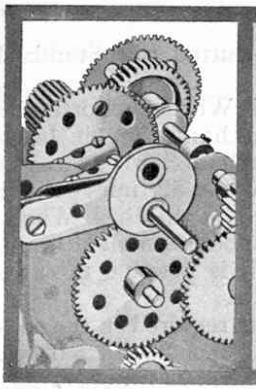
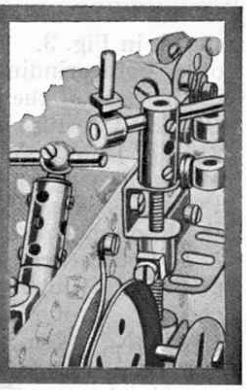


HOW TO USE Meccano Parts

VII.—WHEELS, PULLEYS, etc. (CLASS N)



For the purpose of this series of articles we have grouped all the Meccano parts into two main sections, termed the Structural and Mechanical Sections, and these sections have been further divided into a number of separate classes. The complete grouping is as follows. Structural Section: Class A, Strips; Class B, Girders; Class C, Brackets, Trunnions, etc.; Class D, Plates, Boilers, etc.; Class E, Nuts and Bolts, Tools and Literature. Mechanical Section: Class M, Rods, Cranks and Couplings; Class N, Wheels, Pulleys, Bearings, etc.; Class O, Gears and Toothed Parts; Class P, Special Accessories; Class Q, Miscellaneous Mechanical Parts; Class T, Electrical Parts; Class X, Motors, Accumulators, etc.

THE parts grouped under Classes N and O comprise some of the most interesting and important components of the Meccano system, for they form the means whereby a model may be set in motion. It is a thrilling moment when, having completed the main structural portions, one proceeds to insert the Gears, Pulleys, etc. that will enable the model to function exactly like its prototype.

The Meccano Wheels are extremely varied in design and application. Part No. 19a, 3" diameter Wheel, has a smooth circumference and is provided with ten spokes. It is intended for use as a travelling wheel in vehicles of all descriptions.

The ¾" and 1⅛" Flanged Wheels are intended primarily for use in all kinds of models that are required to run upon rails, such as locomotives, tramway cars, etc. They have other important uses, however, chief of which is their employment as belt pulleys. An excellent belt pulley may be formed by bolting two Flanged Wheels together as shown in Fig. 2. This illustration represents a model governor driven by an endless cord, and the wide belt pulley is used to take the drive because the axis of the driving pulley is horizontal whilst that of the driven pulley is vertical. If an ordinary grooved pulley were employed, there would be a danger of the cord leaving the groove owing to the fact that it would not be in direct line with it.

In Fig. 4 the Flanged Wheels form part of a belt reversing gear. In this case each belt pulley consists of two 1⅛" Flanged Wheels, and one wheel in each pair is fixed while the other is loose. The mechanism is so designed that while one belt is driving on to a fixed Flanged Wheel the other rides on a loose wheel, and the arrangement may be reversed when desired by slipping each belt simultaneously from one Flanged Wheel to the other.

An important adaptation of the ¾" Flanged Wheel was described in connection with the Sleeve Piece (Class D) in the May, 1929, "*M.M.*" An illustration in that issue showed two of these wheels forming the ends of a realistic cylinder, the centre portion of which was formed by a Sleeve Piece. Incidentally, another novel use for the part was shown in Fig. 4 in the same issue, for the chimney of the Meccano Traction Engine illustrated therein is topped by a ¾" Flanged Wheel, the boss of which is inserted in the upper Sleeve Piece.

If larger flanged wheels are required they may be built up from existing parts. Fig. 6 shows two sizes of flanged wheels used in a large Meccano locomotive. The bogie wheels of this model each consist of a Wheel Flange bolted to a Face Plate, whilst the main driving wheels are formed from a Hub Disc secured to a Circular Plate (the latter part is grouped under Class D).

In addition to this important adaptation, the Hub Disc is admirably suited to form a flywheel or large travelling wheel. Fig. 7 shows one of the rear travelling wheels of the Meccano Traction Engine, and as will be seen it consists of two Hub Discs bolted together so that a wheel of specially wide tread is obtained. As this model is sometimes called upon to draw very heavy loads, a number of nuts and bolts are inserted round the circumfer-

Parts in Class N: Wheels, Pulleys, Bearings, etc.

Wheels

Part No.		Prices s. d.
19a	Wheels, 3" diam. with set screws ... ... each	0 6
20	Flanged Wheels, 1½" diam. „	0 5
20b	„ „ ¾" „ „	0 4
24	Bush Wheels ... ... „	0 4
109	Face Plates, 2½" diam. ... „	0 4
118	Hub Disc, 5½" diam. ... each	1 3
119	Channel Segments (8 to circle, 11½" diam.) ... „	0 4
132	Flywheels, 2¾" diam. ... „	2 0
137	Wheel Flanges ... ... „	0 3

Pulleys

19b	Pulley Wheels, 3" diam. with centre boss and set-screw ... ... each	0 7
19c	„ „ 6" „ „ „ „ „ ... ... „	2 0
20a	„ „ 2" „ „ „ „ „ ... ... „	0 5
21	„ „ 1½" „ „ „ „ „ ... ... „	0 4
22	„ „ 1" „ „ „ „ „ ... ... „	0 3
23a	„ „ ½" „ „ „ „ „ ... ... „	0 3
22a	„ „ 1" „ without „ „ „ ... ... „	0 2
23	„ „ ½" „ „ „ „ ... ... „	0 2
123	Cone Pulleys ... ... „	1 3
151	Pulley Blocks, Single Sheave ... ... „	0 8
152	„ „ Two „ ... ... „	0 9
153	„ „ Three „ ... ... „	1 0

Bearings

		s. d.
167	Geared Roller Bearings, complete ... ... each	20 0
167a	Roller Races, geared, 192 teeth ... ... „	4 6
167b	Ring Frames for Rollers ... „	3 0
167c	Pinions for Roller Bearings, 16 teeth ... ... „	1 0
168	Ball Bearings, 4" diam. ... each	3 0
168a	Ball Races, Flanged ... „	0 6
168b	„ „ Geared ... „	0 9
168c	Ball Casings, complete with Balls ... ... „	1 9

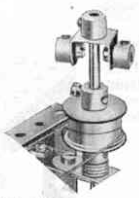


Fig. 2

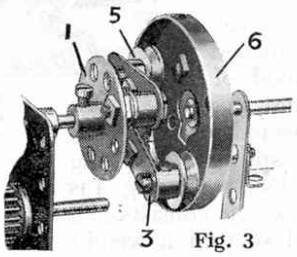


Fig. 3

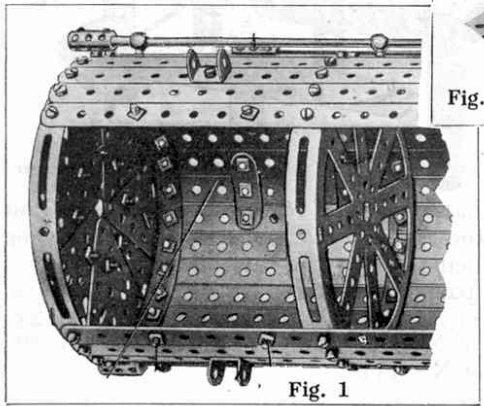


Fig. 1

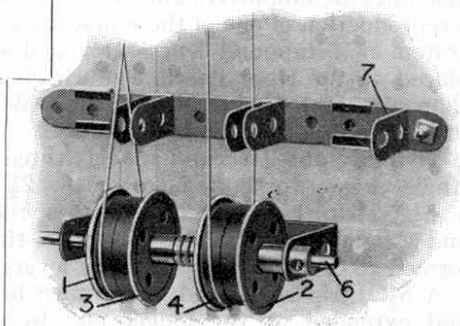


Fig. 4