

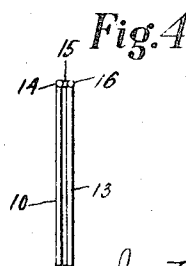
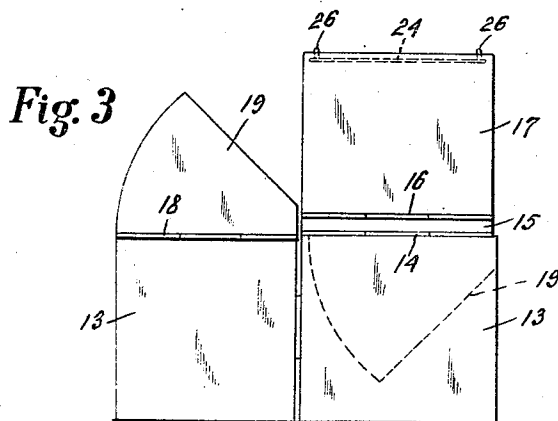
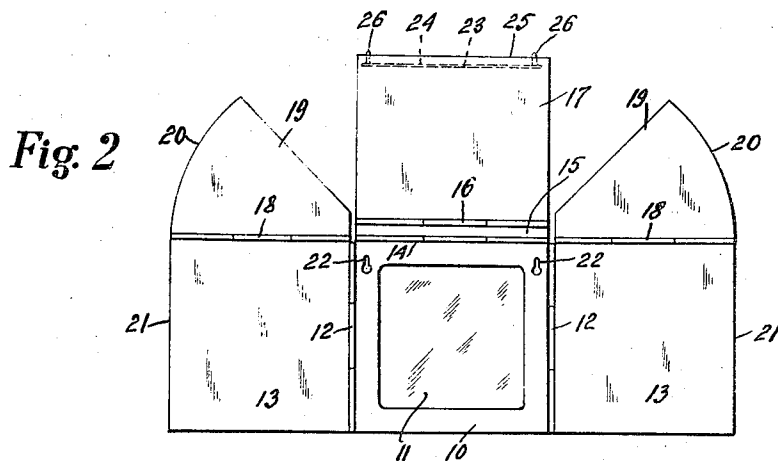
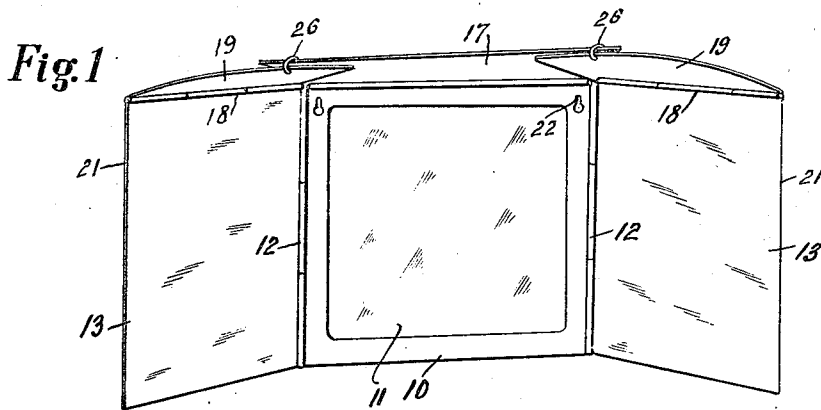
May 28, 1929.

J. H. DREHER

1,714,550

MOTION PICTURE SCREEN

Filed June 7, 1927



INVENTOR
J. H. Dreher
BY
Sigmond Chazoy
ATTORNEY

UNITED STATES PATENT OFFICE.

JULIUS H. DREHER, OF NEW YORK, N. Y.

MOTION-PICTURE SCREEN.

Application filed June 7, 1927. Serial No. 197,070.

The present invention relates to improvements in motion-picture screens, that is to say to flat surfaces upon which motion-pictures are projected. The invention is applicable to opaque screens and also to translucent screens, and is particularly adapted for exhibiting motion pictures in daylight in classrooms, auditoriums and the like, although not limited to that use.

The main object of the present invention is to combine with the motion-picture screen a shadow box, that is to say a device which will cast shadows or shade upon the surface of the screen by intercepting the natural or artificial light in the exhibition room, and to so construct the elements of the shadow box that they are adapted to be folded onto the screen when the latter is to be transported or stored, thereby protecting the screen from injury, etc.

Another object of the invention is to so construct the side wings of the shadow box that they are adjustable in relation to the screen according to the requirements, and to so design the top of the box that it automatically adapts itself to the adjustment of the side wings thereof.

A further object of the invention is to provide a simple and efficient means for holding the elements of the shadow box in set-up positions.

A still further object of the invention is to provide a screen of the type mentioned, which is simple in construction, efficient in operation, which is adapted to be easily set up and collapsed, and which is capable of manufacture on a commercial scale, or in other words one which is not so difficult to produce as to be beyond the reasonable cost of such a contrivance.

With these and other objects in view, which will more fully appear as the nature of the invention is better understood, the same consists in the combination, arrangement and construction of parts hereinafter described, pointed out in the appended claims and illustrated in the accompanying drawings, it being understood that many changes may be made in the size and proportion of the several parts and details of construction within the scope of the appended claims, without departing from the spirit or sacrificing any of the advantages of the invention.

One of the many possible embodiments of the invention is illustrated in the accompanying drawings, in which:—

Figure 1 is a perspective view of a screen constructed in accordance with the present invention, the elements being in extended or set-up positions; Fig. 2 is a plan view of the screen, all of its elements being located in a single plane to clearly show the construction thereof; Fig. 3 is a plan view of the screen, some of its elements being shown in their folded positions; and Fig. 4 is a side elevation of the screen completely folded.

In the drawings, the numeral 10 indicates a rectangular frame, on which is mounted a motion-picture screen 11, which may be either opaque or translucent, as required. When opaque, the motion-pictures are projected upon the screen from the front, and when translucent from the rear, in accordance with the usual practice. To each of the vertical edges of the frame 10 is hinged at 12 a rectangular opaque side wing 13, corresponding in size to that of the screen frame 10, although this is not essential. For the purpose of permitting the side wings to be folded on the frame 10, and for proper co-operation of the said wings and frame 10 with the top of the shadow box hereinafter to be described, it is, however, essential that the height of each wing should correspond to that of the screen frame 10. To the top edge 14 of the frame 10 is hinged a strip 15, and to the latter is hinged at 16 the shadow box top 17, the strip 15 and top 17 being also made of opaque material. To the top edge 18 of each side wing 13 is hinged a substantially sector-shaped opaque top wing 19. The arc-shaped portion 20 of each wing 19 leads to the free vertical edge 21 of the respective side wing 13, as clearly shown in Figs. 2 and 3 of the drawings. The frame 10 is provided adjacent its top edge with openings 22, for engagement with hooks or nails on the wall to which the screen is to be fastened.

On the top 17 is mounted a fastening means 23 for engagement with the wings 19 of the device, to hold the top elements of the shadow box in set-up positions. Any suitable means may be provided for this purpose. In the case illustrated, a bar 24 is oscillatably mounted in any suitable manner adjacent to and along the free longitudinal edge 25 of

the top 17, and this bar is provided with hooks 26, adapted to engage the top wings 19.

In Fig. 2 of the drawings the elements of the screen are shown disposed in a single plane. If it is intended to fold the screen, first the top wings 19 are folded onto the side wings 13. The wings 19 and 13 are then folded onto the screen frame 10. The strip 15 and top 17 are then folded at right angles to the plane in which the frame 10 is disposed, and finally the top 17 is folded onto the wings 13 and 19, whereby the elements are brought into the positions shown in Fig. 4 of the drawings, forming a compact unit which may be readily transported or stored away. When folded in the manner stated, obviously the screen 11 is protected against injury during transportation or storage.

In order to set up the device, the top 17 and strip 15 are first extended into the plane of the screen frame 10. The side wings 13 are then extended at the desired angles to the said screen frame. The top wings 19 are then extended at right angles to the said side wings and the top 17 folded onto the top wings, after which the hooks 26 are engaged with the underfaces of the top wings, whereby the elements are in the positions shown in Fig. 1 of the drawings, ready to receive pictures. It is obvious that each set of side and top wings may be adjusted independently of the other set, according to the requirements. They may be moved through an arc of 180° , as clearly appears from the several figures of the drawings. When the device is properly set up, the wings and top protect the screen from natural or artificial light, so that the device is adapted to be used in exhibiting pictures in broad daylight. In case the device has an opaque screen incorporated therein, it is constructed and used as above described. If it is provided, however, with a translucent screen, the screen may be protected against light both from the front and from the rear. This necessitates doubling of all elements with the exception of the screen frame and screen. One set of the shadow box elements is then mounted upon the front of the screen frame and the other set upon the rear thereof.

If necessary, the side wings 13, top wings 19 and top 17 may be made extensible. In such case each of these elements is made of

two panels, one being adapted to slide into the other.

The device herein described is self-supporting and may be either hung upon a wall or it may be placed upon a support, depending upon whether the pictures are projected upon the screen from the front or from the rear. If mounted on a wall, the shadow-box, when folded, does not take up any appreciable space. It is obvious that, while herein a screen frame 10 and a screen 11 has been specified, the screen may be painted or otherwise provided upon a panel, which then performs the functions of the elements 10 and 11 above referred to.

What I claim is:—

1. A motion-picture screen comprising a quadrangular screen frame, a shadow box co-operating therewith and including side wings hinged to the longitudinal edges of said screen frame adapted to be folded in parallel relation to said screen frame and capable of being extended independently of one another at an angle to said screen frame, a top hinged to the upper edge of said screen frame, a top wing hinged to the upper edge of each wing, said top wings being adapted to be folded onto said side wings and capable of being extended at right angles to said screen frame, said top being adapted to be folded at right angles to said screen frame so as to overlap said top wings when the latter are extended at right angles to said screen frame and also being capable of being folded on all of said wings when the latter are in parallel relation to said screen frame, and means for holding said top wings and said top in operative and overlapping positions when extended at right angles to said screen frame.

2. A motion-picture screen according to claim 1, comprising a strip hinged to said top and to the upper edge of said screen frame, said strip spacing said top from said screen frame when the elements of said screen are in their folded positions.

3. In a motion-picture screen according to claim 1, said holding means being mounted upon said top.

Signed at New York, in the county of New York and State of New York, this 25th day of May, A. D. 1927.

JULIUS H. DREHER.