A. BECKERS.

STEREOSCOPE.

No. 188,769. Patented March 27, 1877.

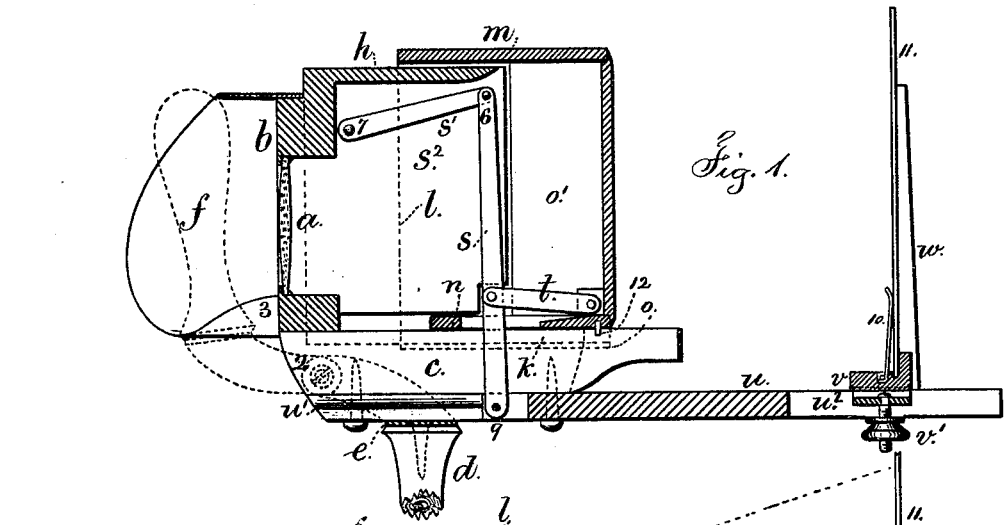

Fig. 1.

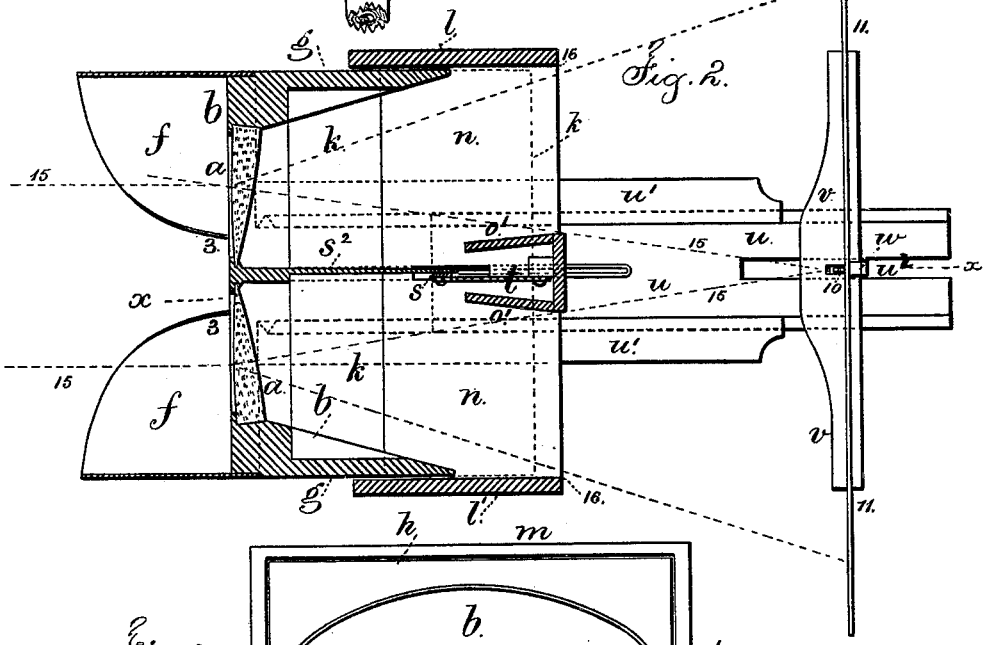

Fig. 2.

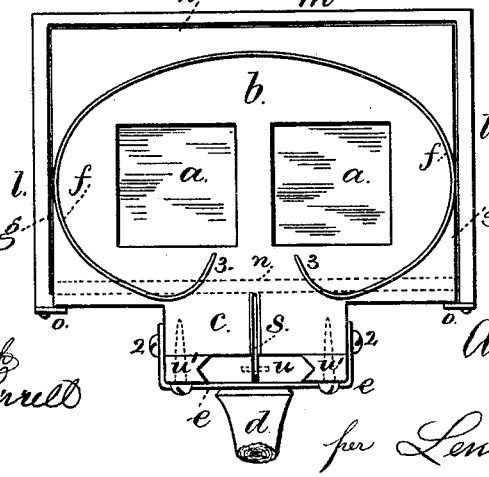

Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

ALEXANDER BECKERS, OF NEW YORK, N. Y.

IMPROVEMENT IN STEREOSCOPES.

Specification forming part of Letters Patent No. **188,769**, dated March 27, 1877; application filed February 8, 1877.

To all whom it may concern:

Be it known that I, ALEXANDER BECKERS, of the city and State of New York, have invented an Improvement in Stereoscope Instruments, of which the following is a specification:

In Letters Patent No. 115,269, granted to me May 30, 1871, the separator and the lenses were adjusted by the movement of the picture. In my present invention the lenses remain stationary and the separator is made as a hood that cuts off surplus rays of light in all directions, and confines the vision to the picture, and this hood is moved in the act of adjusting the focus, but the movement of the hood is less than that of the picture and so proportioned that the visible surface of the picture or of the border around the same is not changed by adjusting the picture; and I provide a peculiar picture-holder, and vary the position of the same relatively to the hood, so as to suit pictures of different sizes, or to show more or less of the border around the pictures.

By this construction I obtain the stereoscopic effect of the entire picture, and do not cover up any part of either picture.

In the drawing, Figure 1 is a vertical longitudinal section of the instrument. Fig. 2 is a plan of the same sectionally, at the line *x x;* and Fig. 3 is an elevation of the lens-holder and hood.

The lenses *a a* are of usual character, set in the shield or lens-holder *b*, that is provided with a base, *c*, to which the handle *d* is connected by swinging bracket-jaw *e*. This jaw *e* is made of a metal plate fastened across the end of the handle and having bracket-shaped end pieces extending upwardly and backwardly at each side of the base *c* and connected thereto by the screws 2. This forms a firm connection and support, by which the stereoscope instrument is held when in use; and when the parts are closed for packing or transportation, the handle is swung up behind the lens-holder *b*, into the position shown by dotted lines, thus occupying but little space, and it is unnecessary to detach the handle, as heretofore.

The hood *f* is made to surround the lenses, as in the ordinary manner, except that it is carried beneath the glasses and turned upwardly, as shown at 3 3, to leave an opening for the person's nose when placing the instrument close up to the face. This character of shield not only shuts off rays of light from below the eyes, but aids in bringing the instrument to the proper central position before the face.

There are side pieces *g*, top piece *h*, and bottom piece *k*, forming an open box around the lens-holder extending forward; and there is a sliding shield or septum outside the parts *g h*, the same being formed of the sides *l l'*, top *m*, and bottom *n*, but the bottom *n* is above the stationary bottom *k*, and it slides beneath the lower edges of the side pieces *g* in a slot provided for it, and there are guide-plates *o* beneath the edges of *k*.

A central division, *o'*, extends from the top *m* to the bottom *n*, and it is of a proper width to prevent the rays from the right picture entering the left lens, and vice versa.

The lever *s* is pivoted at 6 to a link, s^1, that is attached at 7 to the central division s^2 of the lens-holder, and a second link, *t*, connects the sliding shield or septum to the lever *s*, and the lower end of this lever *s* is pivoted at 9 to the slide *u*, that carries the picture, so that as the picture is moved forward the shield or septum is moved by the lever in the same direction and a proportionately less distance. There is a slot through the base *c* for the lever *s* to move in, and the pin 12 upon the lower edge of the septum is guided in said slot and keeps the septum in its proper position while being moved.

The slide *u* is in the ways w^1, that are attached to the base *c*, and grooved on their faces to receive the slide *u*, and the end of this slide *u* is slotted to receive the cross-bar *v* and clamping-screw *v';* and there is a post or finger, *w*, standing up behind the picture to support the same, and a spring, 10, to clamp the picture 11 to the finger *w*.

This construction insures the proper position of the stereoscope-pictures regardless of their size, or of the size of the card upon which they are affixed, because the spring 10 indicates the point at which the center between the two pictures is to be placed; and the cross-bar *v* is a reliable support for the pic-

tures, but does not require to be long and cumbersome, as those now in use.

It is preferable to make the spring 10 of a wire, that runs horizontally along in the picture-holder *v*, so that the vertical part 10 acts by torsion upon the horizontal part of the spring-wire. This increases the length of the spring and retains the vertical portion in place.

It will now be understood that the picture and holder are to be adjusted forward or back in the slot u^2 until the observer can see the border of the picture at the middle, as illustrated by the dotted lines 15, so as to take in the whole picture. The picture-holder and its slide can then be moved back and forth until the proper focus is obtained, and in so doing the entire picture remains in view, because the central partition moves with the picture a proportionate distance to always shut off the rays of light from the second picture, so that only the one opposite each lens will be visible, and at the same time the vertical angles 16 of the hood will intercept the rays of light, so as to confine the vision to the picture, and to a border around the picture of greater or less width, according to the relative position of the picture to the forward edges of the hood and the lenses.

I claim as my invention—

1. The movable hood with the vertical septum *o'*, in combination with the lever *s*, picture-slide, picture-holder, and stereoscopic lenses, substantially as set forth.

2. The hood made as a box—that is, around the lens-holder and its box—and adjustable in its position to the lens-holder, substantially as set forth.

3. The movable picture-holder, adjustable upon the picture-holding slide, in combination with the movable hood, the mechanism for moving the hood, and the lens and holder, substantially as set forth.

4. The sliding picture-holder, made of the cross-bar *v*, central spring 10, and post or finger *w*, substantially as and for the purposes set forth.

5. The handle *d* and bracket-yoke *e*, combined with the base *c* and lens-holder *b*, substantially as set forth.

6. The hood *f*, made with the central portions 3 turned upwardly and forming a guide, in combination with the lens-holder *b*, substantially as set forth.

Signed by me this 6th day of February, A. D. 1877.

ALEX. BECKERS.

Witnesses:

GEO. T. PINCKNEY,

CHAS. H. SMITH.