A Fine Meccano Motor Lorry

Interesting Model with Six-Wheel Drive

THE construction of motor vehicles of various types is one of the most popular branches of model-building, for many working details can be incorporated in them, and there is a wide range from which to choose a subject. A particularly interesting model of this kind, which is based on the A.E.C. six-wheel drive vehicle, is shown in the illustrations on this page. It was built by R. Lawford, Watford, and reproduces all the main features of its prototype. The chassis is of straightforward construction, and is built up from Angle Girders bolted together to form U-section girders and then spaced 4½" apart by means of Angle Girders and Rods held in Collars fixed to the side members.

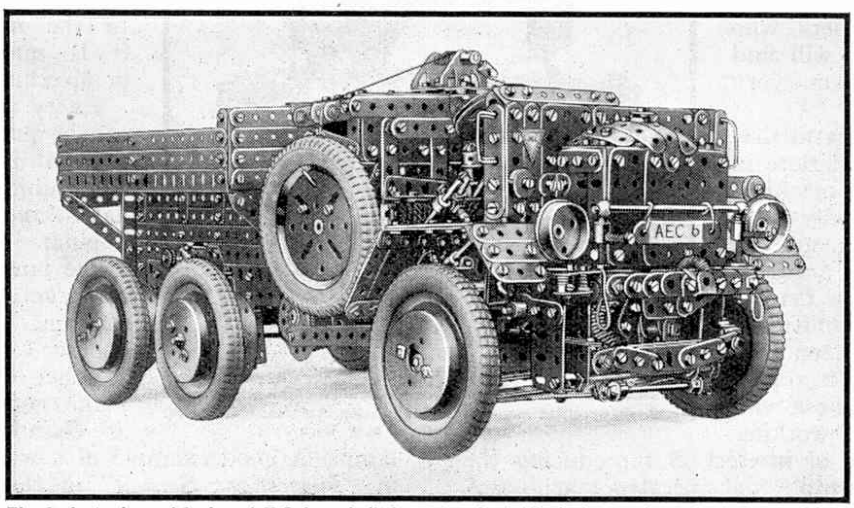

Fig. 1. A sturdy model of an A.E.C. lorry built by R. Lawford, Watford. The six road wheels are driven from a three speed and reverse gear-box.

The driving mechanism to the six road wheels perhaps is the most noteworthy part of the chassis, and model-builders who are keen on reproducing mechanisms of this kind will find plenty to interest them in the accompanying illustrations.

The power unit is an Electric Motor situated under the bonnet and from this the drive is transmitted through a clutch to the gear-box, which has three forward speeds and reverse. The drive for the front wheels is transmitted from a 57-teeth Gear on the driven shaft, to a 57-teeth Gear on the cardan shaft. A Socket Coupling is fitted to the former Gear so that by moving a lever, the drive can be transmitted to the rear wheels only. Two Universal Couplings and a 1" Rod connect the front wheel cardan shaft to the differential, which is driven through a 9 : 1 reduction gear, comprising two ½" Pinions, a 1½" Contrate, and a 57-teeth Gear. The stub axles are driven by Flexible Coupling Units and are formed by 1½" Rods journalled in Double Bent Strips pivotally fastened to the chassis by 1½"×½" Double Angle Strips.

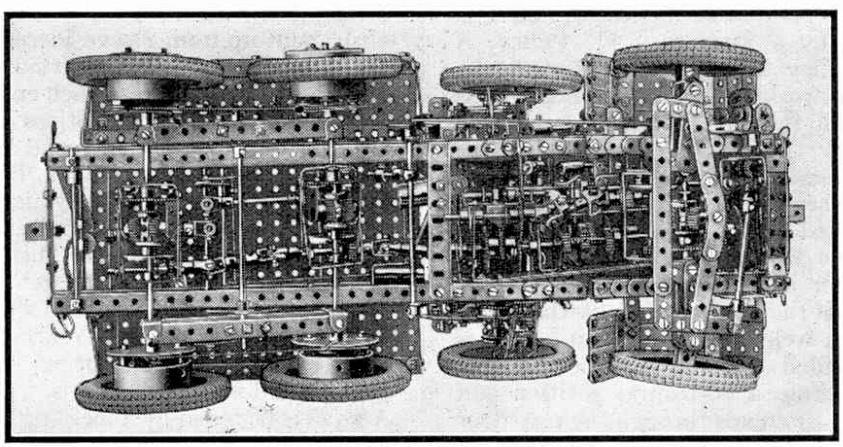

Fig. 2. An underneath view showing the arrangement of the drive to the three differentials and the gear-box.

The differentials of the two rear axles are driven by a common cardan shaft. This is accomplished by taking the shaft above the axles and driving each differential in the following manner. A ½" Pinion on the cardan shaft meshes with a 1½" Contrate, which is locked on a Rod carrying a second ½" Pinion. This, in turn, is meshed with a 57-teeth Gear fastened to the cage of the differential.

Internal expanding brakes are fitted to all four wheels, all the brakes being coupled together so that they can be operated by a single lever, the operating wire being sheathed in Spring Cord to represent a Bowden cable.

A power-driven winch is fitted to the lorry and the top of it can just be seen in Fig. 1 between the back of the cab and the platform of the lorry. The winch is brought into operation by a friction clutch, which connects it to the gear-box.

The platform of the lorry consists of Flat Plates, bolted to a framework of 9½" Angle Girders, and it is supported from the chassis by 3½" Angle Girders. The sides of the platform are built up, as shown in the illustration, by two 9½" Strips, and the front by three 9½" Strips.

The radiator and bonnet are constructed from Flat Plates and Flat Girders, and are secured by Angle Brackets to the front of the cab. The top of the bonnet is covered in by Strips of various sizes bent to the correct shape. The inside of the cab is equipped similarly to the prototype, the gear change lever being to the right and the brake lever to the left of the driver when he is seated behind the steering wheel, which is represented by a 2" Pulley.

The lorry carries two spare wheels, which are fastened to the chassis by 1½" Strips and Double Brackets and are situated on each side of the driver's cab. Provision is made at both the front and rear ends of the chassis for hauling trailers.