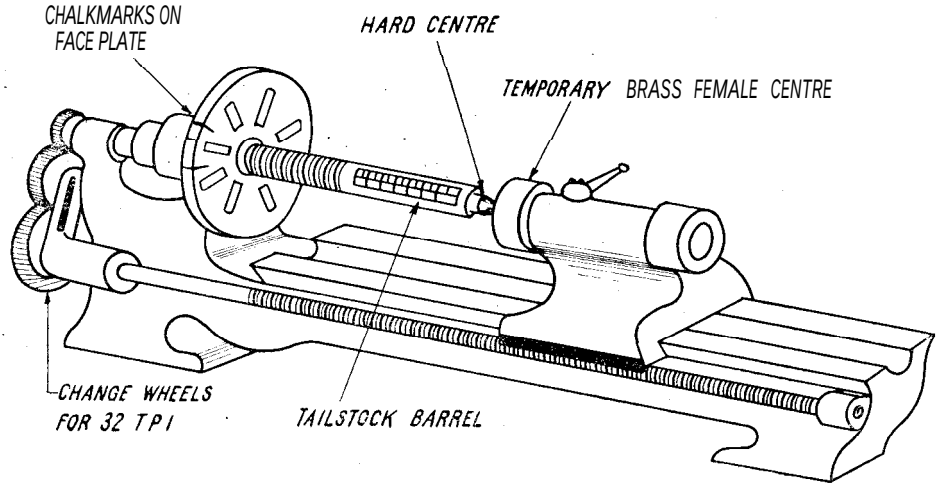
Graduating the Lathe Tailstock Barrel

By W. SHEARMAN



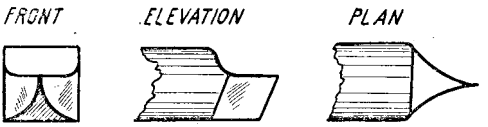
Set-up for graduating tailstock barrel. (Slide-rest and carrier not shown.)

A GRADUATED tailstock barrel will be found a great asset when drilling to given depths which have to be carried out from the back poppet. To graduate the barrel of a screw-cutting lathe is a very simple operation, as will be seen from the following account of how the writer did it on his 3-1/2in. Drummond.

First, a brass plug was turned up to a push fit in front end of tailstock body, a flange being left on to prevent plug slipping too far inside the hole. The plug was then centred and the tailstock barrel set up between centres, the hard centre being in the socket of tailstock barrel and run in the brass plug in body.

The change-wheels were then set up to cut 32 threads per inch, and a tool, shaped as sketch, mounted on the slide-rest. Three lines were then scribed along the barrel to form the stop and start for the long and short lines of the rule about to be formed. At about 3/32 in. from the end a ring was scribed right round the barrel, using the tool already set up, the cross-slide "mike" reading being noted. The tool was then withdrawn from cut and the screw-cutting gear engaged. When all backlash had been taken up, the tool was fed in and adjusted by top-slide to come exactly opposite the ring scribed near the end. When the point of the tool came opposite each of the longitudinal lines a chalk mark was made on the edge of the faceplate and a suitable indexing pointer rigged up.

When all was readv. the lathe belt was pulled round by hand' and each time the base line came opposite the tool the same was fed in to the previously noted " mike " reading and either a short or a long division marked off as required ; at the end of each stroke the tool was withdrawn and work revolved another turn and another mark made, and so on to the end. It will be obvious that with change-wheels arranged for 32 t.p.i., each division will be l/32 in.



The shape of tool used.

Numbers to mark the inches may be carefully punched in or etched. The writer used this method successfully to graduate the sleeve of a 1/2in. micrometer depth-gauge he made, but, of course, in that case 40 t.p.i. were used.