

RESERVE COPY

PATENT SPECIFICATION

416,403

Application Date: May 9, 1934. No. 14,064/34.

Complete Accepted: Sept. 13, 1934.

COMPLETE SPECIFICATION.



Improvements in and connected with Projection Screens.

We, R. F. HUNTER LIMITED, a British Company, ROBERT FORGIE HUNTER, and ARTHUR BLACKBURN, both of British Nationality, all of 51, Gray's Inn Road, London, W. C. 1, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to improvements in projection screens of the roller blind type such as that described in prior Patent No. 376,385. The invention has for an object to provide an improved arrangement whereby a screen surface of greater extent than is possible with the construction shown in the said prior Patent may be used with the same length of box.

In projection screens of the type described in the said prior Patent the stretching device may be formed of pairs of pivoted links, a pair preferably being provided at each side of the screen and one link of each pair being attached to the box and the other hinged to the lid. In such structures the screen surface in its extended position must be approximately square its maximum length being less than twice the length of the individual links which must be of such length that in the collapsed position the links attached at each end of the box will not meet.

In accordance with the present invention this disadvantage is avoided and the possibility of providing a screen surface either of oblong or square dimensions afforded by offsetting the links of the stretching device in relation to one another so that in the collapsed position of the structure such links will extend side by side within the box without fouling one another. The links in one form of the stretching device may thus be made of a length equivalent to the total length of the box and the screen proper may be of correspondingly large dimensions.

By virtue of the provision of springs acting contrary to the spring of the roller as described in the said prior

[Price 1/-]

Patent which permit of the screen remaining open in intermediate positions and by virtue of the present invention the screen will open to and remain open in a position in which it provides a screen surface of oblong form with the greater dimension parallel to the box; will open to and remain open in a position in which it provides a surface of square form; or will open fully to an extreme open position in which it provides a screen surface of a larger size commonly used in screen work, and consequently the screen may be used for larger or smaller projections. Moreover the structure may be turned on its side with the screen in its last extended position to suit the form of the projection.

One embodiment of the invention is illustrated in the accompanying drawings in which Fig. 1 is a front view of the screen in open position, the container or box being shown in section. Fig. 2 is a plan view of the box with the lid removed showing the screen collapsed in the box, Fig. 3 is an end elevation showing the screen in extended position, while Fig. 4 is an end view showing the container or box closed.

Referring to the drawings, 1 denotes the box or container for the screen 2, which is adapted to be wound on and unwound from a spring roller 3 mounted in the box or container 1, the screen being attached at its other end to a support 4 which is carried by the member 5 which, when the screen 2 is closed, constitutes the lid of the box 1. A guide pin 6 on the box or container 1 co-acts with a guide passage 7 in the lid 5 and a spring-pressed catch 8 of known type engaging the pin serves to hold the box closed. The screen stretching device is denoted generally by 9 and consists of pairs of links 11, 12, one link 11 of each pair being attached to the box 1, and the other link 12 of each pair being attached to the lid 5. To each link 11 attached to the box 1 is pivoted at 13 one end of a strut 14 the other end of which is fitted with a roller 15 slidable in a slotted guide 16 mounted on the bottom

Price 4s 6d

of the box 1. Springs 10 anchored at one end to the box 1 and at the other to the guided end of the strut 14 serve to assist in holding the screen in extended position against the action of the roller spring. By virtue of the springs 10 acting contrary to the spring of the roller coupled with the change in the angular position of the struts 14 the screen will remain open in intermediate positions.

In accordance with a feature of the invention and as shown more particularly in Fig. 2, the one pair of links 11 and 12 is offset in relation to the others so that in the collapsed position shown in that Figure the links extend side by side within the box and consequently the links may be made of any length up to the length of the box or container 1 and preferably of a length greater than half of the length of the box 1 with a corresponding increase in the dimensions of the screen 2. Thus, a screen surface may be obtained of any of three of the sizes normally used in cinematograph projection work for which three separate screens would normally be provided. Thus the screen may be extended to provide the sizes 40 inches x 30 inches or 40 inches x 40 inches or when fully extended and turned on its side the size 52 inches x 40 inches. The structure may be supported when turned on its side by the end of the box 1 and of the lid 5 in this position.

The springs 10 and the spring of the

roller are designed to balance one another more or less so that the screen can be extended with the assistance of the springs 10 against the action of the roller spring. Preferably the arrangement is such that the maximum extension of the springs 10 has taken place prior to the closure of the lid 5 of the box 1, so that the roller spring is slightly the stronger as the lid reaches the box and will close of its own accord and will be engaged properly by the catch.

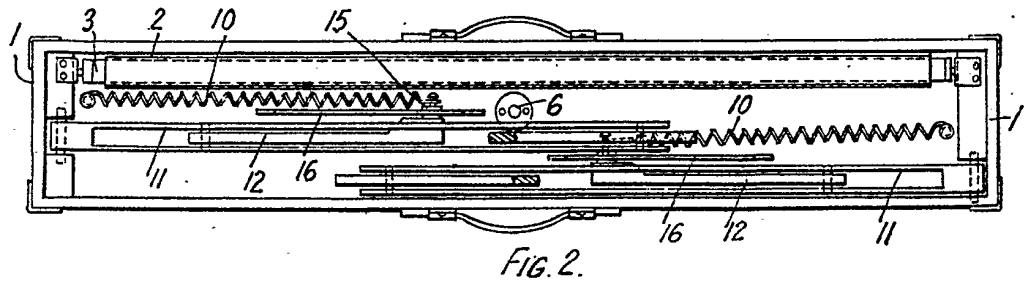
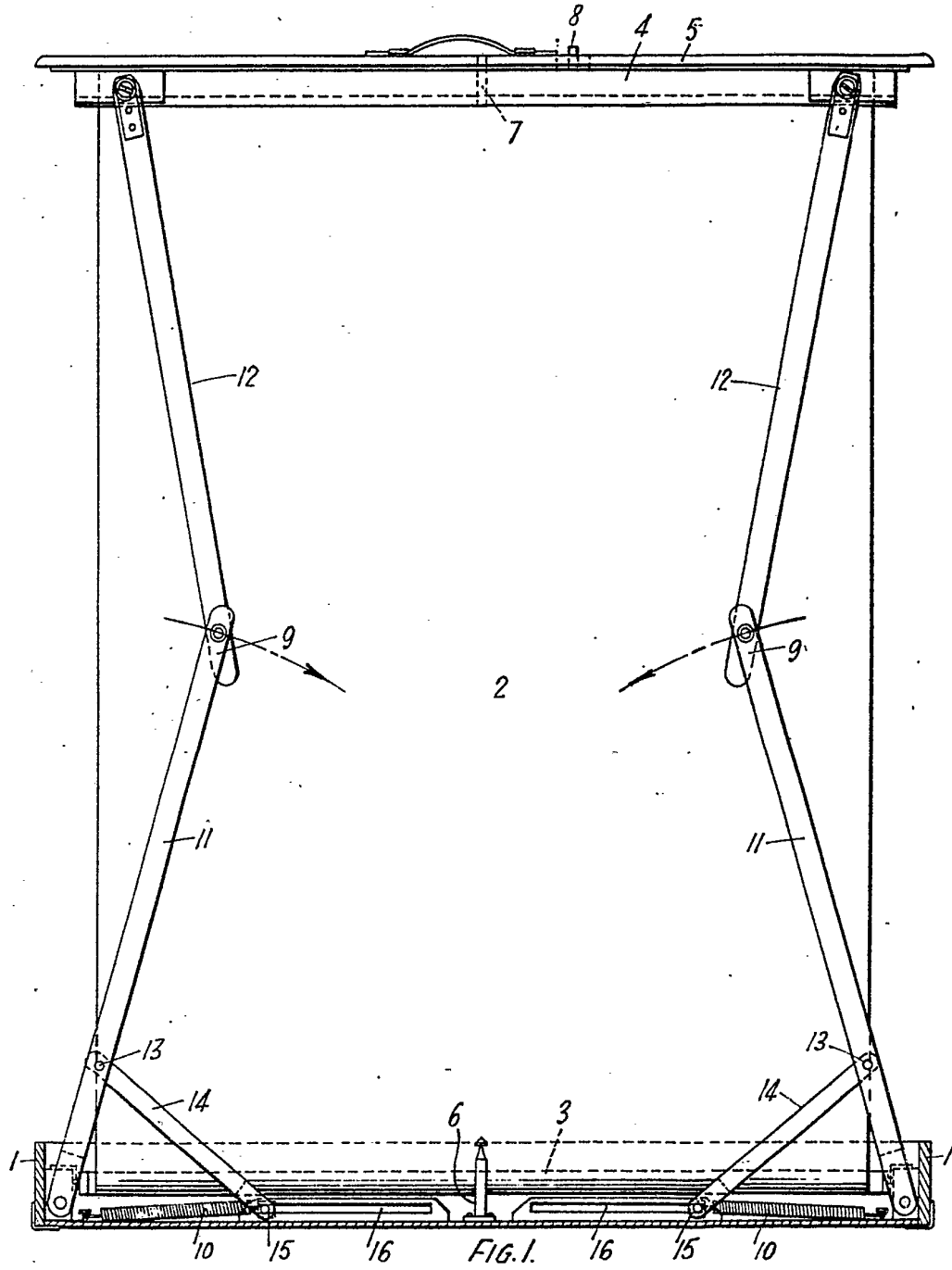
Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A projection screen of the type described wherein the pivoted links constituting the stretching device are offset in relation to one another so that in the collapsed position of the structure the links will extend side by side within the box, substantially as and for the purpose set forth.

2. A projection screen constructed and arranged to operate as a whole substantially as described with reference to the accompanying drawings.

Dated this 9th day of May, 1934.
 CRUIKSHANK & FAIRWEATHER,
 65—66, Chancery Lane London,
 W.C. 2., and
 86, St. Vincent Street, Glasgow.
 Agents for the Applicants.

[This Drawing is a reproduction of the Original on a reduced scale.]



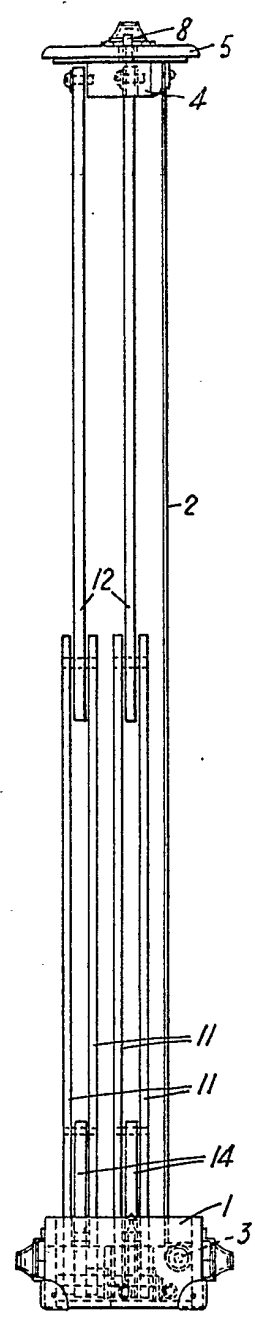
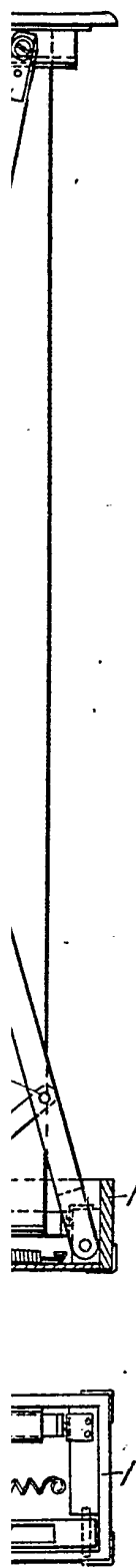


FIG. 3.

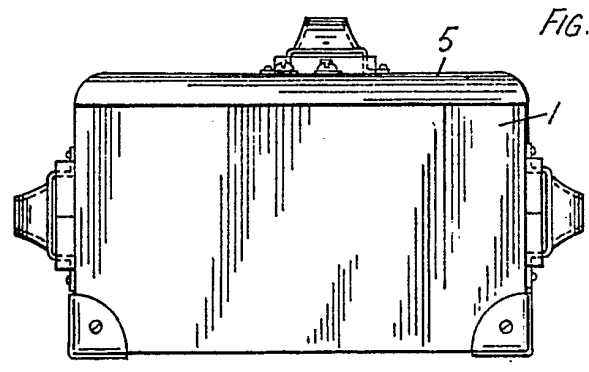


FIG. 4.

[This Drawing is a reproduction of the Original on a reduced scale.]

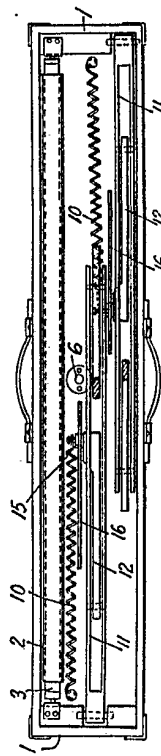
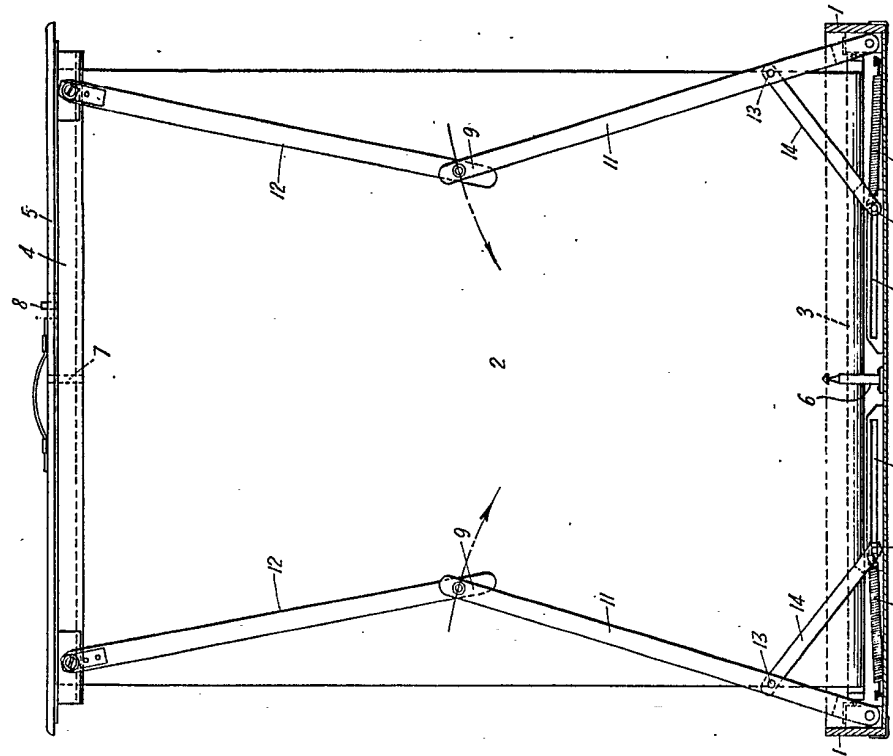


FIG. 2.

FIG. 3.

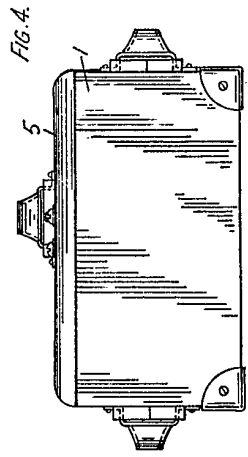
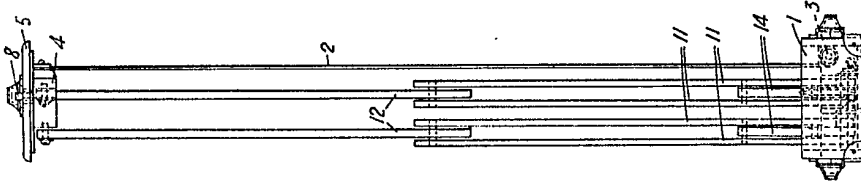


FIG. 4.