Directions For Use

Pocket Microscope No. 40

If the following points are carefully followed, it will be easy to use this instrument for the study of transparent and solid specimens.

Transparent Specimens

Notice how the microscope rests in the case and after withdrawing it:

1. Extend the mirror bar, MB.

2. Unfold tripod to position shown in the illustration and place the instrument in upright position facing unobstructed light.

3. Looking into eyepiece, E, tilt mirror, M, (face up) until the circle is evenly illuminated.

4. Hold the instrument firmly at FA with left hand and withdraw body tube, B, with a twisting motion, so that one of the slides with the specimen placed on it can be firmly held by the spring clips, SC, on the stage, S.

5. Now lower B until OT is near the specimen and holding FA, with eye at E, slowly withdraw B with a twisting motion until specimen comes into view. This operation provides a coarse adjustment for focusing. Be careful not

to pass the point at which the image of the specimen comes into view.

6. By turning knurled ring at fine adjustment, FA, bring the specimen to sharp focus.

This gives 136 magnification.

To Get 250 Magnification:

1. Hold body tube, B, under supporting arm, SA, so that fingers rest snugly against SA, and grasping draw tube, D, at knurled ring turn as well as withdraw D to full extension.

2. Bring specimen into sharp focus with FA.

To Get 60 Magnification:

1. Unscrew objective tip, OT, after withdrawing body tube, B, to limit of movement and proceed as before with objective, O, only.

To Get 110 Magnification:

1. Extend draw tube D as described above using O only.

Various magnifications can be secured by moving tubes in intermediate positions. In depressing D, it is important that B is held so that fingers rest snugly against top of focusing sleeve, FS.

Solid Specimens

Aside from its use with transparent specimens, this microscope is easily adapted to the study of solid specimens. Hold mirror bar, MB, with one hand and the mirror fork, MF, with finger and thumb of other and rotate as well as withdraw, MF, from MB. Place mirror with fork on pin, P, at side of supporting arm, SA. Direct light down on to the specimen and proceed as above described.

It should be noted that parts of insects and plants, cloth, ink, finger prints, paper and objects of a similar nature can be studied.

In placing the microscope back in its case, always see that the mirror, M, is in place beneath the stage and that stage is cleared. Contract tube D, and lower body tube so that knurled ring on objective tip, OT, is within the aperture of the stage. Fold legs back and push mirror up snugly under stage.

General Points to be Noted

1. In moving the specimen upon the stage it will appear to travel in a direction opposite to the movement, and of course the movement is magnified, but with practice a delicacy is acquired which enables one to bring specimens to any position desired.

2. When shifting the specimen to bring its various parts into the field of view, the fine

adjustment, FA, may have to be used to take care of the variation, if any, in the thickness of the specimen and slide.

3. The fine adjustment has a range of ¼ inch and try to keep it near midway position.

4. Do not focus body tube downward with the eye at the eyepiece, E, for fear of running the objective on to the specimen.

5. Do not take the instrument apart.

6. Keep the lenses clean by wiping them gently with well washed linen or Japanese lens paper, first removing the dust by blowing upon the lenses. This avoids scratching the lens surfaces.

Magnification Table

Tube Length	Objective*	Magnification
Completely closed	16 mm	60
Fully extended	16 mm	110
Completely closed	8 mm	136
Fully extended	8 mm	250

* 8 mm is complete objective.
16 mm is with tip removed.

Prepared specimens mounted on glass slides can be obtained from Ward's Natural Science Establishment, College Ave., Rochester, N. Y., General Biological Supply House, 1177 East 55th St., Chicago, Ill., Ranara Biological Supplies, H. Edw. Hubert, 3615 Melpomeme St., New Orleans, La., Powers and Powers, Lincoln, Neb., Michigan Biological Supply Co., Ann Arbor, Mich., and Anglers Co., 913 West Randolph St., Chicago, Ill.