New Meccano Models

Farm Tractor

THE fine agricultural tractor shown in Fig 1 is designed to include as much detail as possible without becoming too complicated. It is driven by a No. 2 Clockwork Motor and has good hauling power.

The chassis of the model consists of two $9\frac{1}{2}$" Angle Girders 1 (Fig. 2) extended by two $4\frac{1}{2}$" Angle Girders overlapped two holes. These compound angle girders are bridged at each end by a $2\frac{1}{2}$" Angle Girder. Two $2\frac{1}{2}" \times 1\frac{1}{2}"$ Flanged Plates 2 and 3 are attached to the compound girders in the positions shown, by three $\frac{3}{4}$" Bolts 4, and the space between the Plates is bridged by a $2\frac{1}{2}" \times 2\frac{1}{2}"$ Flat Plate 5. Two Flat Trunnions 6 are bolted to each side of the chassis.

The model is driven by a No. 2 Clockwork Motor, which is supported on two Screwed Rods fixed in the apex holes of the Flat Trunnions 6 by nuts. One of the Screwed Rods is seen at 7. The Rods are passed through holes in the Motor sideplates, and the Motor is fixed centrally on them by nuts screwed tightly against its sides. The front Screwed Rod also holds in place a $2\frac{1}{2}" \times \frac{1}{2}"$ Double Angle Strip, to which are bolted two $3\frac{1}{2}$" Strips 18. Between the Double Angle Strip and the Strips, however, are two Cranks 19 and 20. These overhang the $3\frac{1}{2}$" Strips by one hole at each end.

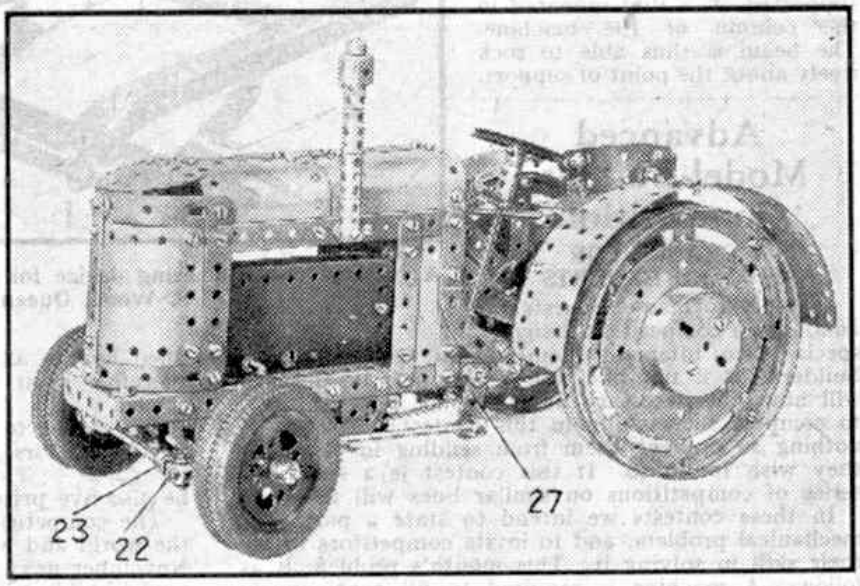

Fig. 1. A powerful farm tractor driven by a No. 2 Clockwork Motor.

Each of the front wheel units, consisting of two 2" Pulleys fitted with Tyres, is mounted on a 2" Rod held in a Coupling 21. This Coupling pivots on a 1" Rod passed into its central transverse bore, where it is gripped by a $1\frac{1}{8}$" Bolt 22. The Rod is free to turn in the boss of its Crank 19 or 20 respectively, and a Collar on its lower end holds it in place. Each of the $1\frac{1}{8}$" Bolts 22 carries the spider of a Swivel Bearing, one of which is seen at 23. A $3\frac{1}{2}$" Rod inserted in the bosses of the Swivel Bearings links them together.

One of the Couplings 21 (Fig. 3) is pivotally attached to a Fork Piece 25 fixed on one end of a Rod 26. The rear end of the

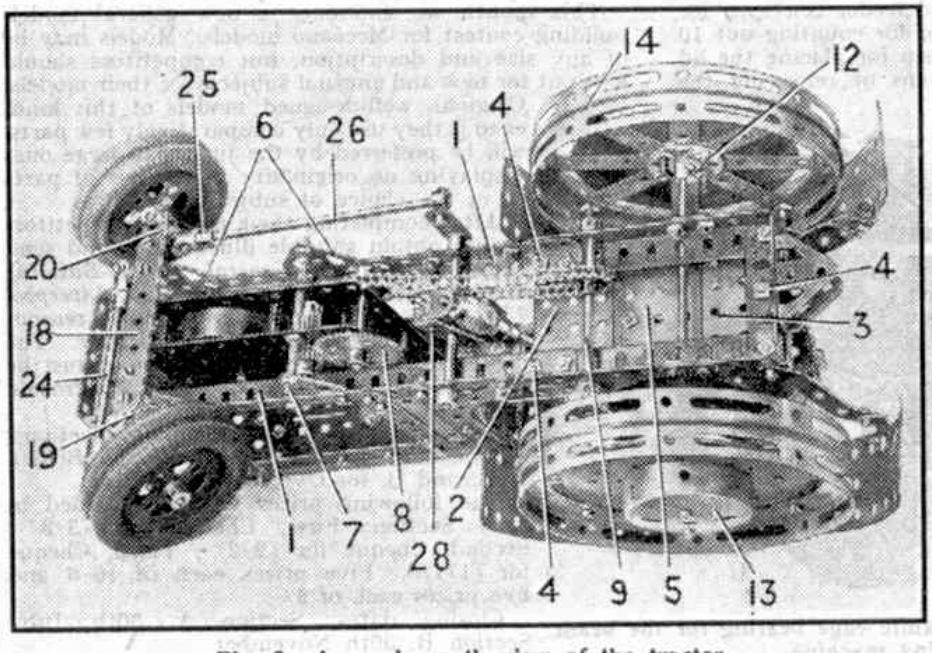

Fig. 2. An underneath view of the tractor.

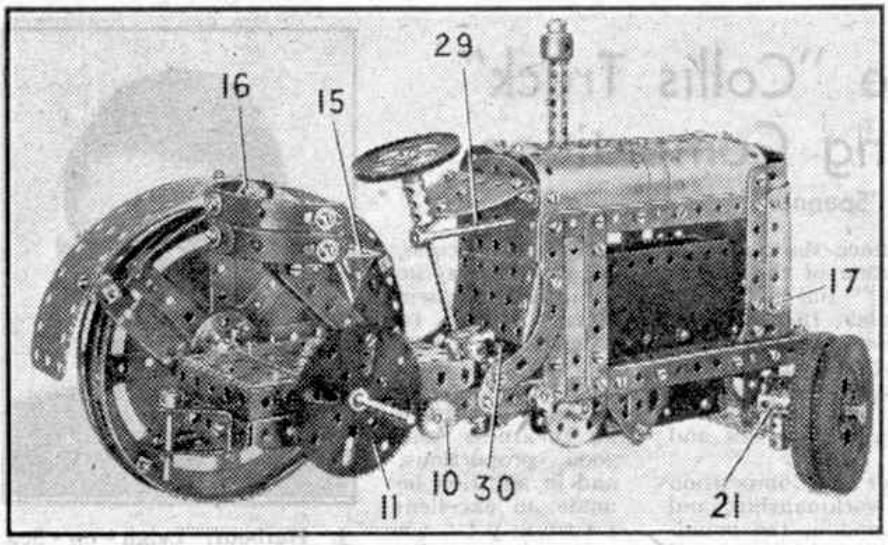

Fig. 3. The tractor with one of the rear wheels removed to show the drive arrangement to the rear axle.

Rod is gripped in a Collar, which is screwed by one of its threaded holes on to a Bolt fixed by a nut in the end hole of a Crank 27 (Fig. 1). The Crank in turn is fast on a Rod mounted in the chassis side members, and it carries at its centre a ½" Pinion and a cage 28 consisting of two 1½" × ½" Double Angle Strips bolted together and carrying at each end a Fishplate. The Pinion is placed on the Rod inside this cage.

The steering column passes through a 1½" Strip attached to a Semi-Circular Plate at the rear of the engine housing, and at its lower end through two Fishplates attached to the cage 28. Between the Fishplates it carries a Worm that engages the ½" Pinion in the cage. The column is held in place by two Collars placed against the sides of the upper Fishplate.

The driving shaft of the Motor carries a ½" Pinion that engages a 57-teeth Gear 8 on a Rod journalled in the Motor sideplates. This Rod carries at its other end a ¾" Sprocket Wheel, which is connected by Chain to a second ¾" Sprocket mounted on a Rod 9 journalled in the chassis and held in place by Collars. Rod 9 carries a ¾" Pinion 10, and this engages a 2½" Gear Wheel 11 on the axle of the rear wheels. Bearings for the Rod are provided by two 1" Corner Brackets, bolted one to each of the chassis sidemembers.

Each of the rear wheels consists of two Hub Discs bolted together. On the inner side of each wheel is a Bush Wheel 12 and on the outer side a 4" Circular Plate and a Boiler End 13. Two 1⅛" Bolts hold the Boiler End, Circular Plate and Bush Wheel in place. The Bush Wheel is also held by two ordinary Bolts. A Rubber Driving Band 14 is fitted to each wheel, to enable it to grip the ground.

The driver's seat consists of a Semi-Circular Plate to which is bolted a 2½" × 1½" Flexible Plate 15, Fig. 3. An Angle Bracket at each side of the seat is extended by a Fishplate 16. The back and sides of the seat are formed by pairs of Formed Slotted Strips.

Construction of the bonnet sides is clear from the illustrations, and the top consists of six 2½" × 2½" Flexible Plates, with a Semi-Circular Plate at the front end. The curved front is formed by two further 2½" × 2½" Flexible Plates fastened by Bolts 17 at each side to Fishplates attached to the vertical 3½" Strips.

The reversing lever of the Motor is attached by an End Bearing to a Rod that has a Collar at its end to serve as a handle. A Corner Angle Bracket is bolted to the brake lever of the Motor, and to the free lug of the Bracket a Fishplate 30 is bolted. A Slide Piece representing a foot pedal is then attached by a ½" Bolt to the elongated hole of the Fishplate.

The details of the reaper can be followed quite easily from Fig. 4.

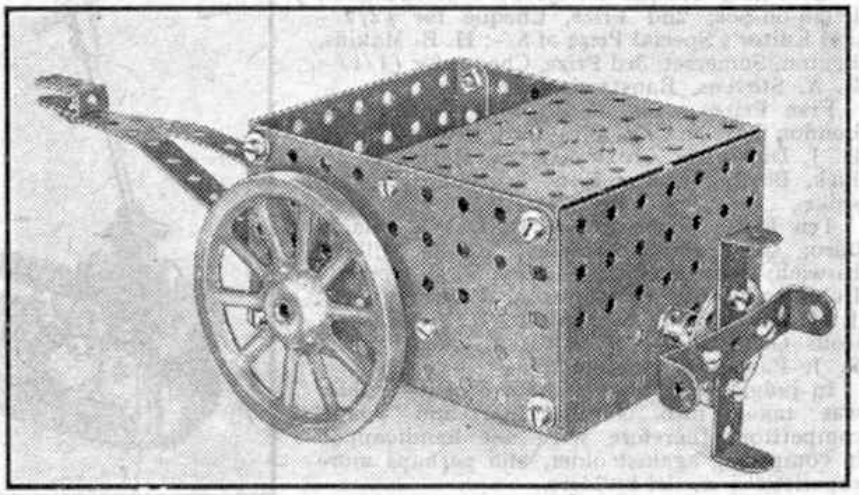

Fig. 4. This potato reaper forms an interesting implement for use with the tractor.