place with a rivet. The housing is also drilled and tapped for a pressure grease fitting.

Right at this stage the spindle, Fig. 4, should be made. Check the dimension through each of the inner ball races before you turn down the spindle between the cutter flange and the shouldered lower end, for this section must fit the inner ball races in a snug, press fit. Thread the upper end of the spindle while in the lathe as the thread must be true. When you assemble as in Fig. 2 make sure, before seating the retainer, that the spindle turns freely, without perceptible binding at any point, through a complete revolution.

Next, you bore out the threaded sleeve of a pipe floor flange so that the spindle...
housing is a smooth, sliding fit. Then a clamp is bent from flat iron and welded to the lower end of the flange as in Fig. 3. One of the clamp projections is tapped; the other is drilled to take the shouldered end of the clamp screw, Fig. 4. A coil spring is placed between the ends of the clamp smooth and flat on both sides. Finish it when the screw is turned into place.

Figs. 5, 6 and 7 show how the spindle may be mounted on a convenient floor stand and driven with a ¼-hp. motor. Fig. 6 suggests a good method of mounting the motor with the shaft in the horizontal position and driving with a half-crossed round leather belt. But, if you have a ball-bearing motor, you can simplify this installation by mounting the motor with the shaft in the vertical position. In either case, with a motor running at 1,750 r.p.m., you can use a 7-in. V-pulley on the motor shaft and a 2-in. pulley on the spindle. This combination will give the proper speed for the average work. The stand, as you see, is a very simple affair made from angle iron. The table top requires a little more care. It should be made of strips of hardwood glued together and drawn tight with iron rods threaded at both ends for a nut and washer. For accurate work it’s essential that the table top be surfaced smooth and flat on both sides. Finish it with shellac. Notice the guide pin, Fig. 7, which is necessary for starting the work when no fence is used. It should not be more than 3 in. from the center or axis of the spindle. When using the pin as a guide for the edge of the work when starting the cut, it is essential that the uncut portion of the stock ride on a guide collar as in the detail, Fig. 1. Although the pin can be used when starting either straight or curved work it’s best to use a fence when molding straight stock. Fig. 5 suggests a simple type of fence, although it does not have an adjustment for offsetting the two halves which is necessary on certain kinds of work. A ready-made fence having this feature can be purchased at nominal cost. Three-lipped cutters should be used. They may be purchased ready-ground in a great variety of shapes together with suitable guide collars. Always use double nuts on the spindle and be sure that they are tight before starting the machine.