

# Building Your Own Motor Cars!

## The New Meccano Constructional Outfit

THE motor car is one of the most fascinating examples of modern mechanical development. The thrill of high-speed travel on road or track is rivalled only by the aeroplane, and the actual design and construction of a motor car provide an almost unlimited store of interest and education. Nowadays there are very few people who are not interested in some way in motor vehicles, and even those who do not actually own cars have a good idea of the principles on which they operate, and are able to pick out the best-known makes by noting their distinctive external features.

It is natural that cars should make a particularly strong appeal to Meccano enthusiasts, and their great popularity among model-builders is shown by the large numbers of cars that are submitted in every possible "M.M." building contest. Meccano is splendidly adapted for building the chassis of a model motor vehicle, and the Meccano Chassis, Super Model No. 1, is a good example of the accuracy with which the mechanical features can be reproduced. The chassis does not by any means form a complete vehicle, however, for the bodywork and external features play an important part in the general scheme. Standard Meccano parts have certain limitations when employed for this purpose in model car con-

the completed model is remarkably like the real thing!

We must now leave the external appearance of the cars to deal with some of the outstanding mechanical details. Ackermann-type steering gear is provided for the front wheels, with worm and nut actuating mechanism, and there is a strongly built clockwork motor drive for the rear wheels. The steering gear has been carefully designed to enable an extremely delicate adjustment of the front wheels to be made by rotating the steering wheel placed in the dash. The front wheels are mounted on stub axles pivoted to the sides of the chassis frame of the model. The stub axles are provided with extension arms connected together by means of a track rod, which in turn is coupled to a bell crank with a nut block attached to this crank. The end of the steering column is threaded so that it may work inside the threaded hole in the nut block, and thus there is obtained in the Meccano car a very close copy of the worm and nut gear that is used on many actual cars.

When the steering wheel is rotated the threaded end of the steering column draws the nut block up or down, and consequently the bell crank to which the nut block is attached is actuated. The bell crank carries a pin that engages with a slot in the centre portion of the track rod, and movement of this pin causes the track rod to be moved to one side or the other. As the track rod is coupled to the stub axles on which the front wheels are mounted, any movement of it will cause the road wheels to be swivelled, so that the model can be made to travel in either a right-hand or a left-hand direction. The accuracy with which this ingenious gear operates will be found particularly useful when it is required to set the model travelling on a curved course. By rotating the

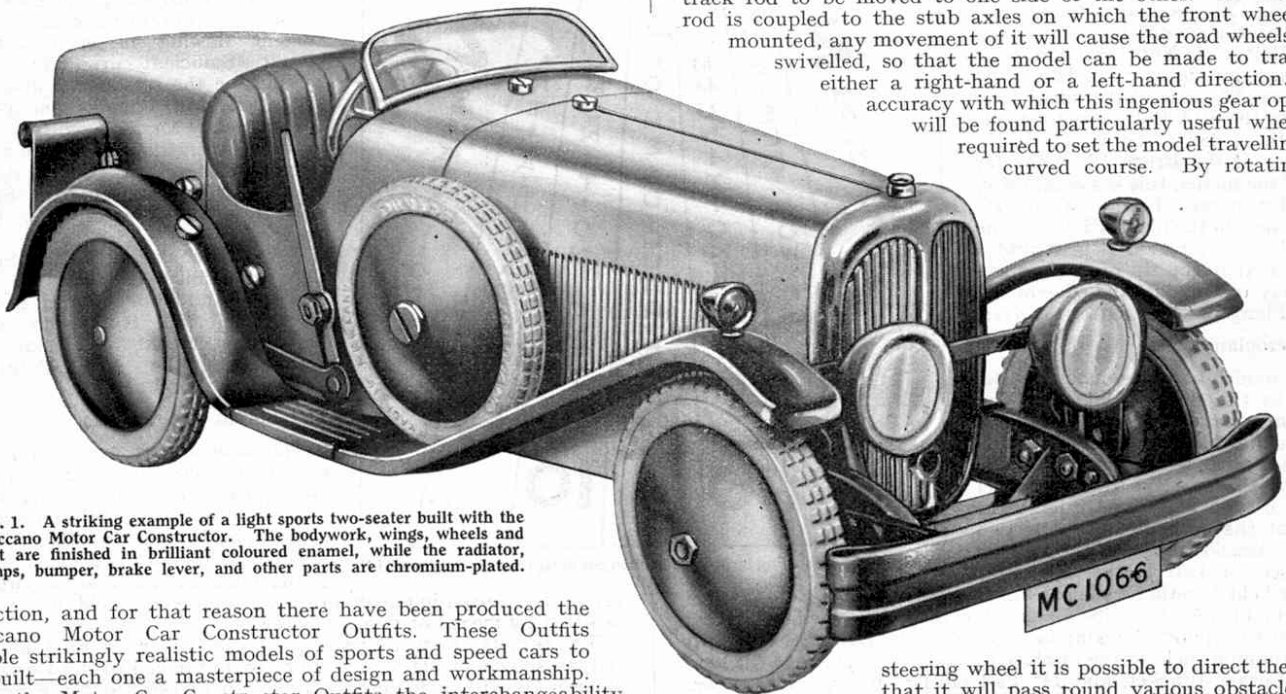


Fig. 1. A striking example of a light sports two-seater built with the Meccano Motor Car Constructor. The bodywork, wings, wheels and seat are finished in brilliant coloured enamel, while the radiator, lamps, bumper, brake lever, and other parts are chromium-plated.

struction, and for that reason there have been produced the Meccano Motor Car Constructor Outfits. These Outfits enable strikingly realistic models of sports and speed cars to be built—each one a masterpiece of design and workmanship.

In the Motor Car Constructor Outfits the interchangeability of standard Meccano parts has been retained, with the result that the builder can vary his designs according to his own ideas. The individuality of the models thus made possible is further increased by the introduction of three distinctive colour schemes for the bodywork of the models, so that the model motor builder may obtain an Outfit with which to build cars in the colours that attract him most.

In the first of these colour schemes the bodywork of the car is in green enamel, the mudguards and running boards are in cream enamel, and the seat is in bright red "crackle" lacquer that gives it a very leather-like appearance. The second colour combination has the bodywork of the car in brilliant red, the wings cream, and the seat section in blue; and in the third scheme the body is enamelled blue, the wings are cream, and the seat section has a red finish. To add to the smart effect of these colour schemes, the radiator, bumper bar, lamp rings and brake lever are all chromium-plated, and the realistic disc wheels and the honeycomb portions of the radiators are coloured red. The appearance of a Meccano car built in any of these colour schemes is extremely smart and

steering wheel it is possible to direct the car so that it will pass round various obstacles.

A specially designed clockwork power unit is provided for the Meccano car models, the clockwork mechanism being produced on similar lines to the famous mechanisms that have contributed so largely to the world-wide success of Hornby Trains. This motor, however, has been designed with special regard to the particular requirements of a model racing car, and it incorporates a spring that gives a remarkably powerful drive at high speed, together with an exceptionally long run. When fully wound the motor drives the car for a distance of 150 ft. at a scale speed of approximately 100 m.p.h.!

Another interesting mechanical feature is the brake mechanism. This is of the internal expanding type, and is controlled by means of a brake lever mounted on the outside of the body at the right-hand side of the dash. The mechanism of the brake is particularly ingenious, and it provides an effective braking action on the clockwork motor while the latter is being wound up, and when the car is required to be kept at rest on the ground.

The brake gear consists of a drum having a split rim and a special tapered cam that is pivotally connected to the brake