J. H. ROBERTSON.

SHOWING MOTION PICTURES BY DAYLIGHT.

APPLICATION FILED JULY 23, 1918.

1,332,413. Patented Mar. 2, 1920.

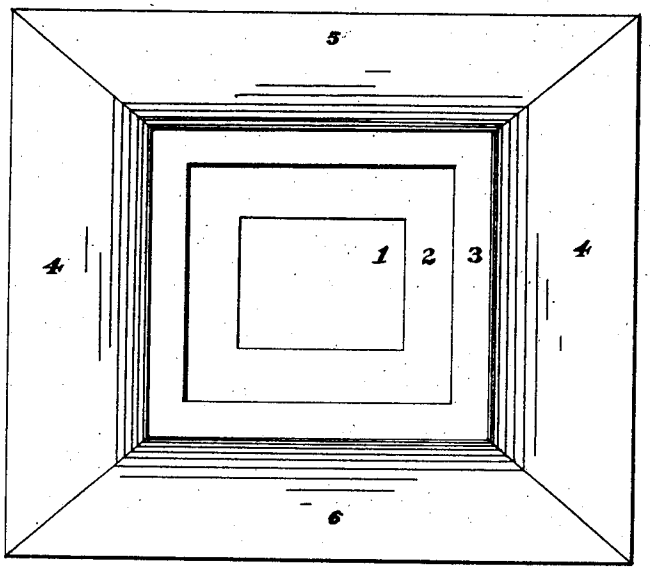


Fig. 1

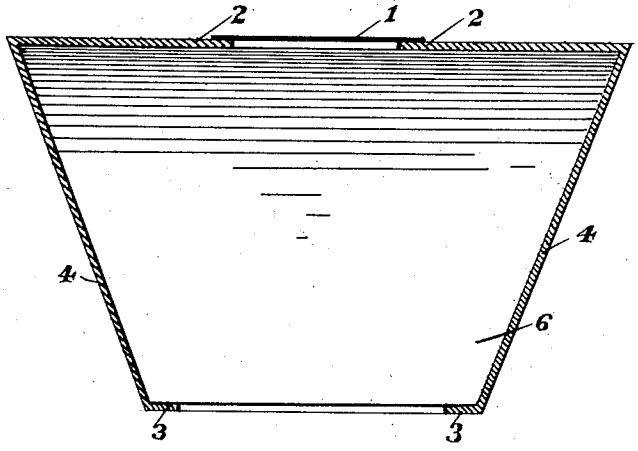


Fig. 2

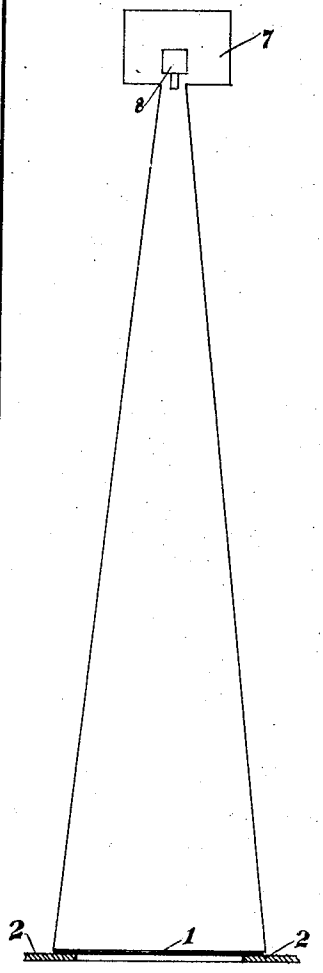


Fig. 3

Witnesses.
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JAMES HART ROBERTSON, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO DAVID JANKOWER, OF NEW YORK, N. Y.

SHOWING MOTION-PICTURES BY DAYLIGHT.

1,332,413. Specification of Letters Patent. Patented Mar. 2, 1920.

Application filed July 23, 1918. Serial No. 246,326.

To all whom it may concern:

Be it known that I, JAMES HART BOBERTSON, a citizen of the United States, and resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Showing Motion-Pictures by Daylight, of which the following is a specification.

The object of this invention is to make practical the perfect exhibition of motion pictures in broad daylight, and to do so in a simple, thorough and economical manner, the method being particularly adapted for use in soldier's out door encampments where large bodies of men are assembled and there are no large darkened buildings in the vicinity such as are necessary for the ordinary exhibition of motion pictures. The complete apparatus can be quickly put together and taken apart and as—when packed—it will not occupy more space than a fair sized military tent it can easily be transported from place to place.

The method can also be employed to advantage during the summer in country parks partially shaded by trees, and is even of advantage in city theaters, when afternoon exhibitions are given, allowing of windows and doors being opened (for cooling and ventilating purposes) without detracting from the efficiency of the exhibition in the semi-darkness resulting from the addition of a certain amount of daylight.

In the accompanying diagrams Figure 1, is a front elevation of a construction used in practising my method; Fig. 2, a horizontal cross-section of the same, and Fig. 3, an elongated tapering extension, with top removed, that may be used in combination with Fig. 1.

In a general way the apparatus consists of a darkened chamber the rear wall 2, of which carries a screen 1, which screen is smaller than the opening in front wall 3 through which the pictures are viewed. The rear wall 2 itself, which is painted a dead black, as are also the inner surfaces of the side walls 4, 4, and the roof 5 and floor 6, may serve as a screen by having the part or field on which the pictures are projected painted a light color. The said side walls, 4, 4, as well as the roof 5 and the floor 6, of the darkened chamber, flare backward from the front wall 3 to the larger rear wall 2 at such an angle that the inner surfaces of the same are invisible to the onlookers in front while the outer surfaces serve as a beveled frame or setting, receding from the outer edges of the front wall 3 to the outer edges of the larger rear wall 2 not only preventing the eye from being detracted by the surrounding landscape, but on the contrary, owing largely to the color arrangement hereafter explained, imperceptibly guiding the eye to the screen on which the pictures are thrown.

The screen 1 being smaller than the opening in the front wall 3 has the appearance of being set in an inner black frame (formed by the part of the blackened rear wall immediately surrounding the said screen 1) the extent of the width of the same being determined by the size of the screen in comparison with the extent of the opening in the front wall and the distance of the screen from the same.

The color arrangement, before referred to, is for the purpose of gradually merging the intense black of the darkened chamber into the surrounding landscape, instead of abruptly doing so and influencing the eye unpleasantly.

In following this plan of color graduation the black of the darkened chamber is first merged into a blue-black which again merges into a light blue and finally into a faint sky blue when near the edge of the outer frame or setting. This refers, approximately, to the upper half of the outer frame or setting formed by the receding and flaring outer surfaces of the walls of the darkened chamber. In the lower part of the frame or setting the black of the dark chamber should merge into a green-black or brown-black and then into lighter shades as the outer edge of the frame is approached.

The graduations and merging of colors may be modified and varied according to the local conditions and instead of having only plain merging colors on the outer frame, representations of trees, rocks, and so forth, may be intermingled with them to coincide with the surrounding landscape according to the skill and artistic qualities of the constructor and his knowledge of what is now generally known as camouflage.

By means of this graduated color system and the fact that the inner walls of the darkened chamber (with the exception of

that small part of the blackened rear wall immediately surrounding the screen and serving as an inner frame for the same) are invisible to the onlooker, such an optical illusion is produced, a short distance in front, as to practically eliminate the depth element and make the screen on the rear wall appear to be about even, or flush, with the front wall substantially as if no deep, darkened chamber were used.

When the pictures are projected from the rear, instead of from the front, the screen must, of course, be transparent and a light-proof tapering extension with an operator's room 7, and projector 8, such as shown, with top removed, in Fig. 3, should be used.

The apparatus is preferably of collapsible construction so as to be easily transported from place to place, and may be made of wood, sheet metal or light-proof canvas stretched on a frame.

I do not limit myself to the specific construction described as many variations of the same may be employed without departing from the principle of my invention, for instance an oval or rounded form of darkened chamber could be substituted for that shown, or the front wall of the present construction could be of the same dimensions as the rear wall, the large flat surface of the wall itself forming the outer frame, or setting, and being camouflaged as before described in the case of the receding or beveled outer frame.

The darkened chamber should be deep enough for the pictures to show sharp and clear and should be at least equal to the height of the opening in the front wall through which the pictures are viewed.

I am aware that it is old in railroad signaling to place lamps of different colors in a darkened chamber so that they can be plainly seen in daylight but as far as I know I am the first to provide a method for the practical exhibition of motion pictures during daylight by projecting the said pictures on a screen, placed within, and at some distance from the visual opening of, a darkened chamber, the inner surface of the walls of which are concealed from the onlookers and I therefore claim:—

An apparatus for showing motion pictures by daylight comprising a darkened chamber including a front wall, a back wall and side walls, the front wall containing an observation opening, the rear wall also containing an opening and a translucent screen mounted in said opening, said rear wall being larger in area than the front wall opening; the side walls flaring backward from the front opening to the outer edges of the rear wall at such an angle as to make the inner surfaces of said side walls invisible from the point of observation, and a second darkened chamber, serving as a projection chamber, to the rear of and connecting with said translucent screen.

Signed at New York city in the county of New York and State of New York this 22nd day of July, A. D. 1918.

JAMES HART ROBERTSON.

Witnesses:

BARTON B. WARD,

D. JANKOWER.