

A Fine New Special Model

Big Wheel with Electric Drive

THE model Big Wheel shown in Fig. 1 is a splendid subject for model-builders interested in amusement devices and is most fascinating to watch in motion. It is easy to assemble and its construction will provide a pleasant pastime for those who have a good supply of Angle Girders and Flat Plates at their disposal.

Construction is commenced by building the base. This consists of four $12\frac{1}{2}$ " Angle Girders, which are bolted together to form a square. The Girders forming the sides and the one forming the back of the base have their flanges facing outward, but the front Girder 1 is secured in place by $\frac{1}{2}$ " \times $\frac{1}{2}$ " Angle Brackets in the position shown in Fig. 1. Three $12\frac{1}{2}$ " Angle Girders and four $18\frac{1}{2}$ " Angle Girders are bolted to the side Girders in the positions shown, and the space between each pair of $18\frac{1}{2}$ " Angle Girders is filled in with a $12\frac{1}{2}$ " Strip Plate, two $5\frac{1}{2}$ " \times $2\frac{1}{2}$ " Flexible Plates and a Semi-Circular Plate.

The corresponding pairs of legs forming the towers are joined at their upper ends by $5\frac{1}{2}$ " Strips, Girder Frames and 1" Triangular Plates 2, and the structure is held rigid by $18\frac{1}{2}$ " Angle Girders bolted at their lower ends to the base, and at their upper ends to the $5\frac{1}{2}$ " Strips and Girder Frames. The inner pairs of $18\frac{1}{2}$ " Angle Girders are braced by $5\frac{1}{2}$ " Strips, but two $4\frac{1}{2}$ " \times $2\frac{1}{2}$ " Flexible Plates and a $5\frac{1}{2}$ " Curved Strip 3 are bolted to the front pair of Girders.

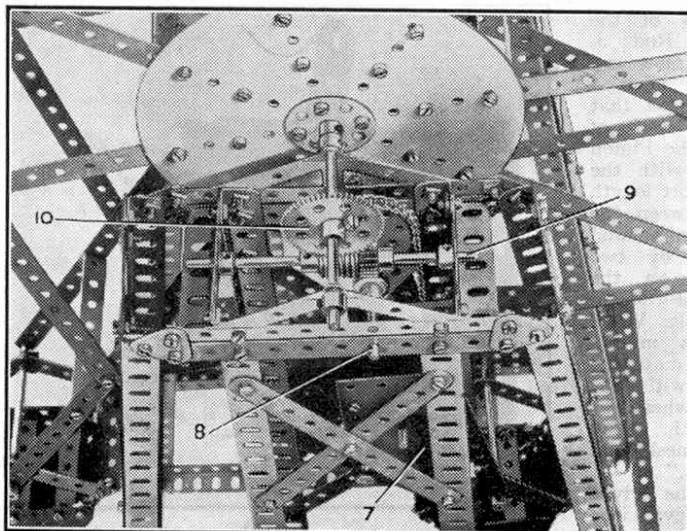


Fig. 2. The rear of the Big Wheel, showing the drive from the Electric Motor.

The upper ends of the $18\frac{1}{2}$ " Angle Girders are spaced apart by $2\frac{1}{2}$ " Angle Girders.

Two $5\frac{1}{2}$ " \times $2\frac{1}{2}$ " Flat Plates and a $2\frac{1}{2}$ " \times $2\frac{1}{2}$ " one are bolted to the base as shown. A step leading to the loading platform is constructed by bolting a $4\frac{1}{2}$ " \times $2\frac{1}{2}$ " Flat Plate 4 to the base, and a $4\frac{1}{2}$ " \times $1\frac{1}{2}$ " compound Flat Plate, consisting of two 3 " \times $1\frac{1}{2}$ " Flat Plates overlapped, is attached to this Plate 4 by two 1 " \times $\frac{1}{2}$ " Angle Brackets. The compound Plate is flanged on one side by a $4\frac{1}{2}$ " Angle Girder 5. A $4\frac{1}{2}$ " \times $3\frac{1}{2}$ " compound Flat Plate 6 made up from two $4\frac{1}{2}$ " \times $2\frac{1}{2}$ " Flat Plates forms the loading platform, and this is joined to the $18\frac{1}{2}$ " Angle Girders by two $3\frac{1}{2}$ " Angle Girders. Two $3\frac{1}{2}$ " Braced Girders are bent as shown, and are also bolted to the $18\frac{1}{2}$ " Angle Girders. The guard rails consist of $3\frac{1}{2}$ " and 4 " Rods held in Handrail Supports bolted to the towers. The front of the model is completed by attaching a 3 " Curved Strip to the Girder Frame by means of two $1\frac{1}{4}$ " Discs, and a similar Disc is then secured to the Curved Strip.

An E120 Electric Motor 7 is bolted to one of the rear pairs of $18\frac{1}{2}$ " Angle Girders, as shown in Fig. 2, and a 1 " Sprocket on its armature shaft is connected by Sprocket Chain to a $1\frac{1}{2}$ " diam. Sprocket on a 3 " Rod 8, which is journalled in the $5\frac{1}{2}$ " Strips at the top of the rear tower. A Worm on Rod 8 meshes

with a $\frac{1}{2}$ " Pinion secured on a $4\frac{1}{2}$ " Rod 9, which also carries a Worm that drives a 57-teeth Gear 10 fixed on the axle of the Wheel. Each side of the Wheel is made by bolting a Bush Wheel to a 6 " Circular Plate, to which eight $12\frac{1}{2}$ " Strips are bolted. These Strips are strengthened by four more $12\frac{1}{2}$ " Strips, and the two sides are joined together by $3\frac{1}{2}$ " \times $\frac{1}{2}$ " Double Angle Strips.

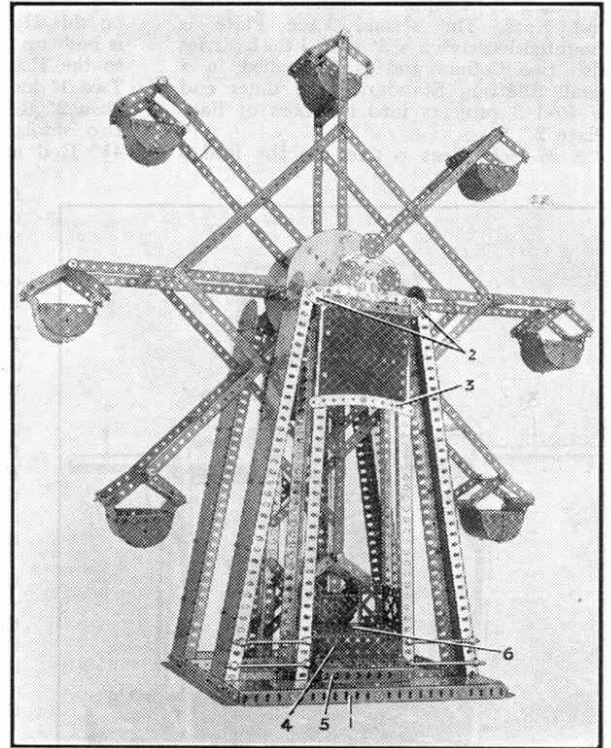


Fig. 1. A fine Meccano model Big Wheel driven by an Electric Motor.

Each of the passenger cars consists of a $5\frac{1}{2}$ " \times $2\frac{1}{2}$ " and a $2\frac{1}{2}$ " \times $1\frac{1}{2}$ " Flexible Plate, overlapped one hole and bent to the shape shown in Fig 1. The sides of the cars are Semi-Circular Plates secured to the compound Plate by $\frac{1}{2}$ " \times $\frac{1}{2}$ " Angle Brackets. The seats are $2\frac{1}{2}$ " \times $\frac{1}{2}$ " Double Angle Strips. Four $2\frac{1}{2}$ " Strips are attached to the corners of each car by $\frac{1}{2}$ " \times $\frac{1}{2}$ " Angle Brackets, and they form links by means of which the car is suspended from its arm of the Wheel. A 4 " Rod is pushed through the end hole in the appropriate arm of the Wheel and through the end holes of the $2\frac{1}{2}$ " Strips. The axle of the Wheel is held in position in its bearings by means of Collars.

Parts required to build the big wheel: 24 of No. 1; 16 of No. 2; 32 of No. 5; 16 of No. 7a; 7 of No. 8; 1 of No. 9a; 2 of No. 9b; 8 of No. 9d; 82 of No. 12; 2 of No. 12b; 1 of No. 13; 1 of No. 15a; 10 of No. 15b; 2 of No. 16; 1 of No. 16b; 2 of No. 24; 1 of No. 26; 1 of No. 27a; 2 of No. 32; 32 of No. 35; 486 of No. 37a; 478 of No. 37b; 30 of No. 38; 19 of No. 48a; 16 of No. 48b; 3 of No. 53a; 23 of No. 59; 2 of No. 70; 1 of No. 72; 2 of No. 73; 8 of No. 77; 1 of No. 89; 1 of No. 89a; 1 of No. 94; 1 of No. 95a; 1 of No. 96; 2 of No. 97; 4 of No. 113; 8 of No. 136; 2 of No. 146; 8 of No. 188; 2 of No. 191; 16 of No. 192; 4 of No. 197; 20 of No. 214; 3 of No. 217a. 1—E120 Electric Motor.