Aug. 22, 1961 W. K. SCHRODER 2,996,954

SCREEN FOR PICTURE PROJECTION

Filed April 27, 1960

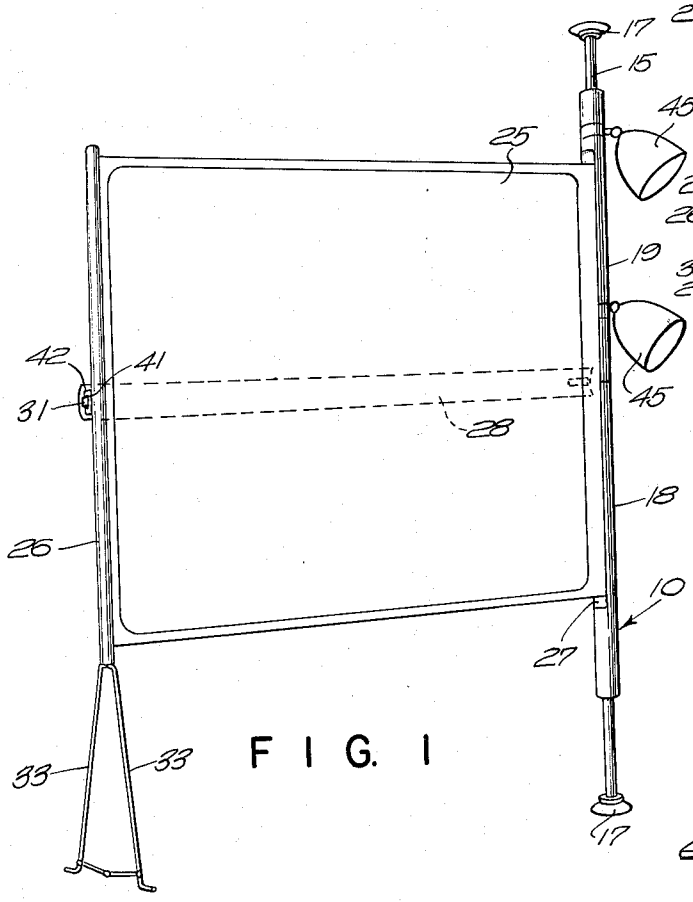


FIG. 1

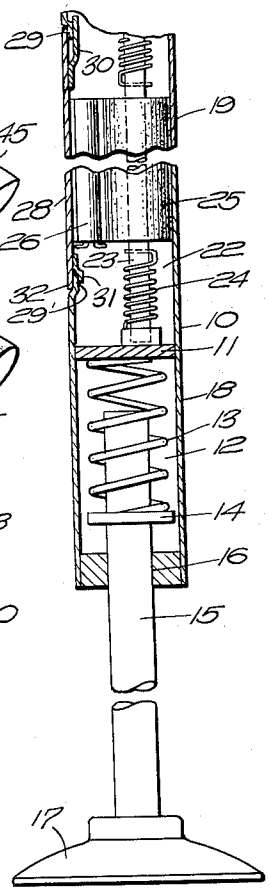


FIG. 2

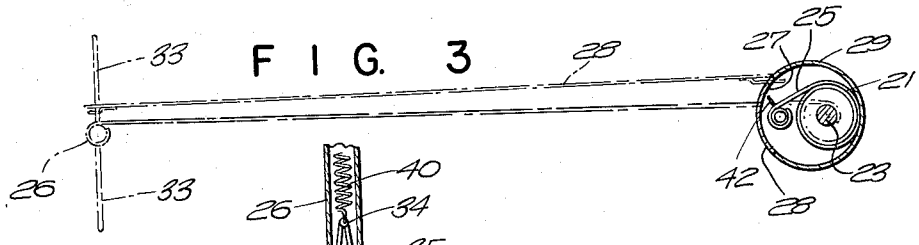


FIG. 3

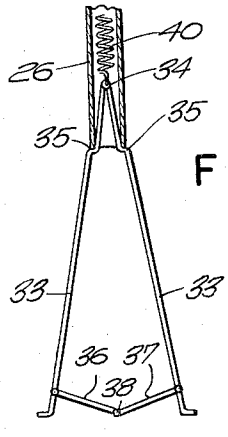


FIG. 4

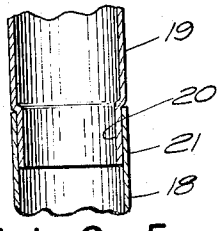


FIG. 5

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SCREEN FOR PICTURE PROJECTION

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This invention relates to an apparatus or device for the projection of pictures.

Frequently there is utilized for the projection of pictures a screen which is rolled or reeled in a compact form and this reel is supported upon a collapsible standard. At other times where a reel may be hung in a manner such as a roller shade in a house, such reels are supported in some position where they will not be observed. It is convenient to have a permanently mounted screen so that it will not be necessary to handle the portable type, and also convenient to have a permanently mounted screen when the roller shade type cannot be utilized.

One of the objects of this invention is to provide a screen which will be housed in a permanently mounted vertical post which may serve for other purposes such as supporting a light or the like in a home.

Another object of this invention is to provide a screen which although it may be pulled out horizontally for use will house in this post completely and out of sight when not in use.

Another object of the invention is to provide a screen which when in extended position may be held in this extended position by a part of the post.

Another object of this invention is to provide a screen which when extended may be supported by a part which may fold into or collapse into a part which will house within the post.

With these and other objects in view, the invention consists of certain novel features of construction as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings:

FIG. 1 is a perspective view of the screen in open position;

FIG. 2 is a fragmental section of the lower part of the post;

FIG. 3 is a horizontal section through the post above the horizontally supported part of the screen and showing in dotted lines the screen extended;

FIG. 4 is a sectional view showing the support for the screen when extended; and

FIG. 5 is a fragmental sectional view of the joint of the casing.

In proceeding with this invention, I provide a hollow or tubular casing which may be mounted at any location in a home by engagement with the floor and ceiling and upon which post there may be supported a light or some other household article. Also housed within this post in a rolled or reeled condition, there is a screen which is spring-reeled but which may be drawn outwardly from the post by removing a part of the post and pulling upon a rigid rod which is attached to its outer edge of the screen. Also I have provided a collapsible leg in this rigid rod which will support the screen in its extended position, this leg housing within this rod when the leg is collapsed.

With reference to the drawings 10 designates a post or hollow casing which as shown in FIG. 2 is provided with division partitions 11 spaced from its opposite ends, and housed within each portion 12 of this part of the post, there is a spring 13 which acts upon the shoulder 14 secured to the plunger 15 to project it through a bearing 16 in the end of the post and into engagement with the floor at its lower end and projects the upper plunger

15 into engagement with the ceiling, these opposite ends being identical. An enlarged end portion 17 is provided for engagement with the floor at the lower end and the ceiling at its upper end.

The casing 10 in order that it may be more easily disassembled for shipment is made in a plurality of parts, here shown as two parts designated 18 and 19. One of these parts is reduced as at 20 so as to slip into the end 21 of the other part. It of course may be broken up into three parts with an intermediate part if so desired. When assembled, the compartment which is intermediate the partitions 11 and which is designated as 22 provides the means for housing the roller screen. This screen consists of a core 23 having end trunnions to be received in the partition walls 11, and in order that this screen may be mounted for either lefthand or righthand extension from the casing 10, the ends are such that it may be turned with either end upwardly. A spring 24 surrounds the core 23 and provides for rolling the screen 25 upon the core 23.

A rigid tubular rod 26 is attached to the edge of the screen 25 and houses completely within the tubular casing 10 (see FIG. 3). The casing is provided with an opening 27 and a wall section 28 is provided to close this opening 27. The casing at either end of the opening 27 is offset as at 29, 29' in an amount substantially the thickness of the closure wall 28 so that when this closure wall is in position against the offset portions 29, 29', it will be flush with the outer generally curved surface of the casing. In order to retain this closure wall in position, spring tongue 30 is provided at its upper end 29 and spring tongue 31 at its lower end 29', the arrangement being such that the upper edge of the closure section 28 may be placed in position by extending the tongue 30 inside of the offset 29 and then pushing upwardly until the lower edge 32 and its tongue 31 may clear the offset edge 29' when it may be dropped into position so that the spring tongues will engage the inner surfaces of the offsets and the wall itself will engage the outer surface of the offsets and be flush with the casing.

In order to support the rod 26 in its outermost position, as shown in FIG. 1, I have provided supporting legs 33 at each end of the tube 26. These legs are of sheet metal construction folded to provide a hinge as at 34 and provided with shoulders 35 near their upper ends. These legs 33 are joined together at their lower end by two rigid sections 36 and 37 hinged as at 38, the arrangement being such that when the legs are pulled out of the tube 26 to the extent necessary for supporting the screen generally horizontally, the sections 36 and 37 may be swung just past alignment with a sort of a toggle action to hold them there and provide a broad support of the screen, while at the same time the shoulders 34 will engage the edges of the rod and prevent the telescoping of the legs into the rod 26 by action of a retracting spring 40. For collapsing, the two sections may be swung on the hinge 38 bringing the legs 33 together and clearing the shoulders 35 from the edge of the casing so that they may be slid into the rod 26. It will of course be apparent that only one set of legs is used at a time, but in the event that it is necessary to pull the screen out for projection on the opposite side thus necessitating the reversal of the core 23, legs are provided in both ends for this reversing purpose.

The section 28 of the casing is used as a brace for the screen against being drawn in by reeling spring 24 by the edge of the opening 27 of the casing being received in the space between the end of the section 28 and its spring tongue 30 while its opposite end is attached to the rod 26 by being received in the slot 41 of a plate 42

attached to the rod, which also may serve as a handle for withdrawing the rod if desired.

This post may also have a lamp 45 supported on it and serve as a lamp standard for use in the home. By having a good fit between the parts of the post which are extended, the same provides an unobjectionable appearance and yet houses the screen for use as may be desired.

I claim:

1. An apparatus for the projection of pictures comprising a tubular casing adapted to be supported in a vertical position, a screen of flexible sheet material, means for reeling said screen within said casing, a rigid rod of a size to be housed within said casing, said rod being secured to the outer edge of the screen for pulling the screen horizontally to unreel the same, and a leg extending from said rod to support the rod when the screen is unreeled, said leg being slidably related to the rod to move axially

thereinto and thus collapsible within the rod for storage when not in use without separation from the rod.

2. An apparatus as in claim 1 wherein said leg is expandible when withdrawn from said rod.

3. An apparatus as in claim 1 wherein the rigid rod telescopically receives the leg when in storage position.

4. An apparatus as in claim 1 wherein a removable section of the casing closes the casing when the screen is rolled within the casing and said section extends between the casing and the rigid rod when the screen is in extended position to hold the screen extended.

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