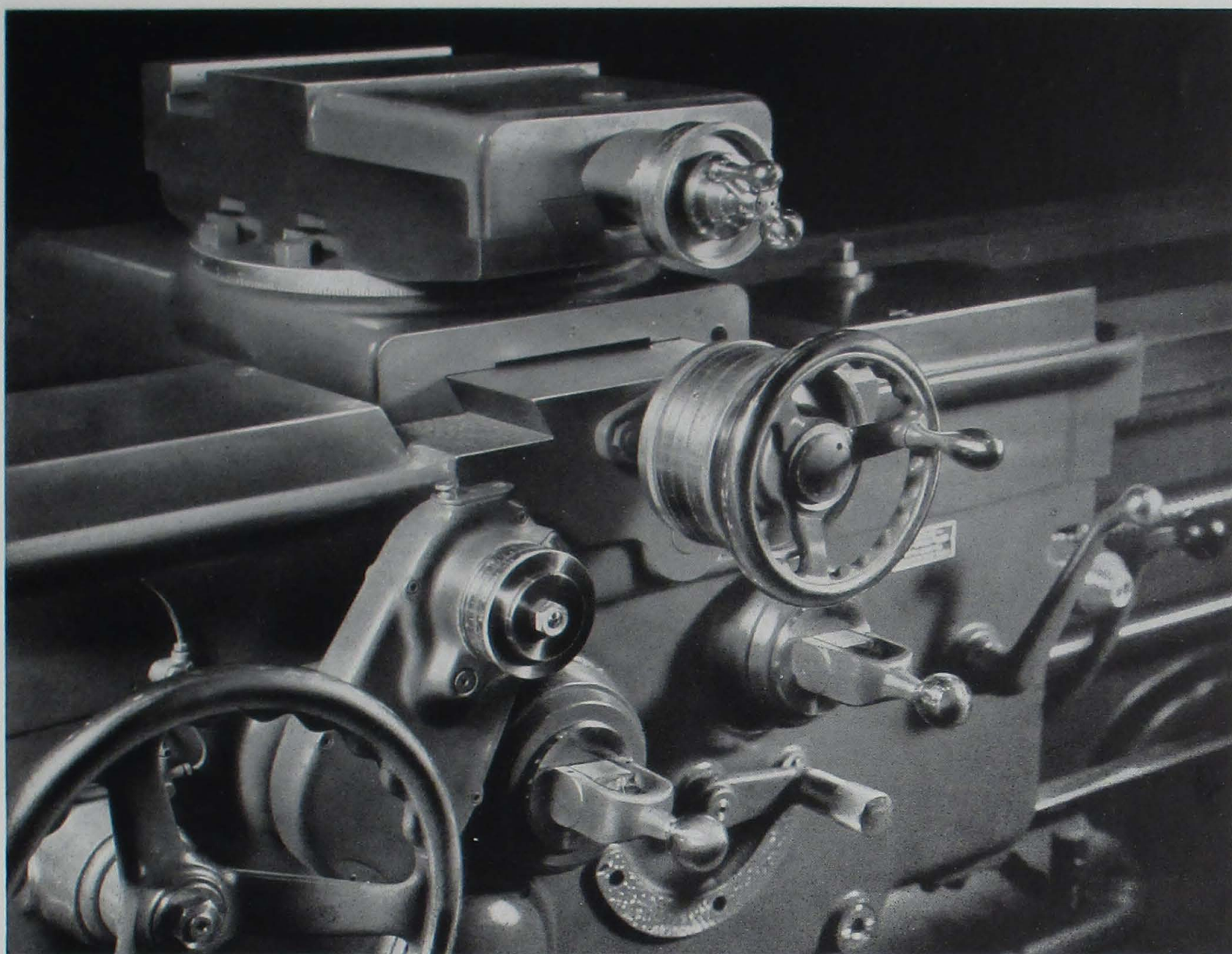




SHOWING BOTH MICRO-GAUGING DIAL AND DIRECT LENGTH READING DIAL

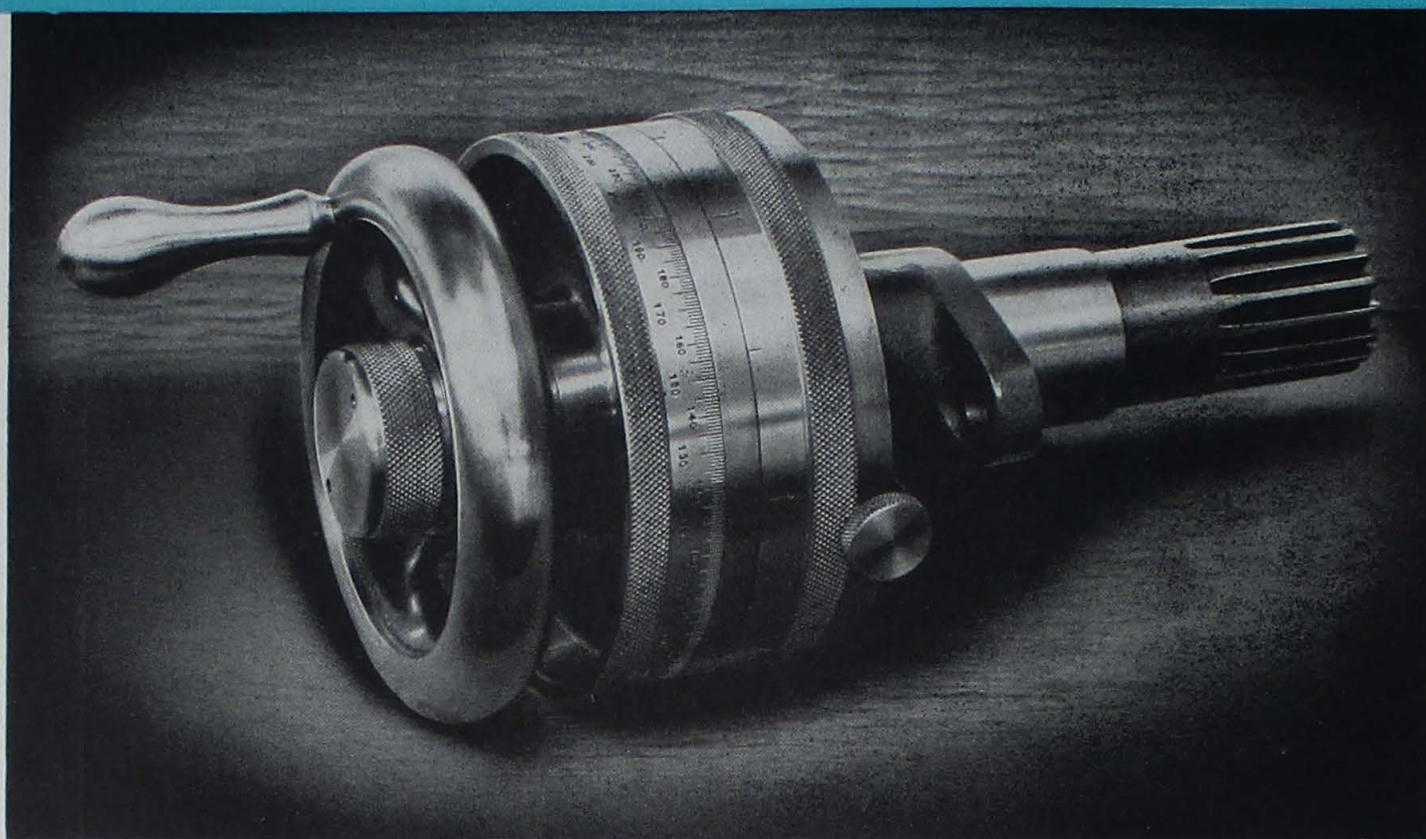
The direct length reading dial mechanism consists of a small oil-tight gear housing with a hardened pinion which meshes with the bed rack. Through the gearing in the housing, one foot of length carriage travel results in one complete revolution of the inner dial. One inch of carriage travel is equivalent to one revolution of the outer dial, which is graduated in 64ths of an inch of carriage travel. Both dials can be quickly reset to zero so that successive length measurements in turning or boring can promptly be made, and read directly on the dials.

It is obvious that even in machining one piece having various lengths, whether boring or turn-

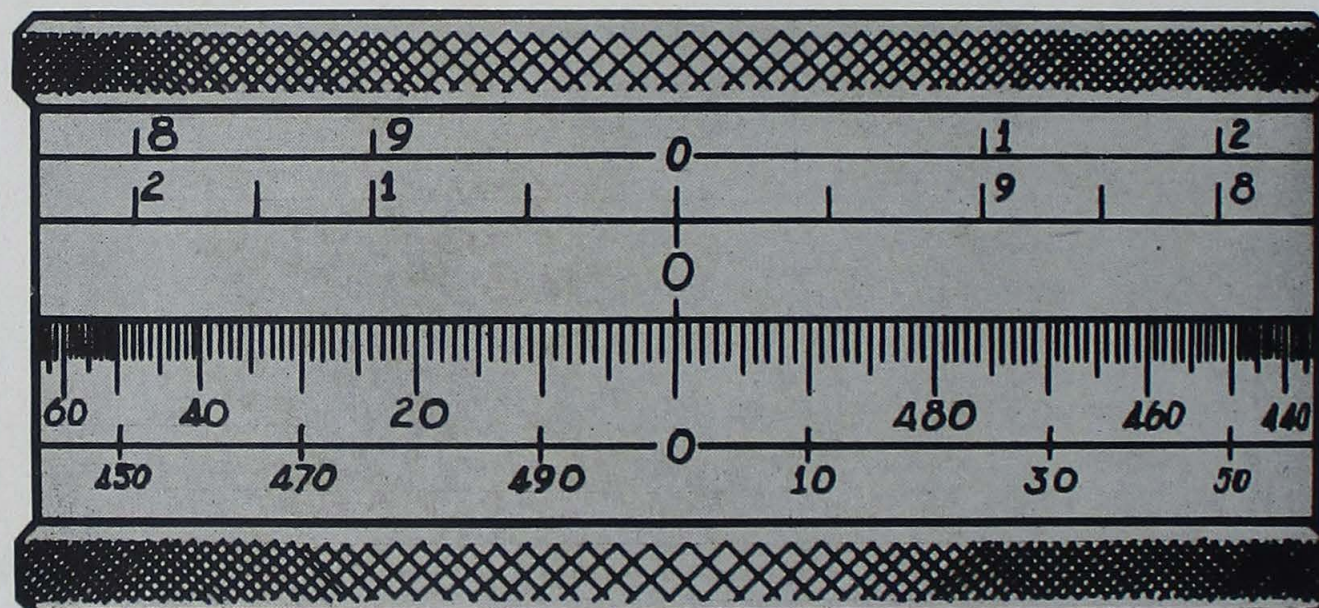
ing, that these length reading dials will save the operator the time of stopping lathe and measuring the length of cut or cuts by means of a scale.

The case is oil-tight. Gears and operating parts operate in bath of oil, which is readily supplied through an opening in the top of case as shown.

The Monarch direct length reading dials are available on all sizes of Monarch lathes. Introduced during 1935, they are becoming increasingly popular. A large number of Monarch lathes have been equipped with this feature, which, on many classes of work, save considerable time of the operator and lessens spoiled work.



MICRO-GAUGING DIALS



The Monarch Micro-Gauging method of quick tool setting, for diameters in turning or boring, can be applied to all engine lathes and tool maker's lathes at a small additional cost.

This mechanism is attached to the cross-feed screw and consists of a large diameter cross-feed dial with graduations reading in thousandths of diameter (not radius). The inner dial, with graduations reading in inches, is geared to the outer thousandths reading dial, by internal planetary gearing. Both these dials are quickly set to zero. The outer or thousandths reading dial has two sets of numbers, one for turning, the other for boring. In this way, direct diameters may be read without calculation.

All successive dial readings may be taken from the Micro-Gauging dials, either by setting the turning or boring tool in a known relation to the center line of lathe, or by measuring the diameter of a trial cut and setting the dials accordingly. This saves time of further "cut and try" in securing proper diameters.

The Monarch chasing stop mechanism is incorporated in the cross-feed dial mechanism whereby

the compound rest may be quickly withdrawn by two and one-half revolutions of the cross-feed handwheel, and again fed in to a positive stop. This chasing stop mechanism is engaged by means of the small knurled knob at the right shown above.

Instead of the cross-feed handwheel, shown in this photograph, a large size ball crank handle can be furnished.

On all lathes, from 12" to 18", inclusive, the Micro-Gauging cross-feed dials are 4 $\frac{3}{4}$ " diameter, and are graduated and numbered from 0" to .500". The inch reading dials are graduated from 0" to 10" diameter.

On all larger sizes of lathes, cross-feed dials are 6" diameter, and the inch reading dials are graduated from 0" to 12" diameter. When Micro-Gauging mechanism is not desired, the thousandths reading cross-feed dial as described above will be furnished, together with the chasing stop mechanism. The planetary gearing together with the inch reading dial will be omitted.

The Monarch compound rest dials are also direct diameter reading and are large in diameter.