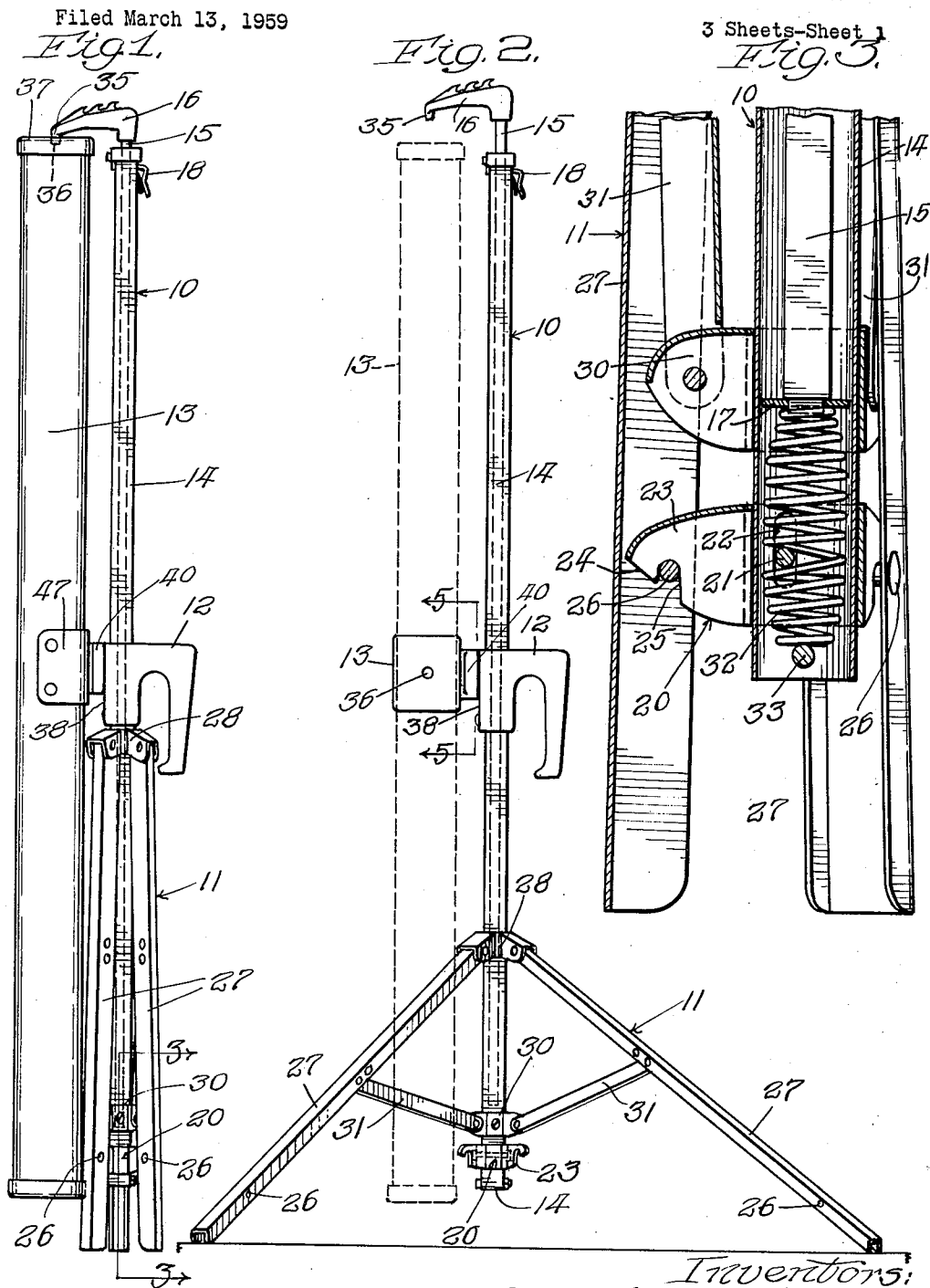


E. J. PETRICK ETAL
PORTABLE MOVIE SCREEN

Filed March 13, 1959

3 Sheets-Sheet 1



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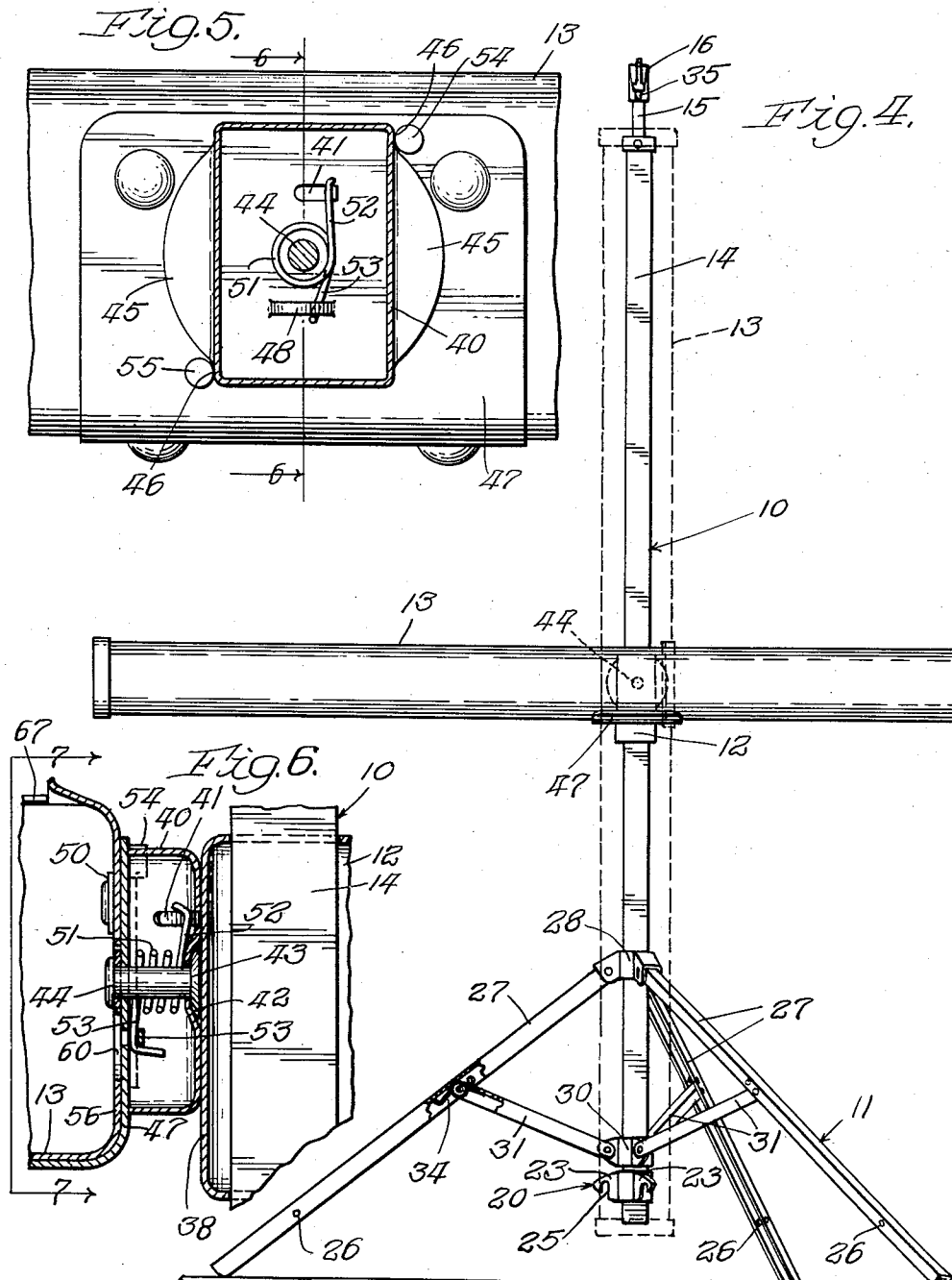
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PORTABLE MOVIE SCREEN

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PORTABLE MOVIE SCREEN

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Fig. 7.

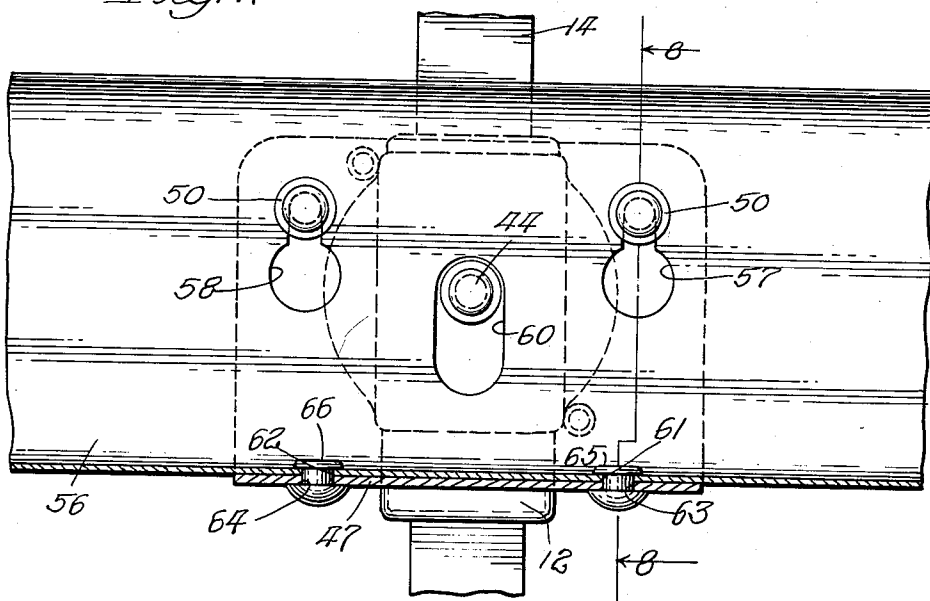
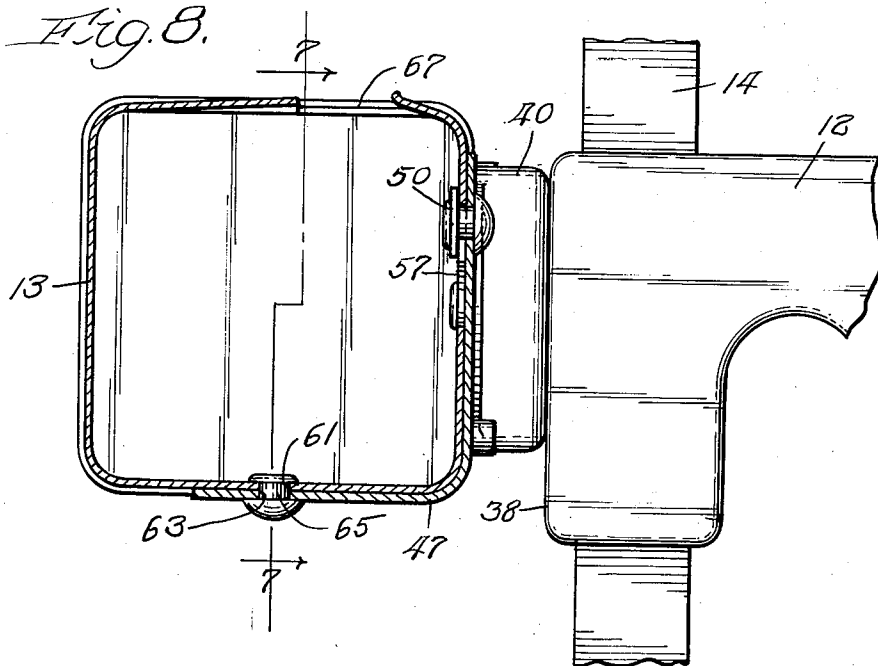


Fig. 8.



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3,022,816

PORTABLE MOVIE SCREEN

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11 Claims. (Cl. 160-24)

This invention relates to portable movie screens, and more particularly to a portable screen assembly having parts arranged and adapted to facilitate placing the screen in upright operative position.

The primary object of the present invention is to provide a new and improved portable stand for movie screens.

Another object is to provide a unique mounting for a screen casing which normally urges the casing from closed position parallel to the standard toward open position perpendicular to the standard.

A further object is to provide a screen casing having a mounting which will automatically pivot the screen casing to open position when released from engagement with the upright standard.

Still another object is to provide a novel standard having an extension rod adapted to interlock with an end of the casing when in inoperative position, the extension rod being normally urged outwardly of the standard when released so as to permit unlatching of the leg members concurrently with release of the screen casing.

Yet another object is to provide a novel mounting structure permitting unique assembly of the casing upon the mounting structure.

The invention is illustrated in a preferred embodiment in the accompanying drawings, in which:

FIG. 1 is a side elevational view of the movie screen stand showing the legs in latched position and the screen casing in closed position held parallel to the upright standard;

FIG. 2, a side elevational view illustrating the movie screen stand after the extension rod has been released and projected upwardly to permit the legs to move to supporting position and the screen casing to rotate to open position;

FIG. 3, an enlarged fragmentary sectional view taken as indicated along line 3-3 of FIG. 1 and showing the detail of the latching structure for the leg members;

FIG. 4, a fragmentary end elevational view similar to FIG. 2 and illustrating the automatic pivoting of the screen casing from closed position (shown in dotted outline) to horizontal open position after the extension rod has been released;

FIG. 5, an enlarged fragmentary sectional view taken as indicated on line 5-5 of FIG. 2;

FIG. 6, an enlarged fragmentary sectional view taken as indicated in line 6-6 of FIG. 5;

FIG. 7, an enlarged fragmentary sectional view taken as indicated on line 7-7 of FIG. 6; and

FIG. 8, a sectional view taken as indicated on line 8-8 of FIG. 7.

In the embodiment illustrated, an upright standard, generally designated 10, is provided with a supporting leg unit, generally designated 11, which is adapted to be automatically movable between a closed position, shown in FIG. 1, and an open supporting position, shown in FIGS. 2 and 4. The movie stand is provided with a

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handle member 12 which is slidable and adjustable longitudinally of the standard 10 in a well-known manner. The handle member 12 is constructed to provide a forward mounting surface for pivotally carrying an elongated screen casing 13 which houses and journals a spring-actuated roller and flexible reflective screen not shown. The screen, of course, may be unwound from the roller and suspended from the standard 10 in a well-known and conventional manner.

The standard 10 may have a main elongated tubular member 14 which slidably and telescopically receives a rod member 15 which is provided with a bail support 16 at its upper end and with a guide washer 17 at its lower end. A conventional Swedish-type clamp or rod gripping member 18 may be provided at the upper end of the tubular member 14 to hold the rod member 15 in varying positions of extension.

As best seen in FIGS. 2 and 3, the latch mechanism, generally designated 20, is carried by the lower end of the tubular member 14 for latching the leg unit 11 in closed position. The latch mechanism 20 is mounted for limited relative yieldable movement with respect to the tubular member 14, and to this end, a pin 21 is provided which passes through a pair of slots 22 in the tubular member 14 to hold the latch mechanism in place. The latch mechanism also has a number of outwardly extended arms 23 each of which is provided with a downwardly extending cam surface 24 which terminates in a downwardly opening recess 25 of a size to snugly receive a cooperating latching portion or rivet 26 on the leg unit.

The leg unit 11 includes a number of channeled leg members 27 each of which is hingedly secured to a slidable collar 28 which embraces the tubular member 14. As best seen in FIGS. 2 and 4, the midpoints of each of the leg members may be joined to a stationary collar 30 embracing the tubular member 14 by a connecting link or brace 31 which makes a hinged connection at its opposite ends.

As best seen in FIGS. 2 and 3, each of the rivets 26 extend across the inwardly opening channels of the leg members 27, and the arms 23 of the latch mechanism 20 are each of a size and are positioned to fit within the channeled leg members 27 when the leg unit is moved to closed position, as shown in FIGURE 1.

Referring to FIGURE 3, a coil spring 32 is positioned within the bottom end of the tubular member 14 and is supported upon the shank of a bolt or pin 33. The pin 21 preferably passes between adjacent convolutions of the coil spring 32 slightly below the center of the longitudinal length of the spring. Thus, when the extension rod member 15 is pushed to its lowermost position (FIG. 3), it bears at its lower end against the upper end of the spring 32 and compresses the spring. By compressing the spring, the pin 21 and the latch mechanism 20 are carried downwardly on the tubular member 14 so as to position the latch mechanism 20 so that the recesses 25 in the arms 23 will receive the rivets 26 of each of the leg members 27. Thus as the leg unit 11 is moved toward closed position, the rivets 26 will strike the cam surfaces 24 causing the latch mechanism 20 to yield upwardly and admit the rivets 26 into their respective recesses 25 to latch the leg unit adjacent the standard 10.

At this time, the coil spring is considerably compressed by the extension rod member 15. When the rod mem-

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ber is released by the clamp 18, the rod pops up under the impetus of the coil spring 32. This releases the compression in the coil spring 32 and permits the latch mechanism to move upwardly also to release the rivets 26 from their respective slots 25. The leg members 27 are caused to be thrown out to assume the supporting position, illustrated in FIGS. 2 and 4, by a number of spring members 34 which are positioned at the hinged connection between the midpoint of the leg members 27 and the connecting links 31.

The structure is also herein provided for pivotally mounting the screen casing 13 upon the handle member 12 so that the screen casing 13 is automatically swung from its closed vertical position, shown in FIG. 4 in dotted outline, to its open horizontal position when the extension rod member 15 is released for upward movement. As shown in FIG. 1, the screen casing 13 is normally held in closed position parallel to the standard 10 by the inter-engagement of a stud 35 of the bail support 16 with a depression 36 in a cap member 37 on an end of the casing 13.

To this end, the handle member 12 is provided with a forward mounting face 38 to which a rectangular cup-shaped housing 40 may be spot-welded or otherwise secured. The housing 40 preferably has a lug 41 struck forwardly from its bottom wall, which is also apertured and depressed as at 42 to receive a head 43 of a mounting rivet 44 affording a trunnion or pivot shaft for the casing. A pair of stabilizing flanges 45 and a pair of shoulders 46 are provided at the open end of the housing 40 for purposes later to be described.

The open end of the housing 40 is preferably provided with a casing bracket 47 apertured to receive the mounting rivet 44, the downturned ends of which hold the casing bracket 47 in position against the housing 40 and its stabilizing flanges 45. The casing bracket 47 may have a rearwardly struck lug 48 on one face and a pair of forwardly projecting mounting studs 50 on its opposite face.

Within the housing 40, a coiled torsion spring 51 is preferably provided embracing the shank of the mounting rivet 44. The torsion spring 51 may have a pair of outwardly extending arms 52, 53 respectively engaging the lug 41 of the housing 40 and the lug 48 of the casing bracket 47. The torsion spring 51 is arranged so that when the casing 13 is swung upward to closed position, as shown in dotted outline in FIG. 4, the arms 52 and 53 exert forces tending to move the casing 13 toward its horizontal open position in the direction of the arrows (FIG. 4).

As best seen in FIG. 5, the inner face of the casing bracket 47 is also provided with a pair of rearwardly struck stops 54 and 55 which are positioned in the path of movement of the shoulders 46 of the housing 40 so that the screen casing 13 will always be arrested by the stops in substantially horizontal position when released.

The structure of the mounting bracket 47 permits the casing 13 to be assembled in an extremely unique manner. As best shown in FIG. 7, the inner or rearward wall 56 of the casing 13 is provided with a pair of longitudinally-spaced, inverted key-hole slots 57 and 58 between which is an elongated slot 60 to accommodate the end of the mounting rivet 44. In order to assemble the casing 13 upon the casing bracket 47, the mounting studs 50 are positioned within the enlarged part of the key-hole slots 57 and 58 and the casing is moved downwardly to position the mounting studs in the narrow ends of the key-hole slots with the casing inner wall 56 being positioned between the mounting studs and the casing bracket 47.

When in this position, as seen in FIG. 8, corresponding spaced openings 61, 62 and 63, 64 in the casing and casing bracket, respectively, are in alignment. Rivets 55, 56 may then be inserted upwardly into the interior of the casing 13, so that the ends of their shanks can be conveniently spread by a conventional-type tool inserted

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through the longitudinal opening 67 in the screen casing 13. When the casing 13 is mounted on the bracket 47 and positioned in vertical closed position, the point of pivot about the mounting rivet 44 is preferably slightly farther from the upper end of the casing than it is from the lower end. This off-center positioning of the pivot assists the spring 51 in the casing movement toward open position.

The move screen stand may be readily moved from horizontal open position shown in FIG. 4 to vertical closed position shown in FIG. 1. The flexible screen, not shown, is first removed from the bail support 16 and allowed to roll upon the roller within the casing 13. The casing 13 is then swung to vertical position and the rod member 15 is depressed so that the stud 35 of the bail support 16 is positioned in the depression 36. When the rod member 15 is depressed, its lower end bears against the coil spring 32 and moves the latch mechanism 20 downwardly into a position for receiving the rivets 26 of the leg members 27. The collar 28 of the leg unit 11 may then be pulled upwardly on the tubular member 14 so that the cooperating latch rivets 26 will each enter their corresponding recesses 25 in the arms 23 of the latch mechanism 20. The movie screen stand is then in the position shown in FIG. 1.

From closed storage position, the move screen stand may be readily placed in operative position. The screen stand is merely held off the floor, and the clamp 18 is released. This permits the extension rod member 15 to be projected outwardly which in turn permits the disengagement of the latch mechanism 20 so that the leg members can be thrown to supporting position, as shown in FIG. 2. As soon as the bail support 16 becomes disengaged from the upper end of the screen casing 13, the torsion spring 51 forces the screen casing 13 clockwise as shown in FIG. 4. The casing 13 is arrested in substantially horizontal position by the engagement of the shoulders 46 with the stops 54, 55 as previously described, and the flexible screen may then be pulled from the casing to a viewing position.

The foregoing detailed description is given for clearness of understanding only and no unnecessary limitations should be understood therefrom for some modifications will be obvious to those skilled in the art.

We claim:

1. A portable movie screen comprising: an upright standard for supporting the screen, said standard including an elongated tubular member and an extension rod, the extension rod telescoping with an end of the tubular member; first means normally urging said extension rod outwardly of the tubular member when the extension rod is in telescoped position; clamping means operable between the tubular member and the extension rod for selectively varying the position of the extension rod with respect to the tubular member; a screen casing swingably mounted on said standard for movement between a closed position parallel to the standard and an open position perpendicular to the standard, the extension rod having its free end adapted to engage an adjacent end of the screen casing when in closed position to retain the screen casing parallel with the standard; and second means urging the casing toward open position when the clamping means is released to permit outward projection of the extension rod and release of the screen casing so that said screen casing will swing to open position.

2. A portable movie screen comprising: an upright standard for supporting the screen, said standard including an elongated tubular member and an extension rod, the extension rod telescoping with an end of the tubular member and being normally urged outwardly of the tubular member when in fully telescoped position; clamping means operable between the tubular member and the extension rod for selectively varying the position of the extension rod with respect to the tubular member; a screen casing pivoted to said standard for swinging move-

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ment between a closed position parallel to the standard and an open position perpendicular to the standard, said casing being normally urged toward said open position; and cooperating stops on said casing and said standard for arresting the casing in said open position, said extension rod having its free end adapted to engage an adjacent end of the screen casing when in closed position to retain the screen casing parallel with the standard, whereby release of the clamping means permits outward projection of the extension rod to release the screen casing for pivoting to open position.

3. A portable movie screen comprising: an upright standard for supporting the screen, said standard including an elongated tubular member and an extension rod, the extension rod telescoping with an end of the tubular member and being normally urged outwardly of the tubular member when in fully telescoped position; clamping means operable between the tubular member and the extension rod for selectively varying the position of the extension rod with respect to the tubular member; a screen casing having a pivot shaft for swingably mounting the screen casing on said standard, said pivot shaft being centrally disposed of the longitudinal length of said screen casing and affording thereto swinging movement between a closed position parallel to the standard and an open position perpendicular to the standard; and spring means bearing at one end on said standard and at the other end on said screen casing normally to urge said screen casing toward open position, said extension rod having its free end adapted to engage an adjacent end of the screen casing when in closed position to retain the screen casing parallel with the standard, whereby release of the clamping means permits outward projection of the extension rod to release the screen casing for automatic pivoting to open position.

4. In a portable movie screen having an upright standard, a supporting leg unit on the standard, and an elongated screen casing, a mounting for the screen casing, comprising a mounting surface on the standard, a pivotal connection between said mounting surface and the screen casing so that said screen casing can be swung between a closed position parallel to the standard and an open position perpendicular to the standard, and spring means acting between said mounting surface and the casing for normally urging said screen casing toward said open position.

5. In a portable movie screen including an upright standard for supporting the screen and a screen casing, a mounting structure on the standard for the screen casing, comprising: a non-rotatable portion on the standard, a pivot shaft extending forwardly of said portion and being attached to said screen casing, said screen casing being secured in spaced relation from said portion and being rotatable on said pivot shaft from closed position parallel to said standard to an open position perpendicular to said standard, and a torsion spring embracing said pivot shaft and having its opposite ends respectively attached to said portion and to said screen casing to normally exert forces urging said screen casing toward said open position.

6. In a portable movie screen including an upright standard for supporting the screen and a screen casing, a mounting structure on the standard for the screen casing, comprising, a non-rotatable portion on the standard, a pivot shaft extending forwardly of said portion and being attached to said screen casing, said screen casing being secured in spaced relation from said portion and being rotatable on said pivot shaft from closed position parallel to said standard to an open position perpendicular to said standard, a torsion spring embracing said pivot shaft and having its opposite ends respectively attached to said portion and to said screen casing to normally exert forces urging said screen casing toward said open position; and cooperating stops on said non-rotatable portion and said screen casing for arresting rotation of said screen casing in open position.

7. A portable movie screen, comprising: an upright,

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elongated tubular member having a slot at its lower end; an extension rod telescoping with the upper end of said tubular member; a screen casing pivotally mounted on the tubular member and swingable between a closed position parallel to the tubular member and an open position perpendicular thereto, said screen casing being normally spring-urged from closed position toward said open position; interlocking means on the extension rod adapted to engage and hold the screen casing in closed position when the extension rod is in telescoped position with said tubular member; clamping means operable between said tubular member and the extension rod for varying the position of said extension rod with respect to said tubular member; a coil spring supported in the lower end of said tubular member; a latch mechanism having a pin extending through said slot in the tubular member and between adjacent convolutions of said coil spring so as to mount said latch mechanism for limited movement longitudinally on the tubular member, said extension rod being of such length when in telescoped position as to bear against and compress said coil spring to move said latch mechanism downwardly into a yielding latching position; and a supporting leg unit on the lower end of said tubular member, said leg unit being movable between a spread supporting position and a folded closed position adjacent the tubular member and having a cooperating latching portion adapted to yieldingly engage said latch mechanism when in latching position to hold said leg unit in closed position, whereby release of said clamping means causes outward projection of the extension rod to concurrently disengage said leg unit and said screen casing from their respective closed positions.

8. A portable movie screen comprising: an upright standard for supporting the screen, said standard including an elongated tubular member and an extension rod, the extension rod telescoping with an end of the tubular member; clamping means operable between the tubular member and the extension rod for selectively varying the position of the extension rod with respect to the tubular member; and a screen casing swingably mounted on said standard for movement between a closed position parallel to the standard and an open position perpendicular to the standard, said casing being normally urged toward said open position, the extension rod having its free end adapted to engage an adjacent end of the screen casing when in closed position to retain the screen casing parallel with the standard, whereby release of the clamping means and outward movement of the extension rod releases the screen casing so that said screen casing will swing to open position.

9. In a portable movie screen having an upright standard for supporting the screen and a screen casing, a mounting structure on the standard for the screen casing, comprising: a cup-shaped housing having an enclosing sidewall and an end wall secured to the standard so as to open forwardly and being provided with a pivot shaft extending forwardly from said end wall, the forward end of said pivot shaft being secured to said screen casing substantially medially thereof and affording swinging movement to said screen casing between closed position parallel to the standard and open position perpendicular to said standard; and a torsion spring embracing said pivot shaft and having its opposite ends respectively attached to said housing and to said screen casing to normally exert forces urging said screen casing toward said open position.

10. A mounting structure as specified in claim 9 in which the screen casing is provided with a planar surface on its rearward side, and the forward end of the sidewall of the cup-shaped housing abuts said planar surface at spaced portions to stabilize the casing during its swinging movement.

11. In a portable movie screen having an upright standard supporting the screen, and an elongated screen casing, a mounting for the screen casing, comprising: a non-rotatable portion in the standard; a pivotal connec-

tion between said non-rotatable portion and the screen casing so that said screen casing can be swung between a closed position parallel to the standard and an open position perpendicular to the standard, said connection engaging the screen casing in a position slightly off center and toward the bottom end of the casing when the casing is in closed position; and spring means acting between said non-rotatable portion and said screen casing for normally urging said screen casing toward said open position, whereby said spring means and said off-center positioning of said pivotal connection mutually cooperate to swing said screen casing toward open position when said casing is released from closed position.

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