

April 29, 1924.

1,491,830

J. F. R. TROEGER

SCREEN FOR PICTURE PROJECTION

Filed May 14, 1920

*Fig. 1,*

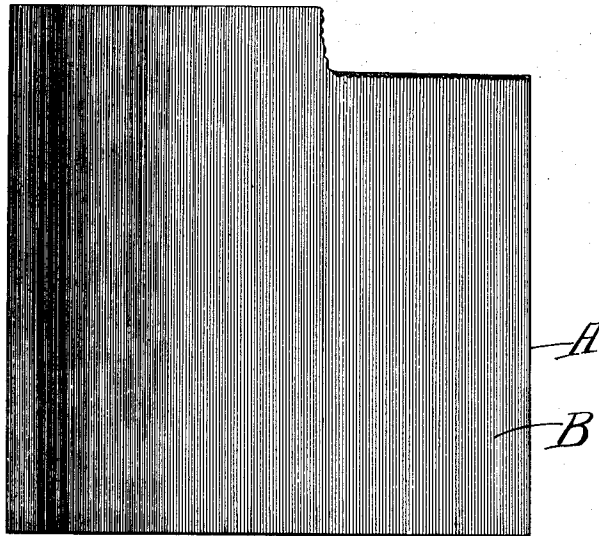


*Fig. 2,*

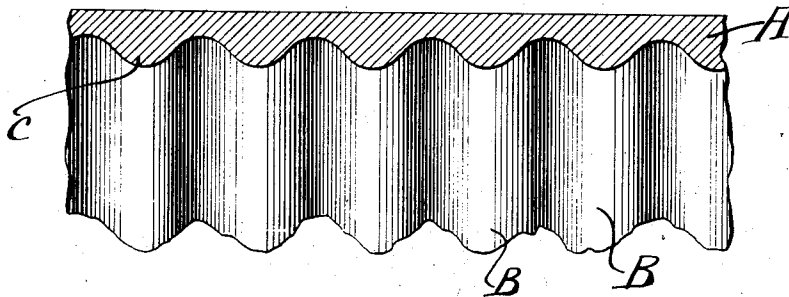
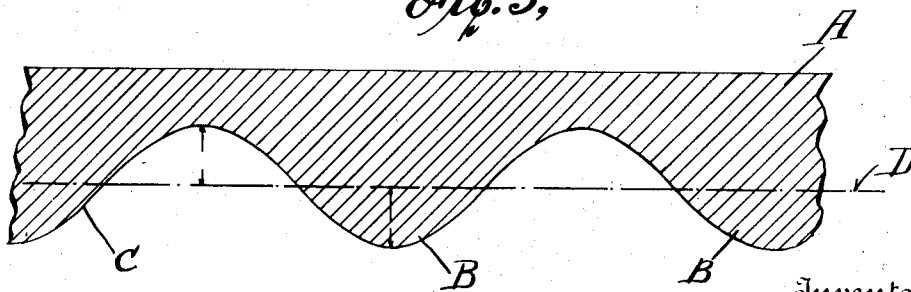


*Fig. 3,*



Inventor  
John F. R. Troeger  
By his Attorney  
Frank M. Ashley

## UNITED STATES PATENT OFFICE.

JOHN F. R. TROEGER, OF BROOKLYN, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS,  
TO TRANS LUX DAYLIGHT PICTURE SCREEN, INC., A CORPORATION OF DELAWARE.

## SCREEN FOR PICTURE PROJECTION.

Application filed May 14, 1920. Serial No. 381,280.

*To all whom it may concern:*

Be it known that I, JOHN F. R. TROEGER, a citizen of the United States, and resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Screens for Picture Projection, of which the following is a specification.

This invention relates to exhibition screens for projecting machines. The principal object of the invention is to provide a screen of the character described in my Patents Number 1,151,502 of August 24th, 1915 and Number 1,216,380 of February 20th, 1917, as they are well suited for use with the present invention, and having certain advantages by reason of discoveries made by me since the filing of my former applications. My present invention relates to the contour of the corrugations formed in the display surface of the screen, to the number of corrugations per inch and to the color of the screen, it having been found by experience that the color is an important element in the screen, as by employing a color complementary to the color which is preferably blue of the projecting light a perfect reproduction of the colors of the picture as well as the black and white tones is secured and the picture presented is much clearer and less tiring to the eyes of the observer.

It is also important where the picture is to be projected from behind the screen, to a person viewing it from the front side, that the screen be made of a thickness and translucency best suited to intercept the light and reveal the picture without transmitting direct rays or allowing the light from the projector to be seen through the screen.

Referring to the drawings which form a part of this specification,

Figure 1 is a perspective view of a screen or curtain embodying my invention.

Figure 2 is a similar view shown on an enlarged scale.

Figure 3 is an end view illustrating the form of the corrugations.

In carrying out my process to produce the improved composition, I take four parts of gelatinous or gummy substance such as gelatin or glue and add to the same two parts of glycerin and two parts of formal-

dehyde and boil until water is driven off when a dough-like mass remains which may be rolled into sheets. The latter, while still soft, may be run over with a corrugated roller, which imparts to the surface of the sheet longitudinal corrugations or ridges. The sheet may then be dried in an oven or hot room at about 100°F. The glycerin imparts flexibility to the base while the formaldehyde tends to harden the sheet and to make it insensible to changes in weather conditions in regard to temperature and humidity and also renders it fireproof. Thus, the screen may be used in the open air and not be affected by the elements and is also safe as a fire risk. Referring to the drawing A indicates the sheet of material and B—B etc., the corrugations formed in one side thereof and C indicates the wave form of the corrugations. D indicates a median line drawn through the wave form.

I may state that the greater the number of corrugations used per inch of width, the better the screen will be up to the practical limit obtainable with the materials employed. In practice this limit has therefore been found to be about forty corrugations per inch.

I have found that thirty-two corrugations per inch of width gives very good results and that it is difficult to make the screens with more than this number and have them mechanically true in form, especially in screens of large dimensions.

Referring to Figure 3, it will be seen that the wave of the corrugation is perfectly sinuous. I prefer to use a sinusoidal curve but do not wish to be limited to the use of this curve only.

It is obvious that my present invention may be used with screens other than flexible for screens of small dimensions. By using a screen as herein described, a picture may be viewed by a person sitting at an acute angle to the plane of the screen without the pictures appearing to be distorted. From any angle the diffusion of the light is so even that the eyes of the observer will not tire from the effect of high lights.

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

1. A screen of blue translucent material

having sinusoidal corrugations in the display side thereof evenly disposed and numbering preferably not less than twenty per inch.

2. A screen having sinusoidal corrugations formed in the display side thereof only and extending vertically, and evenly disposed

over the surface thereof and numbering not less than twenty per inch.

Signed at New York city, in the county of 10  
New York and State of New York this 13th  
day of May A. D. 1920.

JOHN F. R. TROEGER.