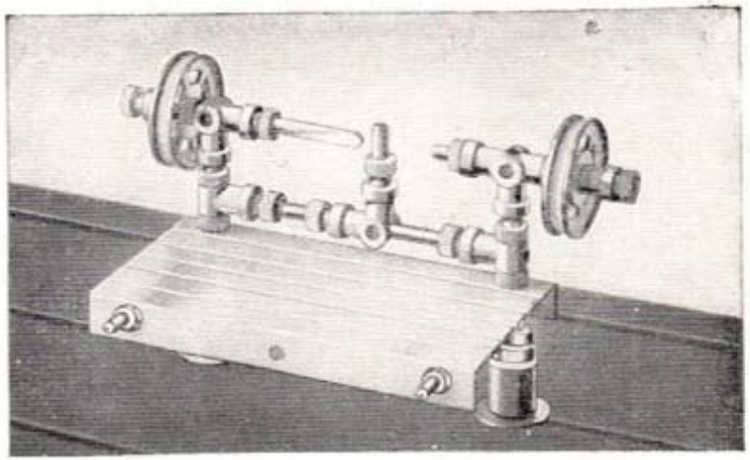
35

No. 35.
Parallel Horizontal Bars

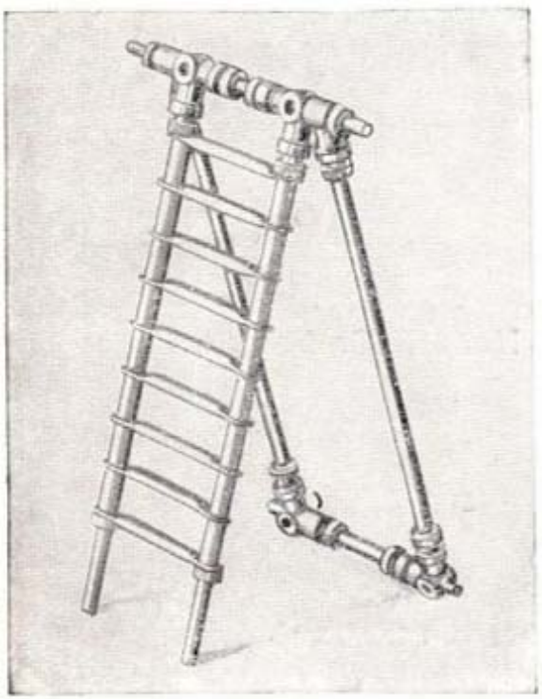
4 Bars with thread 2 in.
2 Standard Bars 6 „
4 Angle Joints
8 Wedge Rings
4 Base Blocks
4 Washers
4 Fixing Screws

No. 36.
Centring Machine

2 Bars with thread 2 in.
1 Standard Bar $2^{7}/_{8}$ „
3 „ „ 2 „
1 „ „ 1 „
4 Angle Joints 1 T Joint
2 Straight Joints
2 Base Blocks
12 Wedge Rings
4 Spring Washers
2 Pulley Wheels $1^{1}/_{8}$ in. diam.
2 Fixing Screws
1 Drill $3^{1}/_{2}$ in. long
1 Plate bent up on both sides 4×2 in.
2 Washers



36



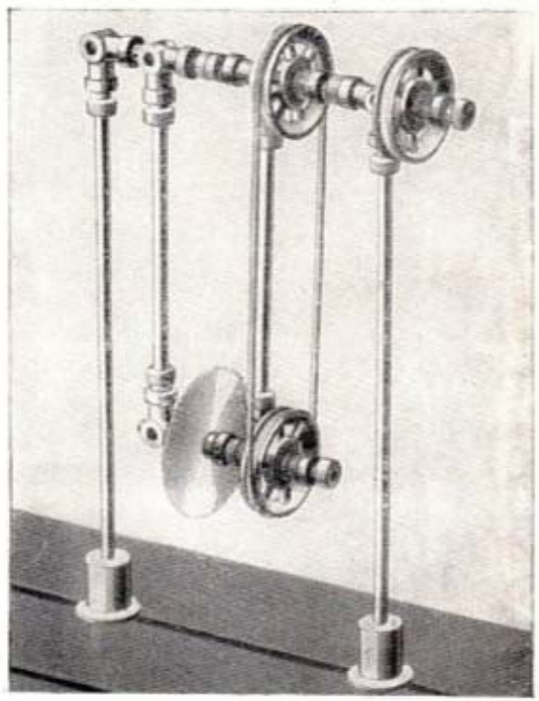
37

No. 37. Step Ladder

4 Standard Bars 6 in.
1 „ „ $3^{1}/_{2}$ „
1 „ „ $2^{7}/_{8}$ „
4 Angle Joints
2 Straight Joints
10 Wedge Rings
4 Spring Washers
10 Rungs
18 Short Tubes for filling out intervals

No. 38. Pendulum Saw

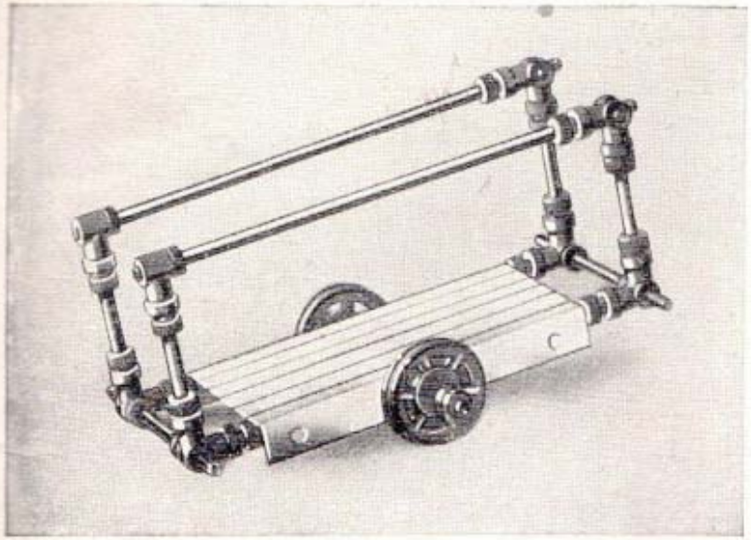
2 Bars with thread 6 in.
1 Standard Bar $4^{3}/_{4}$ „
2 „ „ 4 „
1 „ „ $2^{3}/_{8}$ „
6 Angle Joints
2 Base Blocks
2 Fixing Screws
10 Wedge Rings
2 Spring Washers
3 Pulley Wheels
1 Circular Saw 2 Washers
Driving Band, 9 in. long



38*)

*) No. 38. In this model the rotating motion of the longer bar has to be communicated to a shorter one which swings upon it. Erect two uprights 6 in. in length upon the board at a distance of $3^{1}/_{8}$ in. from each other and fasten an angle joint on the top of each in which a bar of $4^{3}/_{4}$ in. in length easily revolves. Upon the latter bar there are, between the joints which carry it, a wheel (wedged tightly), two angle joints (loose), and two spring washers to hold these in position. A bar 4 in. long is fixed upon each of these angle joints and at the end of the bar there are two further angle pieces in which a $2^{3}/_{8}$ in. bar with a pulley wheel (wedged tightly) turns easily. The circular saw is fixed upon the bar between these angle joints by means of a wedge ring.

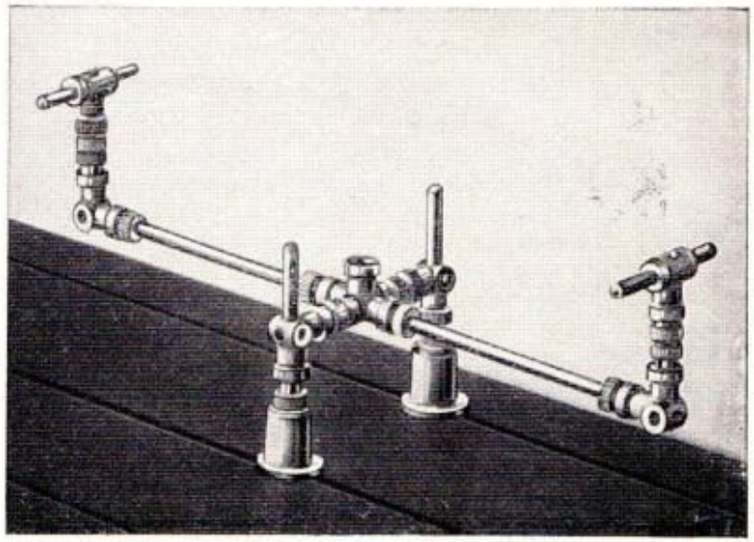
Models from Bings' Construction Set No. 2 or from No. 1 and 1a.



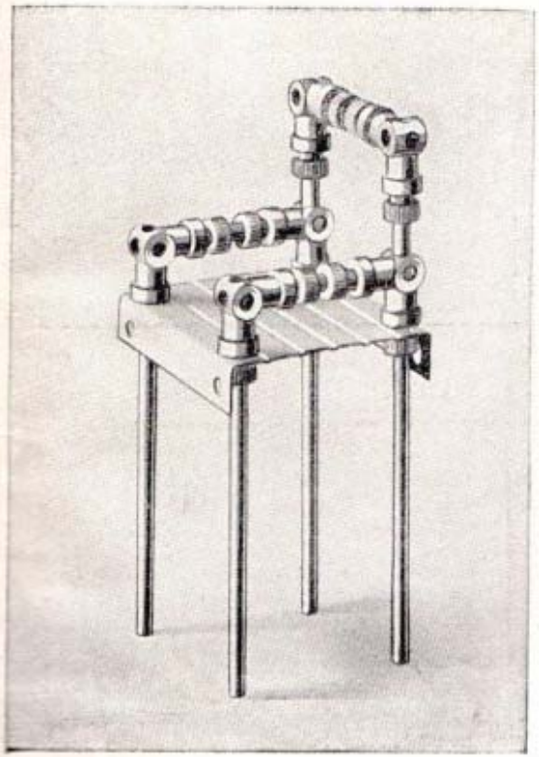
39

No. 39. Ship's Gangway

2 Standard Bars 6 in.
2 „ „ $4^3/_4$ „
1 „ „ $3^1/_2$ „
2 „ „ $2^7/_8$ „
4 „ „ 2 „
14 Wedge Rings
6 Angle Joints
2 Straight Joints
8 Spring Washers
2 Wheels
$1^1/_8$ in. diam.
1 Plate bent up on both sides 4×2 in.



41



40

No. 40. Baby Chair

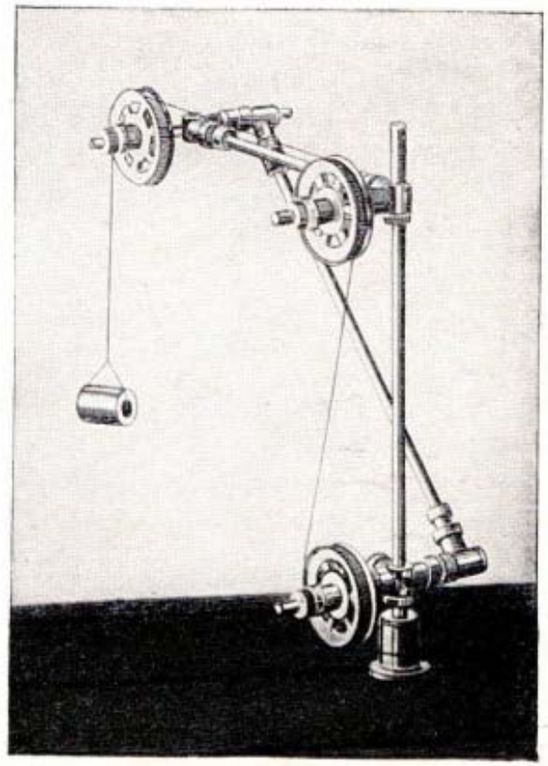
2 Standard Bars $4^3/_4$ in.
2 „ „ $3^1/_2$ „
1 „ „ 2 „
2 „ „ $1^1/_2$ „
6 Angle Joints
12 Wedge Rings
1 Plate bent up on both sides 2×2 in.

No. 41. See-Saw

2 Bars with thread 2 in.
2 Standard Bars 4 „
1 „ „ 2 „
2 „ „ $1^1/_2$ „
2 „ „ 1 „
4 Angle Joints, 1 T Joint
2 Straight Joints
12 Wedge Rings
2 Base Blocks
2 Washers
6 Spring Washers
2 Fixing Screws

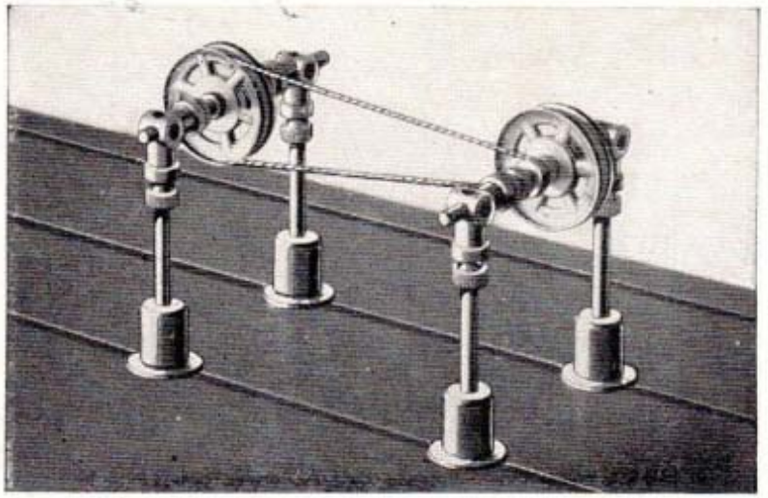
No. 42. Revolving Crane

1 Bar with thread 6 in.
1 Standard Bar 6 „
1 „ „ 4 „
1 „ „ $2^7/_8$ „
2 „ „ $1^1/_2$ „
1 „ „ 1 „
2 Angle Joints, 1 T Joint
2 Straight Joints
8 Wedge Rings
7 Spring Washers
1 Base Block
1 Washer
3 Pulley Wheels
$1^1/_8$ in. diam.
1 Fixing Screw
Driving Band 20 in. long



42

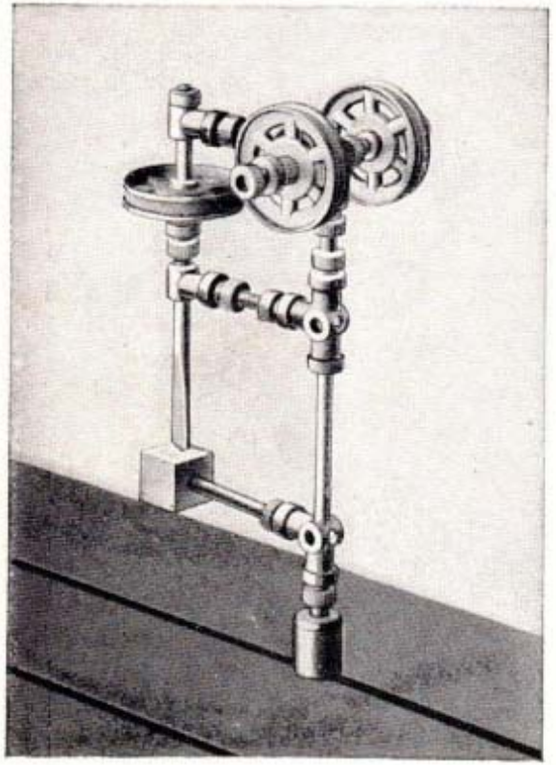
Models from Bings' Construction Set No. 2 or from No. 1 and 1a.



43

No. 43. Two-Speed Pulley

4 Bars with thread 2 in.
2 Standard Bars $2^7/_8$ „
4 Angle Joints
6 Wedge Rings
4 Spring Washers
4 Base Blocks
2 Pulley Wheels $1^1/_8$ in. diam.
4 Washers
4 Fixing Screws
Driving Band $9^1/_2$ in. long



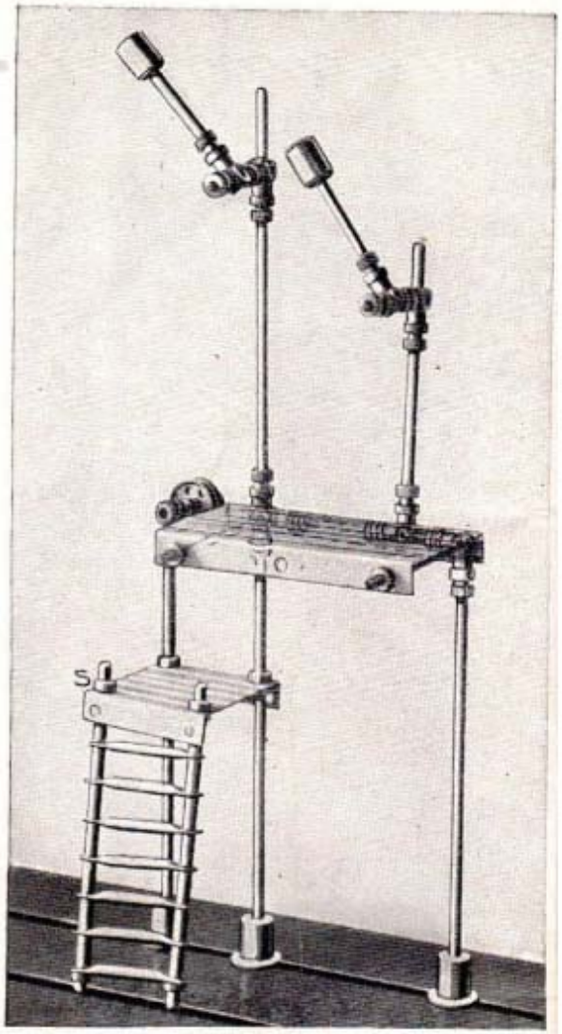
44

No. 44. Drilling Machine

1 Bar with thread $4^3/_4$ in.
1 „ „ „ 2 „
1 Standard Bar 2 „
2 „ „ $1^1/_2$ „
1 Drill $3^1/_2$ in.
2 Angle Joints, 1 T Joint
2 Straight Joints
11 Wedge Rings
3 Spring Washers
1 Base Block 1 Washer
1 Fixing Screw
1 Hammer
3 Pulley Wheels $1^1/_8$ in. diam.

No. 45. Railway Signal

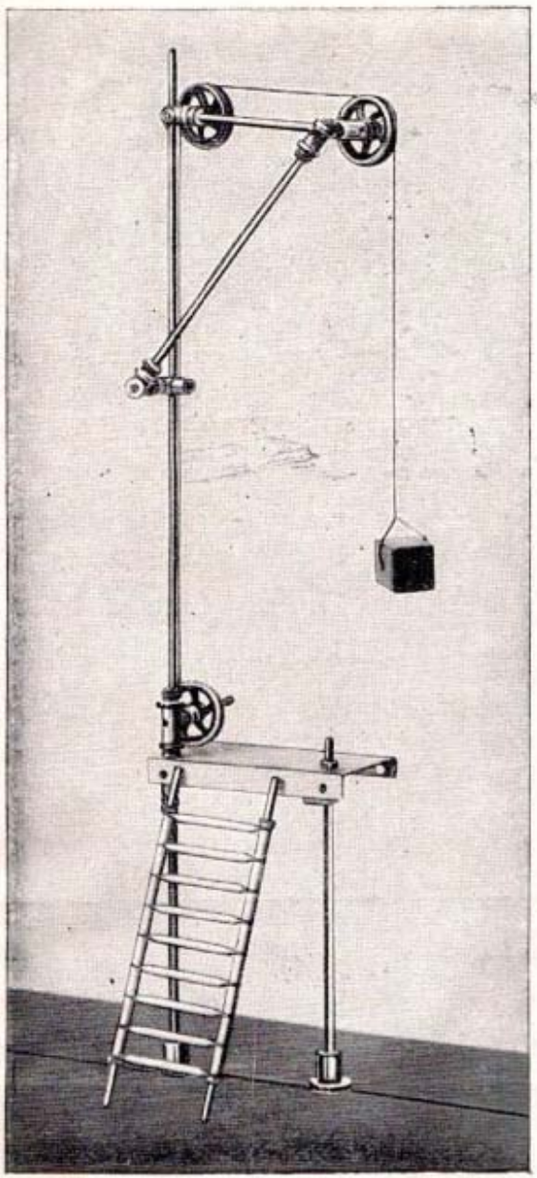
3 Bars with thread 6 in.
2 „ „ „ 2 „
1 Standard Bar 6 „
1 „ „ 4 „
2 „ „ $4^3/_4$ „
3 „ „ $2^7/_8$ „
2 „ „ $1^1/_2$ „
1 „ „ 1 „
1 T Joint, 6 Angle Joints
1 Straight Joint
5 Base Blocks
17 Wedge Rings
12 Spring Washers
1 Pulley Wheel $1^1/_8$ in. diam.
8 Rungs
14 Short Tubes for filling out intervals
1 Plate bent up on both sides 2×2 in.
1 Plate bent up on both sides 4×2 in.
3 Washers
3 Fixing Screws



45

*) **No. 45. This is a very simple construction, but care must be exercised to choose exact distances between the base blocks according to the measurements to be taken between the holes in the plates. It is advisable not to fix the base blocks firmly until the model is finished, so that the distance may be altered if necessary.**

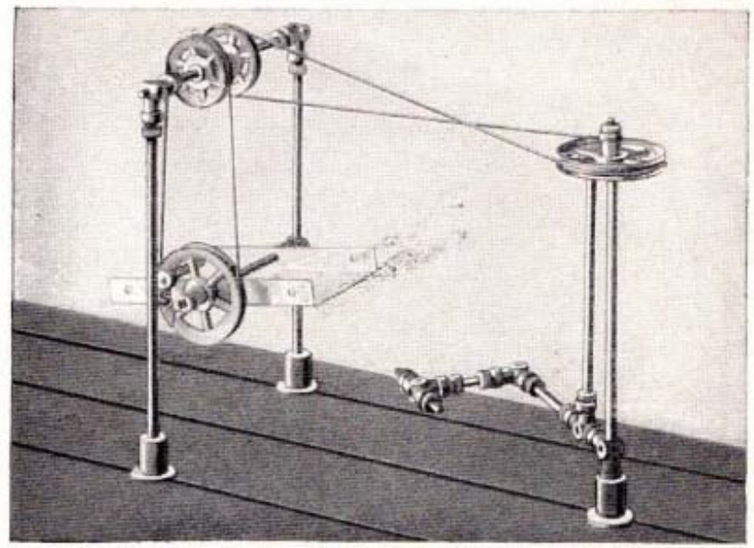
Models from Bings' Construction Set No. 2 or from No. 1 and 1a.



46

No. 46. Lifting Crane

2 Bars with thread 6 in.
1 Standard Bar $13^3/_4$ „
3 „ „ 6 „
1 „ „ 4 „
3 „ „ $1^1/_2$ „
1 „ „ $2^7/_8$ „
1 „ „ 2 „
6 Angle Joints
1 T Joint
2 Straight Joints
15 Wedge Rings
11 Spring Washers
3 Pulley Wheels $1^1/_8$ in. diam.
10 Rungs
18 Short Tubes for filling out intervals $^1/_2$ in. long
2 Base Blocks
1 Plate bent up on both sides 4×2 in.
2 Washers
2 Fixing Screws
Driving Band 30 in. long

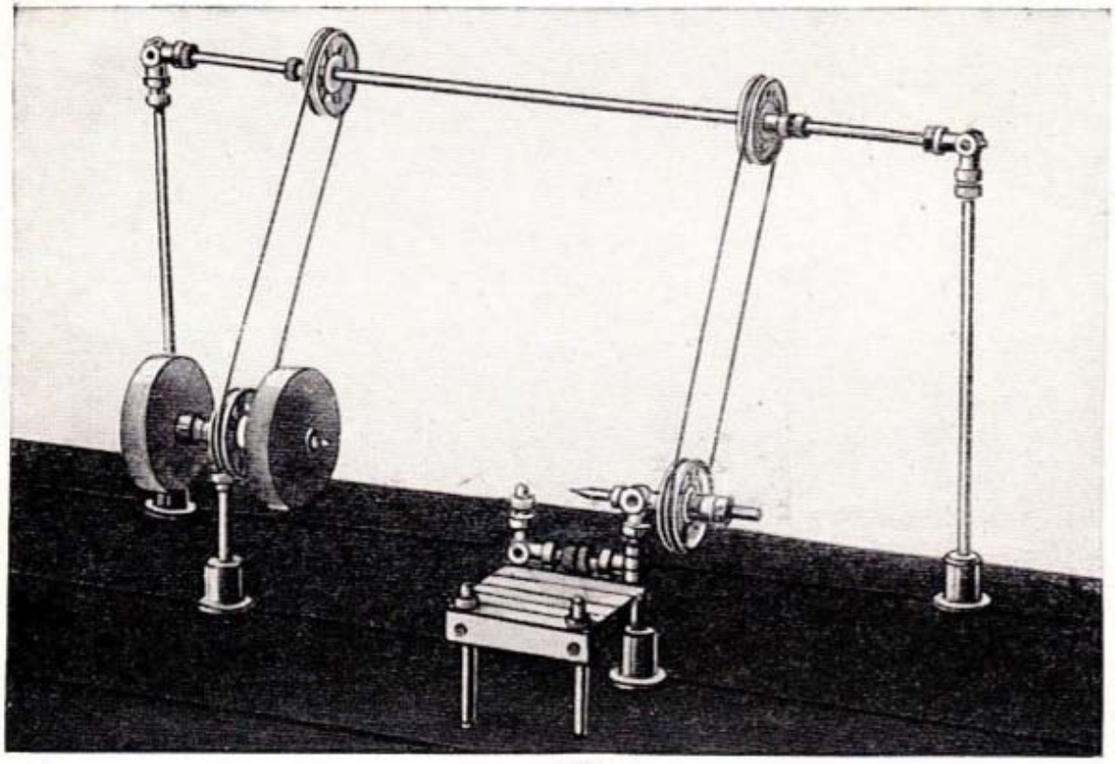


47

No. 47. Capstan with Threshing Machine

3 Bars with thread 6 in.
1 Bar with thread $4^3/_4$ in.
1 Bar with thread 2 in.
1 Standard Bar $4^3/_4$ in.
1 „ „ 2 „
2 „ „ $3^1/_2$ „
1 „ „ $1^1/_2$ „
6 Angle Joints
1 T Joint
13 Wedge Rings
7 Spring Washers
3 Base Blocks
2 Pulley Wheels $1^1/_8$ in. diam.
2 Band Saw Pulley Wheels
1 Plate bent up on both sides 4×2 in.
3 Washers
3 Fixing Screws
Driving Band 28 in. long

Model from Bings' Construction Set No. 2 or from 1 and 1a.



48

No. 48 *). Factory No. 2

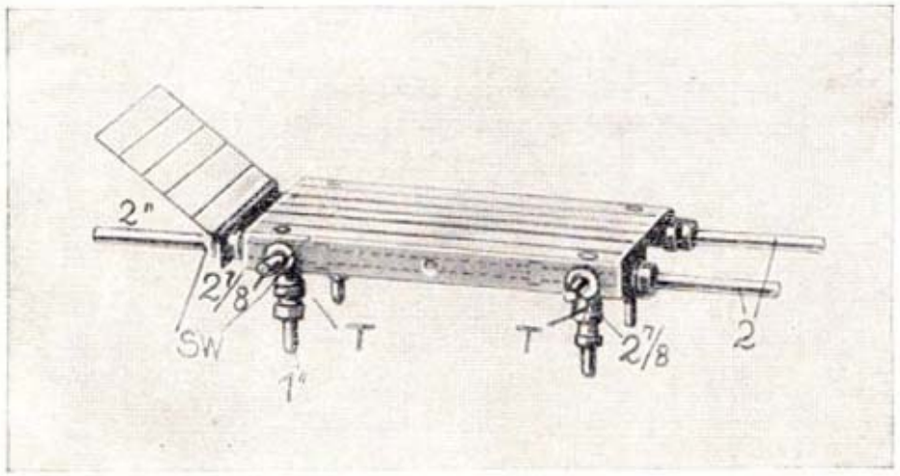
2	Bars with thread	6 in.	12 Spring Washers
3	„ „ „	2 „	5 Base Blocks
1	Standard Bar	$13^{3}/_{4}$ „	4 Pulley Wheels
1	„ „	$2^{7}/_{8}$ „	$1^{1}/_{8}$ in. diam.
1	„ „	2 „	1 Plate bent up on both
2	„ „	$1^{1}/_{2}$ „	sides 2×2 in.
1	„ „	1 „	5 Washers
5	Angle Joints		1 Leather Polishing Disc
1	Straight Joint		1 Emery Wheel
11	Wedge Rings		5 Fixing Screws

Driving Band 28 in. long.

No. 48 *). This shafting is constructed according to the description given with No. 30 (Set No. 1). The working models are easily built up from the designs.

The preceding forty-eight models may all be constructed from Bings' Construction Set No. 2 or from No. 1 and 1a. Other models may easily be built up according to the young architect's own ideas. We would, however, just mention that by purchasing other parts (which are sold separately, see end of the book) the necessary material is obtained to create new and original models. If, for instance, a further working model is desired to be attached to the Shafting of No 48, one may purchase the required single parts, in order to fix three or more machines upon the same base-board.

Models from Bings' Construction Set No. 3 or from No. 2 and 2a.



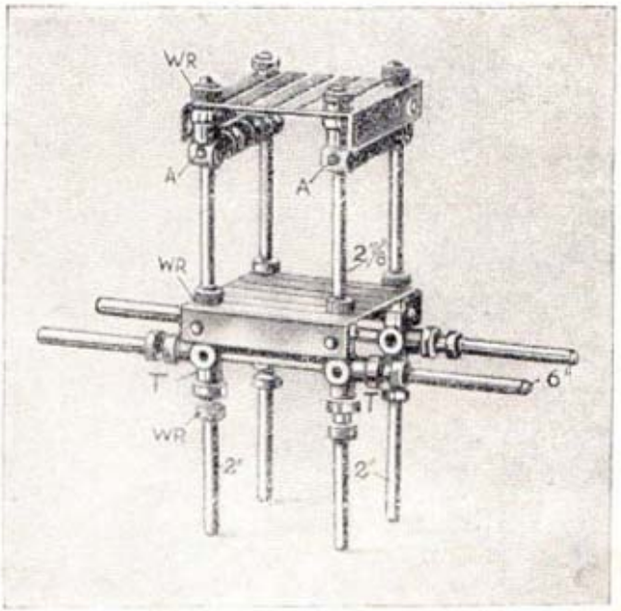
49

No. 49 Stretcher

4 Standard Bars 2⅞ in.
4 „ „ 2 „
4 „ „ 1 „
4 T Joints
12 Wedge Rings
10 Spring Washers
1 Plate bent up on both sides 4×2 in.
1 „ flat 2×2 in.

No. 50 Sedan Chair

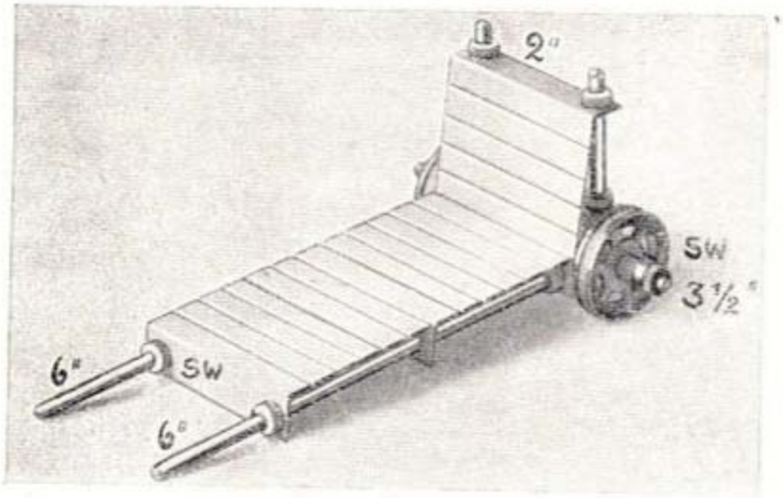
2 Standard Bars 6 in.
4 „ „ 2⅞ „
4 „ „ 2 „
2 „ „ 1⅛ in.
4 T Joints
4 Angle Joints
20 Wedge Rings
2 Plates bent up on both sides 2×2 in.



50

In order not to confuse an illustration by too many figures, bars of equal length—if they run parallel and if such equal length is clearly shown by the picture—are not **all** marked with figures indicating the length in inches. In some cases only one of them is so marked, in others only two. (See Fig. 50.)

Models from Bings' Construction Set No. 3 or from No. 2 and 2a.



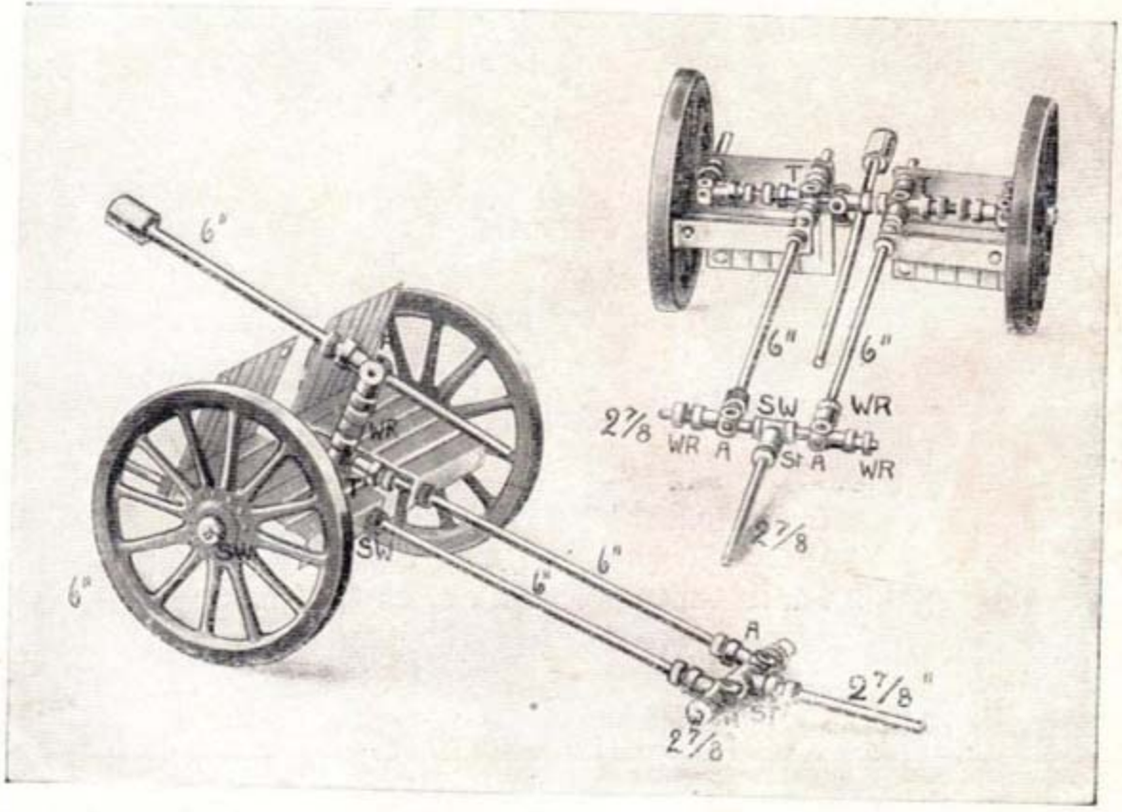
51

No. 51 Trolley

2 Standard Bars 6 in.
1 „ „ 3½ in.
2 „ „ 2 in.
2 Angle Joints
4 Wedge Rings
8 Spring Washers
2 Pulley Wheels 1⅛ in. diam.
3 Plates bent up on both sides 2×2 in.

No. 52 Gun Carriage

1 Bar with thread 6 in.
3 Standard Bars 6 in.
2 „ „ 2⅞ „
2 „ „ 1½ „
2 „ „ 1⅛ „
1 „ „ 1 „
2 T Joints
6 Angle Joints
1 Straight Joint
19 Wedge Rings
10 Spring Washers
1 Base Block
2 Plates bent up on both sides 2×2 in.
2 Plates flat 2×2 in.
2 Wheels 3½ in. diam.

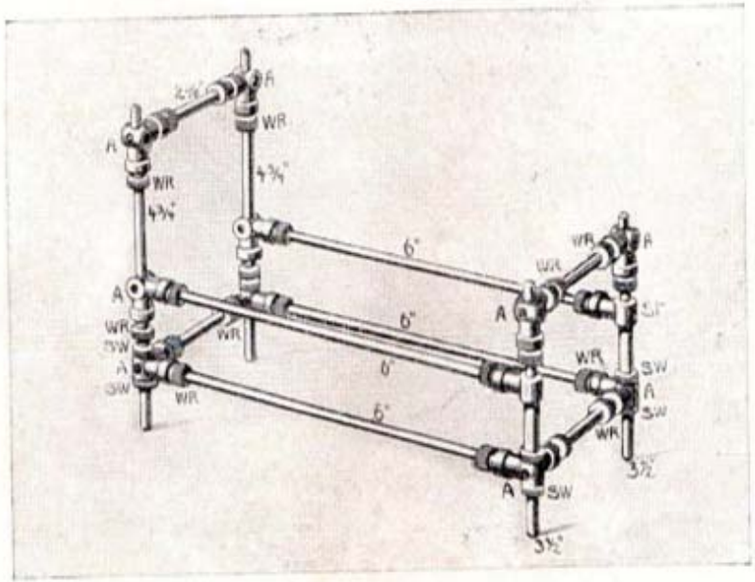


52

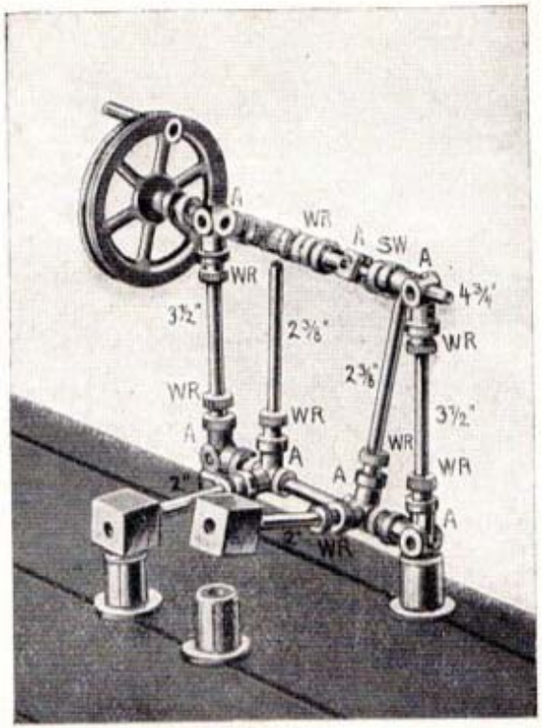
Models from Bings' Construction Set No. 3 or from No. 2 and 2a.

No. 53 Double Forge Hammer

2 Bars with thread $3^1/_8$ in.
3 „ „ „ 2 „
1 Standard Bar $4^3/_4$ „
1 „ „ $2^7/_8$ „
2 „ Bars $2^3/_8$ „
8 Angle Joints
15 Wedge Rings
4 Spring Washers
2 Hammers
1 Pulley Wheel 2 in. diam.*)
4 Base Blocks
4 Washers
4 Fixing Screws



54



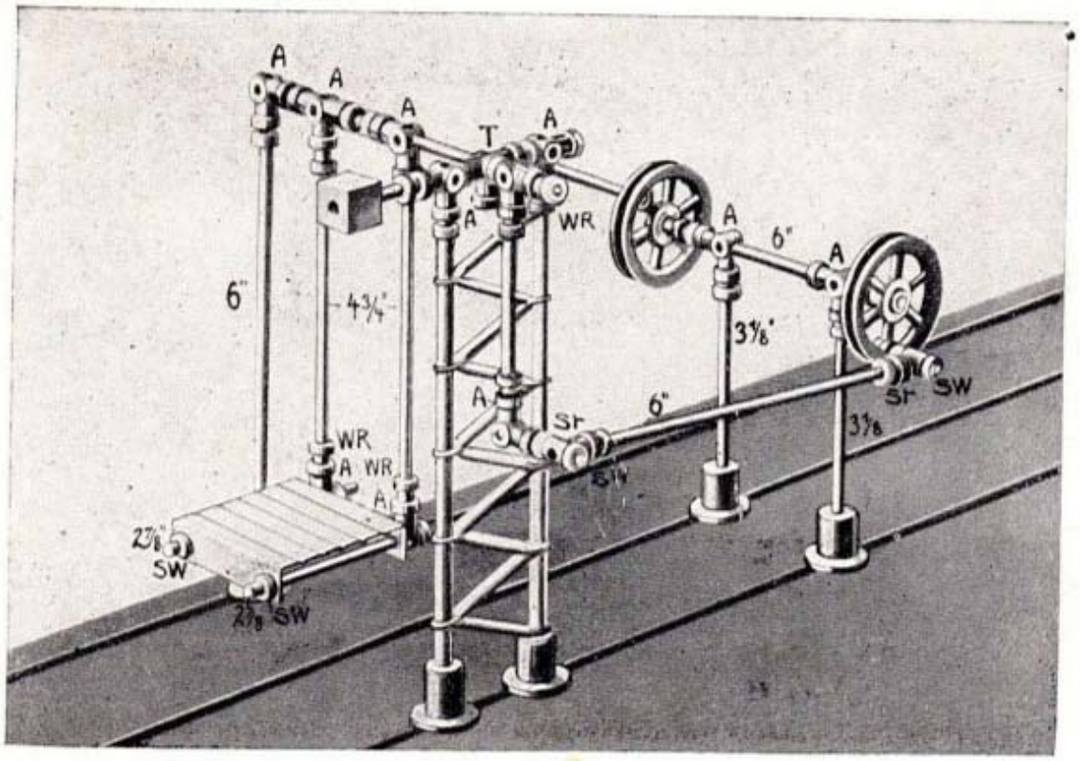
53*)

No. 54 Bedstead

4 Standard Bars 6 in.
2 „ „ $4^3/_4$ „
2 „ „ $3^1/_2$ „
4 „ „ 2 „
10 Angle Joints
2 Straight Joints
22 Wedge Rings
8 Spring Washers
2 Short tubes for filling out intervals $^1/_2$ in.
2 „ „ „ „ „ „ $^1/_4$ „

*) A crank wheel is obtained by turning a Bar with thread 2 in. long into the Pulley Wheel $1^1/_2$ or 2 in. diam. (see Fig. 53).

Models from Bings' Construction Set No. 3 or from No. 2 and 2a.



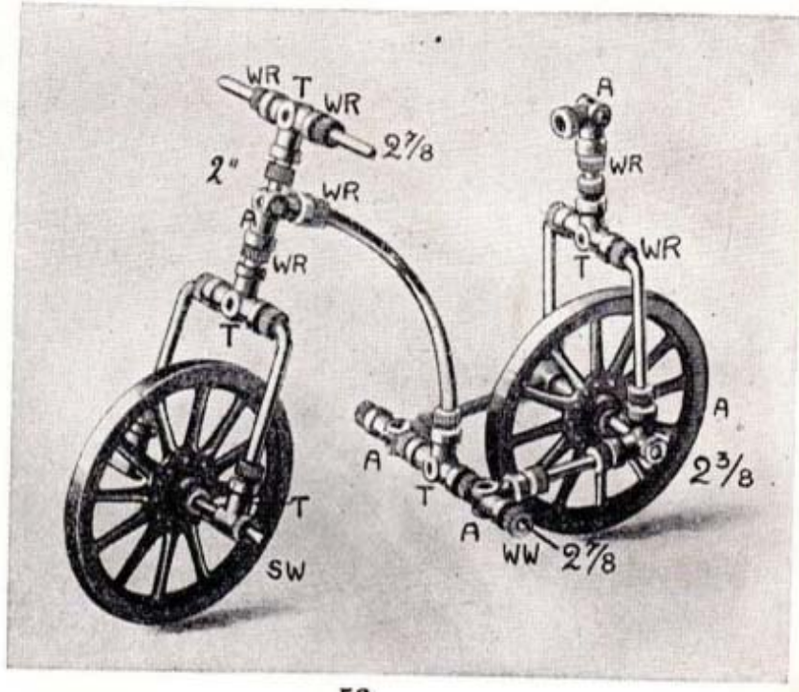
55*)

No. 55 Mechanical Swing

3 Bars with thread 6 in.
2 „ „ „ 3 1/8 „
3 „ „ „ 2 „
2 Standard Bars 6 „
3 „ „ 4 3/4 „
3 „ „ 2 7/8 „
2 „ „ 1 1/8 „
1 „ Bar 1 „
2 T Joints, 10 Angle Joints
2 Straight Joints
23 Wedge Rings, 8 Spring Washers
1 Hammer, 10 Rungs
20 Short tubes for filling out intervals 1/2 in.
1 Plate bent up on both sides 2×2 in.
2 Band Saw Pulley Wheels 1 1/2 in. diam.
5 Base Blocks
5 Fixing Screws, 5 Washers

No. 56 Lady's Bicycle

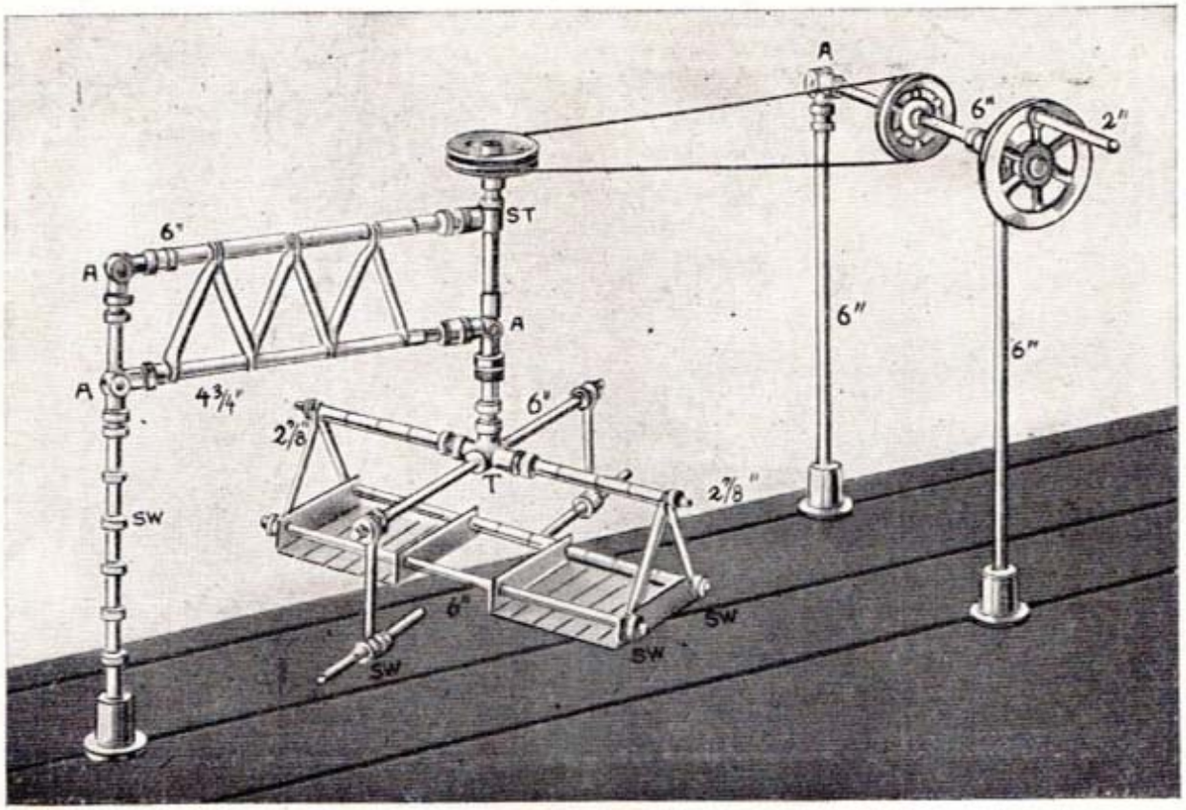
4 Bars bent in right angles 2 in.
1 Bar bent in half circle 4 1/4 in. diam.
3 Standard bars 2 7/8 in.
1 „ bar 2 3/8 „
3 „ bars 2 „
1 „ bar 1 1/8 „
4 T Joints
6 Angle Joints
2 Straight Joints
23 Wedge Rings
6 Spring Washers
2 Wheels 2 3/8 in. diam.



56

*) Fig. 55 represents a mechanical swing and shows how it is possible to mechanically change a circular motion into a swinging one, a change which is much employed in mechanical construction. For effecting this we need 3 parts, viz. a hub (for which we take a crank wheel), a piston rod (formed by a standard bar with 2 straight joints wedged on it), and a straight joint turning upon a standard bar.

Models from Bings' Construction Set No. 3 or from No. 2 and 2a.



57

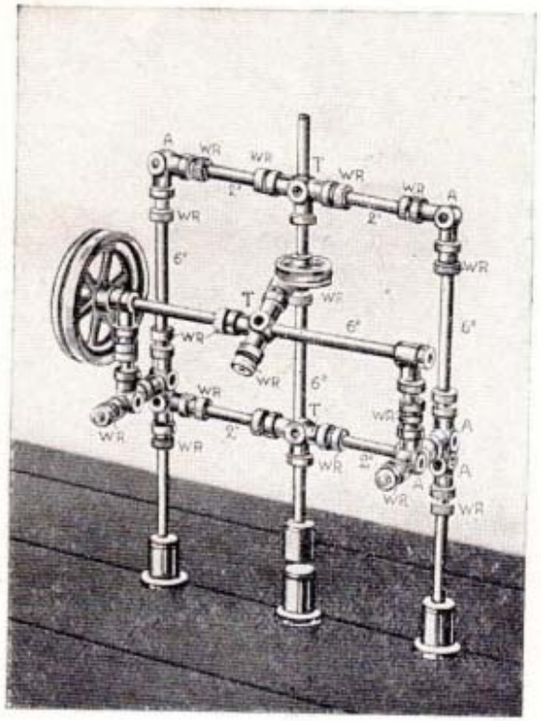
No. 57
Revolving Swing

3 Bars with thread 6 in.
1 „ „ „ 2 „
4 Standard Bars 6 „
2 „ „ 4¾ „
1 „ Bar 4 „
2 „ Bars 2⅞ „
2 „ „ 2⅜ „
1 T Joint, 5 Angle Joints
1 Straight Joint, 18 Wedge Rings
12 Spring Washers
12 Rungs
30 Short Tubes for filling out intervals ½ in.
3 Short Tubes for filling out intervals ¼ in.
2 Pulley Wheels diam. 1⅛ in.
1 Pulley Wheel diam. 2 in.

Driving Band
2 Plates bent up on both sides 2×2 in.
3 Base Blocks
3 Fixing Screws
3 Washers

The rungs which hitherto were only used as such (for ladders, fences, etc.) also serve to reproduce the diagonal joints of girder work construction. As seen in No. 57 the rungs are strung zig-zag on two parallel Standard Bars. This may be effected by sliding one or more short tubes upon the bar (according to the distances required), then a rung with ends bent at the required angle (see Fig. No. 57). This latter model also shows another way of using these rungs, viz. they may be used for suspending bent-up plates or standard bars from them.

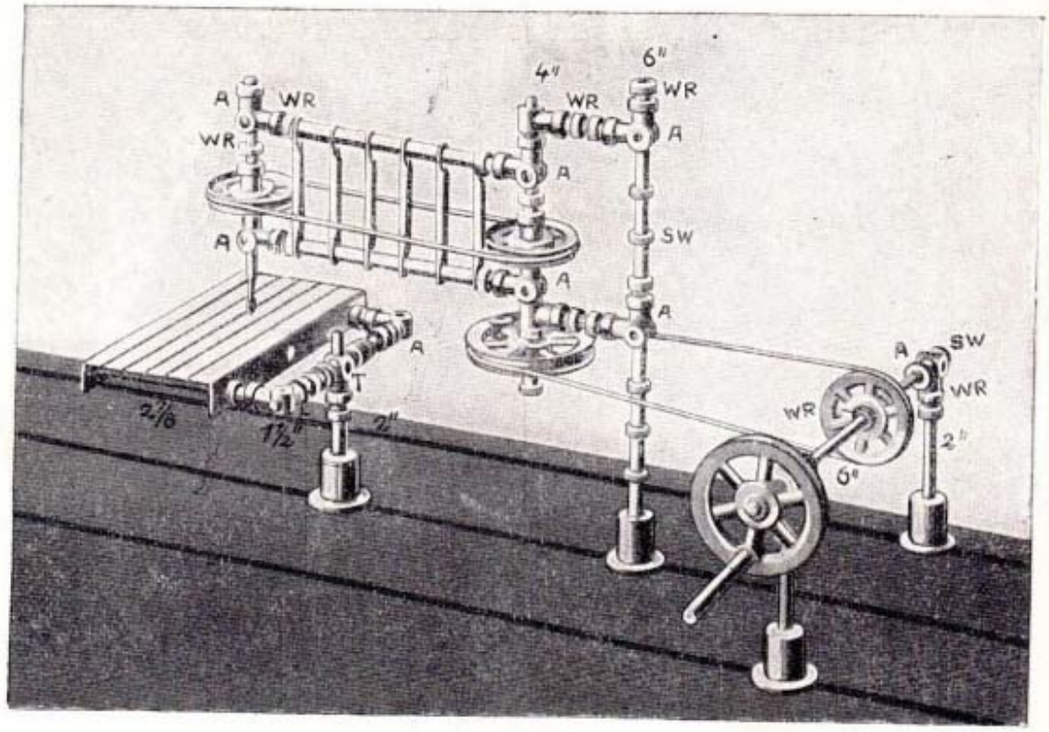
Models from Bings' Construction Set No. 3 or from No. 2 and 2a.



58

No. 58 Crushing Mill

3 Bars with thread 6 in.
1 Bar „ „ 2 „
1 Standard Bar 6 in.
4 „ Bars 2 „
2 „ „ $1^1/_2$ „
2 „ „ $1^1/_8$ „
3 T Joints, 8 Angle Joints
2 Straight Joints
27 Wedge Rings
1 Spring Washer
1 Pulley Wheel $1^1/_8$ in.
1 „ „ 2 „
4 Base Blocks
3 Fixing Screws, 3 Washers



59*)

No. 59 Drilling Machine with Swinging Arm

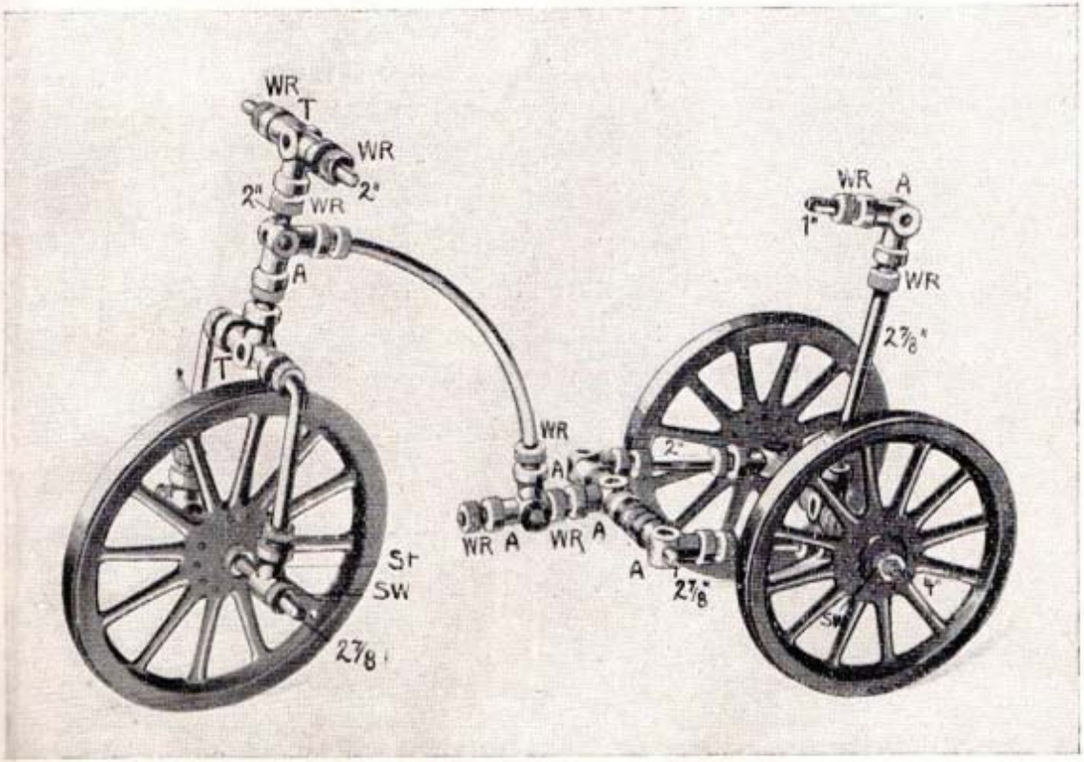
1 Bar with thread 6 in.
4 Bars „ „ 2 „
1 Standard Bar 6 in.
3 „ Bars 4 „
2 „ „ $2^7/_8$ „
2 „ „ $1^1/_2$ „
2 „ „ $1^1/_8$ „
1 T Joint, 10 Angle Joints
2 Straight Joints
24 Wedge Rings
9 Spring Washers
3 Pulley Wheels $1^1/_8$ in. diam.
2 Crank „ $1^1/_2$ „ „
1 Drill $3^1/_2$ in.
1 Plate bent up both sides 4×2 in.
6 Rungs
17 Short Tubes for filling out intervals $^1/_2$ in.
4 Base Blocks
4 Fixing Screws, 4 Washers
Driving Band

*) For description see next page.

*) **No. 59** (see preceding page). This drilling machine differs in construction from that made from Set No. 2. Whilst in the latter the revolving bar which holds the drill does not move laterally or sideways, in the present case the axle holding the drill is secured to the main frame by means of a swinging arm in such a manner, that it can swing from side to side so that the drill may be moved to any point where it may be required. These drilling machines are used for the heaviest work only, when it is necessary to drill several holes into heavy castings, which on account of their weight could only be moved by a crane. Here the several holes can be drilled without moving the casting, by simply swinging the arm (which holds the drill) to the required position.

Take care that the bar marked 4" (Fig. 59) revolves within the straight joints, and also that the angle joints of the swinging arm fit loosely upon the bar, whilst the wheels are wedged on tightly.

Models from Bings' Construction Set No. 3 or from No. 2 and 2a.

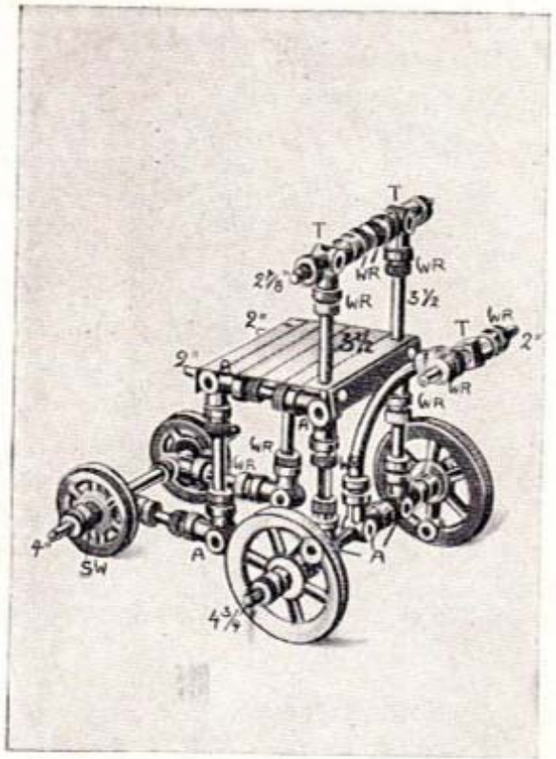


60

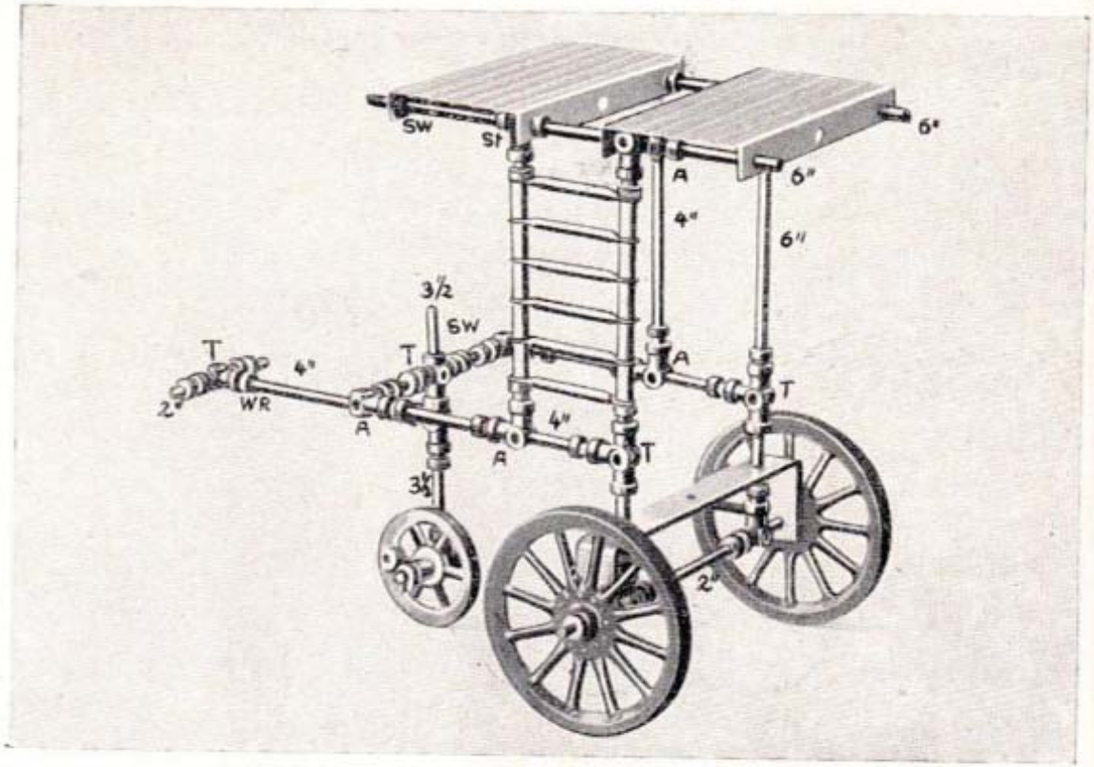
No. 60 Tricycle

2 Bars bent in right angles 2 in.
1 Bar bent in half circles $4^1/_4$ in. diam.
1 Standard Bar 4 in.
3 „ Bars $2^7/_8$ „
4 „ „ 2 „
1 „ Bar $1^1/_2$ „
1 „ „ $1^1/_8$ „
2 T Joints
9 Angle Joints
2 Straight Joints
25 Wedge Rings
6 Spring Washers
2 Wheels $2^7/_8$ in. diam.
1 „ $3^1/_2$ „ „

Models from Bings' Construction Set No. 3 or from No. 2 and 2a.



61



62

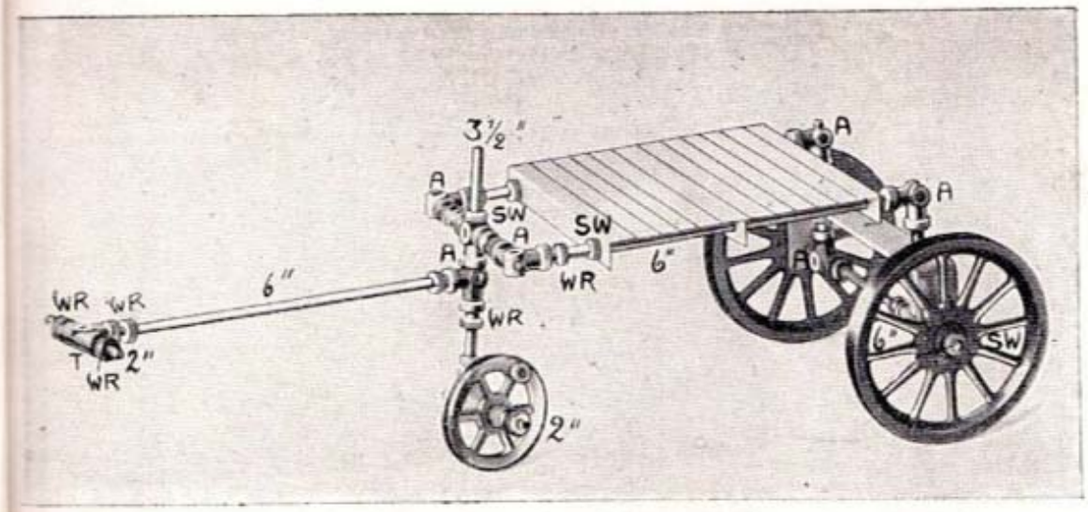
No. 61 Bath Chair

1 Standard Bar $4^{3}/_{4}$ in.
1 „ „ 4 „
2 „ Bars $3^{1}/_{2}$ „
1 „ Bar $2^{7}/_{8}$ „
5 „ Bars 2 „
2 „ „ $1^{1}/_{2}$ „
1 Bar bent in half circle $4^{1}/_{4}$ in. diam.
3 T Joints, 9 Angle Joints
2 Straight Joints
27 Wedge Rings, 4 Spring Washers
1 Plate bent up on both sides 2×2 in.
2 Wheels as for Bandsaw $1^{1}/_{2}$ in. diam.
2 Pulley Wheels $1^{1}/_{8}$ in. diam.

No. 62 Travelling Platform for Tramway Wire Repairs

2 Bars with thread 6 in.
3 Standard Bars 6 in.
5 „ „ 4 „
1 „ Bar $3^{1}/_{2}$ „
1 „ „ 2 „
3 „ Bars $1^{1}/_{2}$ „
4 T Joints, 9 Angle Joints
2 Straight Joints
10 Spring Washers
29 Wedge Rings
6 Rungs
10 Short Tubes for filling out intervals $^{1}/_{2}$ in.
2 Plates bent up on both sides 4×2 in.
1 Under Frame for Waggon Wheels
2 Wheels $2^{7}/_{8}$ in. diam.
1 Wheel as for Band Saw $1^{1}/_{2}$ in. diam.

Models from Bings' Construction Set No. 3 or from No. 2 and 2a.



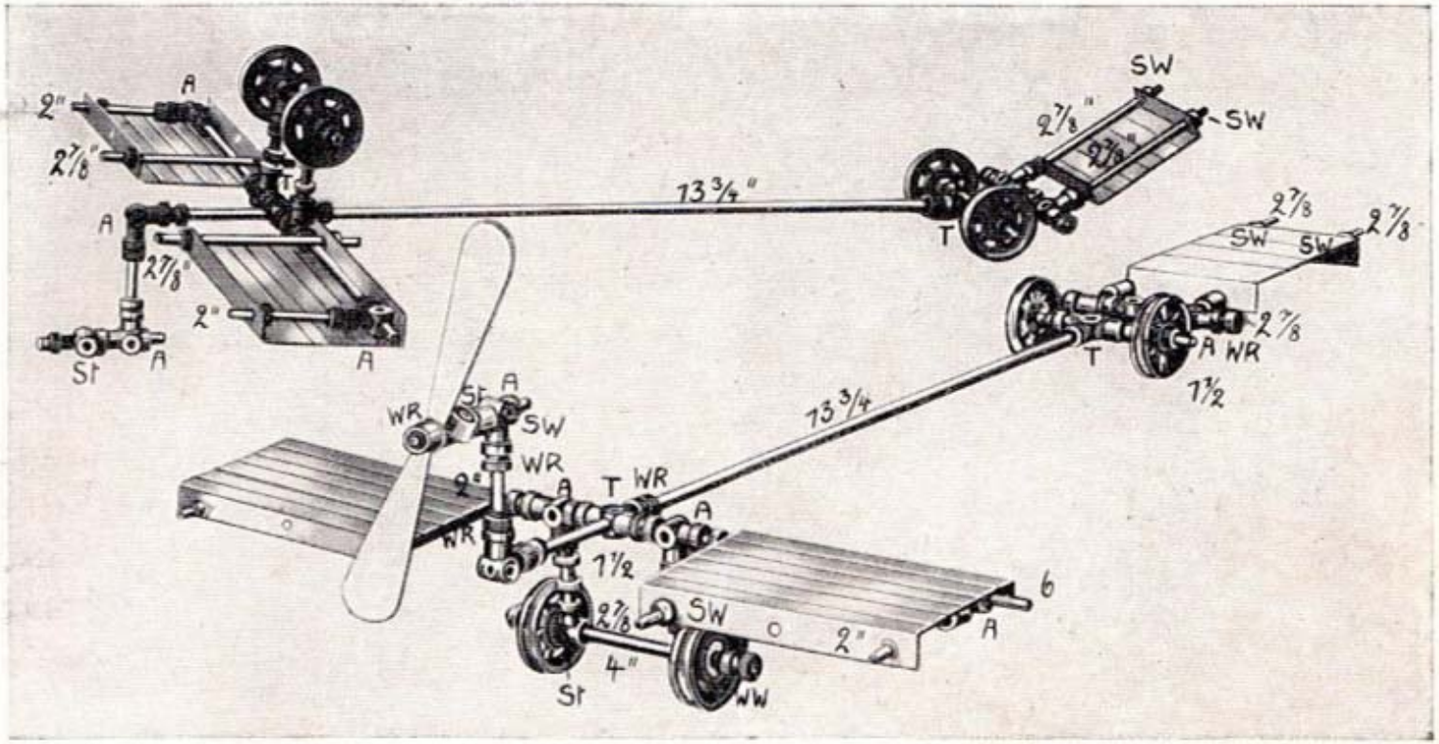
63

No. 63 Hand Cart

4	Standard Bars 6 in.	1	Under Frame for Waggon Wheels
1	„ Bar 3½ „	2	Plates bent up on both sides 4×2 in.
4	„ Bars 2 „	2	Wheels 2⅞ in diam.
2	„ „ 1⅛ „	1	Pulley Wheel as for Bandsaw 1½ in. diam.
2	T Joints, 8 Angle Joints		
21	Wedge Rings		
6	Spring Washers		

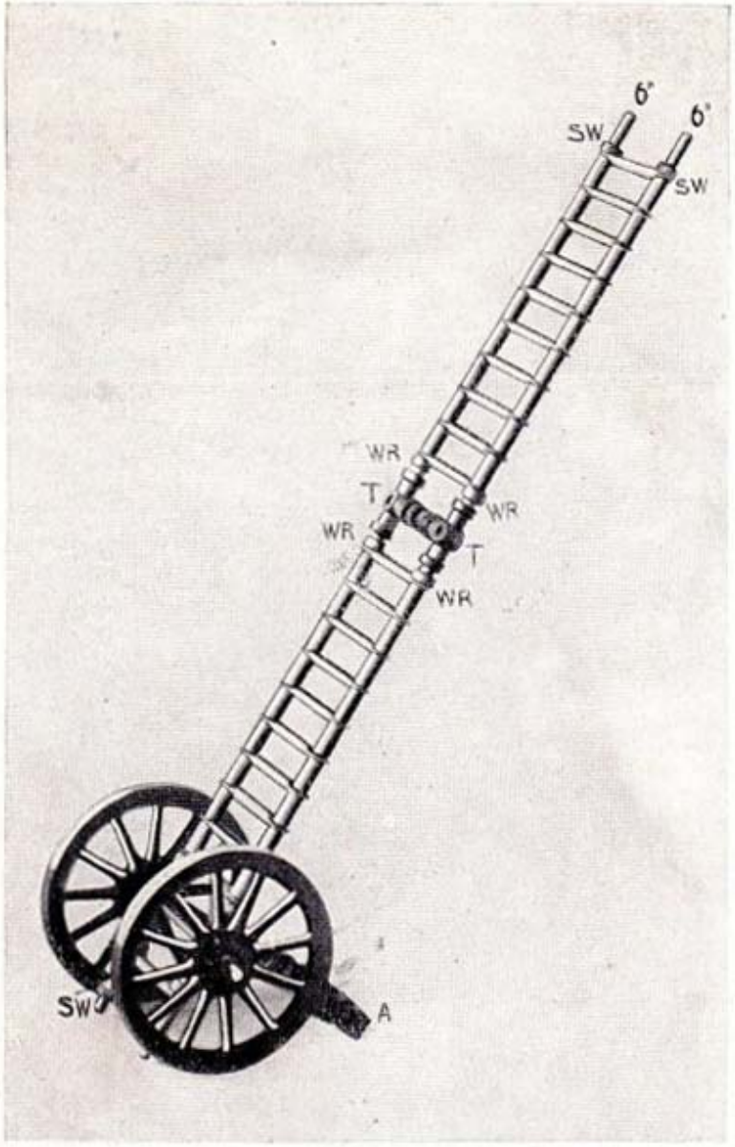
No. 64 Aeroplane

1	Standard Bar, 13¾ in.	3	T Joints, 9 Angle Joints
2	„ Bars 6 „	2	Straight Joints
1	„ Bar, 4 „	28	Wedge Rings
5	„ Bars 2⅞ „	11	Spring Washers
4	„ „ 2 „	2	Plates bent up on both sides 4×2 in.
2	„ „ 1½ „	1	Plate bent up on both sides, 2×2 in.
2	„ „ 1⅛ „	2	Propeller Blades
		4	Pulley Wheels 1⅛ in diam.



64

Models from Bings' Construction Set No. 3 or from No. 2 and 2a.



65

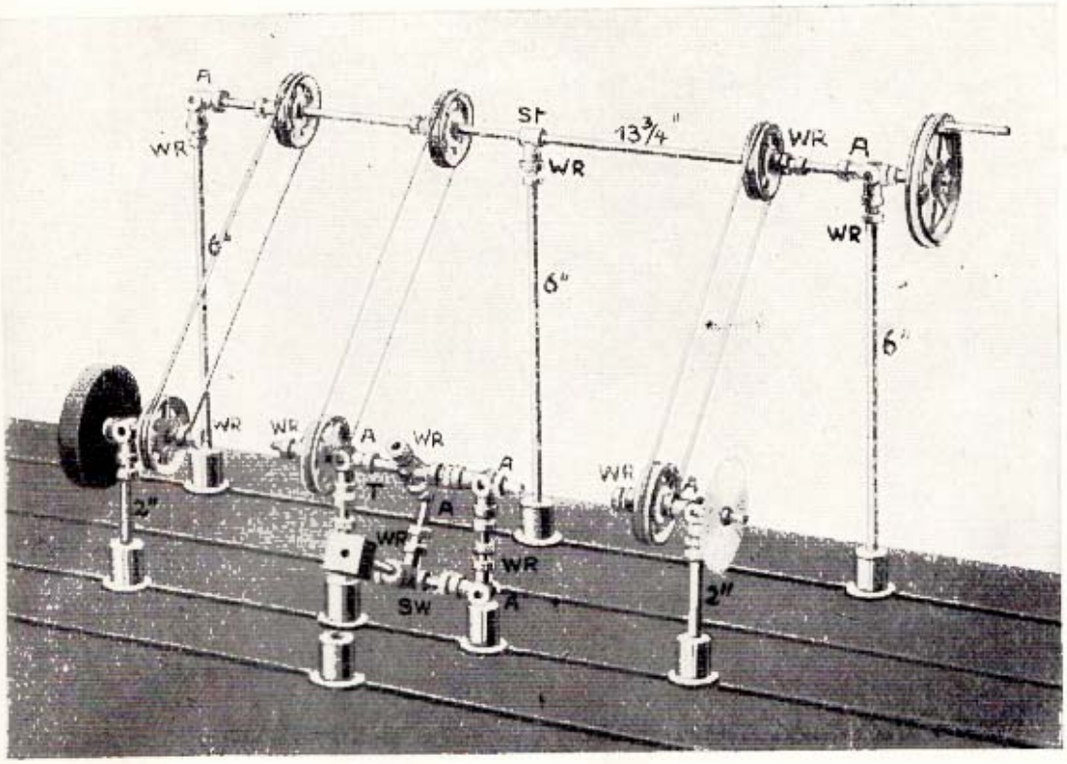
No. 65 Fire Escape

4	Standard Bars	6 in.
1	„ Bar	$3^1/_2$ „
2	„ Bars	$2^3/_8$ „
2	„ „	$1^1/_2$ „
2	„ „	$1^1/_8$ „
4	T Joints	
2	Angle Joints	
16	Wedge Rings	
8	Spring Washers	
22	Rungs	
38	Short Tubes for filling out intervals $^1/_2$ in.	
2	Wheels $2^7/_8$ in. diam.	

The models which have already been shown, clearly demonstrate the endless scope of **Bings' Construction Method,** which may be gauged not only by the large number of models shown in the Instruction Books, but equally as much by the opportunity afforded to the boys to create from their own imagination a practically unlimited number of other models, each in its own way resembling in a hitherto undreamt-of measure the original it is intended to portray, whether it be taken from the home, from the workshop, or from any other field of industrial and mechanical construction.

It is hardly necessary to dwell upon the lasting educational value of such a "Toy" as Bings' Construction Set.

Models from Bings' Construction Set No. 3 or from No. 2 and 2a.



66

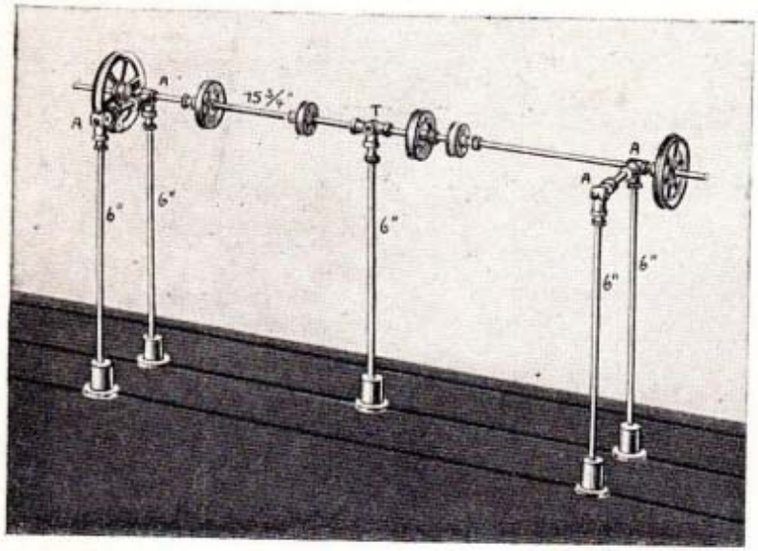
No. 66 Factory Installation No. 3

3	Bars with thread 6 in.	1	Hammer
6	„ „ „ 2 „	6	Pulley Wheels
1	Standard Bar 13¾ „		1⅛ in diam.
1	„ „ 4 „	1	Crank Wheel
3	„ Bars 2 „		2 in. diam.
1	„ Bar 1⅛ „	1	Emery Wheel
1	T Joint	1	Circular Saw
9	Angle Joints	8	Base Blocks
1	Straight Joint	8	Fixing Screws
24	Wedge Rings	8	Washers
6	Spring Washers	1	yd. Driving Band

As shown in the illustration, the model **No. 66** is composed of a Scouring Machine, a Circular Saw and a Forge Hammer. The first of these is shown in detail in No. 6, the Forge Hammer in No. 10, whilst for the Circular Saw model No. 6 will again serve – replacing the Emery Wheel, however, by a Circular Saw, which must be fixed by a Wedge Ring.

All the preceding 66 models may be made from **Bings' Construction Set No. 3 or from No. 2 and 2a.** Any number of other models may easily be constructed by Bings' Construction enthusiasts according to their own ideas and plans. We would again point out here that by purchasing separate parts (see end of the book) Bings' Construction models may be much enlarged – for instance, by adding more machines to Factory Installation No. 66, or in many other ways.

Models from Bings' Construction Set No. 4 or from No. 3 and 3a.



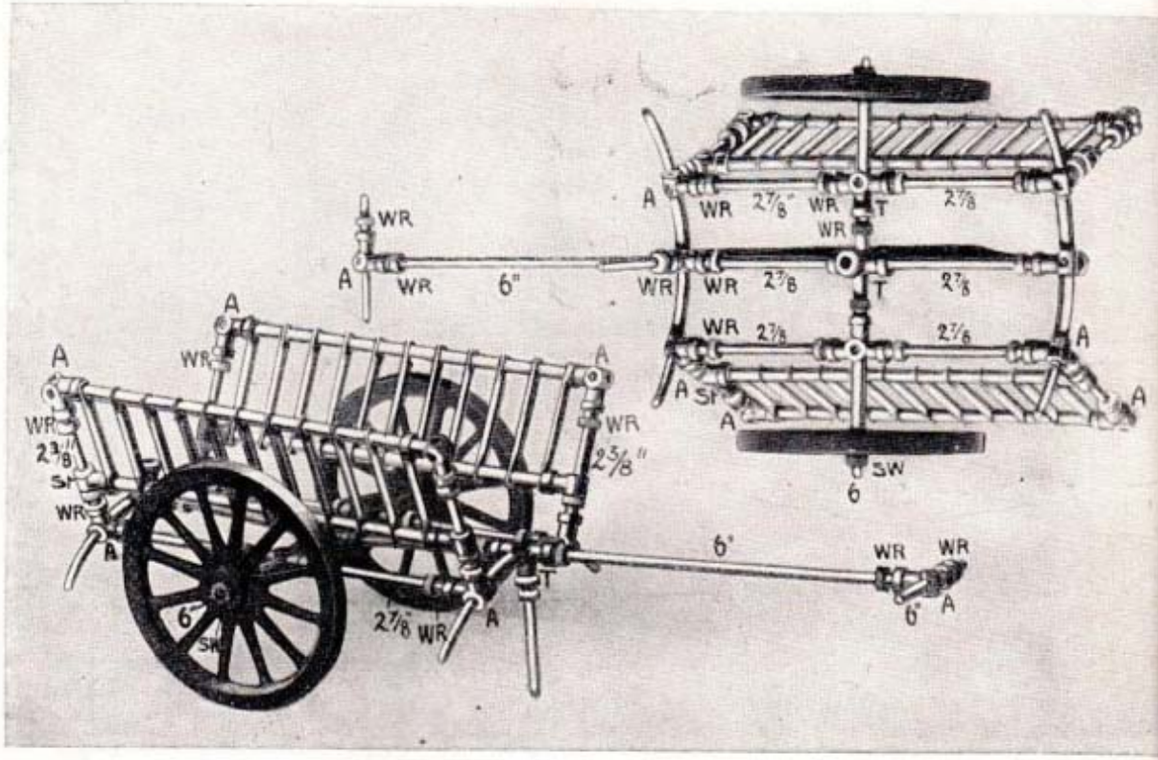
67

No. 67 Shafting No. 2

5 Bars with thread 6 in.
1 Standard Bar $15^3/_4$ „
2 „ Bars 2 „
1 T Joint, 4 Angle Joints
15 Wedge Rings
2 Pulley Wheels $^3/_4$ in. diam.
2 „ „ $1^1/_8$ „ „
1 Pulley Wheel, as for Band Saw, $1^1/_2$ in. diam.
1 Crank Wheel 2 in. diam.
5 Base Blocks
5 Fixing Screws
5 Washers

No. 68*) Hay Cart

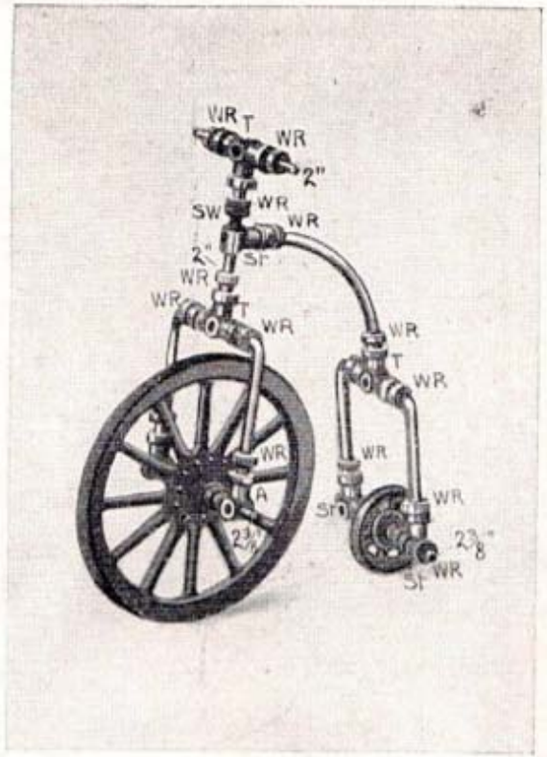
1 Bar with thread 6 in.
5 Standard Bars 6 „
6 „ „ $2^7/_8$ „
4 „ „ $2^3/_8$ „
2 „ „ 2 „
2 Bars bent in half circles $4^1/_4$ in. diam.
4 T Joints, 10 Angle Joints
4 Straight Joints, 24 Wedge Rings
2 Wheels $3^1/_2$ in. diam., 22 Rungs
48 Short Tubes for filling out intervals $^1/_2$ in.
6 Short Tubes for filling out intervals $^1/_4$ in.
2 Spring Washers



Front View. 68 View of Under-Frame.

*) **Note to No. 68.** For the larger Bings' Construction Sets relatively larger and more complete models are shown, and in many cases one view only does not suffice and a second view and in some cases also sketches of the parts of the model are given, with the help of which the construction is quite easy even without lengthy description.

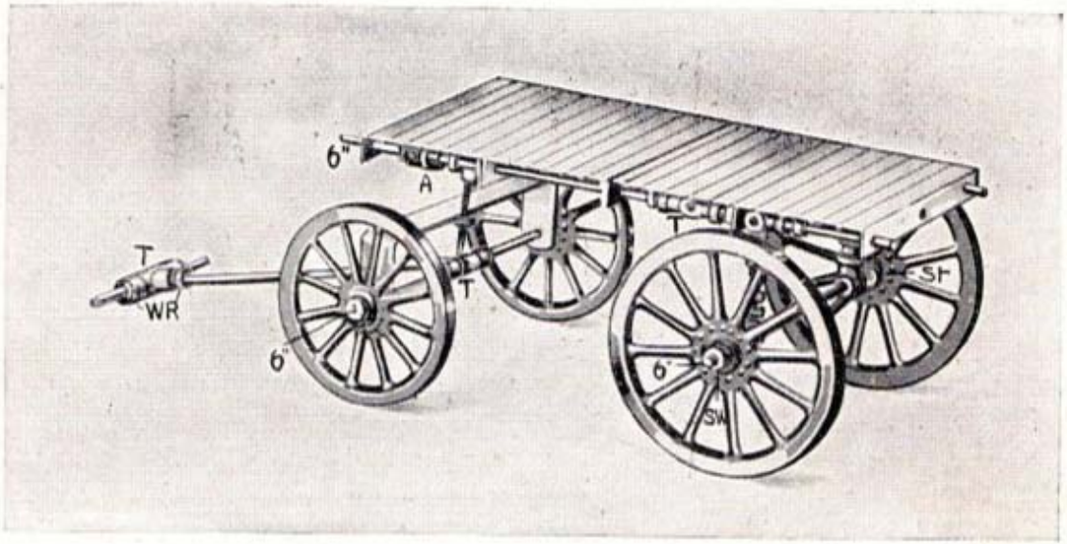
Models from Bings' Construction Set No. 4 or from No. 3 and 3a.



69

No. 69 "Kangaroo" Bicycle

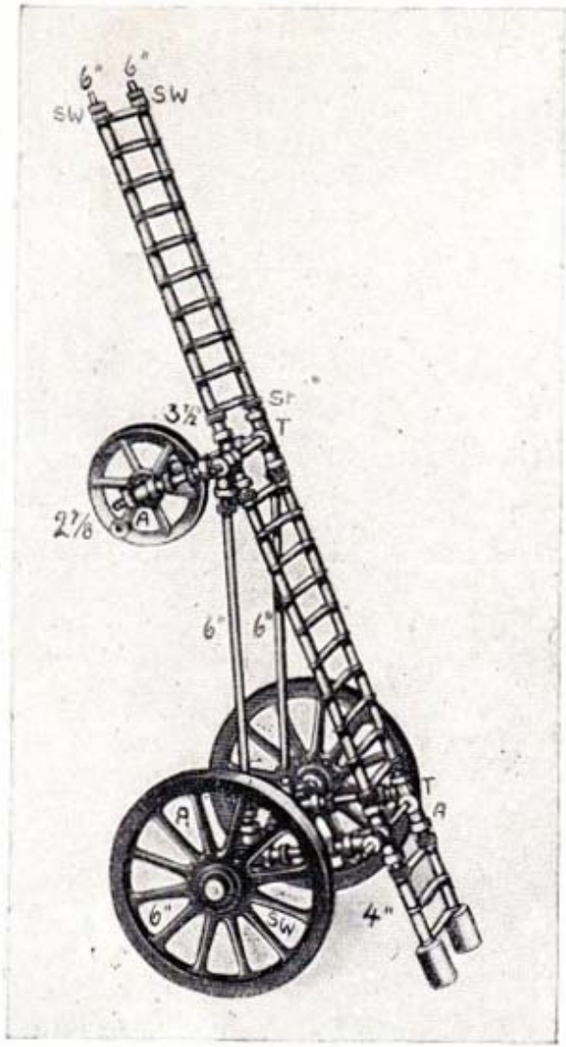
3 Standard Bars $2^{3}/_{8}$ in.
1 „ Bar 2 „
1 Bar bent in half circle $2^{7}/_{8}$ in. diam.
4 „ „ „ right angles 2 „ „
3 T Joints
3 Angle Joints
2 Straight Joints
14 Wedge Rings
6 Spring Washers
1 Wheel $3^{1}/_{2}$ in. diam.
1 Pulley Wheel $1^{1}/_{8}$ in. diam.



70

No. 70 Carrier's Waggon

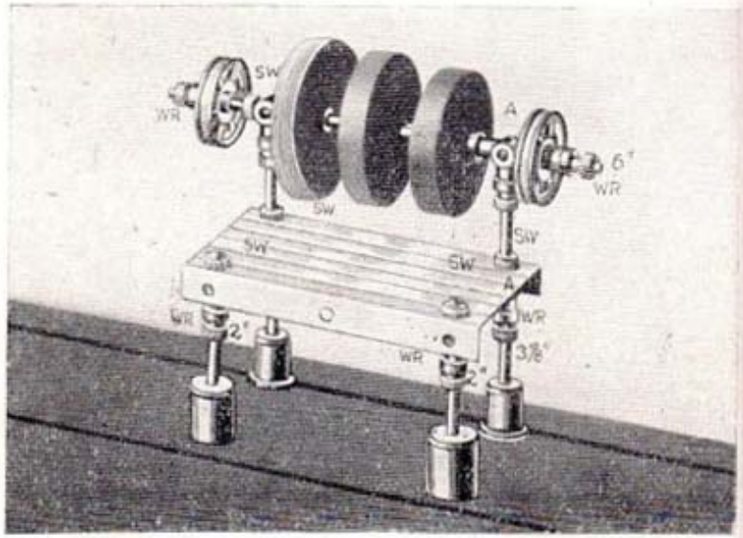
5 Standard Bars 6 in.
4 „ „ $2^{7}/_{8}$ „
1 „ Bar 2 „
2 „ Bars $1^{1}/_{2}$ „
4 T Joints
5 Angle Joints
2 Straight Joints
22 Wedge Rings
9 Spring Washers
1 Under Frame for Waggon Wheels
4 Plates bent up on both sides 4×2 in. diam.
2 Wheels $3^{1}/_{2}$ in. diam.
2 „ $2^{7}/_{8}$ „ „
2 Short Tubes for filling out intervals $^{1}/_{2}$ in.
1 Short Tube for filling out intervals $^{1}/_{4}$ in.



71

No. 71 Fire Escape

2 Bars with thread 6 in.
2 „ „ „ 2 „
5 Standard Bars 6 in.
1 „ Bar 4 „
1 „ „ 3½ „
1 „ „ 2⅞ „
2 „ Bars 2 „
2 „ „ 1½ „
4 T Joints, 6 Angle Joints, 4 Straight Joints
24 Wedge Rings, 7 Spring Washers
1 Pulley Wheel 2 in. diam.
2 Wheels 3½ in. diam.
23 Rungs
40 Short Tubes for filling out intervals ½ in.
2 „ „ „ „ „ „ ¼ „
2 Base Blocks

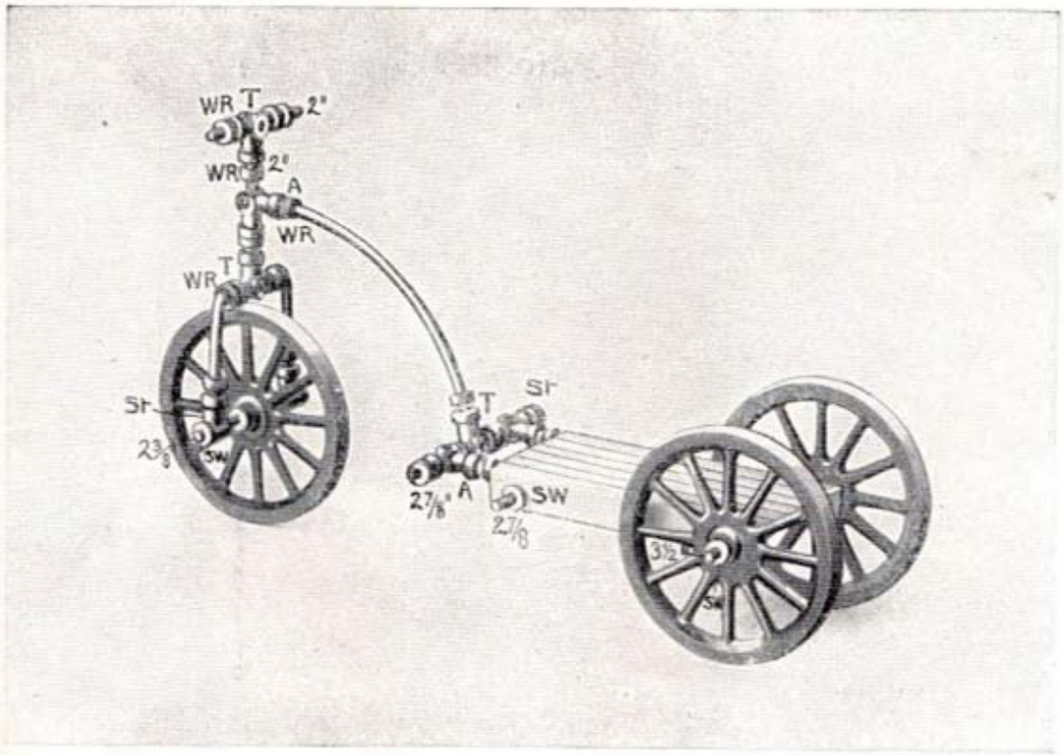


72

No. 72 Grinding and Polishing Machine

2 Bars with thread 3⅛ in.
2 „ „ „ 2 „
1 Standard Bar 6 „
2 „ Bars 1⅛ „
6 Angle Joints, 12 Wedge Rings
6 Spring Washers
2 Pulley Wheels 1⅛ in. diam.
1 Emery Wheel
1 Polishing disc covered with leather
1 Polishing Buff made up of 10 discs of cloth
1 Plate bent up on both sides 4×2 in.
4 Base Blocks
2 Fixing Screws
2 Washers

Models from Bings' Construction Set No. 4 or from No. 3 and 3a.



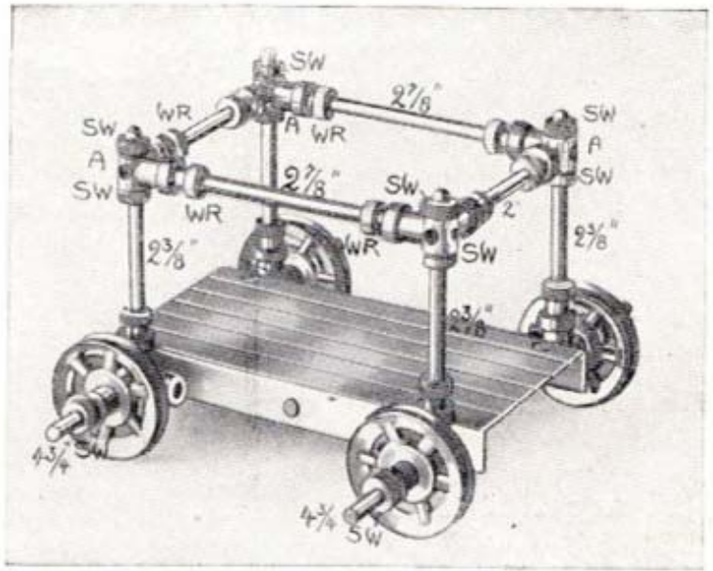
73

No. 73 Delivery Tricycle

2 Bars bent in right angles 2 in.
1 Bar bent in half circle 4¼ in. diam.
2 Standard Bars 4 in.
1 „ Bar 3½ „
2 „ Bars 2⅞ „
1 „ Bar 2⅜ „
2 „ Bars 2 „
3 T Joints
5 Angle Joints
2 Straight Joints
19 Wedge Rings
8 Spring Washers
1 Plate bent up on both sides 4×2 in.
2 Wheels 2⅞ in. diam.
1 „ 3½ „ „

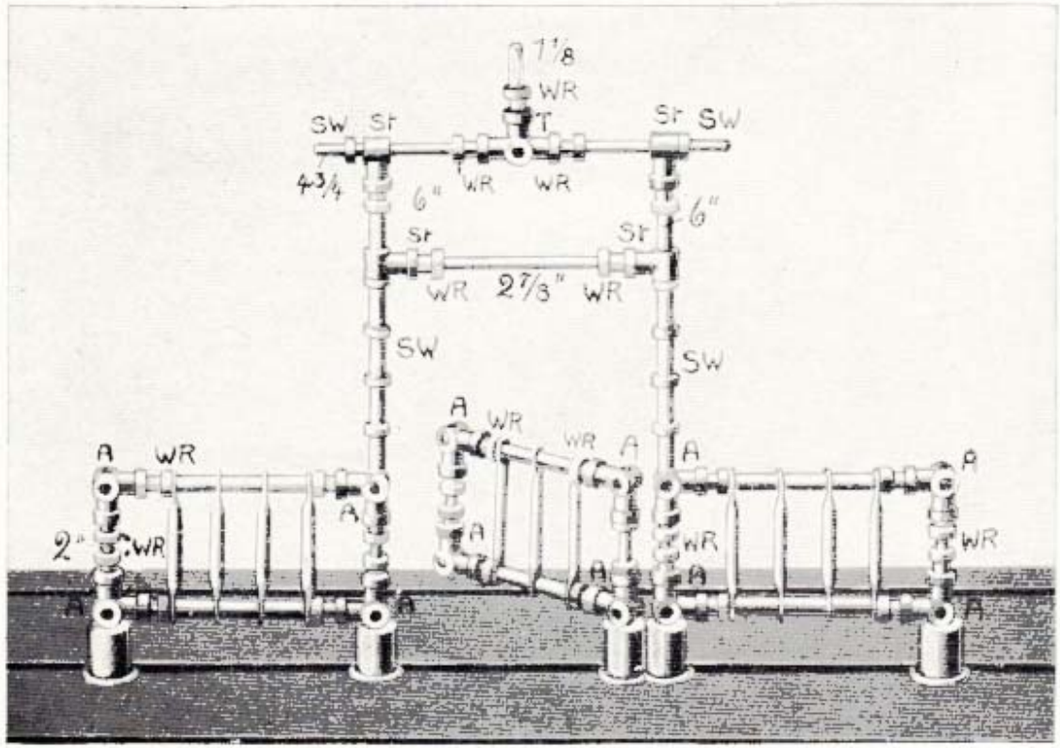
No. 74 Luggage Truck

2 Standard Bars 4¾ in.
2 „ „ 2⅞ „
4 „ „ 2⅜ „
2 „ „ 2 „
8 Angle Joints
12 Wedge Rings
12 Spring Washers
4 Pulley Wheels 1⅛ in. diam.
1 Plate bent up on both sides 4×2 in.



74

Models from Bings' Construction Set No. 4 or from No. 3 and 3a.



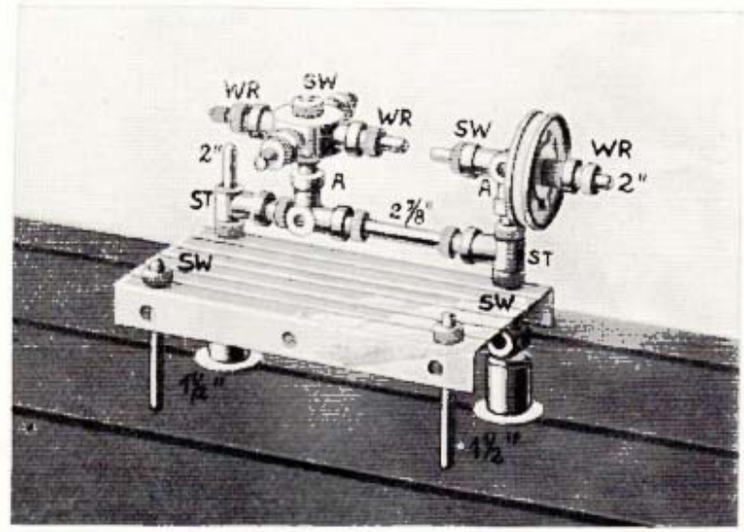
75*)

No. 75 Garden Gate

2	Bars with thread	6	in.	4	Straight Joints
3	„ „ „	2	„	29	Wedge Rings
1	Standard Bar	4¾	„	12	Spring Washers
5	„ Bars	2⅜	„	26	Short Tubes for filling out intervals ½ in.
2	„ „	2⅛	„		
1	„ Bar	1⅛	„	5	Base Blocks
11	Rungs			5	Fixing Screws
1	T Joint			5	Washers
12	Angle Joints				

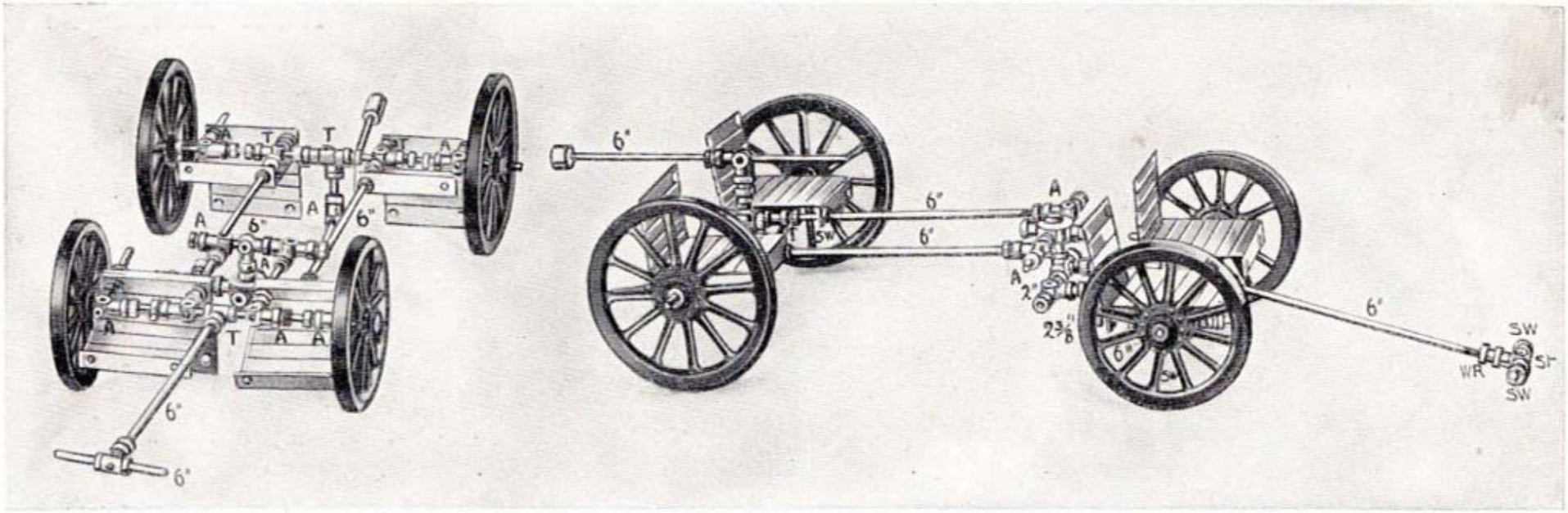
No. 76 Lathe

2	Bars with thread	2	in.	1	Drill 1 in.
1	Standard Bar	2⅜	„	12	Wedge Rings
1	„ „	2	„	6	Spring Washers
2	„ Bars	1½	„	1	Pulley Wheel 1⅛ in. diam.
1	„ Bar	1⅛	„	1	Plate bent up on both sides 4×2 in.
3	„ Bars	1	„	2	Base Blocks, 2 Fixing Screws
4	Angle Joints, 2 Straight Joints			2	Washers
1	Centre Piece with 4 Joints				



76

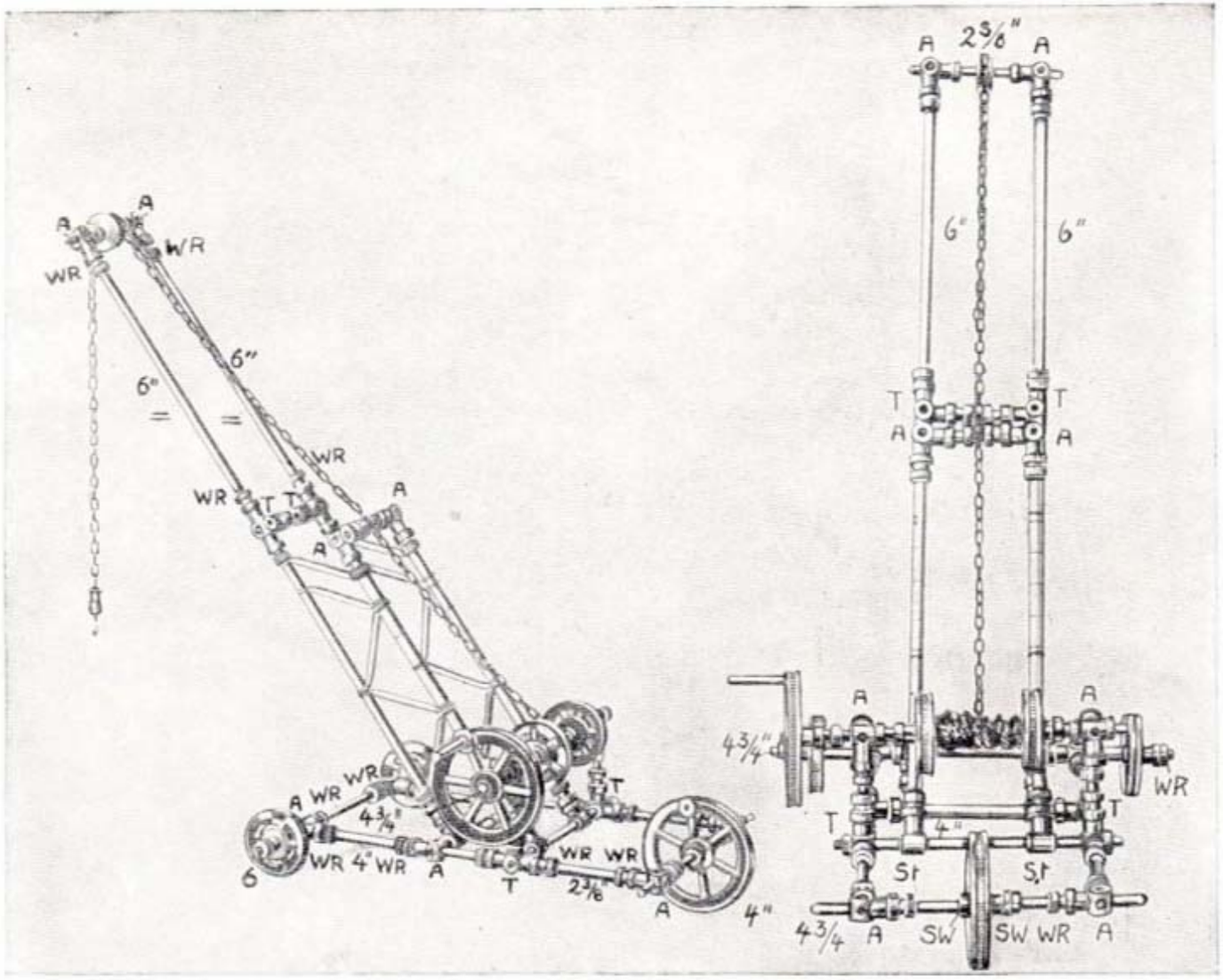
*) **Figure No. 75** shows a further application of the Spring Washers—as an ornamental addition to bars. With certain models the plain bars are too bare and give the model too plain an appearance. By using Spring Washers and Short Tubes alternately this defect is eliminated and the otherwise bare bars assume a more pleasing appearance.



View of Under-Frame 77 Side View

No. 77 Gun Carriage with Limber Cart

1 Bar with thread 6 in.
4 Standard Bars 6 „
2 „ „ 4 „
3 „ „ 2⅜ „
5 „ „ 2 „
2 „ „ 1½ „
2 „ „ 1⅛ „
3 „ „ 1 „
3 T Joints
12 Angle Joints
2 Straight Joints
40 Wedge Rings
14 Spring Washers
1 Centre Piece with 4 Joints
4 Plates bent up on both sides 2×2 in.
4 Plates flat 2×2 in.
1 Base Block
2 Wheels 2⅞ in. diam.
2 „ 3½ „ „



78

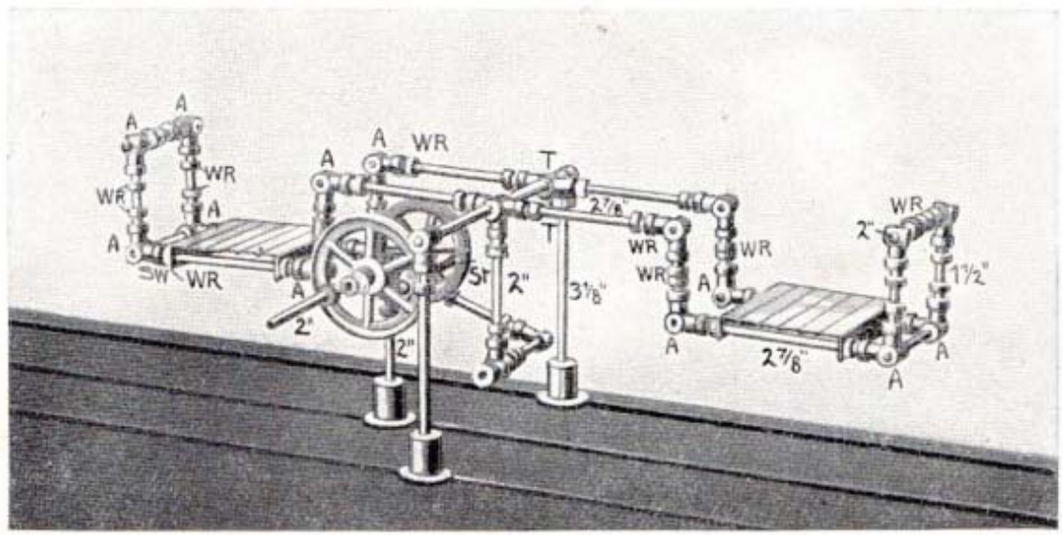
No. 78 Dock Crane

2	Bars with thread	6	in.
5	Standard Bars	6	„
2	„ „	$4\frac{3}{4}$	„
3	„ „	4	„
1	„ Bar	$2\frac{7}{8}$	„
3	„ Bars	$2\frac{3}{8}$	„
1	„ Bar	$1\frac{1}{2}$	„
3	„ Bars	$1\frac{1}{8}$	„

4 T Joints
12 Angle Joints
4 Straight Joints
4 Pulley Wheels $1\frac{1}{8}$ in. diam.
2 Crank „ 2 „ „
1 Roller for Crane
37 Wedge Rings
8 Spring Washers
12 Rungs (bent up)
41 Short Tubes for filling out intervals $\frac{1}{2}$ in.
1 Chain 20 in.
1 Hook

No. 78. In this model the Drum for Crane upon which the chain is wound is made from 2 wheels $1\frac{1}{8}$ in. diam. which are fixed by Wedge Rings upon the winding axle at a short distance from each other. The chain itself is fixed between these wheels upon the axle by means of string or other suitable binding material.

Models from Bings' Construction Set No. 4 or from No. 3 and 3a.



79*)

No. 79 American See-Saw

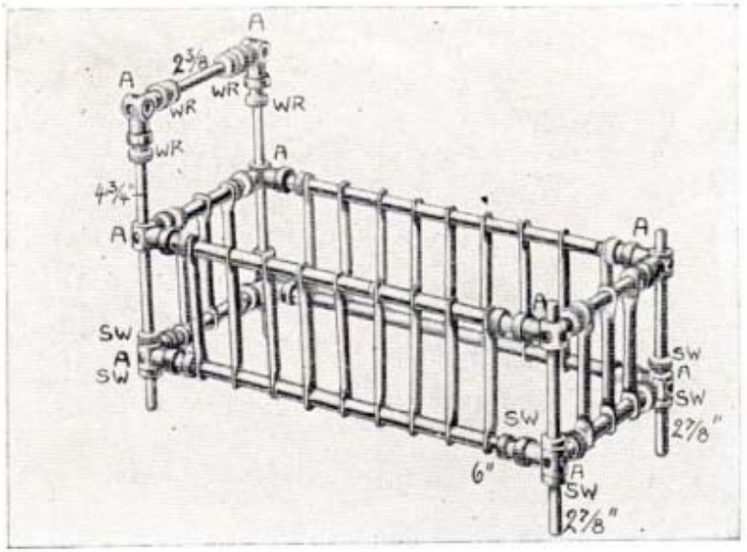
2 Bars with thread 3⅛ in.
3 „ „ „ 2 „
1 Standard Bar 4¾ „
8 „ Bars 2⅞ „
2 „ „ 2⅜ „
6 „ „ 2 „
2 „ „ 1½ „

2 Standard Bars 1⅛ in.
4 Standard Bars 1 in.
4 T-Joints, 16 Angle Joints
4 Straight Joints
46 Wedge Rings
8 Spring Washers
1 Crank Wheel 2 in. diam.

1 Wheel as for Band Saw 1½ in. diam.
2 Plates bent up on both sides 2×2 in.
3 Base Blocks
3 Fixing Screws
3 Washers
2 Short Tubes for filling out intervals ½ in.
2 „ „ „ „ „ „ ¼ „

*) **No. 79.** This model is set into motion in the same way as described with Model No. 55.

Models from Bings' Construction Set No. 4 or from No. 3 and 3a.



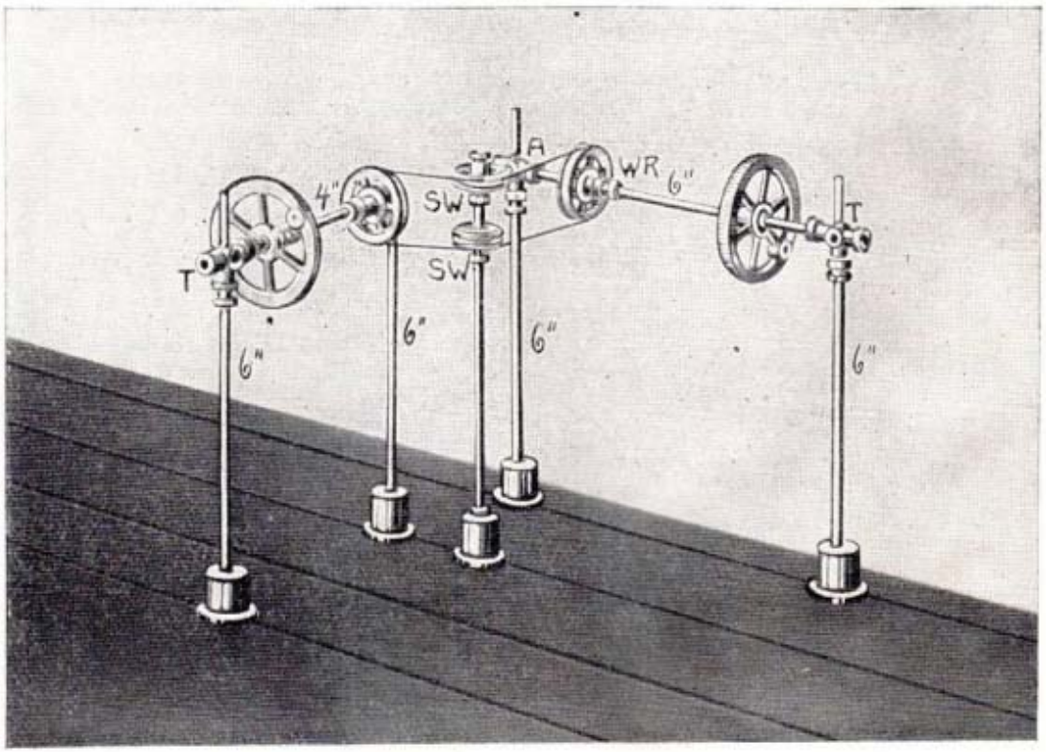
80

No. 80 Child's Bedstead

4 Standard Bars 6 in.
2 „ „ 4¾ „
3 „ „ 2⅞ „
4 „ „ 2⅜ „
1 Standard Bar 2 „
10 Angle Joints
20 Wedge Rings
14 Spring Washers
24 Rungs
40 Short Tubes for filling out intervals ½ in.

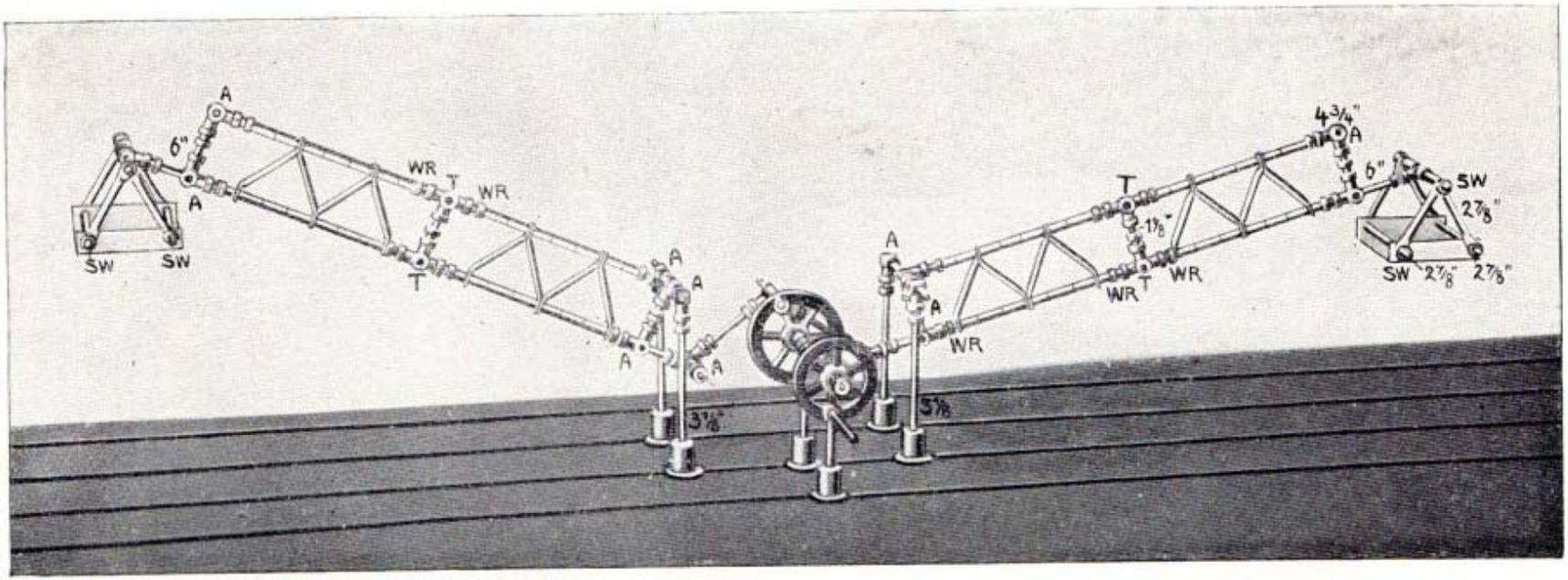
No. 81 Corner Shafting

5 Bars with thread 6 in.
1 Standard Bar 6 „
1 „ „ 4 „
4 T-Joints
8 Wedge Rings
4 Spring Washers
2 Pulley Wheels ¾ in. diam.
2 Pulley Wheels 1⅛ in. diam.
2 Crank Wheels 2 in. diam.
5 Base Blocks
5 Fixing Screws
5 Washers
Driving Band 12 in.



81

Models from Bings' Construction Set No. 4 or from No. 3 and 3a.



82

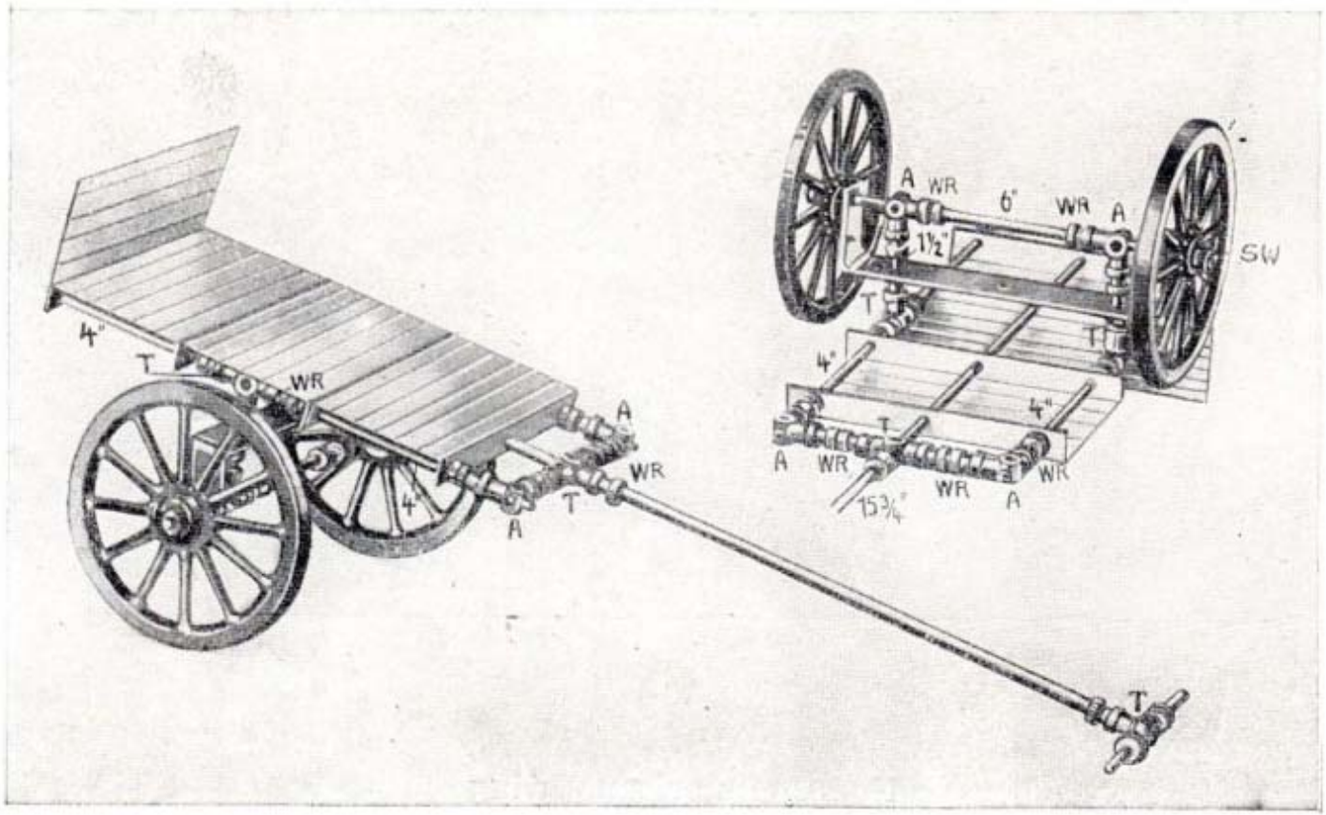
No. 82 American Swing

4 Bars with thread 3½ in.
4 „ „ „ 2 „
4 Standard Bars 6 „
4 „ „ 4¾ „
1 „ Bar 4 „
8 „ Bars 2⅞ „
2 „ „ 2 „
2 „ „ 1½ „

2 Standard Bars 1⅛ in.
4 „ „ 1 „
46 Short Tubes for filling out intervals ½ in.
10 „ „ „ „ „ „ ¼ „
1 Pulley Wheel as for Band-Saw 1½ in. diam.
1 Crank Wheel 2 in. diam.
4 T-Joints
16 Angle Joints, 6 Straight Joints

42 Wedge Rings
15 Spring Washers
2 Plates bent up on both sides 2×2 in.
24 Rungs
6 Base Blocks
6 Fixing Screws
7 Washers

This swing consists of two long arms which revolve upon a horizontal axle. Each arm has at its extremity a platform. These platforms are raised and lowered alternately by the movement of the swing arms.



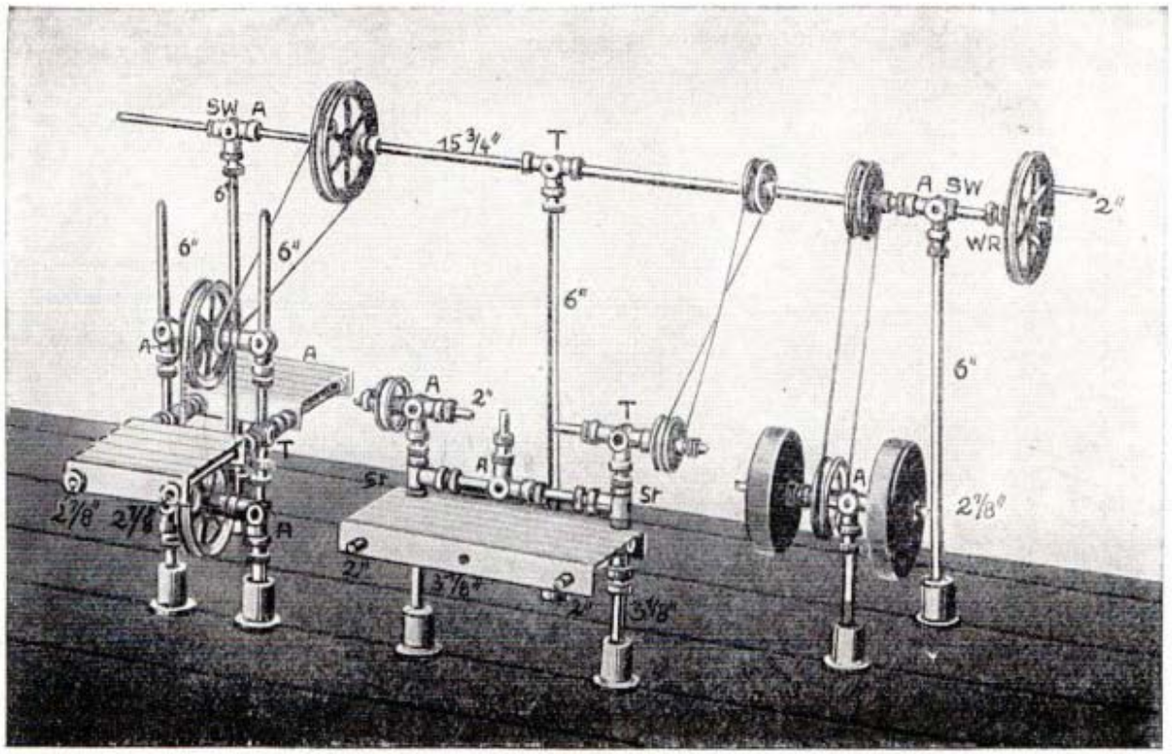
83

No. 83 Luggage Cart

1	Standard Bar	15¾	in.
1	„ „	6	„
4	„ Bars	4	„
1	„ „	2⅞	„
2	„ „	1½	„
2	„ „	1⅛	„
4	T Joints		

4 Angle Joints
20 Wedge Rings
7 Spring Washers
1 Under-Frame for Wheels
3 Plates bent up on both sides 4×2 in.
1 „ flat 4×2 in.
2 Wheels 3½ in. diam.

Models from Bings' Construction Set No. 4 or from No. 3 and 3a.



84

No. 84 Factory Installation No. 4

5	Bars with thread	6	in.
2	„ „ „	3⅛	„
2	„ „ „	2	„
1	Standard Bar	15¾	„
6	„ Bars	2⅞	„
1	„ „	2⅜	„
3	„ „	2	„
2	„ „	1⅛	„
1	„ „	1	„

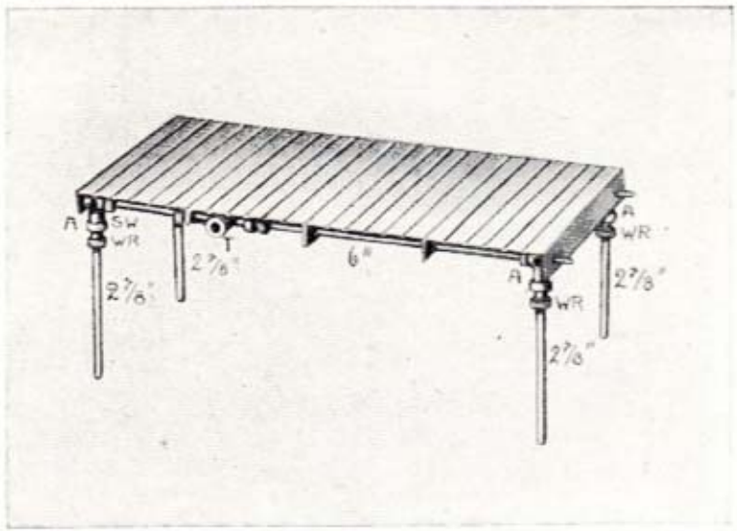
4 T-Joints
11 Angle Joints, 2 Straight Joints
31 Wedge Rings, 15 Spring Washers
3 Pulley Wheels ¾ in. diam.
2 „ „ 1⅛ „ „
2 „ „ as for Band Saw 1½ in. diam.
2 Crank Wheels 2 in. diam.
8 Base Blocks, 8 Fixing Screws
8 Washers

Factory Installation No. 4 (No. 84) consists of a Band Saw, a Lathe and a Polishing Machine.

The Band Saw is constructed as No. 34 in Set No. 2, the Lathe as No. 36, with this difference, that the vertical bars fixed in Base Blocks are 3⅛ in. instead of 2 in. long. The Polishing Machine is that shown under No. 6 (Set No. 1), excepting, however, that an Emery Wheel is fixed by two Spring Washers upon the horizontal axle next to the Pulley Wheel.

The 84 models shown so far may all be made with Set No. 4 or with Set No. 3 and 3a. Further models in unlimited numbers may be constructed according to Bings' Construction enthusiasts' own ideas. We would again point out that by purchasing the necessary separate parts many additions may be made to the models already described.

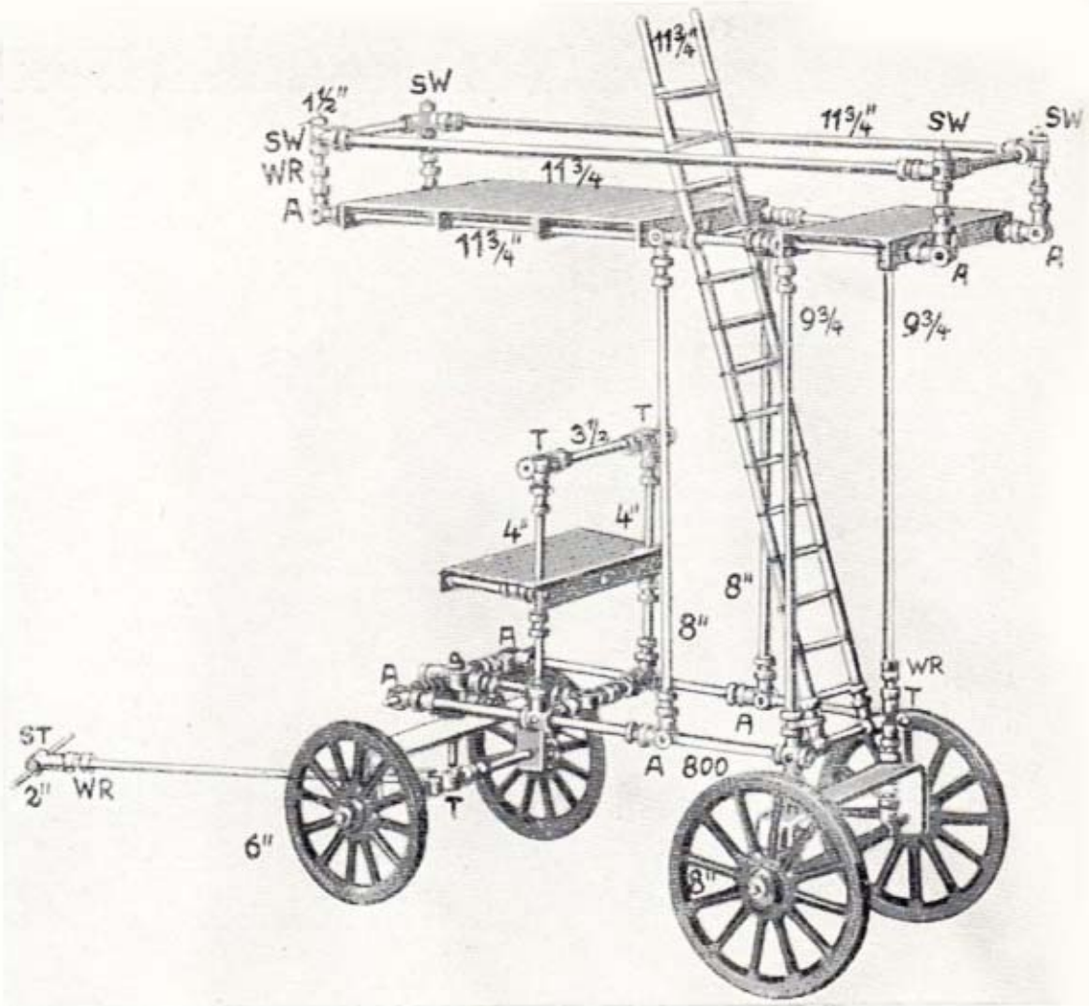
Models from Bings' Construction Set No. 5 or from No. 4 and 4a.



85

No. 85 Large Table

2	Standard Bars	6 in.	4 Plates bent up on both sides 4×2 in.
6	„	„ 2⅞ „	
2	„	„ 2⅜ „	12 Wedge Rings
4	Angle Joints,	2 T Joints	8 Spring Washers



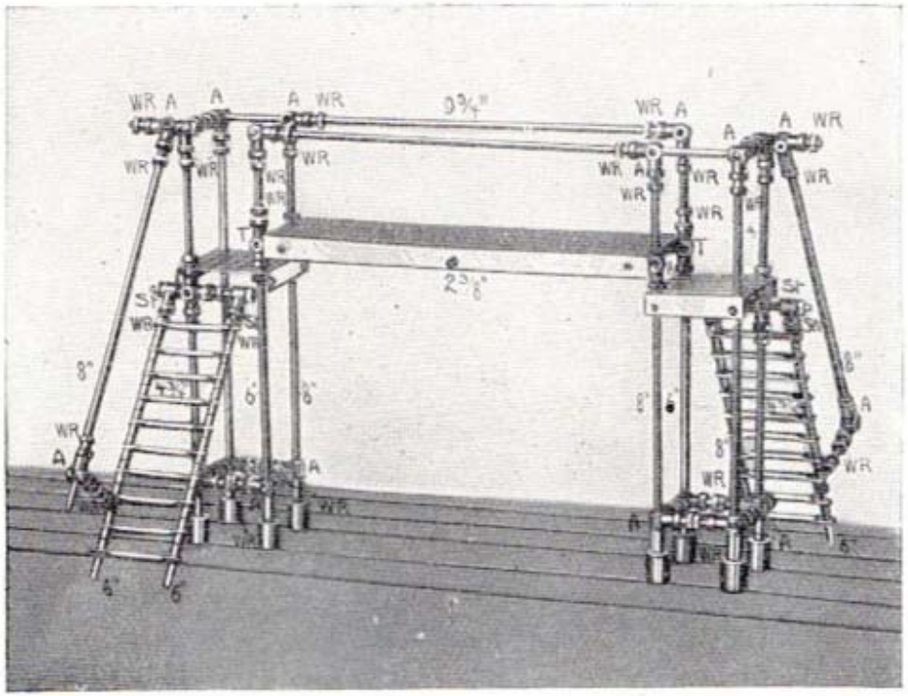
86

No. 86 Repair Waggon for Overhead Tram Wires

6	Standard Bars	11¾ in.	5	Standard Bars	2 in.	4 Straight Joints	18 Spring Washers
7	„	„ 8 „	1	„	Bar 2⅜ „	21 Angle Joints	20 Rungs
2	„	„ 6 „	4	„	Bars 1½ „	5 Plates bent up on both sides 4×2 in.	38 Short Tubes for filling out intervals ½ in.
2	„	„ 4 „	2	„	„ 1⅛ „	1 Centre Piece with 4 joints	2 Cart Wheels 2⅞ in. diam.
1	„	Bar 3½ „	2	Under-Frames for Wheels		1 Washer, 64 Wedge Rings	2 „ „ 3½ „ „
5	„	Bars 2⅞ „	6	T Joints			

Illustration No. 86 represents a Travelling Platform which is especially used for effecting repairs to Overhead Tramway Wires. The Platform, which is mounted on wheels, permits of repairs being carried out without interruption of traffic, as it may easily be moved out of the way of an approaching tram-car. For other purposes travelling platforms in somewhat different forms are used. The one here illustrated, with careful note of the bar lengths and joints, which are marked, will present no difficulty in construction.

Models from Bings' Construction Set No. 5 or from No. 4 and 4a.

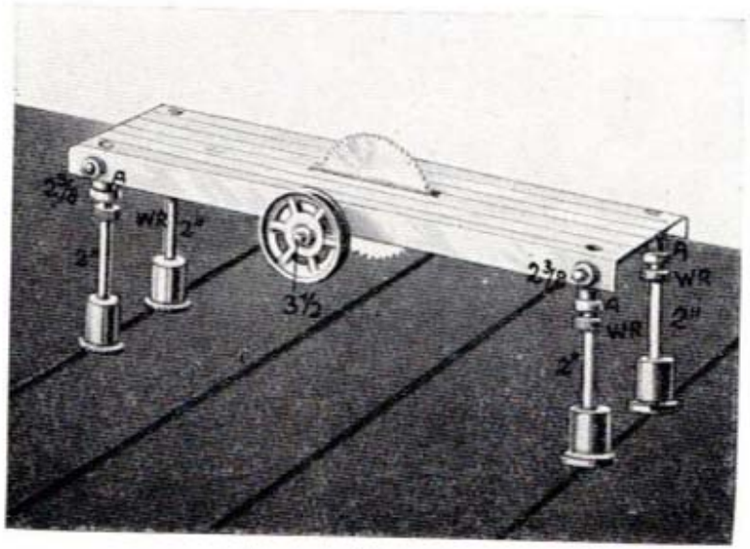


87 *)

No. 87 Railway Foot Bridge

2	Bars with thread	$9^3/_4$ in.	
6	„ „ „	8 „	
2	„ „ „	$4^4/_4$ „	
2	Standard Bars	8 „	
4	„ „	6 „	
2	„ „	$2^7/_8$ „	
3	„ „	$2^3/_8$ „	
4	„ „	$1^1/_2$ „	
4	„ „	$1^1/_8$ „	
6	„ „	1 „	
6	T Joints		
20	Angle Joints		
6	Straight Joints		

58 Wedge Rings
12 Spring Washers
8 Base Blocks
20 Rungs
4 Fixing Screws, 4 Washers
42 Short Tubes for filling out intervals $^1/_2$ in.
2 Short Tubes for filling out intervals $^1/_4$ in.
1 Plate, bent up on both sides 8×2 in.
2 Plates, bent up on both sides 2×2 in.



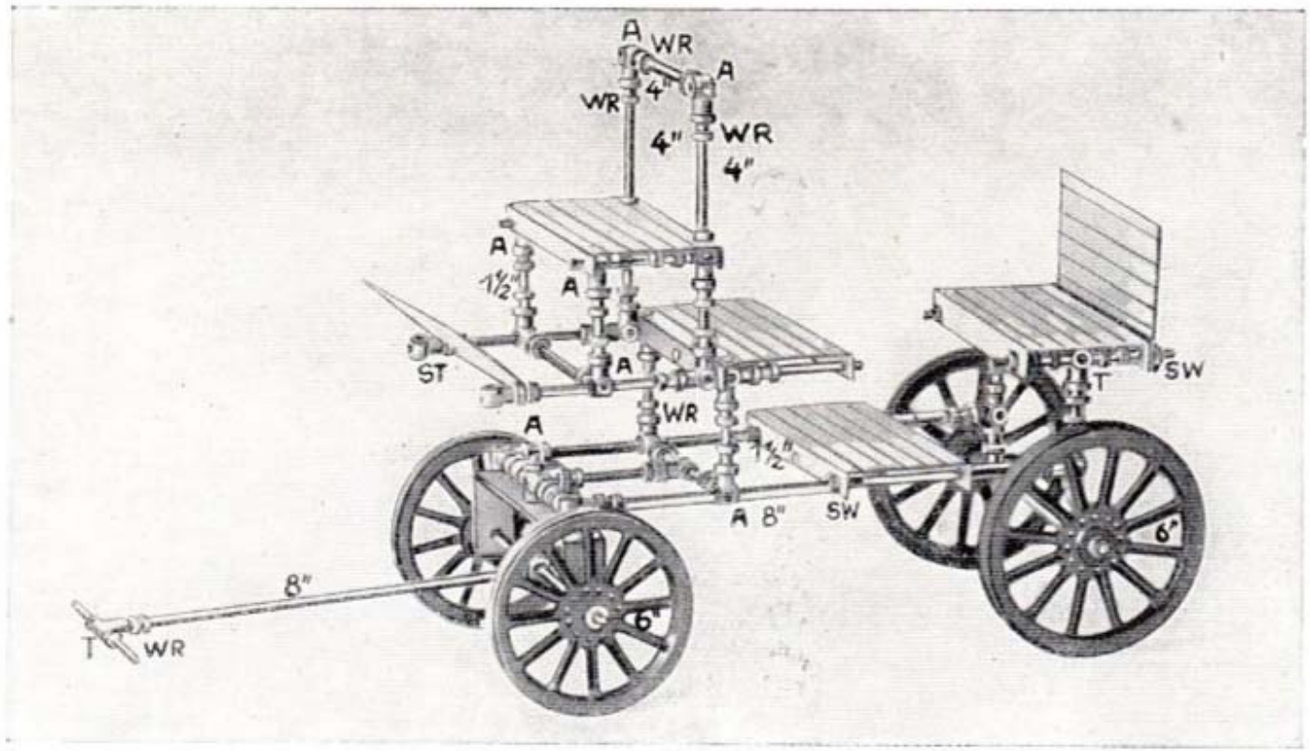
88

No. 88 Circular Saw

4 Bars with thread 2 in.
1 Standard Bar $3^1/_8$ in.
1 „ „ $2^3/_8$ „
2 Bars bent in right angles 2 in.
4 Angle Joints
5 Spring Washers
9 Wedge Rings
1 Circular Saw
1 Pulley Wheel $1^1/_8$ in. diam.
1 Plate bent up on both sides with slot, 8×2 in.
4 Base Blocks
4 Fixing Screws
4 Washers

*) **No. 87.** In the building of certain models it will be found that upright bars are to be erected on the base board at distances that are smaller than the distances of the grooves on the board. In such cases, as will be seen from illustration No. 87, all the upright bars in one line are secured to a groove in the board in the ordinary way by means of base blocks and corresponding fixing screws, whereas the other upright bars are fitted with base blocks only and are simply set down on the base board without the use of screws. Connection between the two rows of upright bars is to be made in the ordinary way by means of joints and short bars. The principal dimensions of this model are determined by the holes of the bent up plates 2×2 in. supporting the uprights of the steps and further by the bent up plate 8×2 in. forming the floor of the bridge itself. When building this model it will be found advisable first to build the steps on one side and then to find the right position for the steps on the other side with the before-mentioned floor plate 8×2 in.

Models from Bings' Construction Set No. 5 or from No. 4 and 4a.



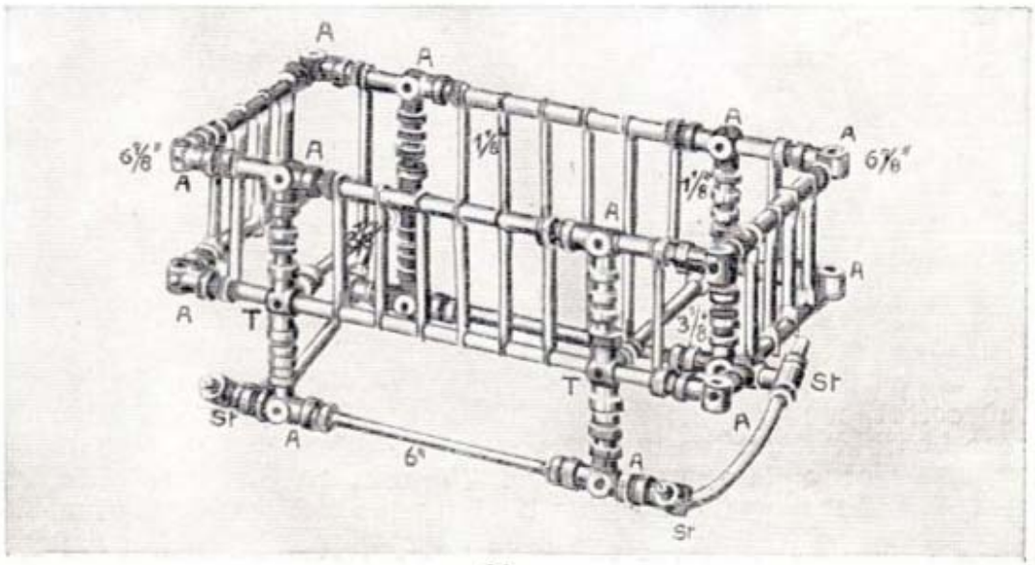
89

No. 89 Waggon

3 Standard Bars 8 in.
4 „ „ 6 „
3 „ „ 4 „
5 „ „ $2^{7}/_{8}$ „
2 „ „ $2^{3}/_{8}$ „
3 „ „ 2 „
2 „ „ $1^{1}/_{2}$ „
2 „ „ $1^{1}/_{8}$ „
4 T Joints, 19 Angle Joints
5 Straight Joints, 55 Wedge Rings
22 Spring Washers
24 Short Tubes for filling out intervals $^{1}/_{2}$ in.
2 Wheels $2^{7}/_{8}$ in. diam.
2 „ $3^{1}/_{2}$ „ „
2 Under-Frames for Waggon Wheels
4 Plates bent up on both sides 4×2 in.
2 Plates flat 4×2 in.

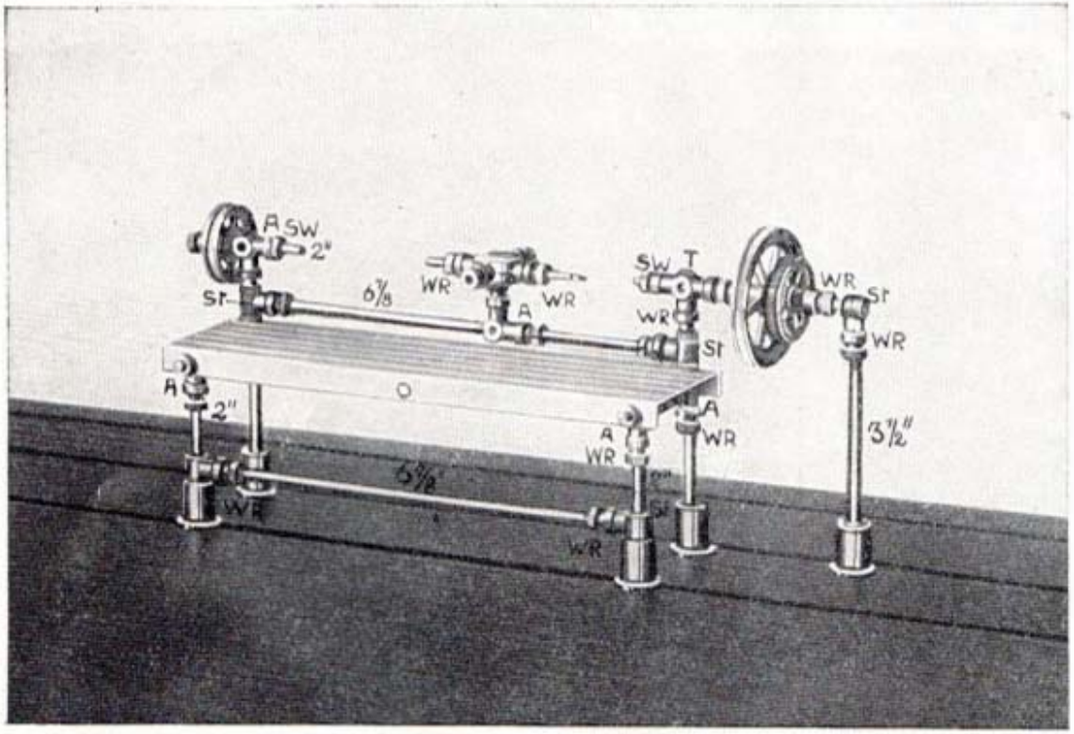
No. 90 Cradle

4 Bars with thread $3^{1}/_{8}$ in.
2 „ bent in half circles $4^{1}/_{4}$ in. diam.
4 Standard Bars $6^{7}/_{8}$ in.
2 „ „ 6 „
2 „ „ $3^{1}/_{8}$ „
4 „ „ $1^{1}/_{8}$ „
4 „ „ 1 „
4 T Joints
16 Angle Joints
4 Straight Joints
48 Wedge Rings
8 Spring Washers
24 Rungs
44 Short Tubes for filling out intervals $^{1}/_{2}$ in.



90

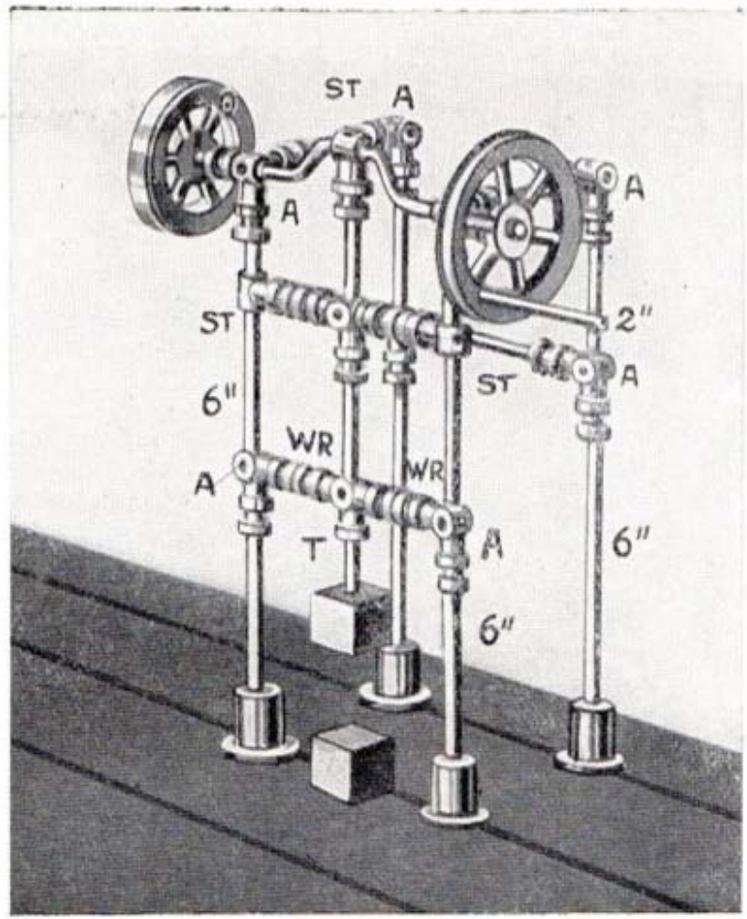
Models from Bings' Construction Set No. 5 or from No. 4 and 4a.



91

No. 91 Large Lathe

3 Bars with thread $3^1/_8$ in.
2 „ „ „ 2 „
1 Pointed Standard Bar $3^1/_2$ in.
2 Standard Bars $6^7/_8$ in.
3 „ „ 2 „
4 „ „ 1 „
1 T Joint
6 Angle Joints
5 Straight Joints
1 Centre Piece
1 Pulley Wheel 2 in. diam.
2 „ „ $1^1/_8$ „ „
24 Wedge Rings
6 Spring Washers
1 Plate bent up on both sides 8×2 in.
1 Drill 1 in.
5 Base Blocks
3 Fixing Screws
3 Washers

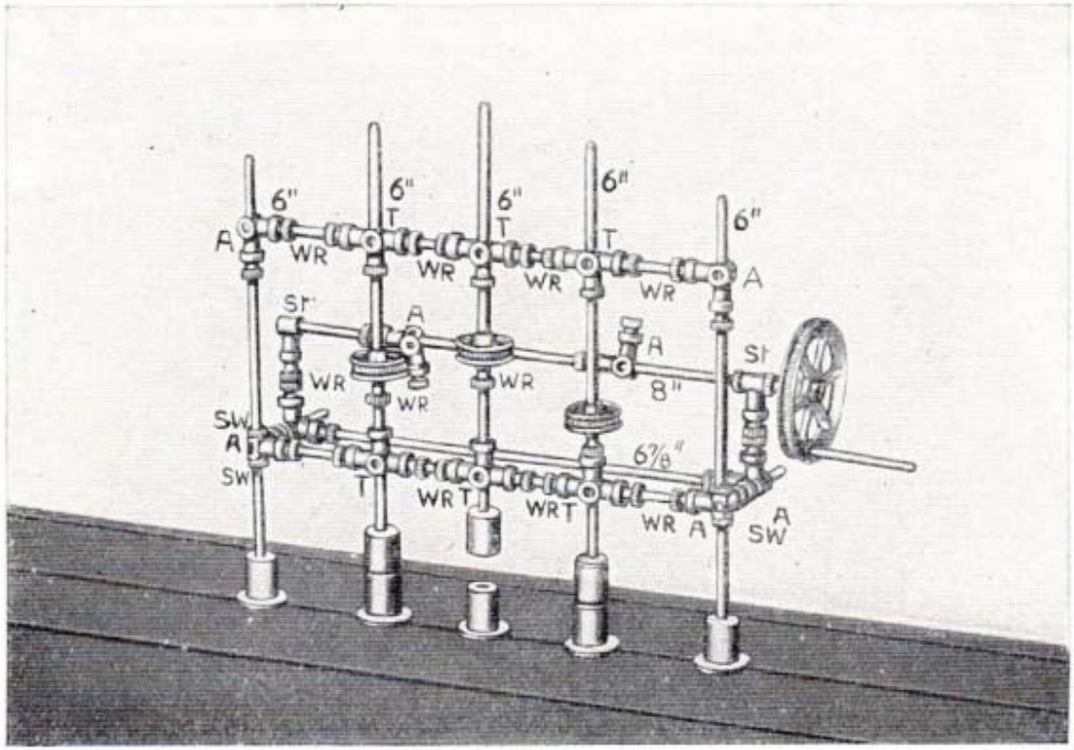


92

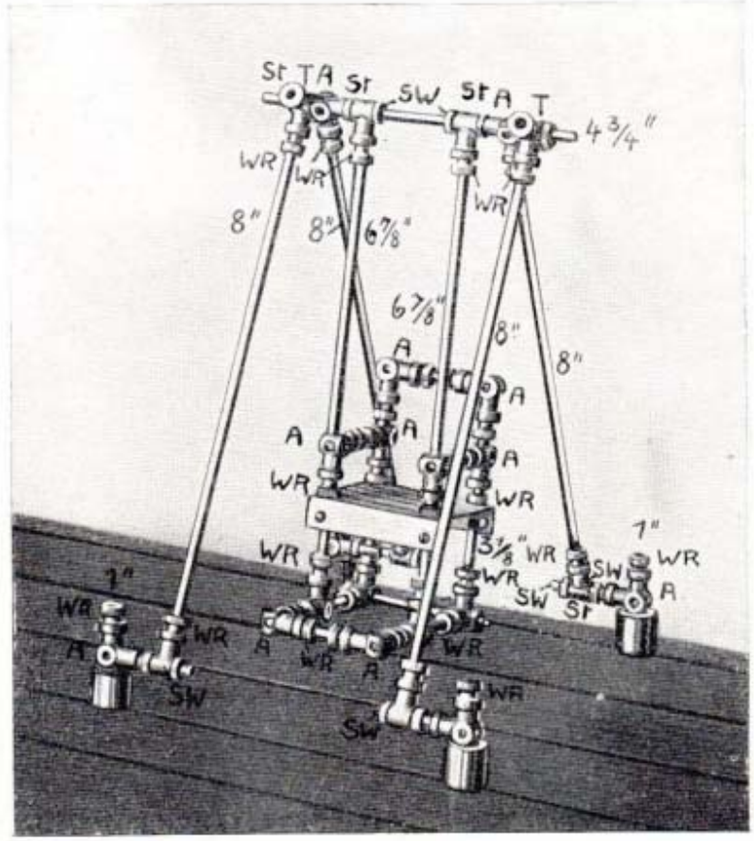
No. 92 Forge Hammer

4 Bars with thread 6 in.
1 Bar „ „ 2 „
1 Standard Bar $2^3/_8$ in.
2 „ „ 2 „
4 „ „ $1^1/_8$ „
1 Jointed Standard Bar
1 Standard Bar with crank
2 T Joints, 8 Angle Joints
2 Straight Joints
26 Wedge Rings
1 Hammer
1 Pulley Wheel 2 in. diam.
1 Fly Wheel
4 Base Blocks
4 Fixing Screws
4 Washers

Models from Bings' Construction Set No. 5 or from No. 4 and 4a.



93



94

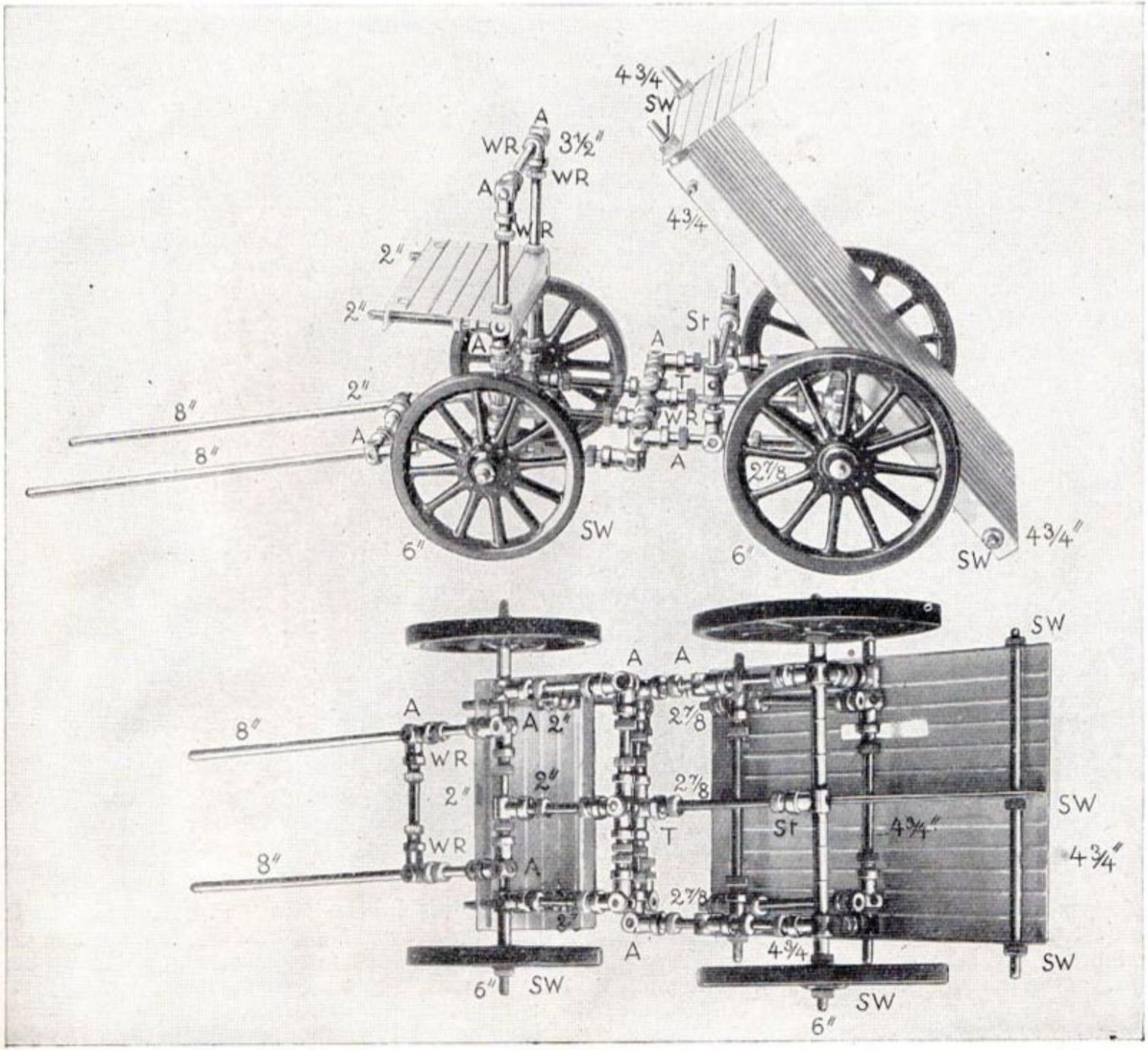
No. 93*) Triple Crushing Mill

5	Bars with thread	6	in.	9	Angle Joints
1	Bar „ „	2	„	2	Straight Joints
1	Standard Bar	8	„	37	Wedge Rings
1	„ „	$6^{7}/_{8}$	„	11	Spring Washers
2	„ Bars	2	„	1	Pulley Wheel 2 in. diam.
4	„ „	$1^{1}/_{2}$	„	3	Pulley Wheels $^{3}/_{4}$ in. diam.
4	„ „	$1^{1}/_{8}$	„	8	Base Blocks
2	„ „	1	„	5	Fixing Screws
6	T Joints			5	Washers

No. 94 Chair Swing

4	Bars with thread	2	in.	2	T Joints
4	Standard Bars	8	„	18	Angle Joints
2	„ „	$6^{7}/_{8}$	„	6	Straight Joints
1	„ Bar	$4^{3}/_{4}$	„	42	Wedge Rings
2	„ Bars	$3^{1}/_{2}$	„	14	Spring Washers
2	„ „	$2^{7}/_{8}$	„	1	Plate bent up on both sides 2×2 in.
1	„ Bar	$2^{3}/_{8}$	„		
1	„ „	2	„	4	Base Blocks
4	„ Bars	$1^{1}/_{2}$	„	4	Fixing Screws
3	„ „	$1^{1}/_{8}$	„	4	Washers

*) **No. 93.** When building this model be sure to see that the T Joints in which the hammers move are placed at exactly the same distance from each other in both rows so that the hammers can rise and fall easily and without friction. The distance between the hammers is determined by bars $1^{1}/_{8}$ in. long and from the corner columns by bars $1^{1}/_{2}$ in. long.



95 View from below

See next page for further details about this model.

No. 95

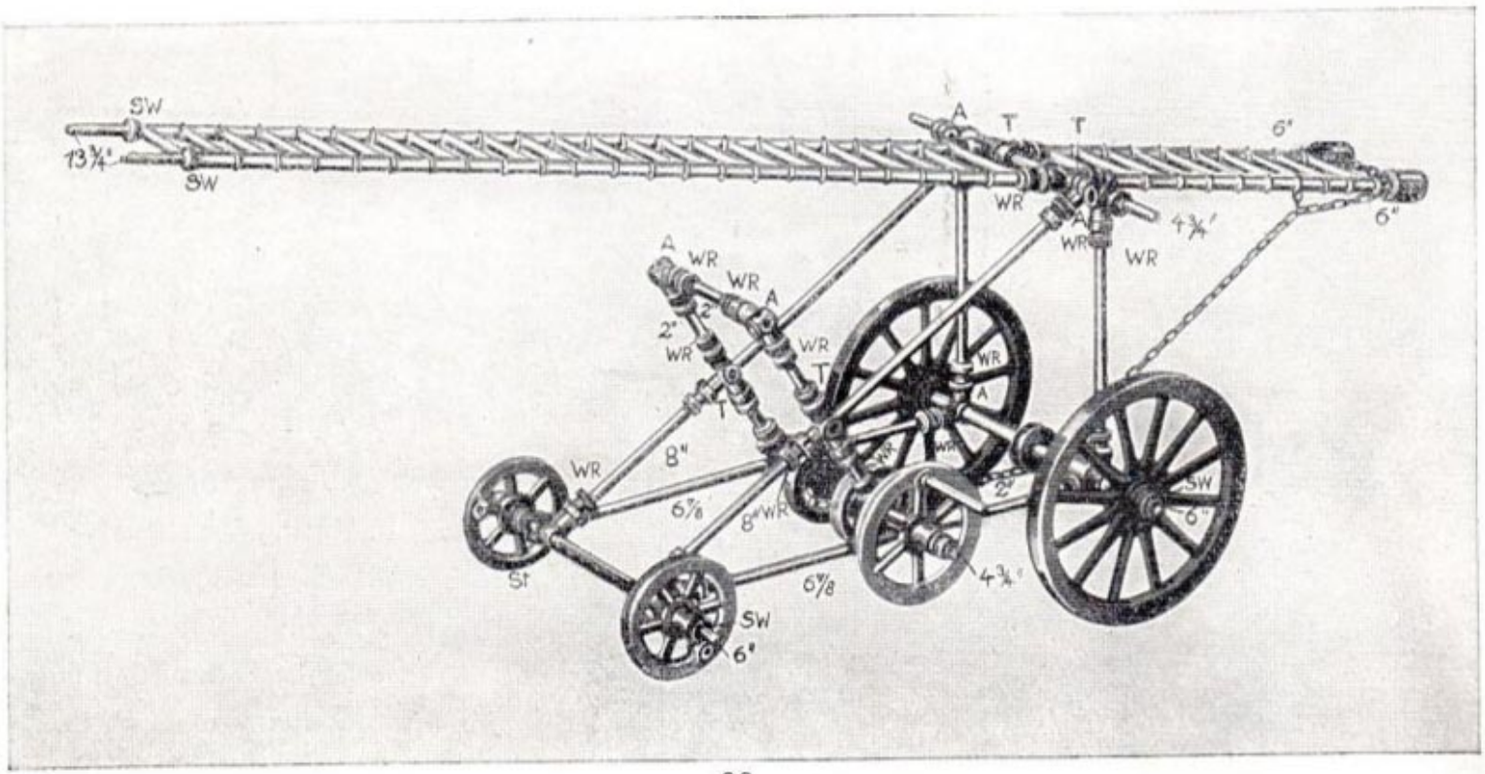
Tilting Cart

2	Standard Bars	8	in.
2	„ „	6	„
3	„ „	4 3/4	„
2	„ „	4	„
1	„ „	3 1/2	„
3	„ „	3 1/8	„
3	„ „	2 7/8	„
6	„ „	2	„
4	„ „	1 1/2	„
4	„ „	1 1/8	„
2	„ „	1	„

4 T Joints
20 Angle Joints
6 Straight Joints
58 Wedge Rings
16 Spring Washers
2 Wheels 3 1/2 in. diam.
2 „ 2 7/8 „ „
8 Short Tubes for filling out intervals 1/2 in.
2 Short Tubes for filling out intervals 1/4 in.
2 Plates bent up on both sides 8×2 in.
1 Plate bent up on both sides 4×2 in.
1 Plate, flat 4×2 in.

No. 95 (illustration on former page). When building this very realistic model, it is advisable to build the frame for the front wheels and the driver's seat separately from the frame of the back wheels with the tilting platform, and then to connect the two parts by a $1^1/_8$ in. bar and two spring washers, in such a manner that the two parts can turn round this bar as on a pivot. From this point it is advisable to start building both parts of this tilting cart. Proceed as follows:—Insert a bar $1^1/_2$ in. long in each end of the **T** Joint in such a manner that the bar serving as a pivot can easily be introduced into the centre opening of this **T** Joint, then place at the end of the two bars two angle joints. Into these angle joints and into the remaining opening of the **T** Joint insert three bars $2^7/_8$ in. long and proceed according to details shown in illustration. The same thing applies to the building of the fore part, the measurements of the bars being different, as shown in the illustration.

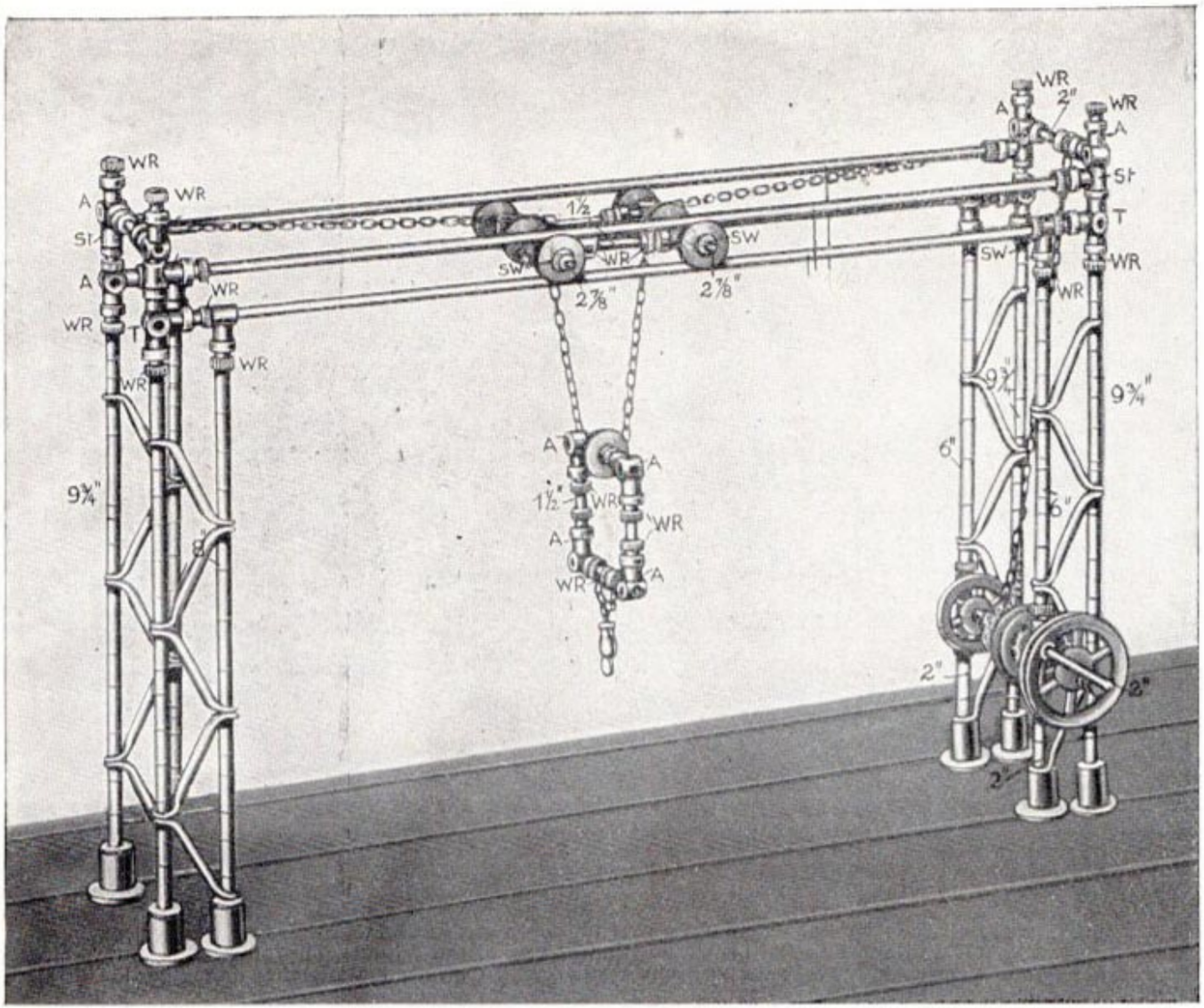
No. 96 Fire Escape No. 4



96

2 Bars with thread 6 in.
1 Bar „ „ 2 „
2 Standard Bars $13^3/_4$ „
2 „ „ 8 „
2 „ „ $6^7/_8$ „
2 „ „ 6 „
2 „ „ $4^3/_4$ „
2 „ „ 4 „
3 „ „ 2 „
2 „ „ $1^1/_2$ „
4 T Joints, 8 Angle Joints
6 Straight Joints, 34 Rungs
31 Wedge Rings
9 Spring Washers
71 Short Tubes for filling out intervals $^1/_2$ in.
3 Short Tubes for filling out intervals $^1/_4$ in.
2 Base Blocks
2 Pulley Wheels as for Band Saw $1^1/_2$ in. diam.
2 Pulley Wheels $1^1/_8$ in. diam.
1 „ „ 2 „ „
1 Chain Drum, as used for Cranes
1 Chain 20 in. long
2 Wheels $3^1/_2$ in. diam.

No. 96. When building this model begin with the 6 in. bar forming the axle for the large wheels. Place upon this axle in the centre a chain drum as used for cranes, then place on one side of this drum three aluminium tubes $^1/_2$ in. long and on the other side two aluminium tubes $^1/_2$ in. long and one of $^1/_4$ in. Then place one angle joint on the right side and one on the left side and again next to these angle joints place an aluminium tube $^1/_2$ in. long on each side next to the angle joints. Now place a large wheel at each end of the axle and secure them by means of two spring washers one on each end of the axle. After this secure two bars 4 in. long into the angle joints pointing in an upright direction and two other bars $6^7/_8$ in. long into the other openings of the angle joints pointing forward horizontally, then proceed according to the details shown in the illustration. The chain is secured between two pulley wheels $1^1/_8$ in. diam. which are in turn secured upon the revolving axle $4^3/_4$ in. long.

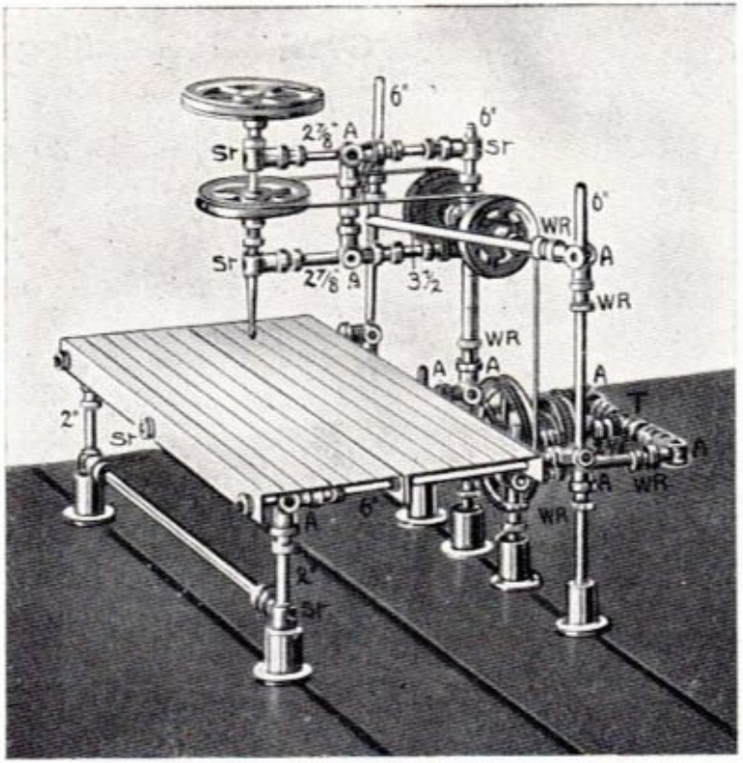


97

No. 97
Overhead Travelling Crane

2	Bars with thread	$9^3/_4$ in.
4	„ „ „	8 „
3	„ „ „	2 „
4	Standard Bars	$13^3/_4$ „
2	„ „	6 „
1	„ Bar	4 „
2	„ Bars	$2^7/_8$ „
4	„ „	2 „
2	„ „	$1^1/_2$ „
2	„ „	$1^1/_8$ „
4	T Joints, 14 Angle Joints	
8	Straight Joints	
44	Wedge Rings	
12	Spring Washers	
1	Pulley Wheel $1^1/_2$ in. diam.	
2	„ Wheels $1^1/_8$ „ „	
7	Crane Rollers	
1	„ Chain	
1	Hook, 20 Rungs	
103	Short Tubes for filling out intervals $^1/_2$ in.	
10	Short Tubes for filling out intervals $^1/_4$ in.	
8	Base Blocks	
8	Fixing Screws, 8 Washers	

No. 97. This is a good model of a so-called Overhead Travelling Crane, such as are in use on Railway Goods Stations, in Factories, etc., for transferring loads from railway trucks into carts or vice-versa. On the main frame the trolley with the crane chain can be moved sideways so that a load, when lifted, can be shifted sideways and deposited wherever it is required. The width of the main frames is determined by the distance between the two grooves in the base board, whereas the length of the structure is determined by the long horizontal bars $13^3/_4$ in. long. The drum on which the chain winds up, is to be made of two pulley wheels exactly as in model No. 96.



98

No. 98 Drilling Machine with Movable Frame

3	Bars with thread 6 in.	1	Short Tube for filling out interval $^1/_4$ in.
4	„ „ „ 2 „	1	Pulley Wheel 2 in. diam.
1	Standard Bar $6^7/_8$ „	1	„ „ $1^1/_2$ „ „
3	„ „ $4^3/_4$ „	3	„ „ $1^1/_8$ „ „
2	„ „ $3^1/_2$ „	1	Fly Wheel
2	„ „ $2^7/_8$ „	1	Plate, bent up on both sides, 8×2 in.
3	„ „ $2^3/_8$ „		with slot
4	„ „ $1^1/_2$ „	1	Plate, bent up on both sides, 8×2 in.
2	T Joints, 14 Angle Joints	7	Base Blocks
6	Straight Joints	7	Fixing Screws
42	Wedge Rings	7	Washers
3	Spring Washers	1	Drill $3^1/_2$ in. long
2	Short Tubes for filling out intervals $^1/_2$ in.		Driving Band 20 in. long

No. 99. Suspended Ferry No. 1 (Illustration on opposite page).—This type of ferry takes the place of bridges in certain cases, where special circumstances make it impracticable to use a rigid bridge or the ordinary type of ferry. As in the model, the travelling stage is drawn from one side to the other by chains, only the chains are in reality passed upwards over the top of the frames, so as to give as much clearance on the water-way as possible.

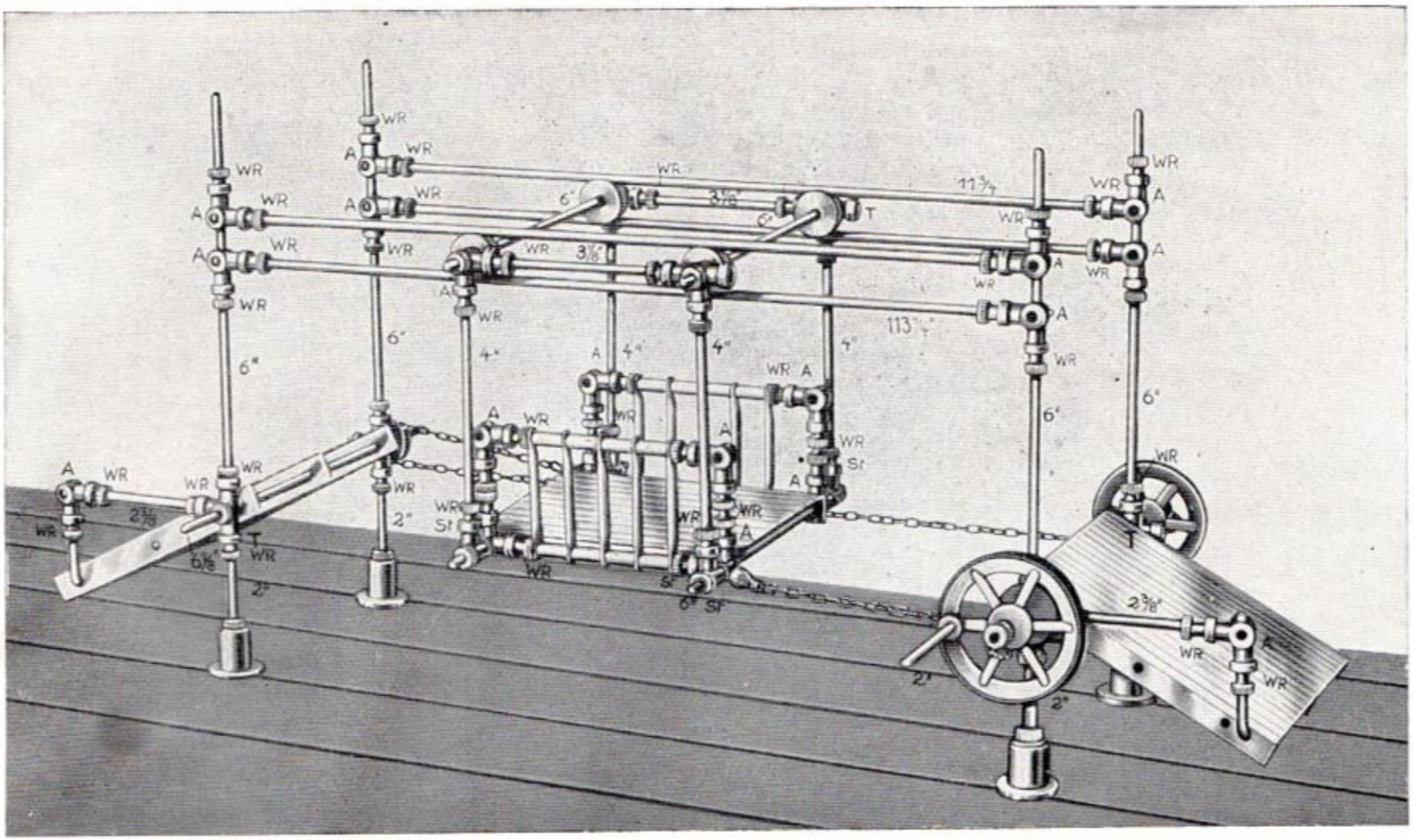
The dimensions are determined:

a) by the length of transverse bars $11^3/_4$ in. long serving as rails for the running wheels of the travelling stage.

b) by the distance between the two upright bars on either side, which is equal to the distance from one groove to the second following groove, one groove being left unused.

Erect two uprights by using 2 in. bars with thread, then wedge on each a T Joint and into each a Standard Bar 6 in. long, leaving the centre opening of the T Joint so far unoccupied; now insert a bar $6^7/_8$ in. long into the centre opening of one of the T Joints, slip on two bent up plates 4×2 in., and then insert the bar into the opening of the other T Joint. On each end of this bar, which must protrude an equal distance on either side, first a washer is placed, then a $^1/_2$ in. aluminium tube, then at one end a pulley wheel 2 in. diam. and at the other end a pulley wheel $1^1/_2$ in. diam. Both these wheels must be securely fixed on the axle by means of wedge rings. In the 2 in. diam. wheel a bar with thread 2 in long is fixed to serve as crank. Care must be taken that the whole turns easily in the bearings formed by the centre openings of the T Joints. The bent up plates are held in position thus:—Insert a $2^3/_8$ in. bar into the free opening of the T Joint and at the other end of it place an angle joint which in turn holds a $1^1/_2$ in. right angle bar fixed by a wedge ring. Underneath the bottom of the plates, through the holes, a 4 in. bar is run and held in place by a wedge ring. At the opposite end of the base board build a similar erection to that just made, but instead of fixing pulley wheels to each end of the $6^7/_8$ in. bar, fix a winding drum (roller, as used for cranes) on to that end of it which is on the same side as the $1^1/_2$ in. pulley wheel. On the top of the 4 uprights fix the transverse bars $11^3/_4$ in. long serving as rails for the wheels (rollers, as used for cranes) by means of angle joints, but before wedging the bars in, do not omit to first place the wheels between them. The method of building the stage is easily seen by the illustration. The chains should be secured to the spokes of the pulley wheels; one chain leads to the travelling stage and is linked on to it by the hook, the other chain is taken over the winding drum on the opposite side and then leads back to the corresponding side of the travelling stage.

Models from Bings' Construction Set No. 5 or from No. 4 and 4a.



99

No. 99 Suspended Ferry No. 1

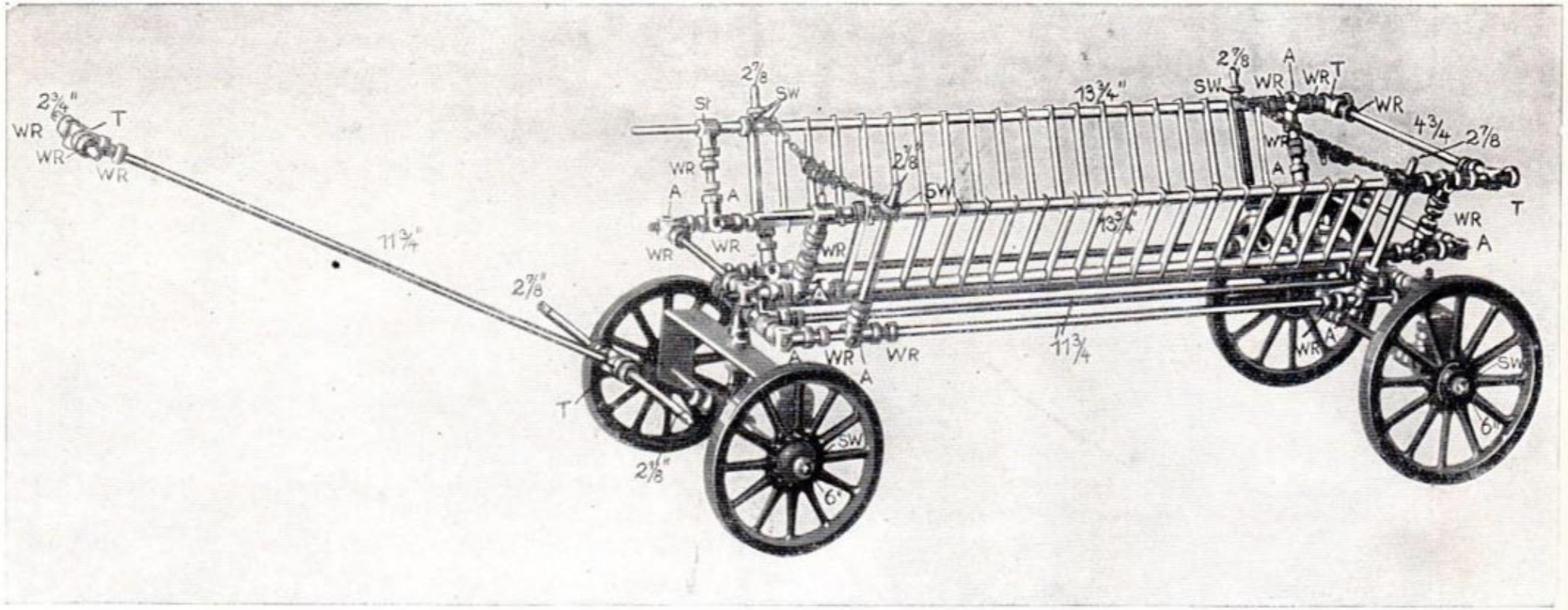
2 Bars with thread 6 in.
5 „ „ „ 2 „
4 Standard Bars $11^3/_4$ „
2 „ „ $6^7/_8$ „
6 „ „ 6 „
8 „ „ 4 „
2 „ „ $3^1/_8$ „
2 „ „ $2^7/_8$ „

2 Standard Bars $2^3/_8$ in.
4 „ „ $1^1/_8$ „
2 „ „ bent in right angles $1^1/_2$ in.
6 T Joints
20 Angle Joints
4 Straight Joints
62 Wedge Rings

14 Spring Washers
5 Crane Rollers
1 Crane Chain with hook 20 in. long
1 „ „ „ „ 10 „ „
1 Pulley Wheel $1^1/_2$ in. diam.
1 „ „ 2 „ „
4 Plates bent up on both sides 4×2 in.

1 Plate bent up on both sides 4×4 in.
10 Rungs
18 Short Tubes for filling out intervals $^1/_2$ in.
4 Base Blocks
4 Fixing Screws
6 Washers

(Description of this model on opposite page.)



100

No. 100 Farm Waggon

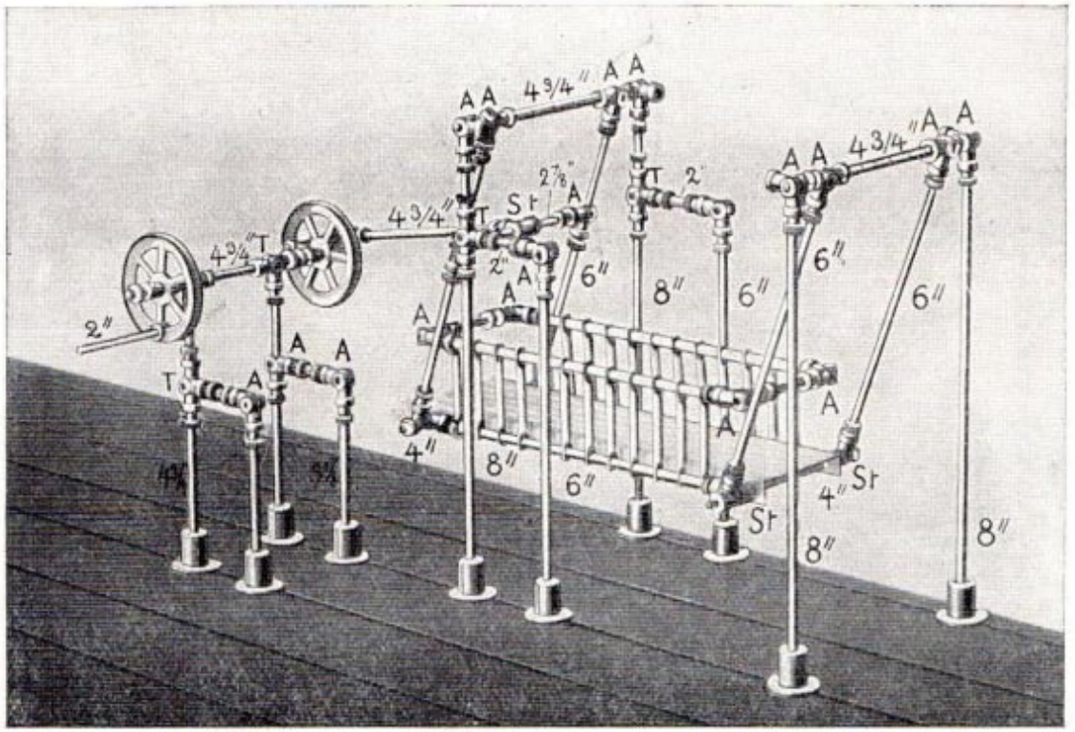
4	Standard Bars	13¾	in.
6	„ „	11¾	„
2	„ „	6	„
1	„ Bar	4¾	„
2	„ Bars	3⅛	„
8	„ „	2⅞	„
1	„ Bar	2⅜	„

2	Standard Bars	1½	in.
4	„ „	1⅛	„
1	„ Bar	1	„

5 T Joints
21 Angle Joints
7 Straight Joints
63 Wedge Rings

20 Spring Washers
40 Rungs
76 Short Tubes for filling out intervals ½ in.
2 Wheels 3½ in. diam.
2 „ 2⅞ „ „
2 Under Frames for Waggon Wheels
2 Chains with Hooks

Models from Bings' Construction Set No. 5 or from No. 4 and 4a.



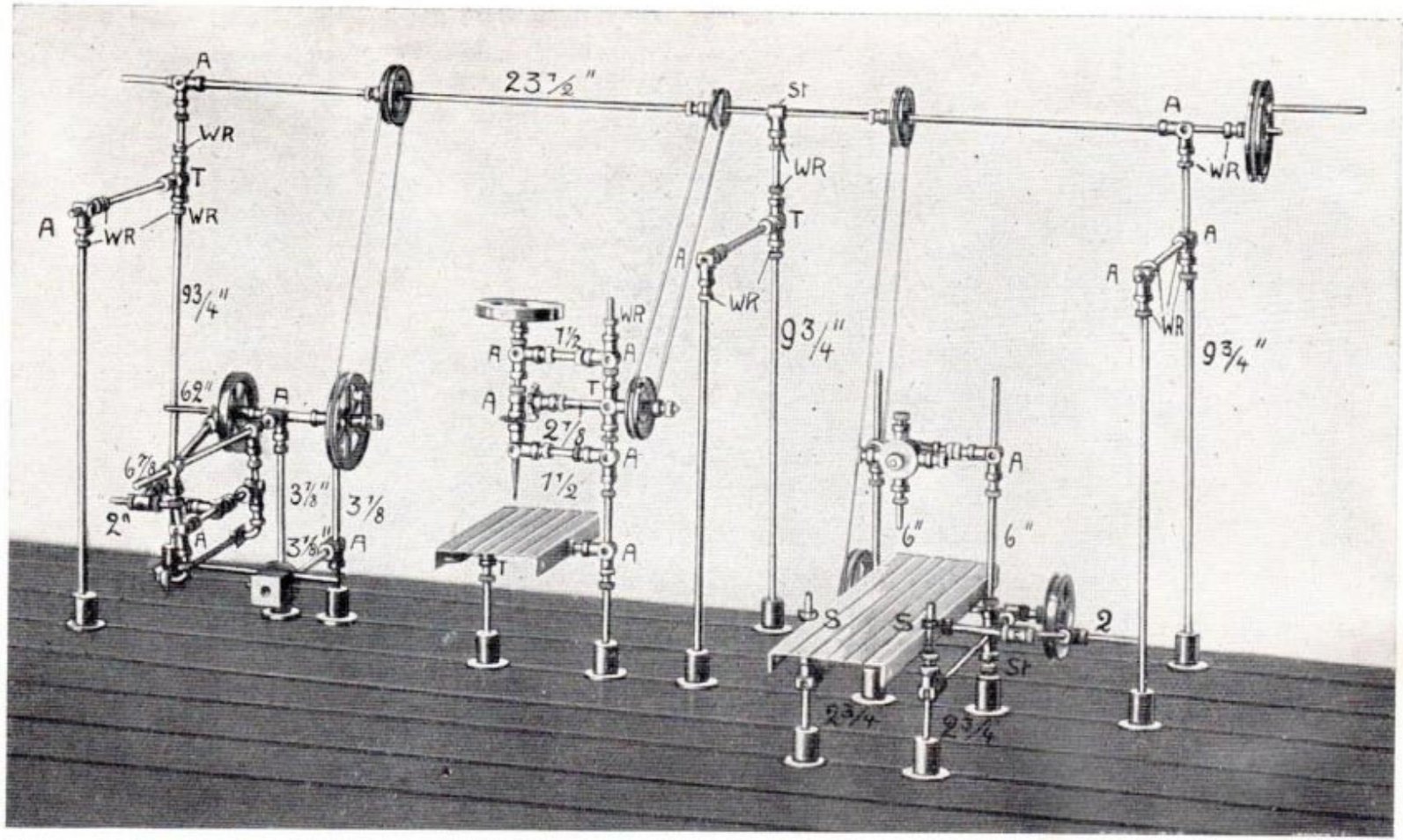
101

No. 101 Horizontal Platform Swing

4	Bars with thread	8	in.	1	Standard Bar $2^{7}/_{8}$ in.
2	„ „ „	6	„	2	„ Bars $2^{3}/_{8}$ „
2	„ „ „	$4^{3}/_{4}$	„	2	„ „ 2 „
2	„ „ „	$3^{1}/_{8}$	„	2	„ „ $1^{1}/_{2}$ „
2	„ „ „	2	„	5	T Joints
4	Standard Bars	$6^{7}/_{8}$	„	20	Angle Joints
4	„ „	6	„	9	Straight Joints
4	„ „	$4^{3}/_{4}$	„	53	Wedge Rings
2	„ „	4	„	17	Spring Washers

24	Rungs
52	Short Tubes for filling out intervals $^{1}/_{2}$ in.
2	„ „ „ „ „ „ $^{1}/_{4}$ „
1	Plate bent up on both sides 4×2 in.
2	Pulley Wheels 2 in. diam.
10	Base Blocks
10	Fixing Screws
10	Washers

Models from Bings' Construction Set No. 5 or from No. 4 and 4a.



102*) (For detailed description see next page.)

No. 102 Factory Installation No. 5

2 Bars with thread 9¾ in.
4 „ „ „ 8 „
1 Bar „ „ 4¾ „
3 Bars „ „ 3½ „
2 „ „ „ 2¾ „
4 „ „ „ 2 „
2 „ „ „ 1⅛ „
1 Standard Bar 23½ „
1 „ „ 6⅞ „
2 „ Bars 6 „
4 „ „ 4¾ „
5 „ „ 4 „

1 Standard Bar 3½ in.
3 „ Bars 2⅞ „
2 „ „ 2 „
2 „ „ 1½ „
1 „ „ 1⅛ „
2 Standard Bars bent in right angles 2 in.
2 Standard Bars bent in right angles 1½ in.
1 Pointed Standard Bar 1 in.
1 Drill 3½ in.

6 T Joints
22 Angle Joints
9 Straight Joints
81 Wedge Rings
17 Spring Washers
1 Hammer
3 Pulley Wheels 2 in. diam.
2 „ „ 1½ „ „
3 „ „ 1⅛ „ „
1 „ Wheel ¾ „ „
1 Fly Wheel
1 Centre Piece

1 Plate bent up on both sides 8×2 in.
1 „ „ „ „ „ „ 4×2 „
6 Short Tubes for filling out intervals ½ in.
1 Short Tube for filling out interval ¼ in.
14 Base Blocks
14 Fixing Screws
15 Washers
1 Saw Blade
Driving Band 60 in. long

No. 102. Factory Installation No. 5

This factory installation represents a Machine Shop with a Metal-Planing Machine, a Vertical Drill and a Metal-Saw.

The Planing Machine serves to make the surfaces of various pieces of metal perfectly even. For this purpose these metal pieces are secured to a movable table and this table is moved mechanically backwards and forwards under a strong steel tool, which does the planing or levelling.

In other smaller planes, the planing tool itself moves while the metal surfaces to be planed remain stationary.

To build the Plane proceed in this way:—

Secure two $2^{3}/_{4}$ in. bars with thread in one groove and two other $1^{1}/_{8}$ in. bars with thread two grooves distant from the first. Then fix two T joints to these two latter bars and into the holes pointing upwards put two standard bars $4^{3}/_{4}$ in. long. On to each of these two last-mentioned bars secure two angle joints at a distance of about 1 in. from the top and connect these by a standard bar 2 in. long on which the planing tool is held by means of another angle joint. Into this angle joint wedge a $1^{1}/_{8}$ in. bar which holds the centre piece with tool.

The tool itself, formed of a pointed standard bar 1 in. long, is fixed into the undermost hole of the centre piece as seen in the illustration.

Now fix two standard bars 6 in. long horizontally into the two T joints, then fasten the ends of these firmly into the two angle joints at the same height as the T joints. At the other end of these two 6 in. standard bars, fix two straight joints and through the crossway holes of these insert a standard bar $4^{3}/_{4}$ in. long. At the left end of this fix a pulley wheel 2 in. diam. and at the right end a crank wheel made of a pulley wheel (as used for band saw) and a 2 in. bar with thread.

On the handle of the wheel fasten a straight joint and into the latter insert a standard bar 4 in. long and at the end of same another straight joint. Now lay the bent up plate 8×2 in. on the wedge rings of the four upright bars. Into the straight joint on the end of the 4 in. bar another standard bar 4 in. long is to be inserted and run through the middle holes of the plate, thus holding same in position. The revolution of the wheels causes the plate to move backwards and forwards as mentioned at the beginning.

To build the Vertical Drill commence by making the table. First erect two bars with thread, one (at the left side) 2 in. long and the other (at the right side) $4^{3}/_{4}$ in. long at a distance of $2^{3}/_{8}$ inches from each other in the middle groove of the base board. At the top of the 2 in. standard bar a T joint is to be fixed by means of a wedge ring and on the $4^{3}/_{4}$ in. standard bar, fasten an angle joint at the same height as the T joint. Rest the bent up plate on the T joint at the left side with the left hand centre hole of the plate corresponding with the centre opening of the T joint. Then slip a $2^{7}/_{8}$ in. standard bar through the middle holes of the plate and T joint into the angle joint at the opposite side. In order to hold the table rigid, insert a right angle bar $1^{1}/_{2}$ in. long into each of the two vacant holes of the T joint. At the top of the $4^{3}/_{4}$ in. bar a T joint is wedged, below which an angle joint has previously been fixed with a standard bar $1^{1}/_{2}$ in. long inserted in it. This short arm holds at its extremity another angle joint. Above the T joint another angle joint holding a $1^{1}/_{2}$ in. bar with yet another angle joint, is fastened. Run the drill through the top angle joint, slip a wedge ring and a cog wheel (represented by a wheel for crane chain) on it, and run same through the undermost angle joint. Through the middle of the T joint between the

two angle joints insert a $2^{7}/_{8}$ in. bar holding a pulley wheel $1^{1}/_{8}$ in. diam. wedged at the right end. At the opposite end fasten another cog wheel in a perpendicular position, the teeth of which must engage in those of the cog wheel lying horizontally. At the top of the drill a fly wheel is fastened.

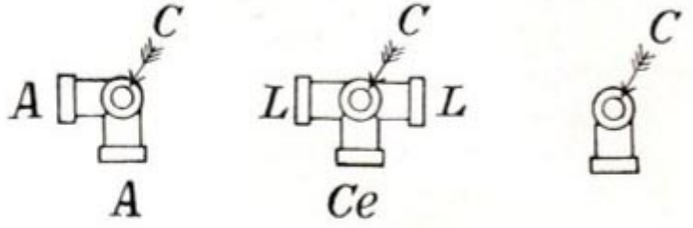
When building the Metal Saw first erect two bars with thread $3^{1}/_{8}$ in. long into a groove at a distance of $1^{1}/_{8}$ in. from each other. The one on the right side holds an angle joint fastened as low down as possible; another angle joint is fixed to the top. The bar on the left hand holds an angle joint at the top only. Through the two angle joints slip a standard bar $3^{1}/_{8}$ in. long having first placed a short aluminium tube in the middle. Put a 2 in. diam. pulley wheel on the right and a $1^{1}/_{8}$ in. diam. pulley wheel with crank on the left of this bar. On the crank slip a straight joint fixed by two wedge rings and into this wedge a 4 in. standard bar (to serve as a connecting rod) holding another straight joint, wedged at the end. Into the angle joint on the left fix a $6^{7}/_{8}$ in. bar by means of a wedge ring. On this bar slide two straight joints, which each carry a 2 in. right angle bar, upon each of which another angle joint has previously been fixed. Into these two angle joints fix a $3^{1}/_{2}$ in. bar carrying yet another angle joint. The last-mentioned angle joint holds a 2 in. bar in a horizontal position upon which the straight joint of the connecting rod, previously described, has been slipped. The saw blade is fixed upon the short ends of the angle bars by means of two spring washers. Into the angle joint at the foot of the right hand $3^{1}/_{8}$ in. bar a bar with thread $3^{1}/_{8}$ in. long is fixed and upon this slip four aluminium tubes, a wedge ring, and a washer. At the extreme end of the bar screw a hammer head.

When building Bings' Construction Set Factories, special attention must be paid to the following—

The Shafting should first be carefully erected and after all the wheels have been adjusted, test it to see that it operates perfectly. If everything is found satisfactory, the first model can be connected to the shafting by means of driving band, which however must not be too taut. After the working of this model has been tested on the Shafting, the second and third models may also be connected.

The 102 models enumerated can all be constructed with the material contained in Set No. 5 or 4 and 4a. An endless variety of other models can be invented and built according to the own ideas of the builder. Separate parts can be obtained (for full details see end of this booklet) by means of which many additions may be made to the models illustrated. If, for instance, further working models are desired to be attached to the Shafting of No. 102 the necessary single parts are obtainable to fix four or more models upon the same base board.

A Angle boring
C Cross „

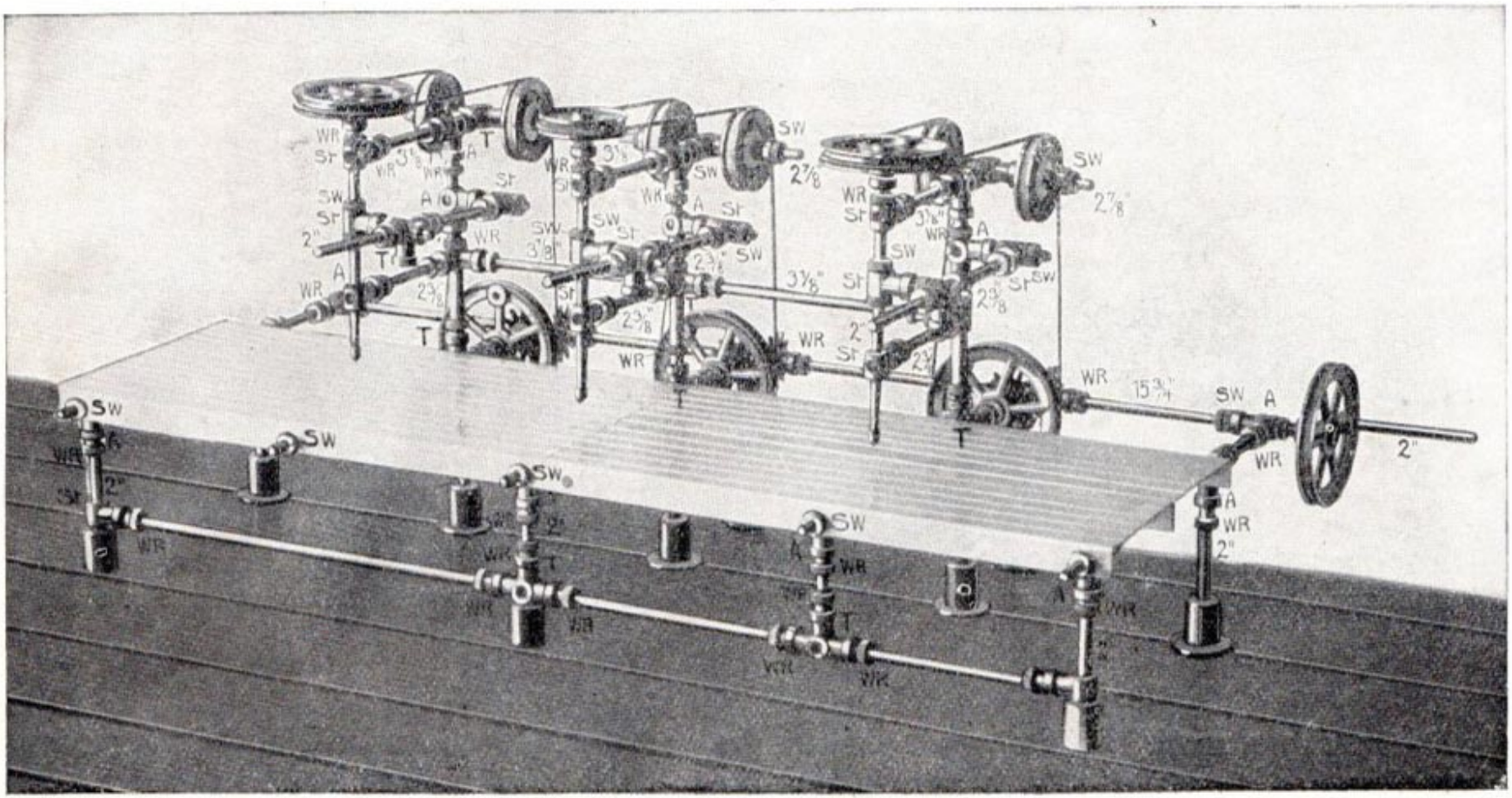


Ce Centre boring
L Longitudinal boring

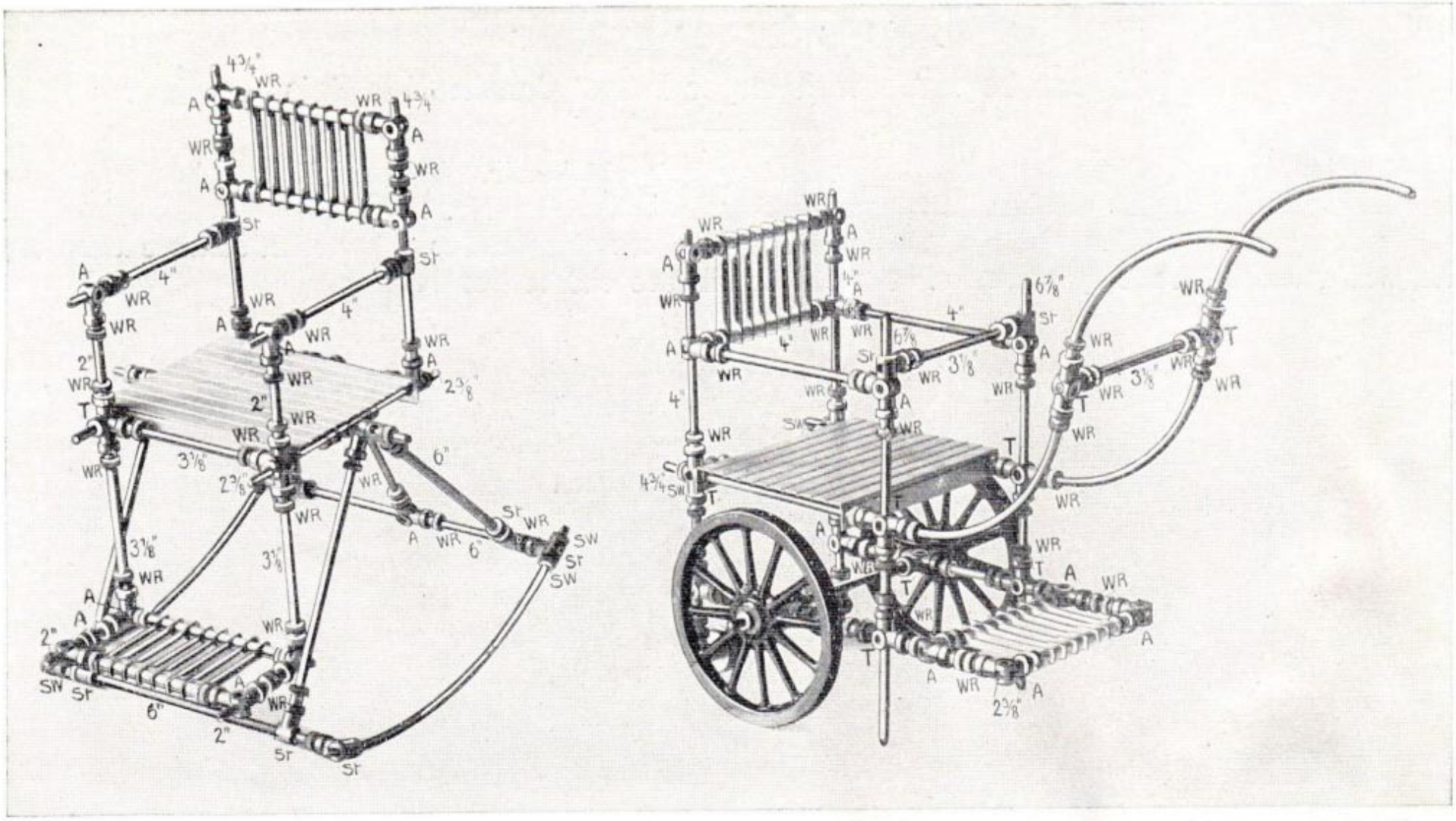
Various larger models

which can be made with larger Bings' Construction Sets

Attention is again directed to the Supplementary Sets obtainable. These will complete any given Sets into the next higher number, for instance Supplementary Set No. 1a added to the original Set No. 1 is equal to the original Set No. 2, in fact Set No. 1a contains besides a few other suitable accessory parts, which will be found quite useful. For full details see end of this booklet.



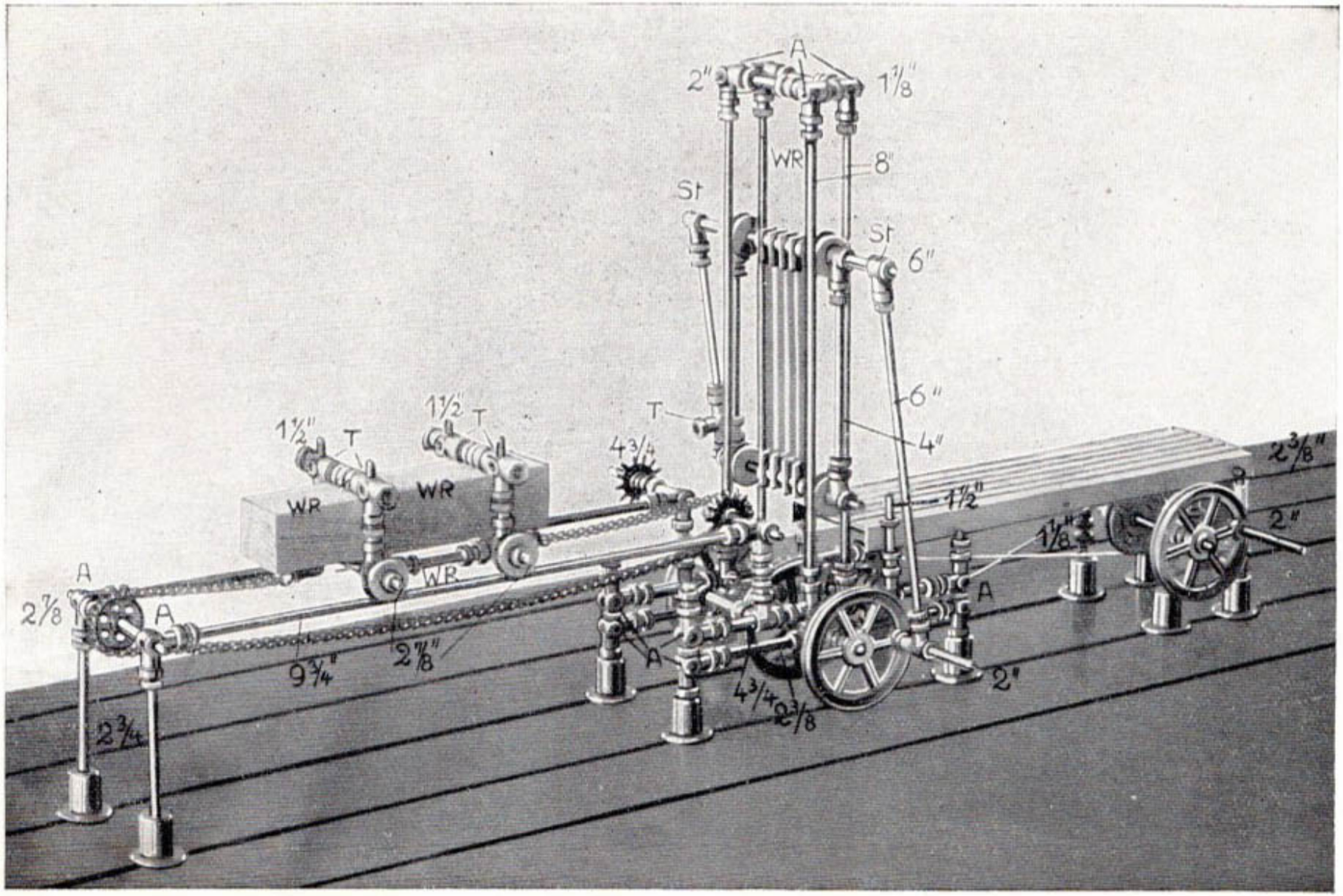
No. 132 Triple Drilling Plant from Bings' Construction Set No. 7 or from No. 6 and 6a.



No. 125 Doll's Rocking Chair
from Bings' Construction Set No. 7 or from No. 6 and 6a.

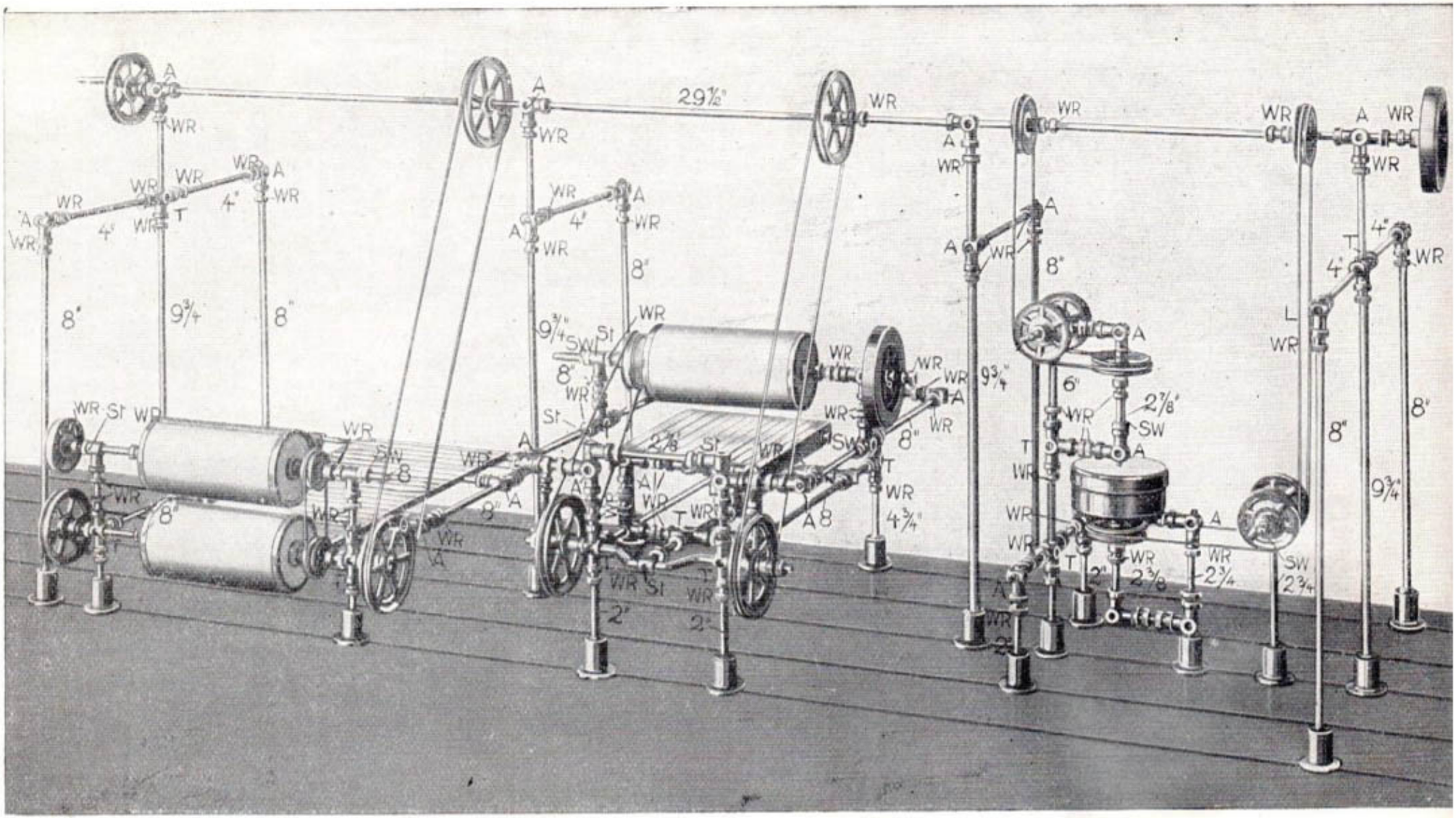
No. 127 Doll's Perambulator
from Bings' Construction Set No. 7 or from No. 6 and 6a.

To build the above models it is advisable to use the book of instructions for Bings' Construction Sets Nos. 6 to 8. This book is obtainable separately, wherever Bings' Sets are sold.



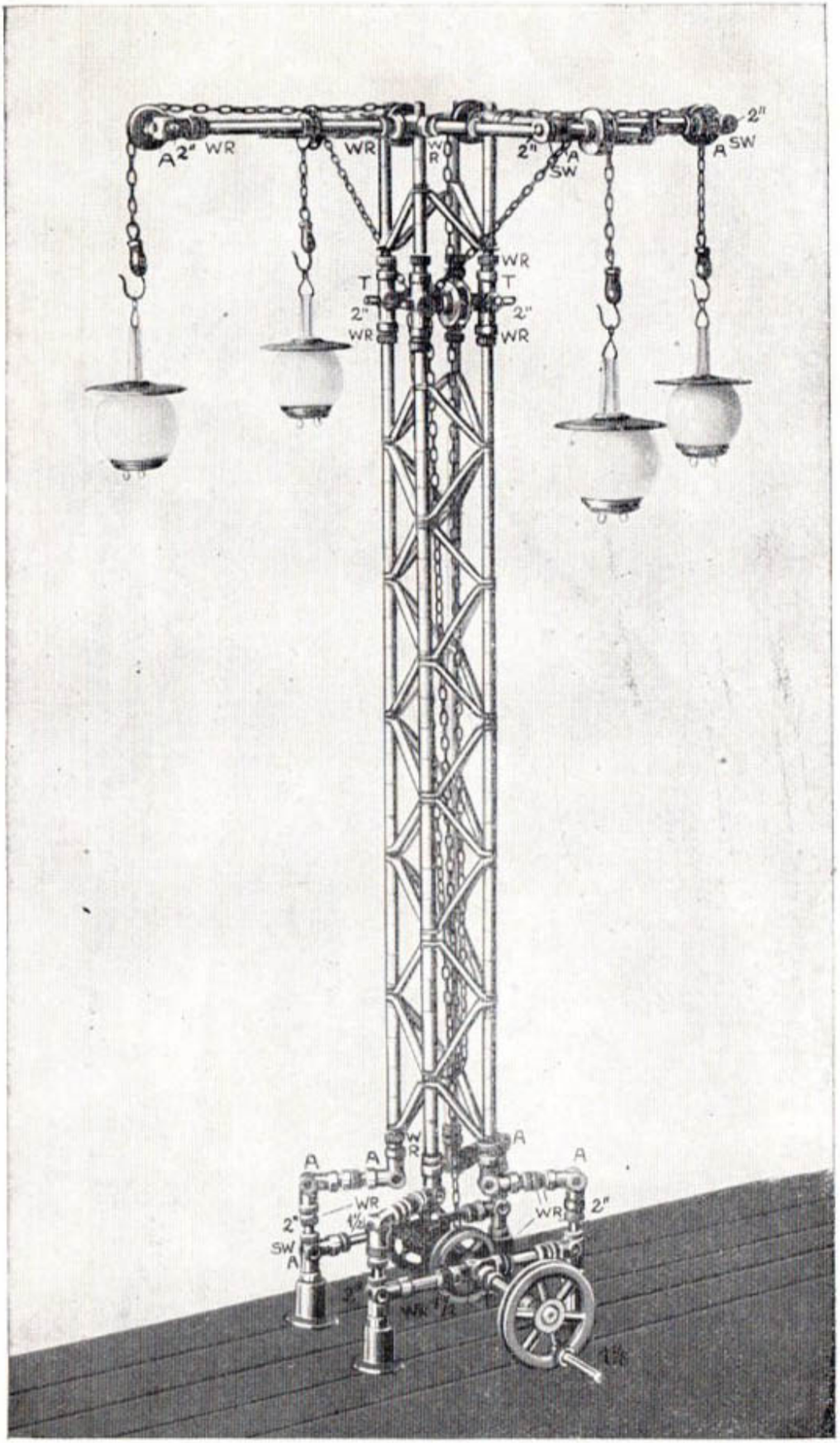
No. 109 Vertical Saw
from Bings' Construction Set No. 6 or from No. 5 and 5a.

To build the above model it is advisable to use the book of instructions for Bings' Construction Sets Nos. 6 to 8. This book is obtainable separately, wherever Bings' Sets are sold.

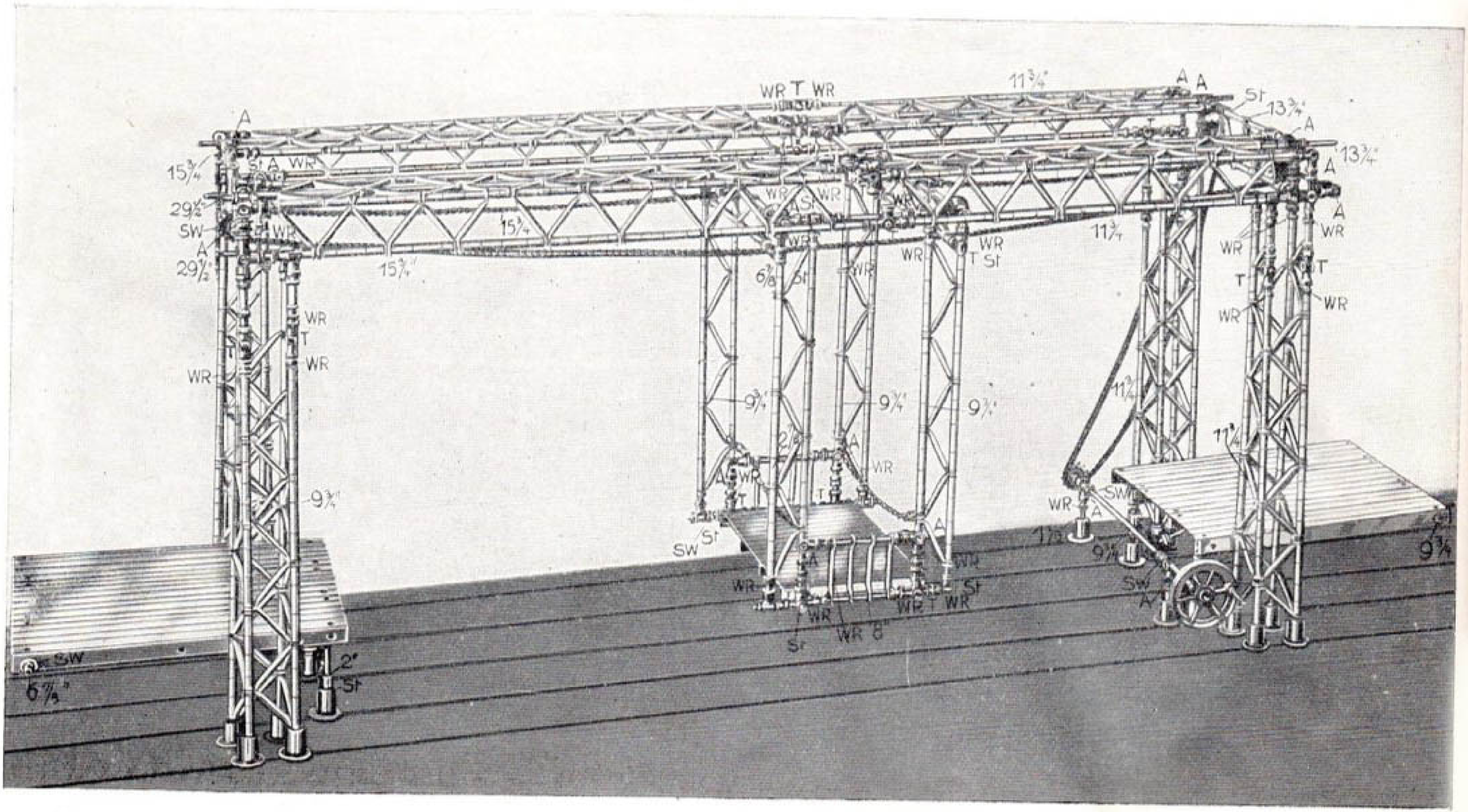


No. 149 Printing Works
from Bings' Construction Set No. 8 or from No. 7 and 7a.

An endless variety of other models can be invented and built according to the own ideas of the builder. Separate parts can be obtained. For full details see end of this booklet.

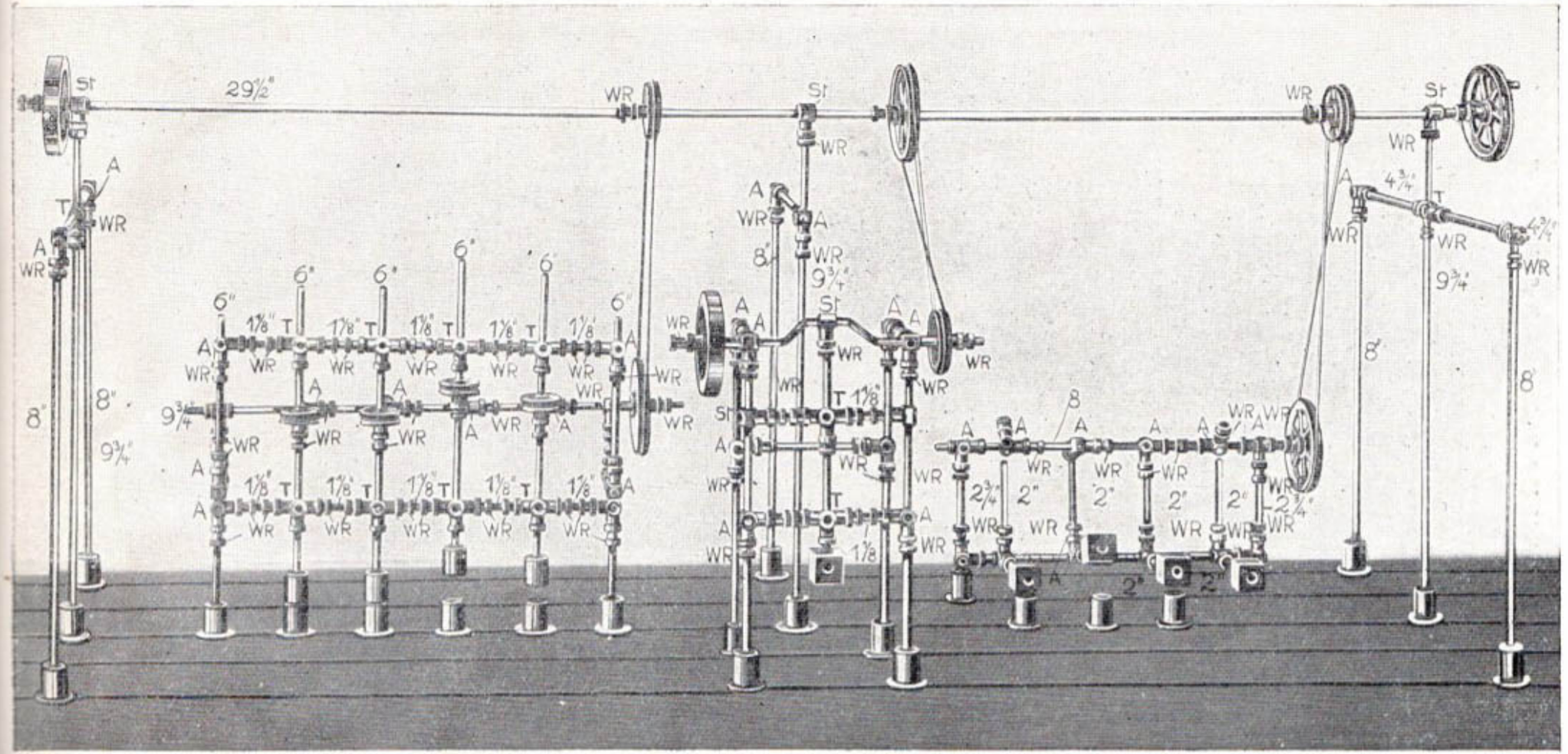


No. 108 Large Arc Lamp, with 4 Lamps
from Bings' Construction Set No. 6 or from No. 5 and 5a.



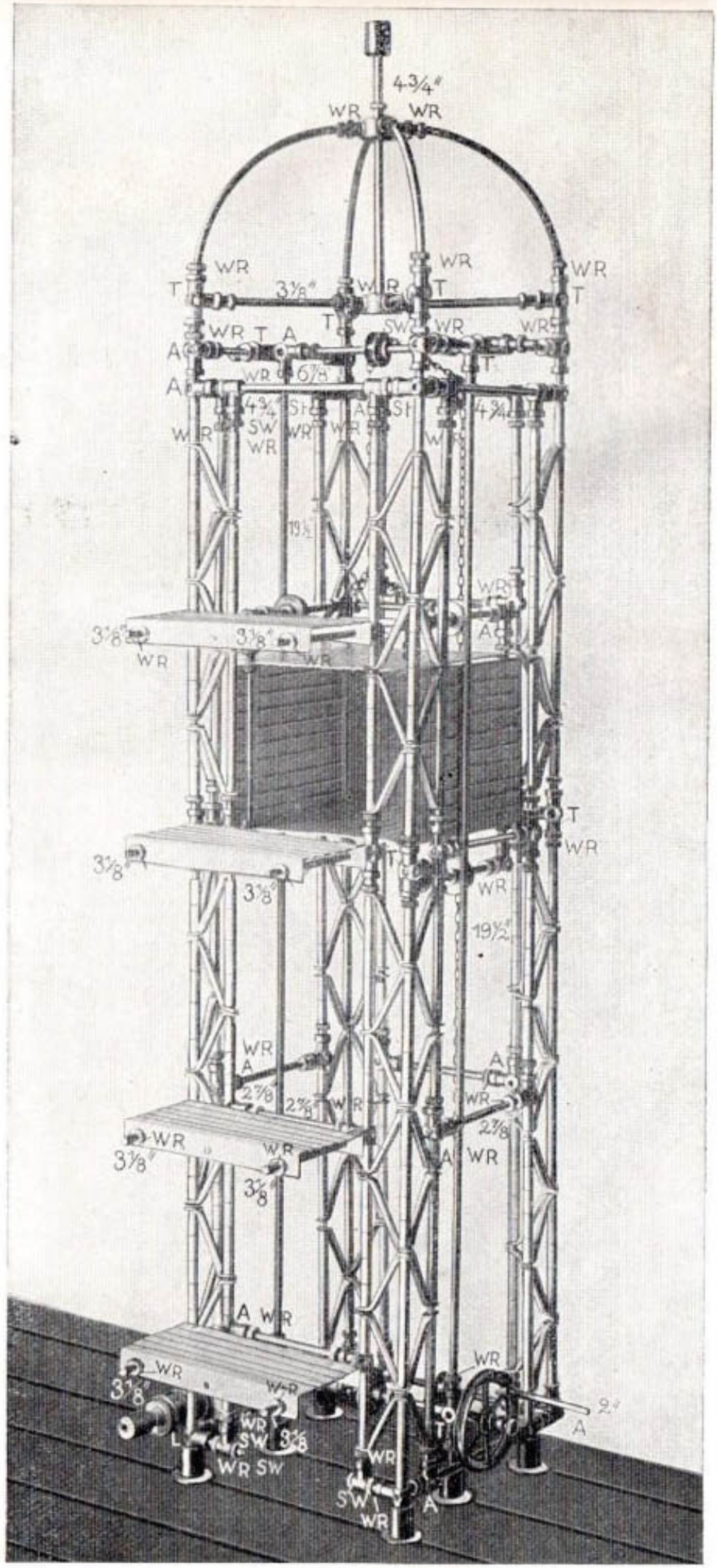
No. 145 Suspended Ferry No. 2
from Bings' Construction Set No. 8 or from No. 7 and 7a.

To build the above model it is advisable to use the book of instructions for Bings' Construction Sets Nos. 6 to 8. This book is obtainable separately, wherever Bings' Sets are sold.

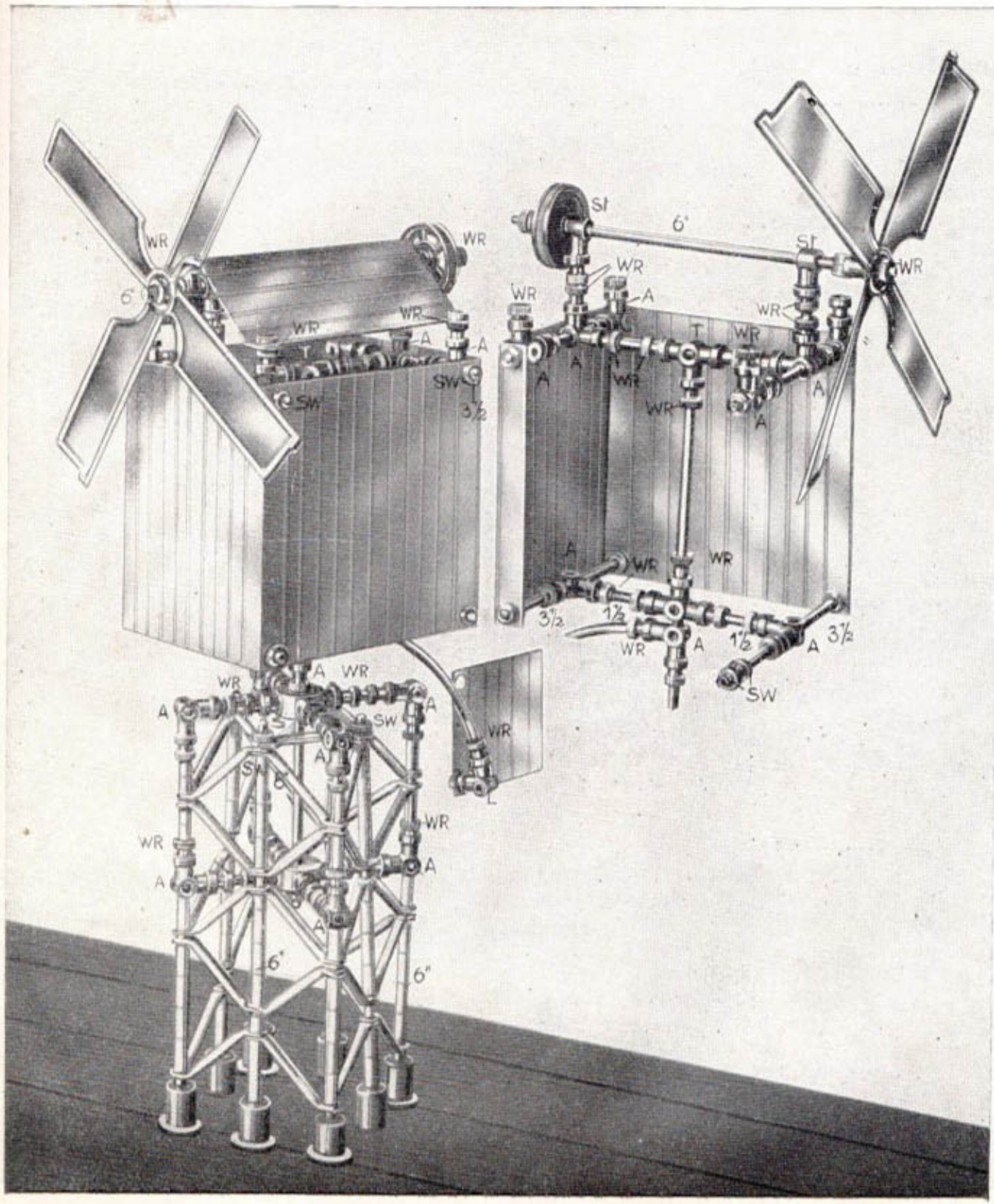


No. 128 Crushing Mill and Forge Hammers
from Bings' Construction Set No. 7 or from No. 6 and 6a.

To build the above model it is advisable to use the book of instructions for Bings' Construction Sets Nos. 6 to 8. This book is obtainable separately, wherever Bings' Sets are sold.



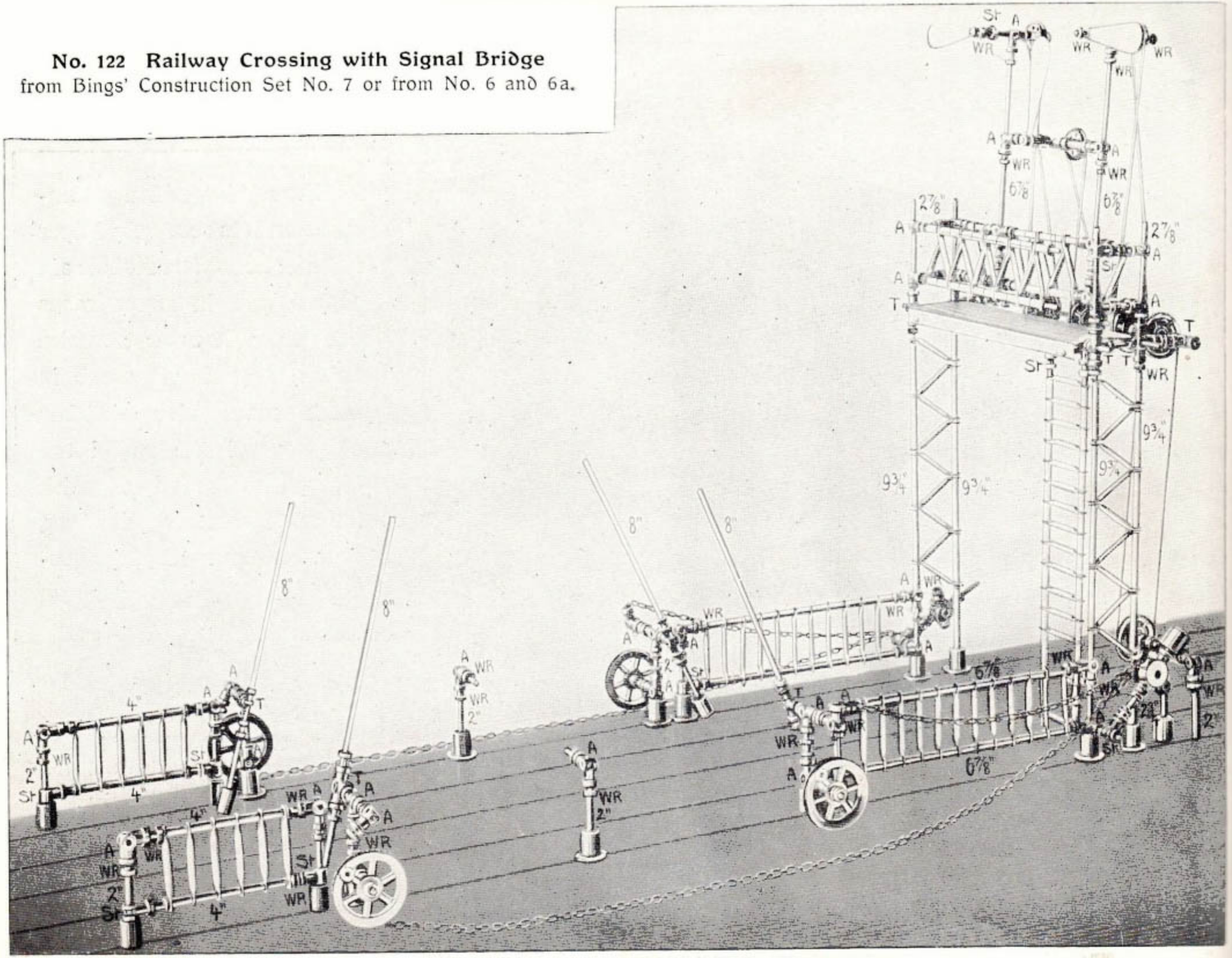
No. 124 Passenger Lift
from Bings' Construction Set No. 7 or from No. 6 and 6a.

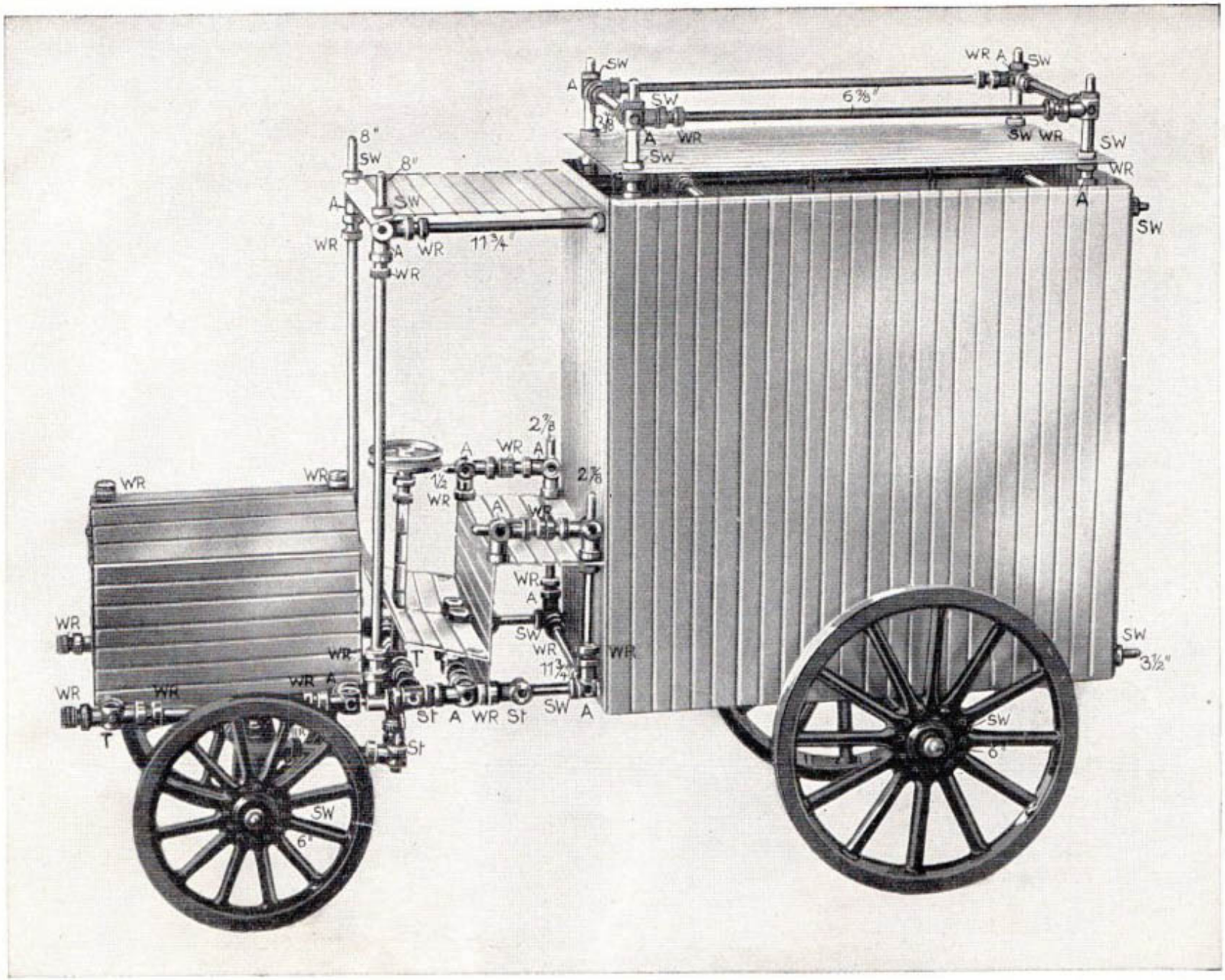


For the larger Bings' Construction Sets relatively larger and more complete models are shown and in many cases one view does not suffice and a second view and in some cases also sketches of parts of the model are given, with the help of which the construction is quite easy, even without lengthy description.

No. 116 Windmill
from Bings' Construction Set No. 6
or from No. 5 and 5a.
This model can be actually driven by wind.

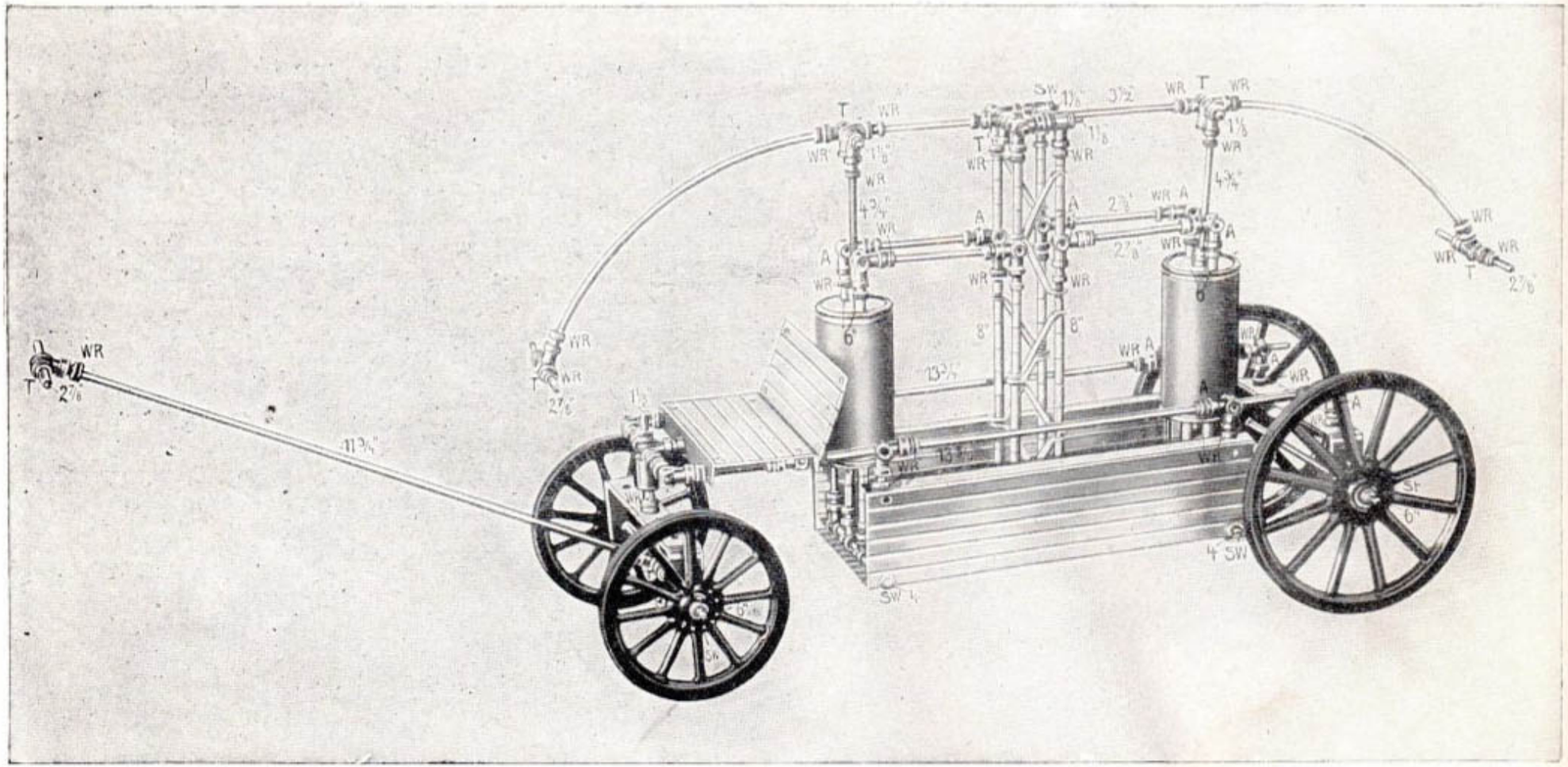
No. 122 Railway Crossing with Signal Bridge
from Bings' Construction Set No. 7 or from No. 6 and 6a.





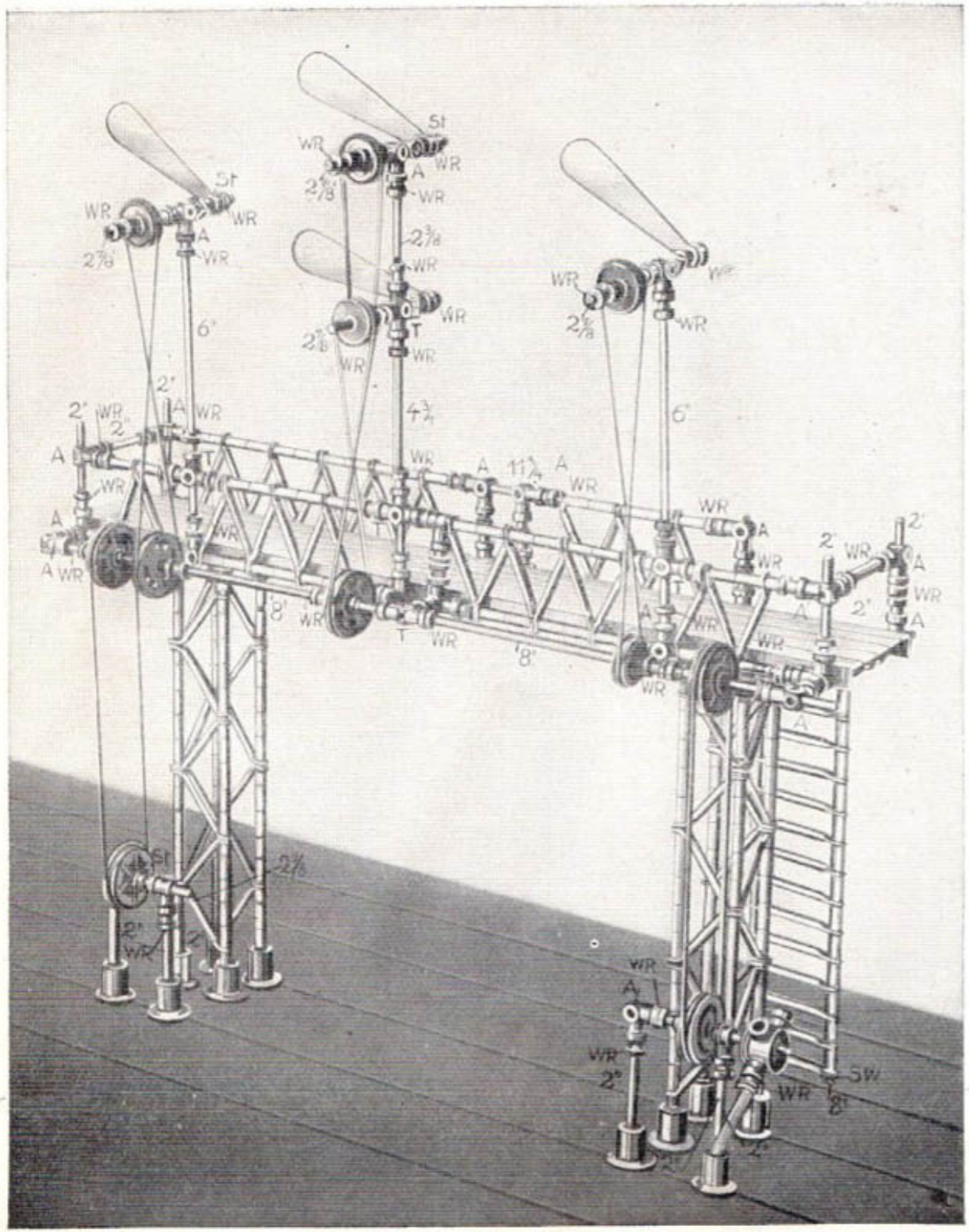
No. 136 Motor Delivery Van

from Bings' Construction Set No. 7 or from No. 6 and 6a.



No. 135 Fire Pump
from Bings' Construction Set No. 7 or from No. 6 and 6a.

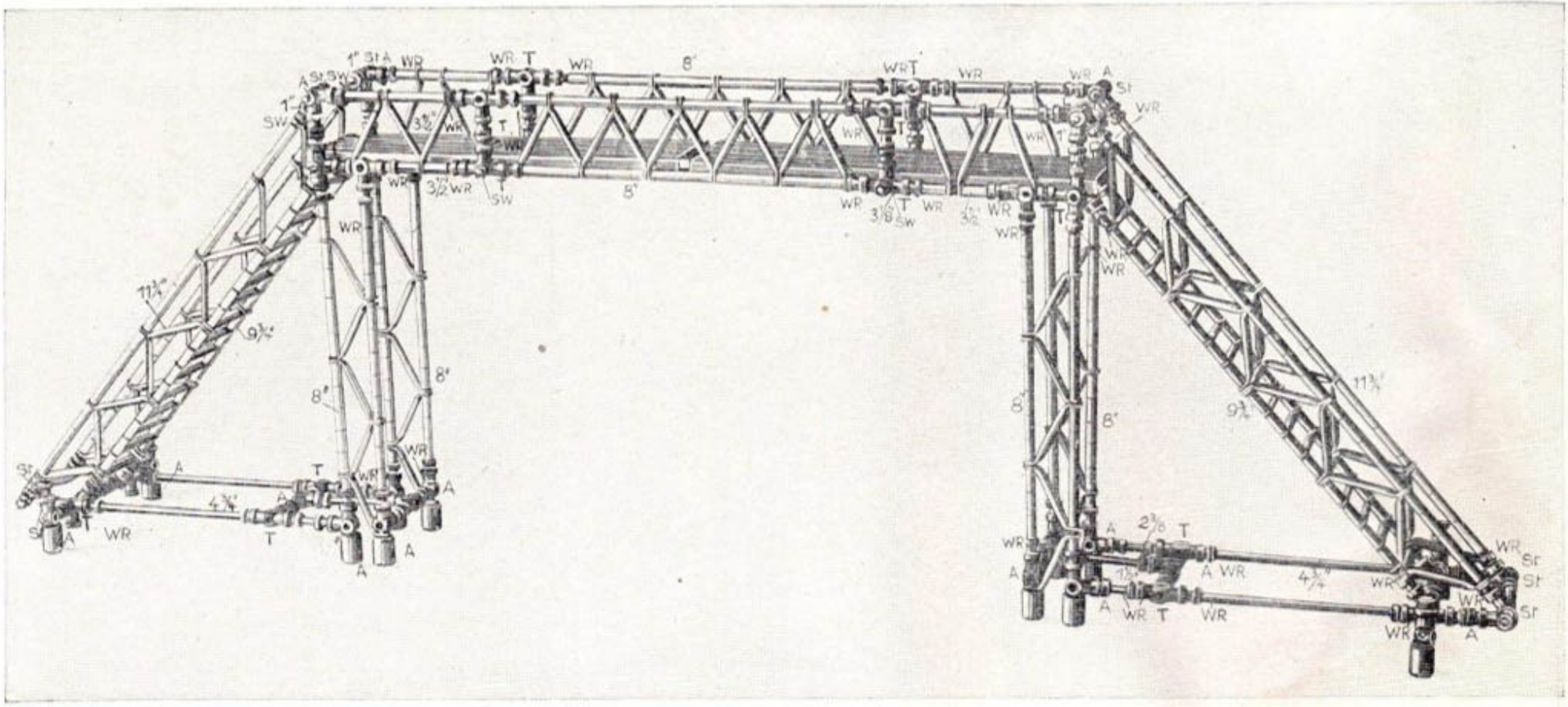
To build the above models it is advisable to use the book of instructions for Bings' Construction Sets Nos. 6 to 8. This book is obtainable separately, wherever Bings' Sets are sold.



An endless variety of other models can be invented and built according to the own ideas of the builder. Separate parts can be obtained. For full details see end of this book.

All unconsciously the boy is mastering in this way the elements of science, whilst all the time he is amusing himself, and the parents have the satisfaction of knowing that while their boy is absorbing this knowledge, he is at the same time being trained in patience and accuracy, in foresight and resourcefulness, all so useful in after life.

No. 117 Signalling Bridge
from Bings' Construction Set No. 6
or from No. 5 and 5a.

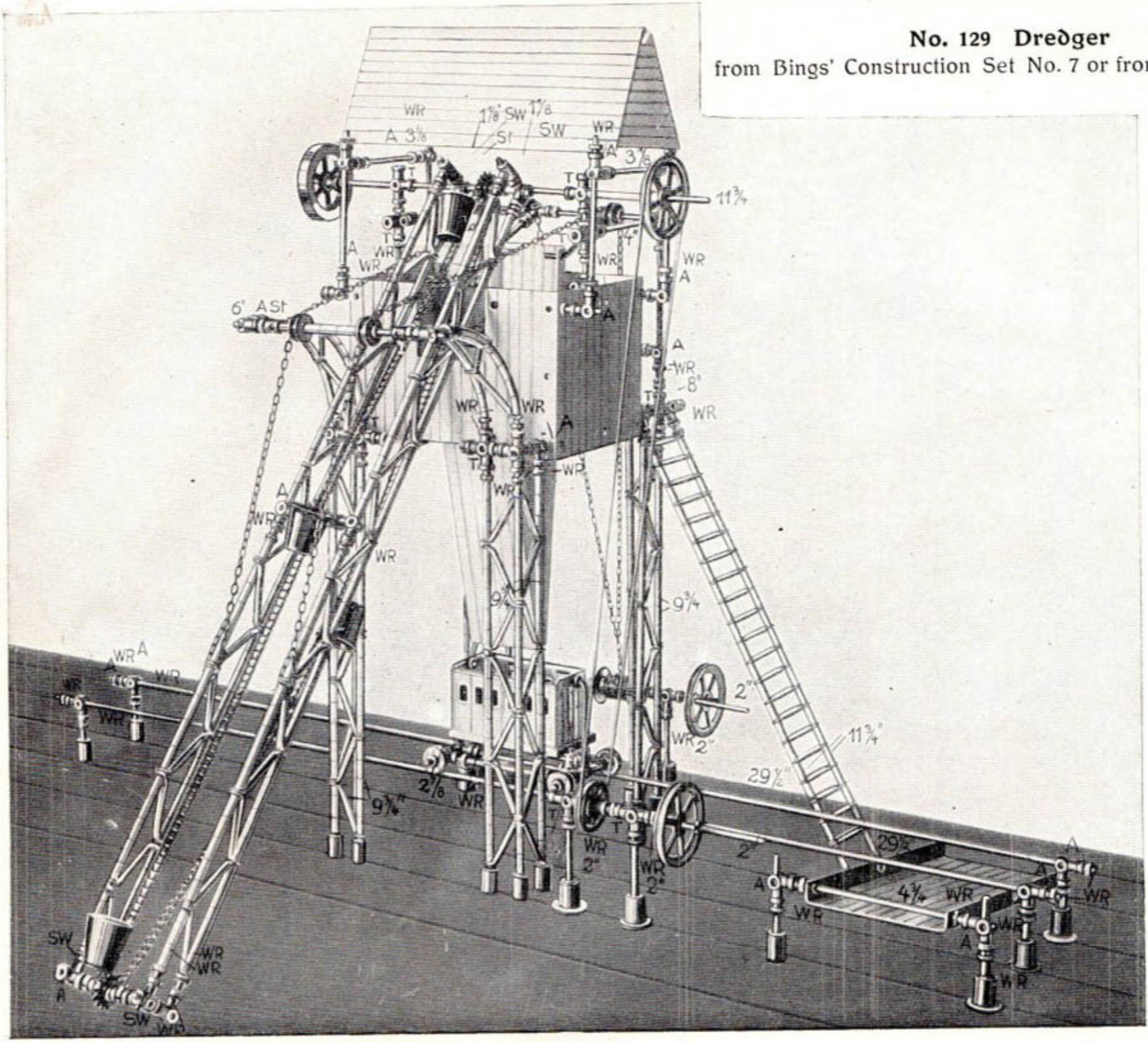


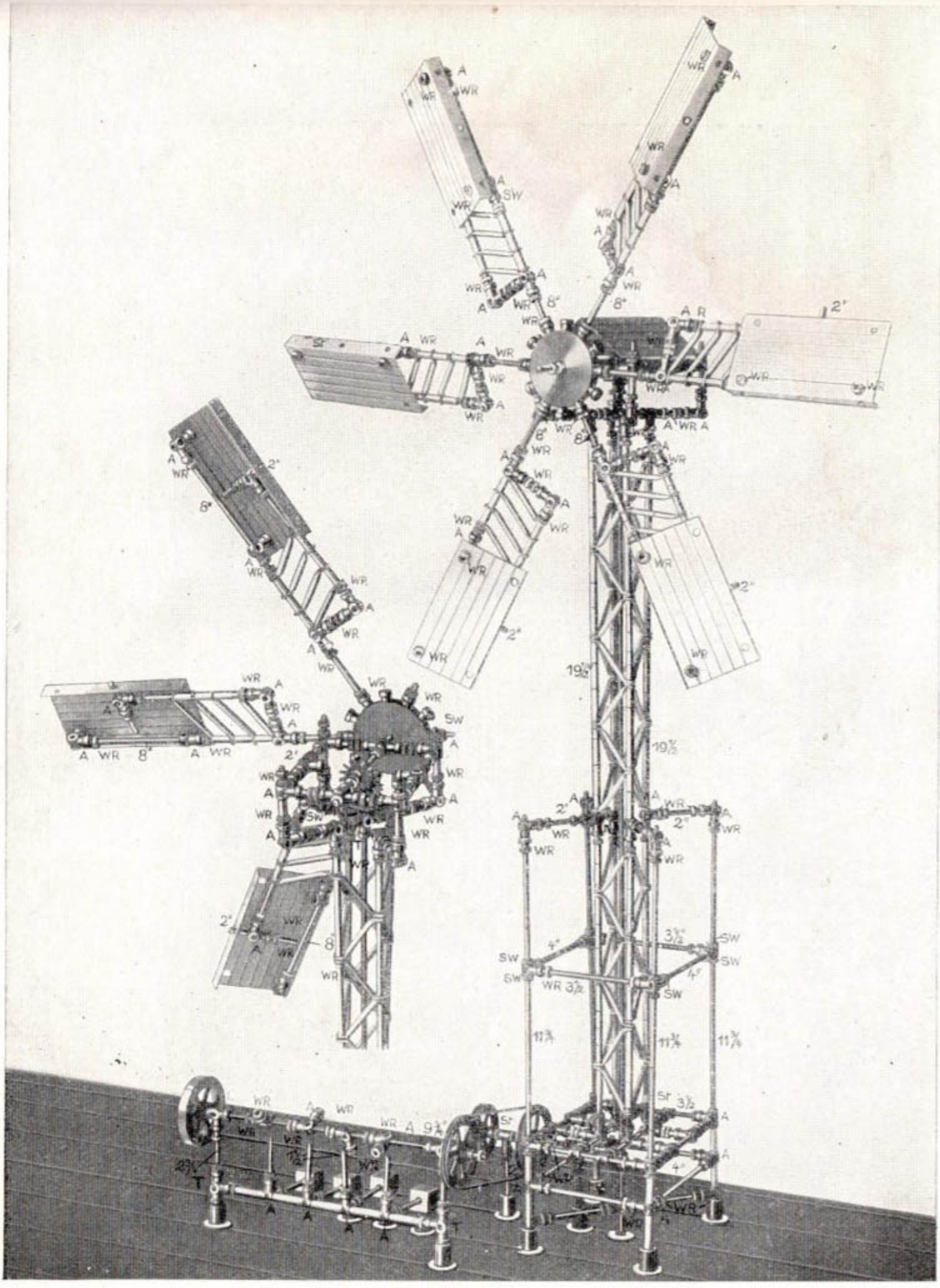
No. 123 Railway Footbridge
from Bings' Construction Set No. 7 or from No. 6 and 6a.

To build the above models it is advisable to use the book of instructions for Bings' Construction Sets Nos. 6 to 8. This book is obtainable separately, wherever Bings' Sets are sold.

No. 129 Dredger

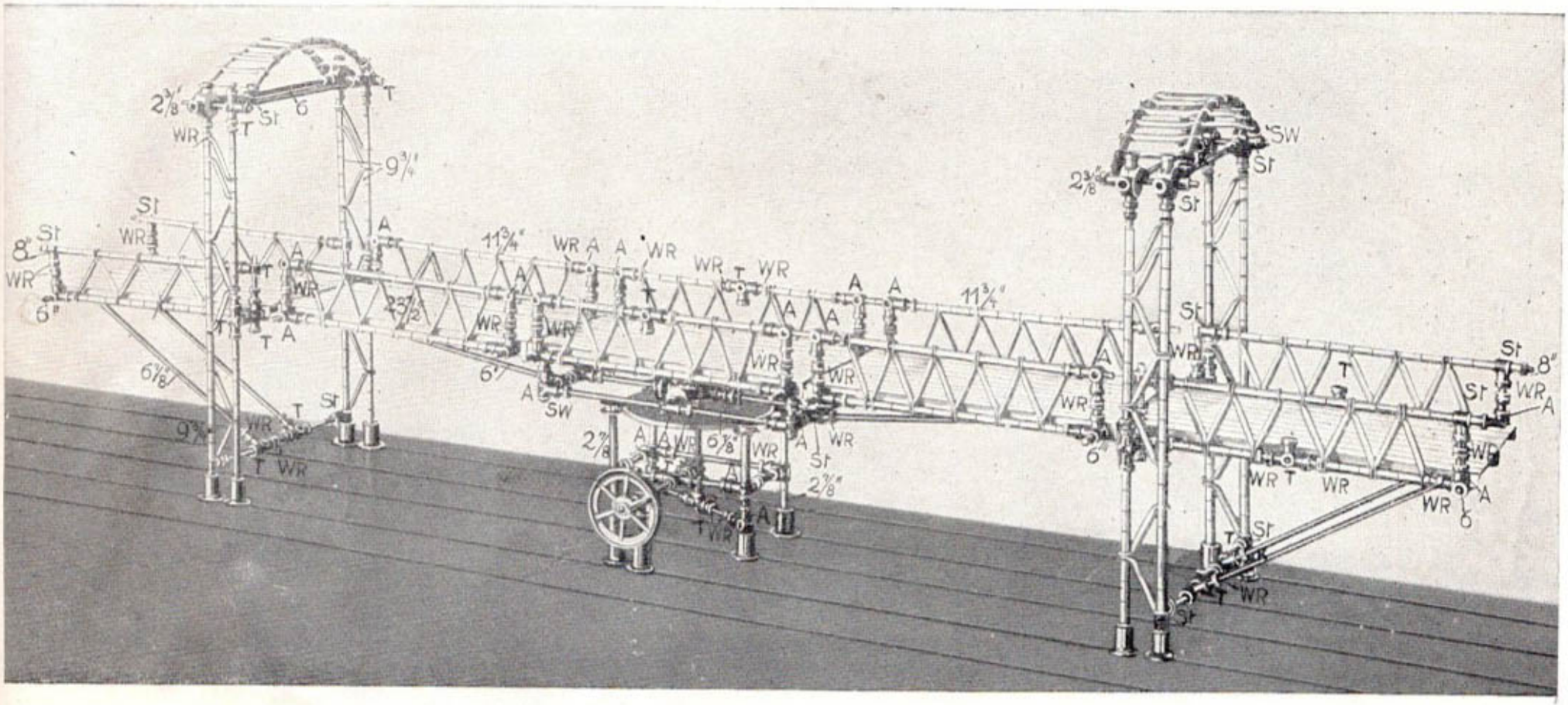
from Bings' Construction Set No. 7 or from No. 6 and 6a.





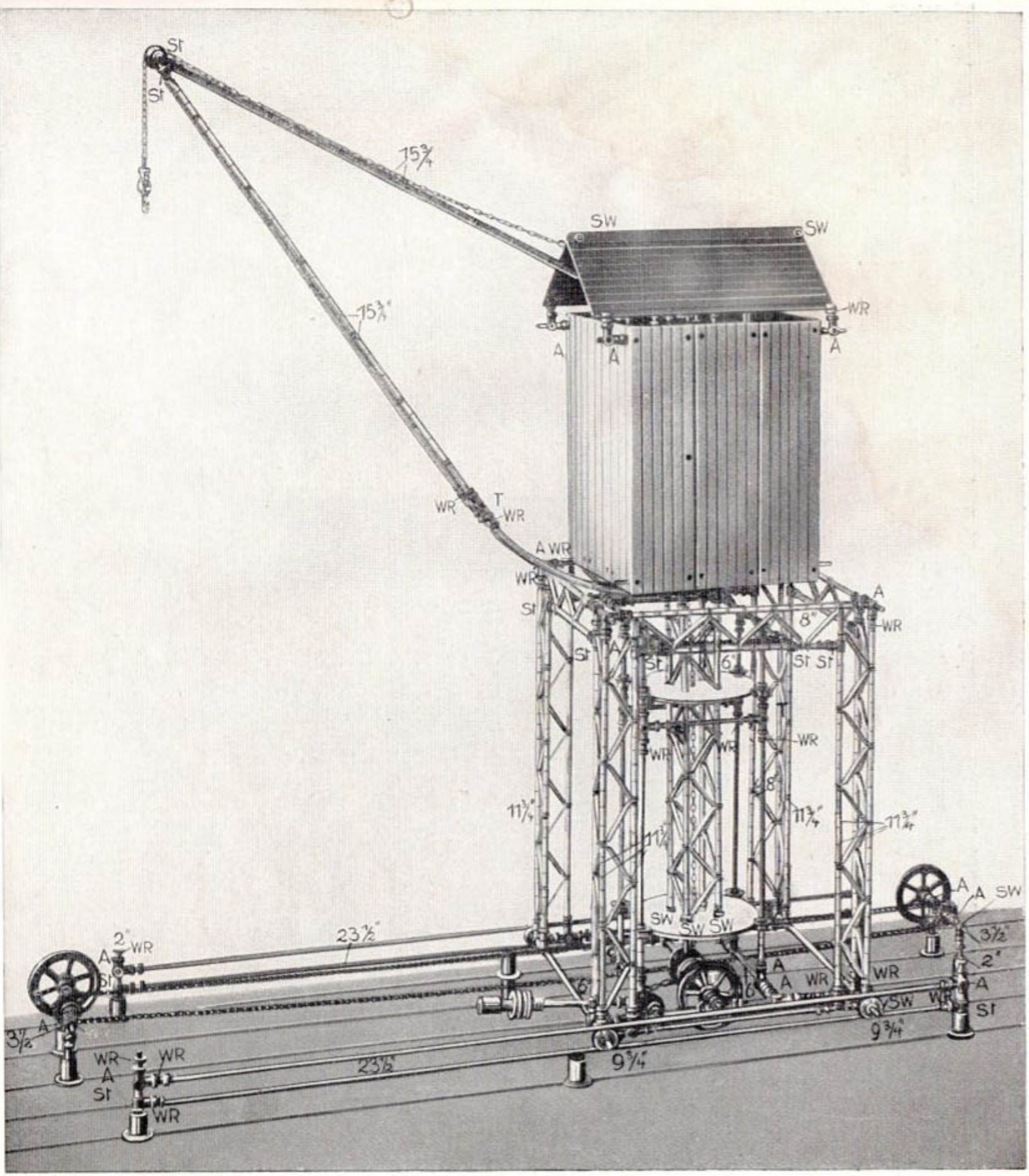
No. 139 Windmill with Crushing Mill
from Bings' Construction Set No. 8 or from No. 7 and 7a.

This model may also be set in motion by exposing it to the wind.



No. 134 Swing Bridge
from Bings' Construction Set No. 7 or from No. 6 and 6a.

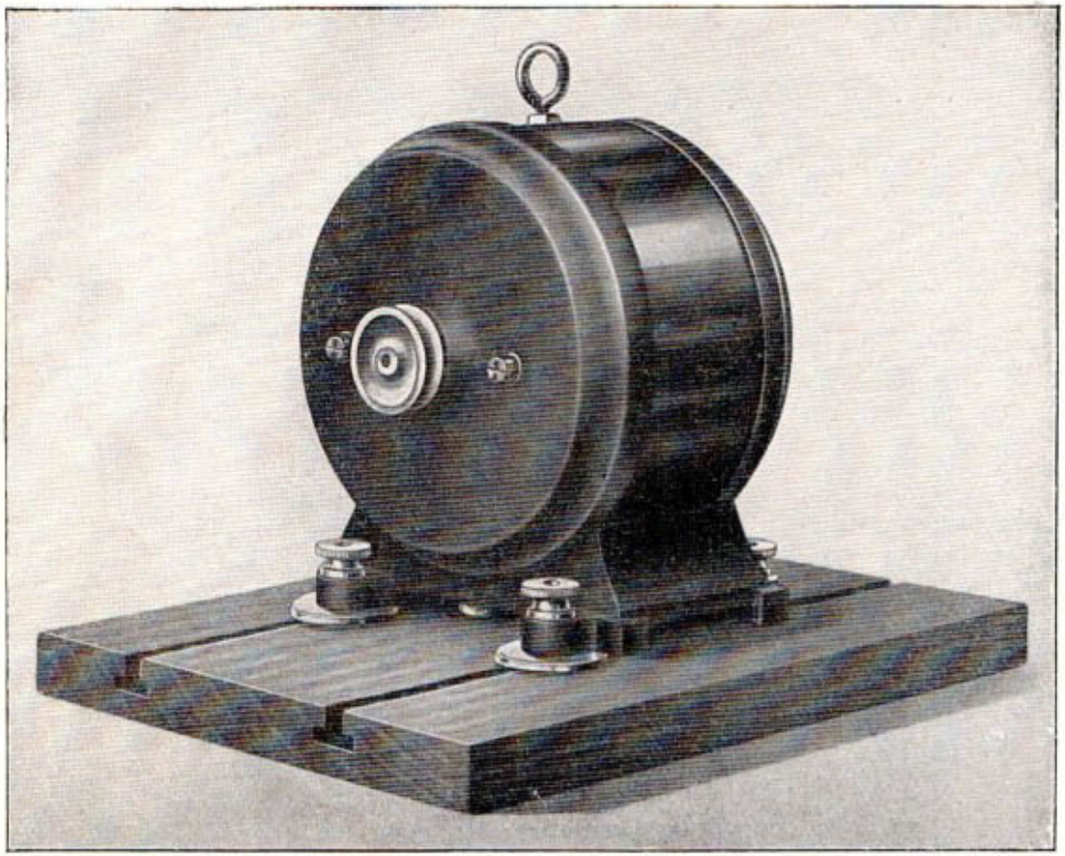
Attention is again directed to the Supplementary Sets obtainable. These will complete any given Sets into the next higher number, for instance Supplementary Set No. 1a added to the original Set No. 1 is equal to the original Set No. 2, in fact No. 1a contains besides a few other suitable accessory parts, which will be found quite useful. For full details see end of this booklet.



No 141 Dock Crane
from Bings' Construction Set No. 8 or from No. 7 and 7a.

The Bings' Construction Set

Clockwork Movement



To enable enthusiasts of Bings' Construction Sets to work their various models without the necessity of turning a handle, a clockwork movement has been introduced, as illustrated, which is easily fitted to any suitable Bings' Construction Model.

When the motor has been put into place and everything properly adjusted, a simple movement of one of the levers suffices to set the whole thing going.

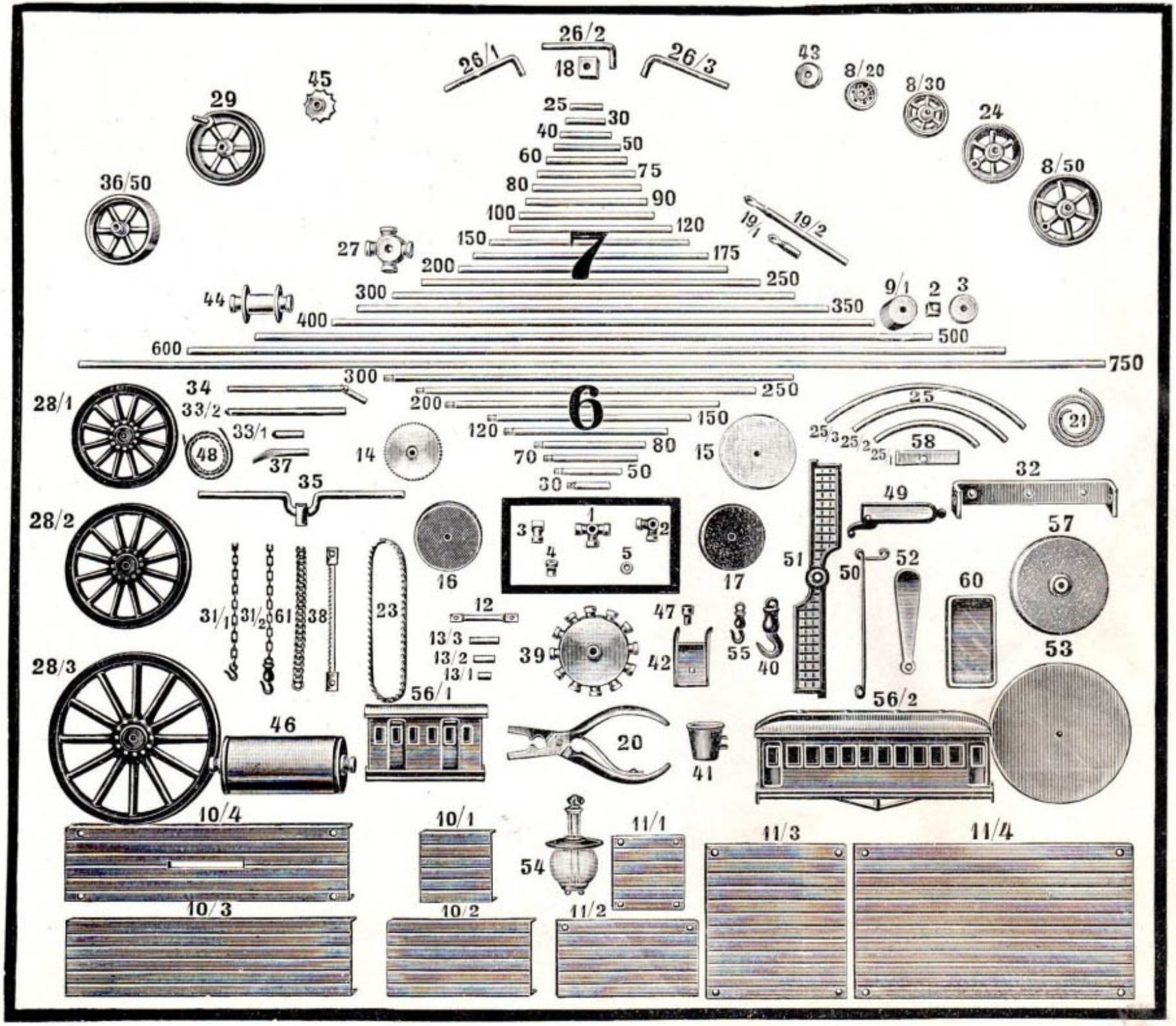
These Bings' movements are a very fine addition to, or rather completion of any Bings' Construction Set.

The motor is mounted upon a grooved wooden base, which may be connected with the base board of any Bings' Construction model or set of models by means of the joining plates (No. 58 in the list of Separate Parts).

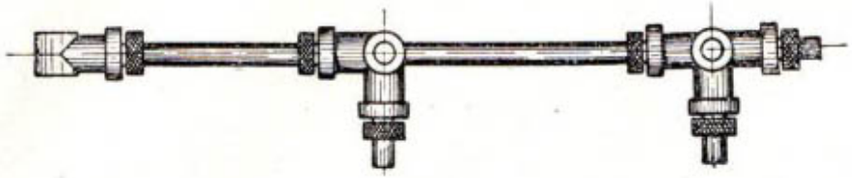
They are fitted with best clockwork movement, are strongly made and resemble an electric motor in appearance.

Height 4¾ inches, diameter 3½ inches. **Price $ 2.50** each (including clamp screw for fixing to table).

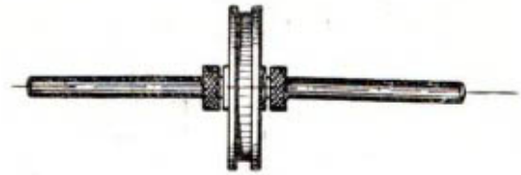
Illustration of the Separate Parts for Bings' Construction Sets.



Separate Parts for Bings' Construction Sets.



Showing the principal joints fixed to a Standard Bar by means of Spring Washers.



Showing a revolving wheel fixed between 2 Spring Washers on a Standard Bar.

No.		Price	Packing
1	**T-Joints**	$ 12.70 gross	12 pieces
2	**Angle Joints**	„ 11.40 „	12 „
3	**Straight Joints** . . .	„ 11.40 „	12 „
4	**Wedge Rings** . . .	„ 3.15 „	48 „
5	**Spring Washers** . .	„ 3.80 „	48 „
6	**Standard Bars** with thread		
	6/30 = $1\frac{1}{8}$ inches long . .	„ 1.60 „	24 „
	6/50 = 2 „ „ . .	„ 1.90 „	24 „
	6/70 = $2\frac{3}{4}$ „ „ . .	„ 2.55 „	24 „
	6/80 = $3\frac{1}{8}$ „ „ . .	„ 3.15 „	12 „
	6/120 = $4\frac{3}{4}$ „ „ . .	„ 4.45 „	12 „
	6/150 = 6 „ „ . .	„ 4.45 „	12 „
	6/200 = 8 „ „ . .	„ 6.35 „	6 „
	6/250 = $9\frac{3}{4}$ „ „ . .	„ 9.50 „	6 „
	6/300 = $11\frac{3}{4}$ „ „ . .	„ 11.40 „	6 „
7	**Standard Bars** (plain)		
	7/25 = 1 inch long . . .	„ 1.30 „	24 „

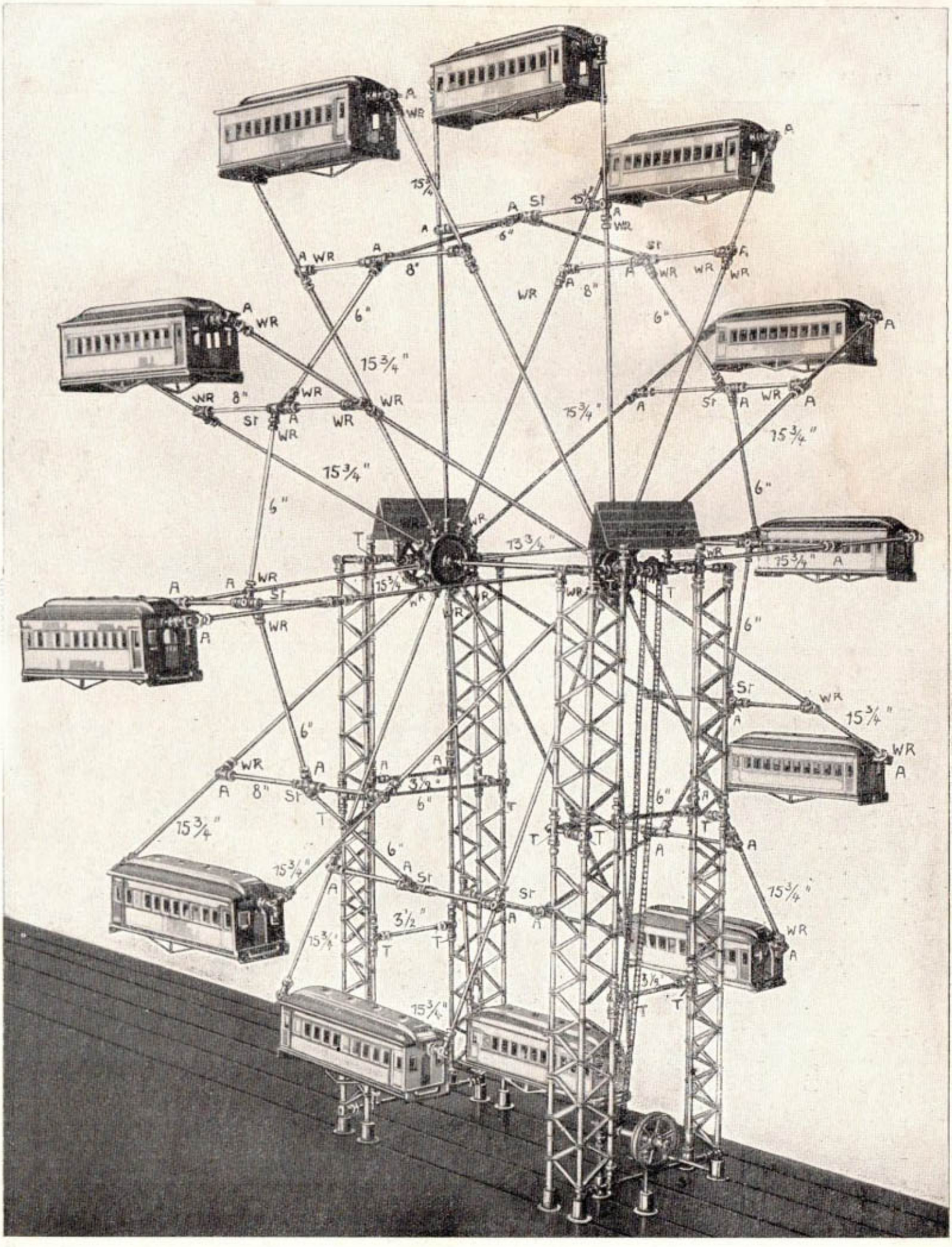
No.		Price	Packing
7	7/30 = $1\frac{1}{8}$ inches long . .	$ 1.60 gross	24 pieces
	7/40 = $1\frac{1}{2}$ „ „ . .	„ 1.90 „	24 „
	7/50 = 2 „ „ . .	„ 1.90 „	24 „
	7/60 = $2\frac{3}{8}$ „ „ . .	„ 1.90 „	24 „
	7/75 = $2\frac{7}{8}$ „ „ . .	„ 1.90 „	24 „
	7/80 = $3\frac{1}{8}$ „ „ . .	„ 2.55 „	12 „
	7/90 = $3\frac{1}{2}$ „ „ . .	„ 2.55 „	12 „
	7/100 = 4 „ „ . .	„ 3.15 „	12 „
	7/120 = $4\frac{3}{4}$ „ „ . .	„ 3.15 „	12 „
	7/150 = 6 „ „ . .	„ 3.80 „	12 „
	7/175 = $6\frac{7}{8}$ „ „ . .	„ 4.45 „	12 „
	7/200 = 8 „ „ . .	„ 5.70 „	12 „
	7/250 = $9\frac{3}{4}$ „ „ . .	„ 6.35 „	6 „
	7/300 = $11\frac{3}{4}$ „ „ . .	„ 7.60 „	6 „
	7/350 = $13\frac{3}{4}$ „ „ . .	„ 7.60 „	6 „
	7/400 = $15\frac{3}{4}$ „ „ . .	„ 9.50 „	6 „
	7/500 = $19\frac{1}{2}$ „ „ . .	„ 12.70 „	6 „
	7/600 = $23\frac{1}{2}$ „ „ . .	„ 15.85 „	3 „
	7/750 = $29\frac{1}{2}$ „ „ . .	„ 19.— „	3 „

No.		Price	Packing
8	**Pulley Wheels**		
	 8/20 = ¾ inches diam.	$ 15.85 gross	6 pieces
	8/30 = 1⅛ „ „	„ 19.— „	6 „
	8/50 = 2 „ „	„ 25.35 „	6 „
9/1	 **Base Blocks**	„ 6.35 „	6 „
9/2	 **Fixing Screws** for Base Blocks, square headed	„ 3.80 „	6 „
9/3	 **Washers**	„ 1.30 „	6 „
10	**Plates,** bent up on both sides		
	10/1 = 2×2 inches . .	„ 9.50 „	6 „
	 10/2 = 4×2 „ . .	„ 15.85 „	6 „
	10/3 = 8×2 „ . .	„ 25.35 „	6 „
	10/4 = 8×2 „ (with slot)	„ 28.50 „	6 „
11	**Plates,** flat		
	11/1 = 2×2 inches . . .	„ 7.60 „	6 „
	11/2 = 4×2 „ . . .	„ 11.40 „	6 „
	11/3 = 4×4 „ . . .	„ 22.20 „	6 „
	11/4 = 8×4 „ . . .	„ 31.65 „	6 „
12	 **Rungs,** 1¾ inches long	„ 1.90 „	24 „
13	**Short Tubes** for filling out intervals		
	13/1 = ¼ inch long . .	„ —.30 „	100 „
	 13/2 = ½ „ „ . .	„ —.40 „	100 „
	13/3 = ¾ „ „ . .	„ —.55 „	100 „
14	**Circular Saws**	„ 7.60 „	6 „
15	 **Polishing Buffs** made up of 10 pieces of cloth	„ 9.50 „	6 „

No.		Price	Packing
16	**Polishing Discs** covered with leather	$ 9.50 gross	6 pieces
17	 **Emery Wheels** . .	„ 15.85 „	6 „
18	**Hammer Heads**	„ 12.70 „	6 „
19	**Drills**		
	19/1 = 1 inch	„ 4.45 „	6 „
	19/2 = 3½ inches	„ 6.35 „	6 „
20	 **Bings' Construction Pliers** .	„ 41.20 „	3 „
21	**Driving Band**		
	21/1 thin	„ 10.60 ⅛ yards	5 yards
	21/2 thick	„ 12.35 ⅛ „	5 „
22	**Baseboards** with grooves		
	22/1 = 11½×6¼ inches with 3 grooves	„ 4.— doz.	3 pieces
	22/2 = 13½×6⅞ inches with 3 grooves	„ 6 60 „	2 „
	22/3 = 14½×8¾ inches with 4 grooves	„ 10.50 „	1 „
	22/4 = 15¾×11 inches with 5 grooves	„ 18.35 „	1 „
	22/5 = 23×11 inches with 6 grooves	„ 29.20 „	1 „
	22/6—8 = 28¾×11 inches with 6 grooves . . .	„ 37.— „	1 „
23	**Band Saws**	„ 9.50 gross	6 „
24	 **Pulley Wheels** with flat tread for band saw	„ 21.— „	6 „
25	 **Bars** bent in half circles		
	25/1 D = 2⅞ inches . .	„ 2 55 „	12 „

No.		Price	Packing
25	**Bars** bent in half circles		
	25/2 D = 4¼ inches . . .	$ 3.80 gross	12 pieces
	25/3 D = 6⅞ „ . . .	„ 5.— „	12 „
26	**Bars** bent in right angles		
	26/1 = 1½ inches long . .	„ 1.90 „	12 „
	26/2 = 2 „ „ . .	„ 2.55 „	12 „
	26/3 = 2⅜ „ „ . .	„ 6.35 „	12 „
27	 **Centre Pieces** with 4 joints	„ 22.20 „	6 „
28	**Wheels,** japanned		
	 28/1 = 2⅞ in. diameter	„ 9.50 „	6 „
	28/2 = 3½ „ „	„ 12.70 „	6 „
	28/3 = 4¾ „ „	„ 48.— „	4 „
29	**Wheels** with crank	„ 28.50 „	3 „
30	**Chains**	„ 6.60 % yards	10 yards
31	**Chains** with hooks		
	31/1	„ 3.15 gross	6 pieces
	31/2 heavy	„ 6.35 „	6 „
32	**Under-Frames** for Waggon Wheels	„ 6.35 „	3 „
33	**Standard Bars** with pointed ends		
	33/1 = 1 inch long . . .	„ 1.60 „	12 „
	33/2 = 3½ inches long . .	„ 3.15 „	12 „
34	 **Jointed Standard Bars**	„ 11.40 „	6 „
35	**Standard Bars** with Crank .	„ 25.35 „	3 „
36	**Fly Wheels**		
	36/50 = 2 inches diameter .	„ 60.20 „	3 „

No.		Price	Packing
37	**Lathe Turning Tools** . .	$ 31.65 gross	3 pieces
38	**Saw Blades** (straight) . .	„ 31.65 „	3 „
39	**Centre Pieces** with 12 Joints	„ 15.85 doz.	1 „
40	**Large Hooks** for Chains .	„ 9.50 gross	6 „
41	**Buckets** for Dredgers . .	„ 12.70 „	6 „
42	**Catches**	„ 4.45 „	12 „
43	**Rollers** for Cranes	„ 9.50 „	6 „
44	 **Drums** for Crane .	„ 38.— „	3 „
45	**Wheels** for Crane Chain .	„ 15.85 „	6 „
46	**Drums** for Printing Press .	„ 63.40 „	1 „
47	**Connecting Pins**	„ 5.— „	12 „
48	**Green Cord**	„ —.45 % yards	50 yards
49	**Indicator Arms**	„ 6.35 gross	6 pieces
50	**Rods** for above	„ 1.90 „	6 „
51	 **Sails** for Windmill	„ 9.50 „	6 „
52	 **Propeller Blades** .	„ 6.35 „	6 „
53	**Aluminium Discs** 4 inches in diameter	„ 69.75 „	1 „
54	**Arc Lamps**	„ 19.— „	3 „
55	**Hooks** for Arc Lamps . .	„ 4.45 „	12 „
56	**Cars**		
	56/1 small	„ 22.20 „	3 „
	56/2 large	„ 48.— „	3 „
57	**Emery Wheels,** large . .	„ 12.70 „	3 „
58	**Joining Plates**	„ 7.60 „	6 „
59	**Bending Shapes**		
	59/1 small	„ 60.20 „	1 „
	59/2 large	„ 95.— „	1 „
60	**Tin Boxes** with Celluloid Lid	„ 9.50 „	6 „
61	**Dredger Chain**	„ 9.50 „	6 yards



No. 150. Big Wheel

from Bings' Construction Set No. 8 or No. 7 and 7a.

Printed in Bavaria.

BINGS' CONSTRUCTION SET

The Up-To-Date Toy

can be obtained everywhere at the following prices:

Set No.	1	with	designs	for	30	models	$	2.—	each.	Supplementary Set No.	1a	$	2.25	each.
„	2	„	„	„	48	„	„	4.—	„	„	2a	„	3.—	„
„	3	„	„	„	66	„	„	6.—	„	„	3a	„	4.—	„
„	4	„	„	„	84	„	„	10.—	„	„	4a	„	6.50	„
„	5	„	„	„	102	„	„	15.—	„	„	5a	„	13.50	„
„	6	„	„	„	120	„	„	27.50	„	„	6a	„	16.50	„
„	7	„	„	„	138	„	„	40.—	„	„	7a	„	21.50	„
„	8	„	„	„	150	„	„	60.—	„					

The supplementary sets are made up in such a manner, that for instance Sets No. 1 and 1a together form Set No. 2 and so on and contain in addition some extra parts.

Separate Parts for Bings' Construction Sets can always be obtained. (See list on page 77).

Printed in Bavaria.