May 12, 1959 R. E. PETRICK 2,886,274

PORTABLE STAND

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Fig. 1.

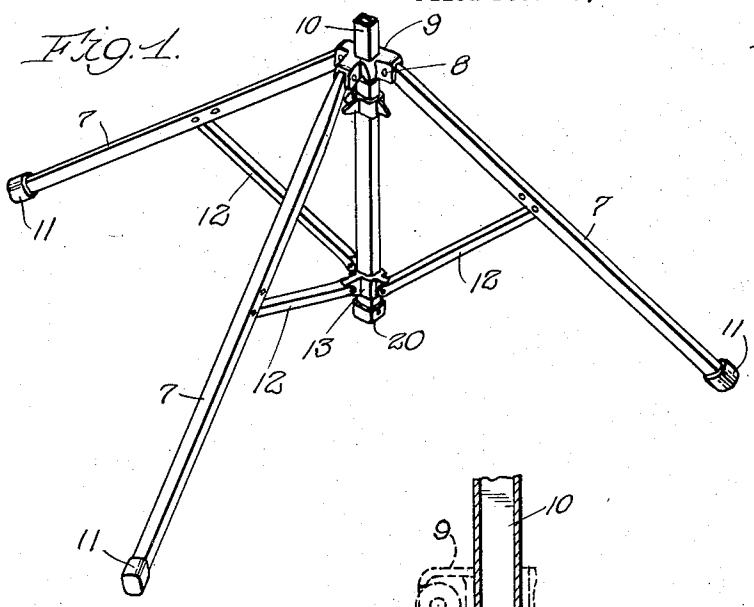


Fig. 2.

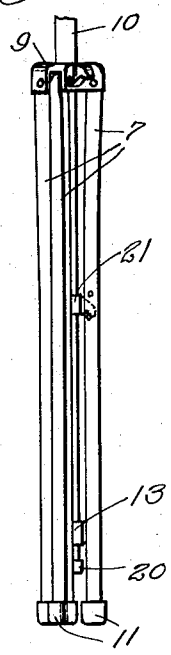


Fig. 6.

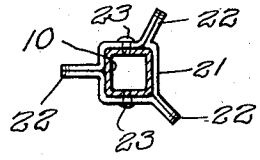


Fig. 3.

Fig. 4.

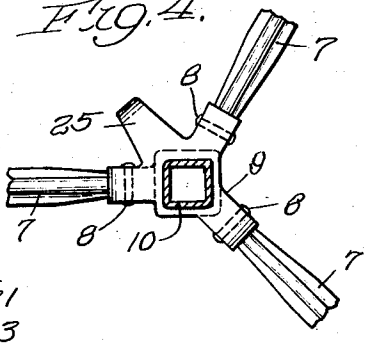
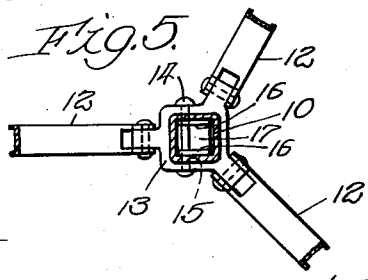


Fig. 5.



Inventor:
Russell E. Petrick,
By Schroeder, Merriam,
Hofgren & Brady, Attys.

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PORTABLE STAND

Russell E. Petrick, Park Ridge, Ill., assignor to Knox Manufacturing Company, a corporation of Illinois

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10 Claims. (Cl. 248—171)

This invention relates to a portable stand for a movie screen or the like, and more particularly to a means for locking the legs of the stand in folded position and for unlocking the legs from that position.

The primary object of the present invention is to provide a new portable stand having foldable legs movable between locked folded position and outwardly spread position in a novel manner.

Another object is to provide an improved device for locking the leg members of a stand in folded position parallel to the central standard.

A further object is to provide an improved means for placing the stand legs in proper position for use.

Still a further object is to provide a portable stand which will open from folded position under the force of gravity without the use of spring-urged leg members.

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

Fig. 1 is a perspective view of the stand in outwardly spread position;

Fig. 2, an elevational view of the stand with the leg members in folded position;

Fig. 3, a fragmentary sectional view taken in a plane determined by the central standard and one of the leg members and showing a leg member in folded position in dotted outline;

Fig. 4, a fragmentary sectional view taken as indicated on line 4—4 of Fig. 3;

Fig. 5, a fragmentary sectional view taken as indicated on line 5—5 of Fig. 3; and

Fig. 6, a sectional view taken as indicated on line 6—6 of Fig. 3.

In the embodiment illustrated, the leg unit comprises three leg members 7 which are pivotally secured by rivets 8 to an upper collar 9 mounted for slidable movement longitudinally of a central upright standard 10. The leg members 7 are generally channel-shaped and arranged so that each of the channels opens inwardly toward the standard. The central standard is preferably metallic and tubular so that an extensible rod, not shown, may be slidably received therein. Rubber or plastic tips 11 may be placed on the free ends of the leg members 7 to protect the floor from the sharp metal edges of the ends of the leg members.

Channel-shaped bracing links 12 join the middle portions of the leg members 7 to a lower collar 13 which is slidably mounted for limited movement upon the standard 10. The longitudinal movement of the lower collar is limited by the rivet 14 sliding in a longitudinal slot 15 in the upright standard, the slot being shown in dotted outline in Fig. 3. The rivet 14 also impales a pair of ears 16 of the bracket 17 which provides a smooth bearing base 18 for the upper coil of the spring 19. A cap member 20 holds the coil spring in the lower portion of the standard, the spring being of such length that it yieldingly maintains the rivet 14 at the upper end of the slot 15.

A stationary member 21 carrying three hook members

22 is preferably secured to the standard 10 by the sheet metal screws 23, as shown, or by a spot weld. Each of the hook members has a notch 24 preferably opening downwardly of the standard 10 for engaging a cooperating latching portion on the leg unit. A handle 25 on the upper collar 9 facilitates its longitudinal movement. As the upper collar is raised, the leg members are pivoted toward folded position parallel to the standard 10, and the bracing links in turn are pivoted about the lower collar 13 and recessed within the channels of the leg members. The leg members are locked in folded position by the engagement of the hook members 22 with a latching or notch-engaging portion on the leg unit which is herein shown as the top edges 26 of the webs 27 in the channel-shaped links 12. As the legs are being folded, the edges 26 contact the surfaces 28 on the stationary member 21 which cam the leg unit downwardly against the action of the coil spring 19. When the leg unit reaches folded position adjacent the standard 10, the edges 26 snap into the notches 24 in the hook members and lock the leg members in place.

To put the stand in use in its outwardly spread position, a pair of camming surfaces are provided to pivot the leg members 7 away from the standard 10. A first camming surface 30 is formed on each hook member 22 and is inclined downwardly and outwardly of the standard. The second surface is in fact a camming pin 29 secured within the channel of each leg member so that it lies slightly above the surface 30 when the leg members are in folded position. The leg unit is unlocked by applying a slight downward pressure upon the handle member 25 to compress the spring 19 and remove the edges 26 of the links 12 from the notches 24 in the hook members 12. Just as the edge 26 clears the notch 24, the pins 29 ride downwardly and outwardly on the surfaces 30 to urge the leg members toward spread position. The leg unit is preferably frictionally balanced to enable the top collar to continue downwardly, slowly under the force of gravity until it comes to rest on the stationary member 21, at which time the leg members are in spread position. Since the leg unit opens gradually, any person putting the stand in use can easily avoid being struck by the opening leg members, thus preventing snags in his clothes or stockings.

It is contemplated that the present invention not be limited to the precise embodiment shown and described. Thus obvious modifications, such as reversing the positions of the hook members and the notch-engaging portions, or inverting the hook members on the standard and reversing the action of the coil spring, do not depart from the spirit of this invention.

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.

I claim:

1. A portable stand, comprising: an upright standard; a leg unit having a plurality of leg members hinged for movement from an outwardly spread position to a folded position against the standard, said entire leg unit being mounted for limited longitudinal slidable movement on the standard; a stationary portion on the standard adjacent said leg unit and a latching portion on the leg unit positioned for cooperative locking engagement with said stationary portion when said leg members are moved to folded position, one of said portions being a hook member adapted to engage the other of said portions; and spring means yieldably urging said entire leg unit longitudinally of the standard to maintain said hook member and the other of said portions in locking engagement when the legs are in folded position.

2. A portable stand as specified in claim 1, having

means for urging the legs from folded position toward spread position, said means including a pair of cooperating cam portions, one of said portions mounted on the standard and the other of said portions mounted on the leg unit, said cam portions being adapted to slidably contact each other to urge said leg members toward outwardly spread position when said leg unit is moved against the action of the spring means to unlock the hook member and the other of said portions.

3. A portable stand, comprising: an upright standard; a leg unit having a plurality of substantially straight leg members hinged for movement from an outwardly extending spread position to a folded position substantially parallel to the standard, said entire leg unit being mounted for limited longitudinal slidable movement on the standard; a fixed hook member on said standard adjacent said leg unit and having a notch positioned to engage a portion of the leg unit when the leg members are swung into said folded position; and spring means yieldably urging said leg unit longitudinally of the standard to maintain said portion of the leg unit in locking engagement with said notch when the legs are in folded position.

4. A portable stand as specified in claim 3, having means for urging the legs from folded position toward spread position, said means including a pair of cooperating cam portions, one of said portions mounted on the standard and the other of said portions mounted on the leg unit, said cam portions being adapted to slidably contact each other to urge said leg members toward outwardly spread position when said portion of the leg unit is forced out of the notch in the hook member against the action of the spring means.

5. A collapsible stand, comprising: an upright standard; a fixed hook member secured to said standard; a leg unit having a plurality of substantially straight leg members hinged for movement from an outwardly extending spread position to a folded position substantially parallel to the standard, and bracing links joining the middle portion of each of said leg members to said standard and being foldable against said standard when said leg members are in folded position, one of said links having a hook-engaging portion positioned for cooperating locking engagement with said fixed hook member when said leg members are in folded position to lock said leg members and said links in folded position, said entire leg unit being mounted for limited longitudinal slidable movement on the standard; and spring means yieldably urging said leg unit longitudinally of the standard to maintain said hook-engaging portion in cooperative locking engagement with said fixed hook member.

6. A collapsible stand as specified in claim 5, in which a first cam portion on the leg unit is adapted to slidably contact a second cam portion on the fixed hook member when the leg members are in folded position, said second cam portion being inclined downwardly and outwardly of the standard, whereby downward movement of the leg unit against the action of the spring means disengages the notch-engaging portion from the notch in the hook member and brings said first and second cam portions into sliding contact to pivot said leg members toward outwardly spread position.

7. A portable stand, comprising: an upright tubular standard; a cap on the lower end of said standard; an upper collar slidable on the standard; three substantially straight leg members hinged to said upper collar for movement from an outwardly extending spread position to a folded position substantially parallel to the standard; a lower collar mounted on the standard for limited sliding movement longitudinally of the standard; a coil spring in the lower end of said standard engaging a portion of said lower collar to yieldingly maintain said collar in its uppermost position longitudinally of the standard; three fixed hook members having a downwardly open notch secured to said standard, each of said members having an upper cam surface inclined downwardly and outwardly from said standard; channel-shaped bracing links connecting said lower collar to each of said legs, said links being movable with the leg members into folded position parallel to the standard so that an edge of the upper end of each said channel-shaped links will snap into the notch in each of said hook members under the upward force of said coil spring to lock said leg members in folded position; and a stud secured to each of the leg members and adapted to slidably contact each of the upper cam surfaces on the hook members when the leg members are in folded position, whereby downward movement of the lower collar against the action of the coil spring disengages each of said edges from said notches in the hook members and brings said studs and said upper cam surfaces into sliding contact to urge said leg members toward outwardly spread position.

8. A portable stand, comprising: an upright standard; a stationary latching portion on the standard; a leg unit having a plurality of leg members hinged for movement from an outwardly extending spread position to a folded position adjacent the standard, said entire leg unit being mounted for limited longitudinal slidable movement on the standard and being provided with a bracing link pivoted at one end to a leg member and at the other end to the standard, said bracing link being foldable against said standard when the leg members are in folded position so that a portion of said one end will engage the stationary latching portion to lock the leg unit in folded position; and spring means yieldably urging said leg unit longitudinally of the standard to maintain said one end in locking engagement with the stationary latching portion.

9. A portable stand as specified in claim 8, in which a channel-shaped bracing link is pivoted at one end to each of the leg members and at the other end to the standard, and a channel-shaped edge at said one end of one of the bracing links will engage the stationary latching portion to lock the leg unit in folded position.

10. A portable stand, comprising: an upright standard; a stationary latching portion secured to the standard; an upper and lower collar slidable on the standard, one of the collars being mounted for limited longitudinal sliding movement; spring means normally urging said one collar toward said stationary latching portion; a leg unit having a plurality of leg members hinged to said upper collar for movement from an outwardly spread position to a folded position against the standard, said leg unit including a bracing link joining the middle portion of each leg member to the lower collar; and a cooperating latching portion on the leg unit positioned to engage said stationary latching portion when the leg members are swung to folded position, said spring means permitting yielding movement of the entire leg unit to effect the latching engagement and retain the leg members in folded position.

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