E. S. RITCHIE.

Apparatus for Viewing Pictures.

No. 163,946. Patented June 1, 1875.

Fig. 1.

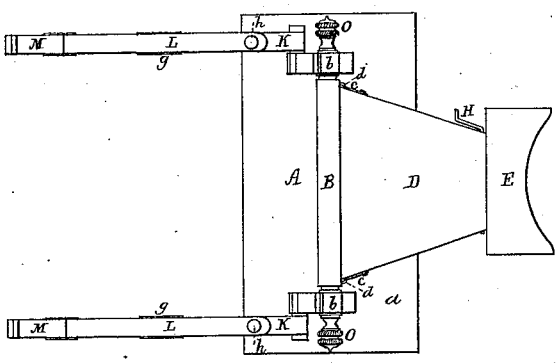


Fig. 2.

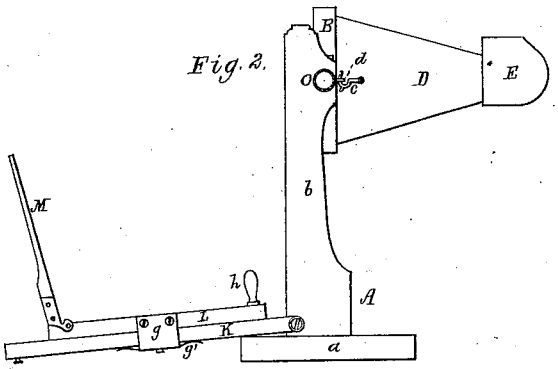


Fig. 4.

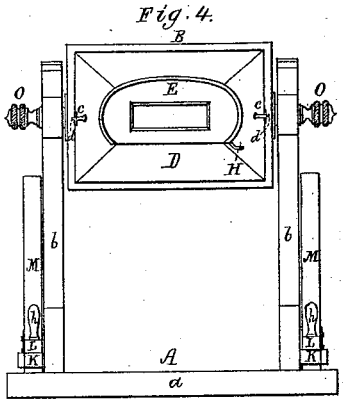


Fig. 3.

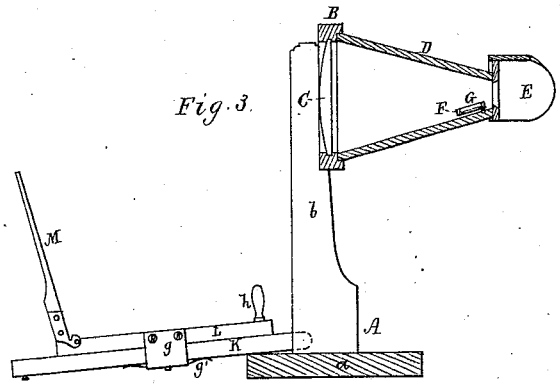
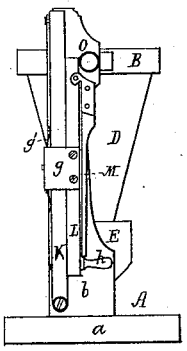


Fig. 5.



Witnesses.
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UNITED STATES PATENT OFFICE.

EDWARD S. RITCHIE, OF BROOKLINE, MASSACHUSETTS.

IMPROVEMENT IN APPARATUS FOR VIEWING PICTURES.

Specification forming part of Letters Patent No. **163,946**, dated June 1, 1875; application filed April 29, 1875.

To all whom it may concern:

Be it known that I, EDWARD S. RITCHIE, of Brookline, of the county of Norfolk and State of Massachusetts, have invented a new and useful Apparatus for Viewing Pictures; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a side elevation, Fig. 3 a longitudinal section, and Fig. 4 a rear-end elevation, of the said apparatus.

By means of the said apparatus not only are the eyes of an individual while looking through the lens at the object shaded or protected from light, but the picture is fully exposed thereto on all sides, the whole apparatus being constructed so as to be capable of being readily folded together in order to occupy little space. The instrument differs from the ordinary mounted lens in having a screen or box so formed as to insulate the eyes of an observer from all rays of light except those which may pass to them through the lens or lenses. It differs from the "megalethoscope" in having the space between the objective lens and the picture entirely open for illumination of the latter; also, in having adjustments for the picture, rather than for the lens. The magnifying power I obtain by one lens or by a combination of lenses; and to enable the instrument to be used by persons of ordinary sight, or by a person far-sighted, I combine with the lens and its eye-guard what I term a compensation-lens, or two lenses, one for each eye, on same plane, which I apply to the eye-guard, so as to be capable of being brought into or removed out of the range of sight. When the auxiliary or compensating lens is removed the apparatus is adapted for persons of ordinary sight; but for a person the focal distance of whose eyes is lengthened, so as to require the picture to be placed at an inconvenient distance, the auxiliary lens is required. Such an observer cannot avail himself of his eyeglasses; he will require a lens of only about one-third their magnifying power to enable his eyes to accommodate themselves to the main lens, or to bring with it the object to a convenient distance and distinct vision.

In the drawings, A denotes the supporting-frame, composed of a base-board, *a*, and two posts or standards, *b b*, these latter being erected on the board *a*, and having between them, and pivoted to them at the middles of its ends, a rectangular frame, B, carrying a lens, C. To the said frame B there is affixed, by hooks *c c* and staples or eyes *d d*, or by hinges, a pyramidal box or eye-guard, D, which is open at both ends or bases, and has fixed to it at its rear end a head-piece or auxiliary eye-shade, E, whose rear edge is curved to fit to the brow and temples of an observer, in order to shade the eyes from side light. Within the rear part of the box or eye-guard D is a frame, F, carrying the compensation-lens G, the said frame being pivoted to the box so as to be capable of being raised from a horizontal, or about horizontal, up into a vertical position therein, there being a crank or handle, H, fixed to the frame to enable a person to turn such frame up or down, as may be desired. Furthermore, there is so pivoted to each of the posts or standards *b b* a bar, K, that such bar may be turned up into a vertical or down into a horizontal position. To this bar there is applied by means of a clasp, *g*, provided with a friction-spring, *g'*, another bar, L, furnished with a knob or handle, *h*, and there is hinged to the bar L, near its outer end, an arm, M, the same being so as to enable the arm to be turned either down upon the slide-bar L or up into a right or an obtuse angle therewith. These bars and arms are for supporting a picture and adjusting it with reference to the main lens, the picture resting on the bars L L, and being set up against the arms when they are raised up.

By having the box D separate from the frame B, and connected therewith by means as described, the box may be removed from the frame when it may be desirable to wipe the lens C on its rear side in order to cleanse it of dust or moisture.

The pivots of the lens-frame B are provided with clamp-screws and nuts, (shown at O O,) to enable the box to be fixed in any desired position to be turned from a horizontal down into a vertical position, as shown in Fig. 5, which is an elevation of the apparatus, showing not only the box in a vertical position, but one of the arms and its slide-bars folded and turned up alongside of one of the standards.

By pivoting the box to the standards said box may be turned up or down more or less, to enable a person to view the picture to the best advantage.

I claim as my invention in the described apparatus for viewing pictures the following, viz:

1. The combination of the eye-guard D and the adjustable picture-supports K L M K L M, substantially as described, with the lens C and the supporting-frame A.

2. The combination of the head-piece E with the eye-guard D, provided with the lens C, arranged at its larger end, as set forth.

3. The lens-carrying frame B and the eye-guard D, made separate, and provided with means of connection, substantially as and for the purpose described.

4. The combination of the compensating-lens G and its movable frame F, as described, with the eye-guard D and the main lens C, all being arranged substantially as specified.

5. Each picture supporter and adjuster, composed of the arm M and the two bars K L, all arranged and combined as explained.

6. The combination of the supporting-frame A with the lens-carrying frame B and the adjustable picture-supporters K L M K L M, pivoted to said frame, all as specified.

7. The combination of the frame A with the eye-guard D and lens C by side pivots, admitting the changes of position, substantially as specified.

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Witnesses:

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