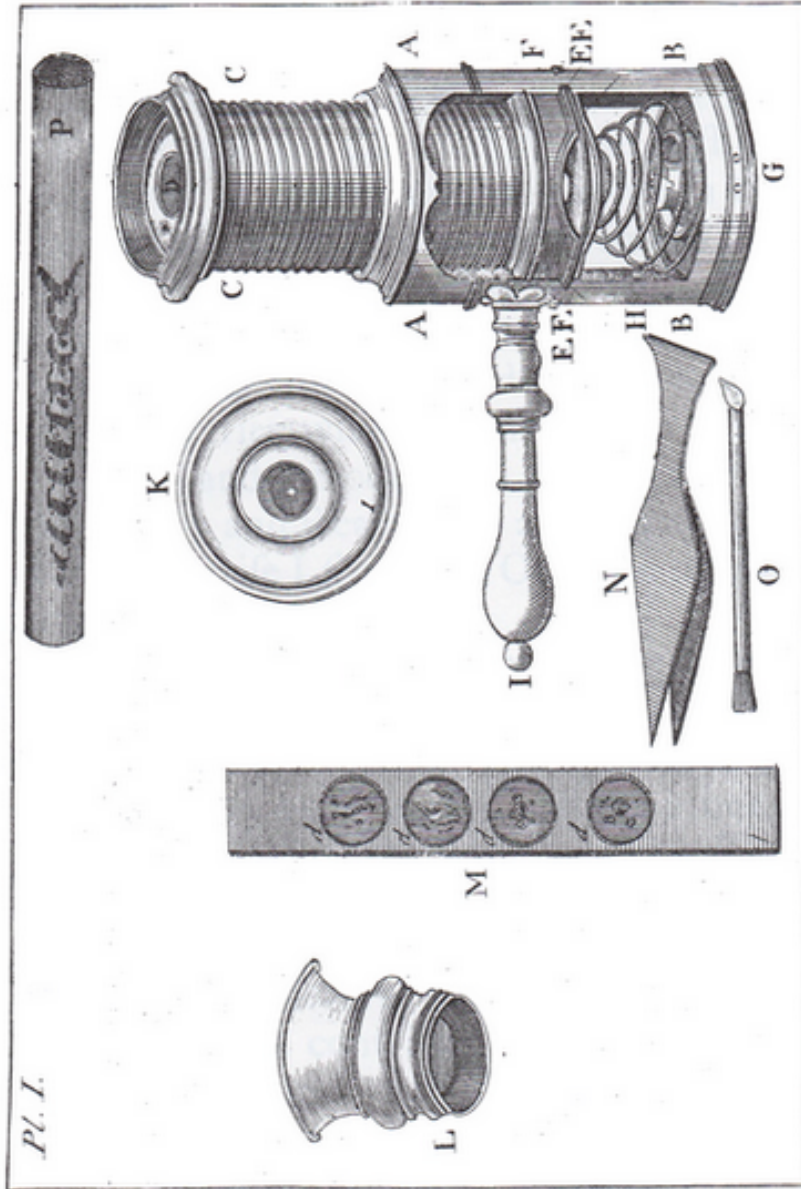


**Extract from The Microscope made Easy
Henry Baker, 1744**



Pl. I.

C H A P. III.

Of Mr. WILSON's Single Pocket-Microscope.

THE first that I shall mention, is Mr. WILSON's *single Pocket Microscope*; the Body whereof made either of Brass, Ivory, or Silver, is represented (*Plate I.*) by AA. BB.

CC. is a long fine-threaded male Screw, that turns into the Body of the Microscope.

D. a convex Glass at the End of the said Screw.

*Two concave round Pieces of thin Brass, with Holes of different Diameters in the middle of them, to cover the said Glass, and thereby diminish the Aperture when the greatest Magnifiers are employed.

EE. three thin Plates of Brass within the Body of the Microscope, one whereof is bent semicircularly in the middle, so as to form an arched Cavity for the Reception of a Tube of Glass, whereas the two flat Plates are to receive and hold the Sliders between them.

F. a piece of Wood or Ivory, arched in the Manner of the semicircular Plate, and cemented thereto.

G. the other End of the Body of the Microscope, where a hollow female Screw is adapted to receive the different Magnifiers.

H.

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H. a spiral Spring of Steel, between the said End G and the Plates of Brass; intended to keep the Plates in a right Position, and counter-act against the long Screw CC.

I. a small turn'd Handle, for the better holding of the Instrument, to screw on or off at pleasure.

To this Microscope belong seven different magnifying Glasses: six of them are set in Silver, Brass, or Ivory, as in the Figure K. and marked 1. 2. 3. 4. 5. 6. the lowest Numbers being the greatest Magnifiers.

L. is the seventh Magnifier, set in the Manner of a little Barrel, to be held in the Hand for the viewing any larger Object.

M. is a flat Slip of Ivory, called a Slider, with four round Holes through it, wherein to place Objects between two Glasses or Pieces of *Muscovy* Talc, as they appear *d d d d.*

Eight such Ivory Sliders, and one of Brass, are usually sold with this Microscope; some with Objects placed in them, and others empty, for viewing any thing that may offer: but whoever pleases to make a large Collection of Objects, may have as many as he desires.

The Brass Slider is to confine any small Object, that it may be viewed without crushing or destroying it.

N. is a Forceps or Pair of Pliers, for the taking up of Insects or other Objects, and adjusting them to the Glasses.

O. is a little Hair-Brush or Pencil, wherewith to wipe any Dust from off the Glasses, or to take up any small Drop of Liquid one would examine, and put it upon the Talcs or Ifinglafs.

P. is a Tube of Glass, contrived to confine living Objects, such as Frogs, Fishes, &c. in order to discover the Blood, as it streams along the Veins and Arteries.

All these Particulars are contained in a little neat Box, very convenient for carrying in the Pocket.

When an Object is to be view'd, thrust the Ivory Slider, in which the said Object is placed, between the two flat Brass Plates EE: observing always to put that side of the Slider where the Brass Rings are, farthest from your Eye. Then screw on the magnifying Glass you intend to use, at the End of the Instrument G; and looking through it against the Light, turn the long Screw CC, till your Object be brought to fit your Eye; which you will know by its appearing then perfectly distinct and clear.---'Tis best to look at it first, through a Magnifier that can shew the Whole thereof at once, and afterwards to inspect the several Parts more particularly with one of the greatest Magnifiers: for thus you will gain a true Idea of the Whole, and of all its Parts. And tho' the greatest Magnifiers can shew but a minute Portion of any Object at once, such as
the

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the Claw of a Flea, the Horn of a Louse, or the like; yet by gently moving the Slider that contains your Object, the Eye will gradually overlook it all: and if any Part should be out of Distance, the Screw CC will easily bring it to the true Focus.

As Objects must be brought very near the Glasses when the greatest Magnifiers are used, be particularly careful not to scratch them, by rubbing the Slider against them as you move it in or out. A few Turns of the Screw CC will easily prevent this Mischief, by giving them Room enough.

You may change the Objects in your Sliders, for what others you think proper, by taking out the Brass Rings with the Point of a Pen-knife; the Iinglafs will then fall out, if you but turn the Sliders; and after putting what you please between them, by replacing the Brass Rings, you will fasten them as they were before. 'Tis proper to have some Sliders furnish'd with Talcs, but without any Objects between them, to be always in Readiness for the Examination of Fluids, Salts, Sands, Powders, the *Farina* of Flowers, or any other casual Objects of such sort as need only be apply'd to the Outside of the Talc.

The Circulation of the Blood may easiest be seen in the Tails or Fins of Fishes, in the fine Membranes between a Frog's Toes, or, best of all, in the Tail of a Water-Newt.

If

WILSON'S *single Pocket Microscope.* 13

If your Object be a small Fish, place it within the Tube, and spread its Tail or Fin against the Side thereof: if a Frog, chuse such an one as can but just be got into your Tube, and with a Pen or Stick expand the transparent Membrane between the Toes of the Frog's hind Foot as wide as you are able. When your Object is so adjusted, that no Part thereof can intercept the Light from the Place you intend to view, unscrew the long Screw CC, and thrust your Tube into the arched Cavity, quite thro' the Body of the Microscope; then screw it to the true focal Distance, and you'll see the Blood passing along its Vessels with a rapid Motion, and in a most surprizing Manner.

Make use of the third or fourth Magnifier for Frogs or Fishes; but for the Tails of Water-Newts, the fifth or sixth will do; because the Globules of their Blood are twice as large as those of Frogs or Fish. The first or second Magnifier cannot well be employed to this purpose; for the Thickness of the Tube wherein the Object lies, will scarce admit its being brought so near as the focal Distance of the Magnifier.

The *Single Microscope* above described may be formed into a *Double One*, by screwing it to a Tube with an Eye-Glass at the End thereof: it is also made to answer nearly the Purposes of the large *Double Reflecting Microscope*, by the Contrivance following.

C H A P.