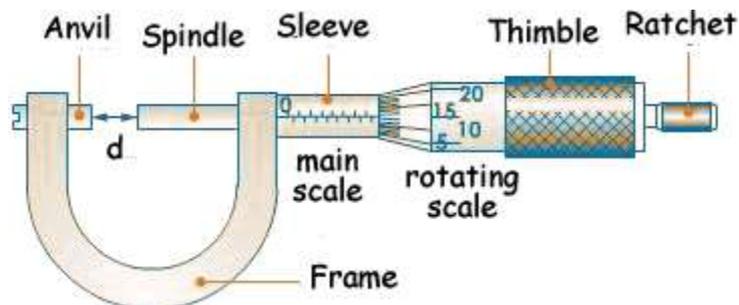


## USING A MICROMETER SCREW GAUGE

You can use a micrometer to measure small (>2.5 cm) diameters that can fit within the 'jaws' of the screw-gauge.

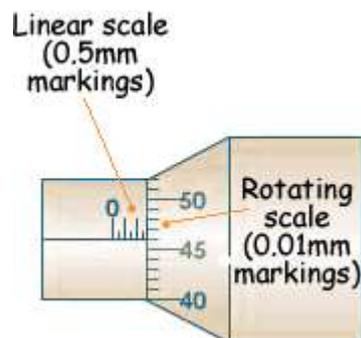
### Determination of the diameter 'd' of a wire



Place the wire between the anvil and spindle end as indicated in the diagram.

Rotate the thimble until the wire is firmly held between the anvil and the spindle.

The ratchet is provided to avoid excessive pressure on the wire. It prevents the spindle from further movement - squashing the wire!.



To take a reading first look at the main scale. This has a linear scale reading on it. The long lines are every millimetre the shorter ones denote half a millimetre in between.

On the diagram this reading is 2.5 mm

Now look at the rotating scale. That denotes 46 divisions - each division is 0.01mm so we have 0.46mm from this scale.

The diameter of the wire is the sum of these readings:  $2.5 + 0.46 = 2.96$  mm

### Sensitivity of the reading

You can read to half a rotating scale division - to within 0.005mm - but no more than that. That assumes you have experience and confidence in using the instrument +/- one division is more realistic!

## Practical Notes

**SWG (Standard Wire Gauge) 32 wire has a manufacturer diameter value of 0.274 mm. If you measure it with a micrometer in school you could only say it was 0.275mm - that last digit of '4' would be impossible to measure with a micrometer.**

Always check carefully for a zero error before using the micrometer!