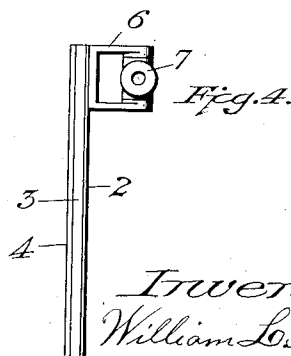
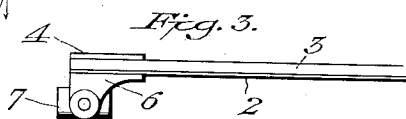
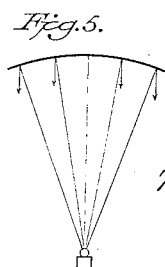
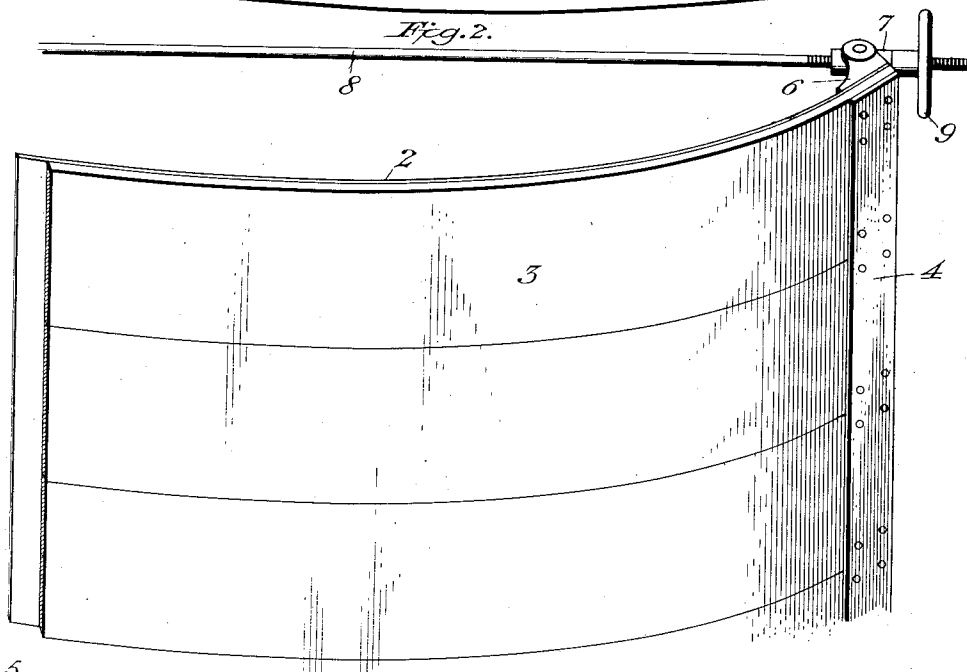
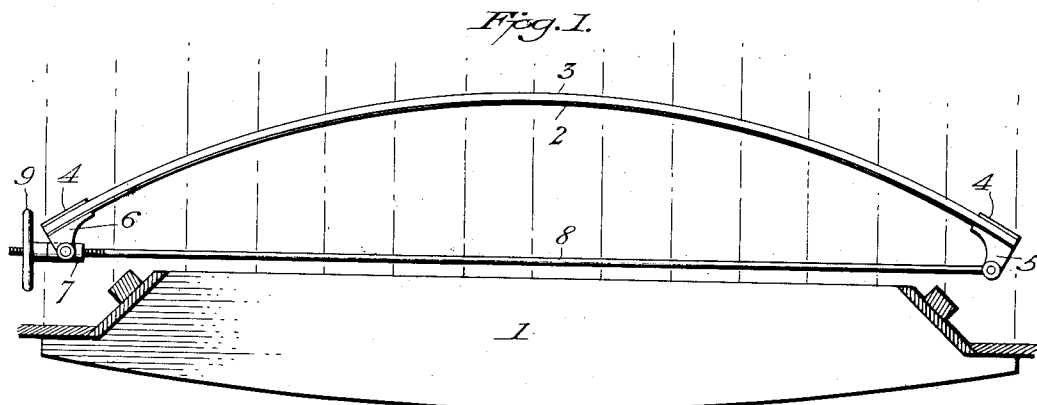


W. L. TILLOTSON.
 SCREEN FOR PICTURE REPRODUCTION AND MECHANISM FOR CURVING THE SAME.
 APPLICATION FILED NOV. 30, 1915.

1,212,424.

Patented Jan. 16, 1917.



Witnesses:

G. Sargent Elliott.
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UNITED STATES PATENT OFFICE.

WILLIAM L. TILLOTSON, OF DENVER, COLORADO.

SCREEN FOR PICTURE REPRODUCTION AND MECHANISM FOR CURVING THE SAME.

1,212,424.

Specification of Letters Patent.

Patented Jan. 16, 1917.

Application filed November 30, 1915. Serial No. 64,283.

To all whom it may concern:

Be it known that I, WILLIAM L. TILLOTSON, a citizen of the United States of America, residing in the city and county of Denver and State of Colorado, have invented a new and useful Screen for Picture Reproduction and Mechanism for Curving the Same, of which the following is a specification.

10 This invention relates to improvements in curved screens for stationary and moving picture reproduction and mechanism for producing and maintaining the curve in said screen, the same being an improvement
15 over a screen for which a patent of the United States was granted to me on March 10th, 1914, No. 1,089,448.

The object of the invention is to provide a screen of canvas or other suitable material, having a resilient backing of suitable material to which the said screen is adhesively secured, and means for bowing the said backing and screen in an arc of any required radius, thereby to produce a cycloramic effect in the reproduction of either
25 stationary or moving pictures thrown thereon. Further, to provide a screen which is adhesively secured to a resilient backing, the same being provided with upper and
30 lower horizontal rods which are hinged at one end to said screen, their opposite ends being threaded and passed through swiveled bearings secured to said screen, said threaded ends having hand wheels thereon, where-
35 by, when said hand wheels are forcibly screwed against said swiveled bearings, the said screen and its backing are bowed, the said backing having sufficient stiffness to maintain an unsupported vertical position,
40 when bowed. These objects are accomplished by the device illustrated in the accompanying drawings, in which:

Figure 1, is a top view of a screen constructed in accordance with my invention, in
45 connection with the means for bowing the same. Fig. 2, is a perspective view looking at the rear side of a portion of the screen, showing the upper bowing rod and one of the vertical edge bracing strips. Fig. 3, is
50 a plan view of one corner of the screen showing one of the swiveled bearings thereon. Fig. 4, is an end view of the same. And Fig. 5, is a view in diagram illustrating a curved screen and the manner in

which the rays of light are reflected from 55 the surface thereof.

Similar letters of reference refer to similar parts throughout the several views.

In the scenic reproduction of photographs in either stationary or moving pictures, it is 60 the common practice to throw the views upon a perfectly flat screen, but this character of screen fails to afford the best results, for though the figures on the screen may be clearly reproduced, they appear flat 65 and distorted to an extent to mar the general effect of the view. In order to overcome this objection, and to produce views in which the relief effect is uniform, throughout the width of the screen, I employ a 70 screen which may be curved in an arc of any required radius to suit the dimensions of the hall or room in which it is placed, the curvature of the screen giving to the pictures an effect similar to that produced to 75 the curved surface of the well-known cyclorama.

Referring to the accompanying drawings, the numeral 1 indicates a stage front of any preferred style, which forms the opening, 80 back of which the improved screen stands. This screen comprises a facing 2, of any suitable material, such as canvas, which is adhesively secured to a suitable backing 3, which is sufficiently resilient to permit of 85 its being bowed uniformly in an arc of any required radius, and at the same time sufficiently stiff or rigid to maintain itself unsupported in a vertical position after being bowed. This backing may consist of strips 90 of compo board, fiber, sheet metal, or any other material having the required stiffness and resiliency. The canvas facing is adhesively secured throughout its entire surface to the said backing, the facing and backing 95 thus becoming a unit. Along each vertical edge of the screen, and on one or both sides thereof, as may be desired, is suitably secured a metal strip 4, which stiffen these edges and prevent their buckling when the 100 screen is standing, unsupported, in a vertical position, as in use.

Upon the upper and lower corners of one edge of the screen are secured suitable hinge connections or brackets 5, and upon the op- 105-
posite upper and lower corners are secured suitable brackets 6, in which are pivotally mounted horizontally disposed abutment

bearing blocks 7. To the hinge connections 5 are pivotally secured one end of rods 8, the opposite end portions of these rods being threaded and passed loosely through holes 5 in the abutment blocks 7. The threaded extremities of these rods are provided with hand wheels 9, the hubs of which are adapted to bear against the adjacent ends of the blocks 7, when the wheels are turned in the proper direction, and by forcibly screwing the wheels against the said blocks, the distance between the two vertical edges of the screen is lessened, and the screen thereby correspondingly bowed. As the entire surface of the facing adheres to the backing, the curvature of the said facing will be uniform throughout, and the entire surface thereof smooth. When bowed, the screen is sufficiently rigid to maintain itself in a vertical position, and is adapted to stand, unsupported, across the stage front opening.

From the foregoing it will be seen that a screen is provided which is not only self-supported when standing bowed and in a vertical position, but the backing to which the screen proper is adhesively secured is curved or bowed uniformly by the action of the hand wheels, so that the screen surface presented, whatever may be the curvature thereof, is perfectly smooth throughout its entire area, thus affording the best surface for photographic reproduction. The resiliency of the backing causes it to straighten out, when the tension under which it is held by the hand wheels is released, thus permitting any variation in the curvature of the arc of the screen to meet varying conditions imposed by the size of the hall or room in which the screen is placed.

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

1. A screen of the character described, comprising a backing of suitable resilient material, and a suitable fabric facing adhesively secured thereto, and means connecting the diametrically opposite upper and lower corners of said screen for bowing the

same and maintaining the same in a bowed position, said screen being self-supported when bowed and in a vertical position.

2. A screen of the character described, comprising a stiff but resilient backing of any suitable material, and a suitable fabric facing adhesively secured thereto, brackets secured to the upper and lower corners of one vertical edge of the screen, swiveled supports secured to the upper and lower corners of the opposite edge of the screen, rods hinged to said brackets, their opposite ends being threaded and passed loosely through said swiveled supports, and hand wheels on the threaded extremities of said rods, by which when they are screwed forcibly against said swiveled supports the bowing of the screen is effected.

3. A screen of the character described, comprising a stiff but resilient backing of any suitable material, and a suitable facing adhesively secured to said backing, metal strips secured along the vertical edges of said screen, rods hinged at one end to the upper and lower corners of said screen, supports on the opposite corners of said screen through which said rods pass loosely, and means carried by the outer free ends of rods for forcibly engaging said supports and sliding them inward on the rods whereby the screen is bowed.

4. A resilient screen, having rods hinged at one end to one of its vertical edges, apertured abutments on the opposite vertical edge of said screen, through which the free ends of said rods pass loosely, said free ends being threaded, and hand wheels on the threaded ends of said rods, adapted to be screwed forcibly against the said abutments to draw the said vertical edges of the screen toward each other and thereby bow the said screen.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM L. TILLOTSON.

Witnesses:

G. SARGENT ELLIOTT,
ADELLA M. FOWLE.