

Piffard (H. G.)

THE

# COMPOUND MICROSCOPE

AS AN

AID TO THE STUDY OF THE SKIN AND SKIN  
LESIONS *IN SITU*.

BY

HENRY G. PIFFARD, M. D.,

Clinical Professor of Dermatology in the Medical Department of the University of the  
city of New York, etc.

REPRINTED FROM THE ARCHIVES OF DERMATOLOGY, VOL. I, No. II.



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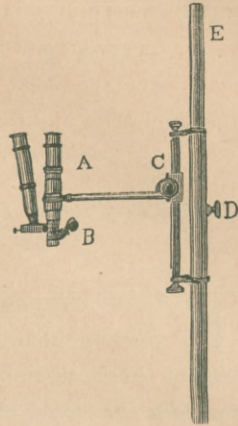
*Clinical Professor of Dermatology in the Medical Department of the  
University of the City of New York, etc.*

THE difficulties and inconveniences which surround the attempt to study the integumentary surface with the aid of the single lens or simple microscope are of such a character as absolutely to preclude the employment of lenses of high power. These difficulties are mainly the following: The shorter the focus of the lens employed the nearer it must approach the object, and consequently the amount of light that can be thrown upon the object is diminished, the field of view becomes contracted, and the spherical aberration becomes so evident as to materially jeopardize the accuracy of the result. I do not deny the possibility of obtaining a simple lens free from this form of aberration, as I possess one made by Steinheil, of Munich, which is admirably corrected in this respect, but the great majority of simple lenses are uncorrected, and consequently give distorted images of the objects under examination. In addition, the shorter the focus of the lens, the nearer must the eye of the observer be approached. This often involves a constrained position of the head and neck, tiresome to the observer, to say nothing of the unpleasantness of too close contact in some cases.

To obviate these inconveniences and at the same time to obtain a comparatively high amplifying power became then a problem worthy an attempt at solution.

After much fruitless experimentation I arrived at the apparatus shown in the accompanying figure.

*A* represents the body of a binocular microscope made by Natchet, from which the reflecting prism situated above the objective, was removed, and another of the same form but double the size substituted. *B* is a double nose piece carrying two objectives of different powers. *C* is the pinion for fine adjustment, and *D* the clamping screw for coarse adjustment. *E* is a rod five feet in length, which supports the other apparatus, and is itself supported by a cast-iron foot not shown in the drawing. Other adjustments permit the body of the microscope to be placed in a horizontal or any other desired position.



The objectives which I employ are a 6'', 2'' and 1'' of Grunow, a 4'' and  $\frac{1}{2}$ '' of Ross. The  $\frac{1}{2}$ '' is made with taper front, specially constructed for use with reflected light.

The advantages of this arrangement over the single lens, are enlargement of the field of view, absence of spherical and chromatic aberrations, convenient distance of the observer's eye from the object observed, ten times the amplification practically attainable with the simple microscope, and lastly the very great advantage of true stereoscopic vision.

With the instrument described any portion of the integument from the scalp to the sole of the feet can be conveniently examined, and a prolonged examination can be made without fatigue to the observer.

The ordinary diffused light of a bright day affords ample illumination with all the objectives except the  $\frac{1}{2}$ '' . For this we need direct sunlight. If the examination be made at night or in a dark place, the light from a Tobold or other good illuminator, concen-

trated upon the object with a mirror or bulls-eye condenser, will answer every purpose.

It is not my intention now to enter into the results of observations made with this instrument, but simply to suggest its use to those who desire a fuller acquaintance with surface aspect of the skin, or of skin lesions observed *in situ*.







