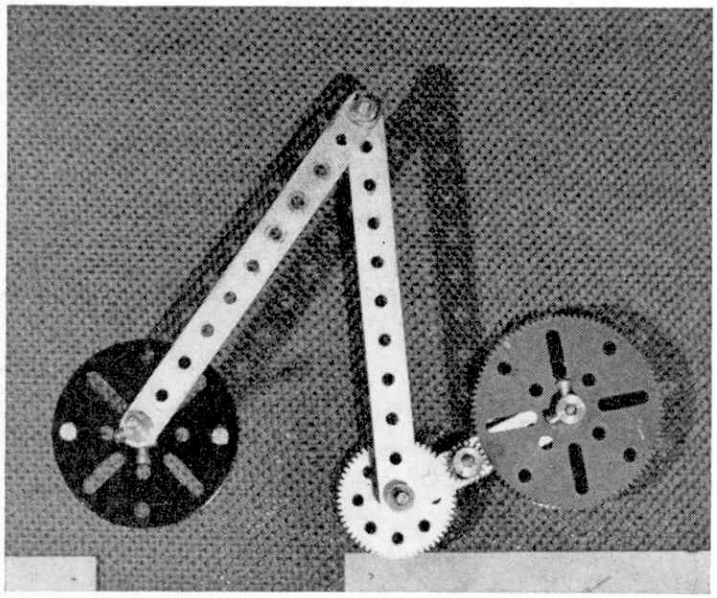
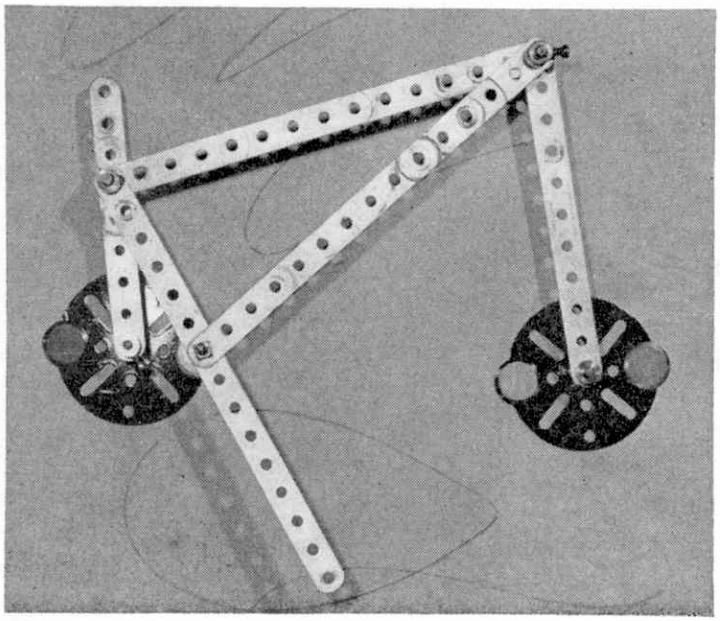
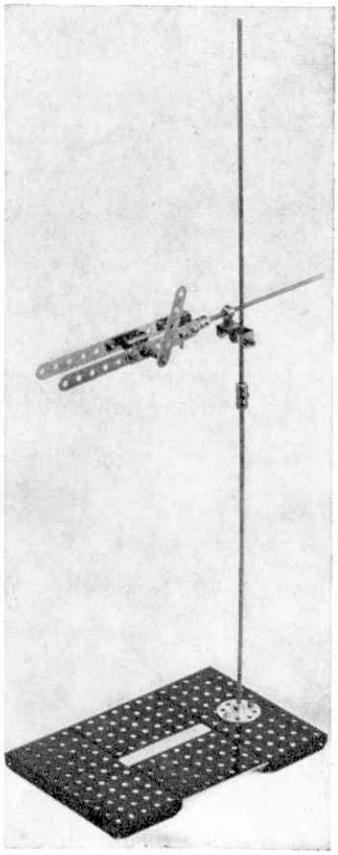
Among the Model Builders with 'Spanner'

IN this month's article, we include a number of interesting suggestions sent to us by readers over the past few weeks. One of these is the result of the August 1966 'Among the Model Builders', in which was published a Clamp Stand built by Mr. S. W. Wright. Although this undoubtedly has its uses, Mr. Nigel Adams of Sedgley, Worcestershire, has made an improved version which includes a clamp that can be screwed and also tilted to any angle. The clamp built by Mr. Wright was of the fixed type and could not therefore be adjusted. Mr. Adams' version also differs by having a much larger base, which of course makes the unit more stable when the clamp is positioned at the top of its stand.

Its base is built from two 5½ in. by 2½ in. Flanged Plates and two 3½ in. by 2½ in. Flanged Plates bolted to each other to give an area of 8½ in. by 5½ in. At the end of one of the 5½ in. by 2½ in. Flanged Plates is bolted a Bush Wheel in which is mounted an 11½ in. Axle Rod 1, with a Coupling 2, joining on to a further 11½ in. Axle Rod 3. The clamp is joined to the upper Axle Rod by two Double Angle Brackets bolted together with a ½ in. Bolt 4, which also screws on to a Collar 5, mounted on the Axle Rod. The Angle Bracket 6, also holds the Collar on to the Rod and nuts are positioned on either side of the Collar and the Bracket. A Bolt is pushed through the upper hole in Angle Bracket 7, and two Nuts are screwed on so that Collar 8, can be screwed on top. Through the hole in the Collar is a 6½ in. Axle Rod 9, the end of which has a Coupling 10. On this is bolted a 5½ in. Strip 11, which is strengthened by a 2½ in. Strip. A Double Bracket 12, is screwed to the opposite side of the coupling by the same bolt that holds the 5½ in. Strip in position. Another Double Bracket 13, is fitted around the first one and before this is fixed in position, a 5½ in. Strip 14, is bolted to it and a Collar fixed on to the end of the screw. The Collar lies inside the cube formed by the two Angle Brackets and the screw holding the first 5½ in. Strip to the Coupling is also used for holding one side of the Collar. The second 5½ in. Strip also has a strengthening 2½ in. Strip bolted to the outside and a 1½ in. Axle Rod 15, is pushed through the upper and lower holes of the outside Double Angle Bracket and also, of course, through the hole in the coupling. The screws may then be tightened up. To allow the clamp to be tightened, a Coupling 16, is screwed at one end only to the inside of the second 5½ in. Strip and a 3 in. Screwed Rod 17, with two Nuts tightened approximately one-third of the way down, is then passed through the hole of the first 5½ in. Strip and screwed through the end of the Coupling. A 2½ in. Strip is then fixed on the outside end of the 2½ in. Rod, to act as a handle.







The second suggestion comes from Mr. A. G. Gamble of Lenton, Nottingham, who has devised a new type of bearing for the dragline model illustrated on Special Model Leaflet 9/4. Mr. Gamble had the idea for this from the bearing on an actual breakdown crane, and the principle by which it works, is that the moving outer ring is retained by the 'V' groove in the 6 in. Pulley. The centre, which is fixed, consists of a 6 in. Pulley (19C) strengthened by a Hub Disc (118) bolted at the extremity of its spokes to the Pulley. The moving outer ring is made from two 7½ in. diameter Circular Strips (145) between which five pairs of Wheel Discs are held on ¾ in. Bolts spaced from each Circular Strip by one Washer on either side. The remaining three are Single Discs spaced by a Washer on one side and two on the other. This arrangement of Wheel Discs gives a minimum of play and the bolts holding these are locknutted. A useful improvement to an otherwise good model.

Meccano is now aiming into increasing use at the Liverpool College of Technology where research is undertaken into kinematics—the science of the essential movements of all mechanisms. First used in the college in a small way to make two or three basic models, Meccano is now becoming more popular both as a teaching aid and as a research tool.

Most real machines, even very complicated ones, can be represented mathematically as being built up of a series of simple links. The links are joined together so that each can move relative to its neighbour either by sliding (e.g. Piston), turning (e.g. Crank) or rolling (e.g. Gears). Simple Meccano bars or rods can