(No Model.)

F. W. GARDAM.

TOY MICROSCOPE.

No. 513,912. Patented Jan. 30, 1894.

Fig. 1

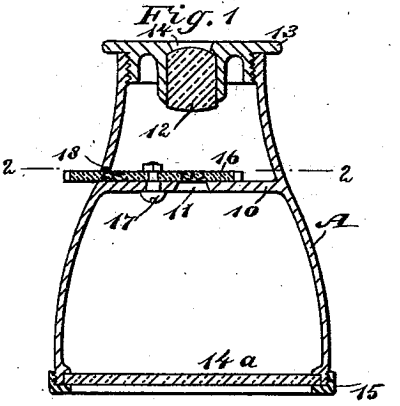


Fig. 2.

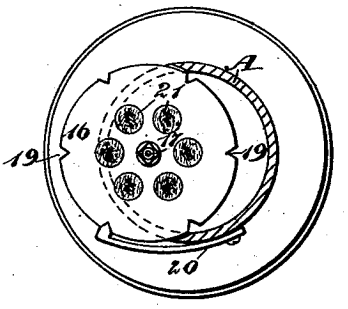
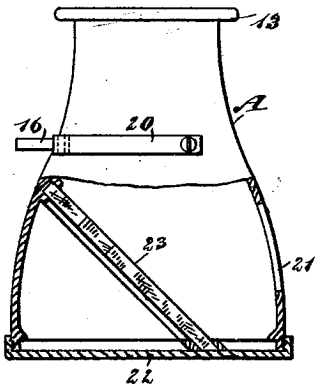


Fig. 3.



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TOY MICROSCOPE.

SPECIFICATION forming part of Letters Patent No. 513,912, dated January 30, 1894.

Application filed November 12, 1891. Serial No. 411,654. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK W. GARDAM, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Toy Microscope, of which the following is a full, clear, and exact description.

My invention relates to an improvement in microscopes, and has for its object to provide a microscope especially adapted for use as a toy, and also to provide a means whereby a partition or disk may be located in the microscope, provided with a series of microscopic views photographed or otherwise produced thereon, and to so manipulate the disk or partition that any one of the views may be brought between the lens and the sight opening of the instrument.

Another object of the invention is to so construct the microscope that it will be simple, durable and economic and will comprise but few parts, the operative parts being capable of convenient and expeditious manipulation.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a central vertical section through the instrument. Fig. 2 is a horizontal section taken practically on the line 2—2 of Fig. 1; and Fig. 3 is a partial vertical section and partial side elevation of the instrument, illustrating a modification in the construction thereof.

In carrying out the invention the body A of the instrument may be constructed in any suitable manner, and may partake of any design that fancy may dictate. Ordinarily it is of somewhat circular form in cross section, and is made tapering from the bottom in direction of its top, the top thus being of less diameter than the bottom.

Within the body A a diametrical partition 10 is located, in which a sight opening 11, is produced. This partition is ordinarily placed between the center and the upper or contracted end of the body, which end is adapted to carry an aplanatic lens 12. This lens is located in a cap 13, the said cap being provided with an opening 14, through which the lens is viewed, and the lens is so placed when the cap is in position upon the body that it is immediately over the sight opening 11 in the partition 10. The cap 13, is made adjustable so that the focus of the lens may be changed as desired, and the method of changing the focus may consist in screwing the cap upon the body, as shown in the drawings, or the cap may be capable of being slid outward from or inward into the body of the instrument.

At the larger or outer end of the body a translucent glass 14^a, is located, which preferably consists of a ground glass disk, and this glass 14^a is held in connection with the body by a removable sleeve 15, or in any other suitable or approved manner. A second plain glass disk 16, is held to rotate upon the partition 10. This second glass disk is eccentrically pivoted by means of a pivot pin 17 upon the upper face of the partition, and extends outward through an opening 18 produced in one side of the body. The plain glass disk is provided in its periphery with a series of notches 19, which notches are adapted to be engaged by a spring detent 20, the latter being ordinarily secured at one end to the outer face of the body, as is shown in Fig. 2. The plain glass disk 16, has circularly grouped around its pivot point a series of photographic microscopic views 21, or any other object to be viewed through a microscope, and the arrangement of the views is such that they may be successively brought within range of the lens 12 and over the opening 11 in the partition, as is shown in Fig. 1; and at the moment that a view is thus located it is held in that position by the spring detent 20. In this form of the instrument when used it is held up in such a manner as to enable the light to shine through the ground glass disk 14^a.

In Fig. 3 I have illustrated a slight modification of the device, the modification in the construction consisting in producing below the partition 10 in one side of the body an opening 21 through which the light is to shine, and securing upon the larger or lower end of the body an opaque cap 22; and a further difference in the construction consists in the fact that a mirror 23, is held in an inclined position within the body beneath the partition 10

facing the opening 21 in the body. When the instrument is constructed in this manner, in viewing an object the instrument is placed upon a table or other support in such a manner as to admit of light shining through the opening 21 and upon the face of the mirror 23, the latter being made of any suitable material.

It is obvious that an instrument constructed in the manner above described is not only economic but that objects may be effectively viewed through it as an instrument in such a manner as to attain the best possible results, and, further, that the instrument will be exceedingly simple and strong in its structure, whereby it may be manufactured at a minimum of cost, and the manipulation of the implement will be within the scope of any person possessed of ordinary intelligence.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The herein described microscope consisting of the body portion A, provided with the apertured partition 10, the cap 13 provided with a lens 12, and the display disk having a notched periphery and held to turn upon the partition 10 and projecting through the opening in the body, said disk carrying photographic views, and the detent 20, secured to the body portion and engaging the notches of the disk, as specified.

2. The herein described microscope, consisting of the body portion A provided with the apertured partition 10 and the translucent glass 14^a in its outer end, the cap 13 provided with the lens 12, and the glass disk 16 having a notched periphery pivoted upon the partition 10 and projecting through an opening in the body, said disk carrying photographic views, and the spring detent 20 secured to body portion and engaging the notches of the disk, as specified.

FREDERICK W. GARDAM.

Witnesses:
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