Dec. 19, 1933. A. BRIGGS 1,939,841

CURTAIN STRETCHER

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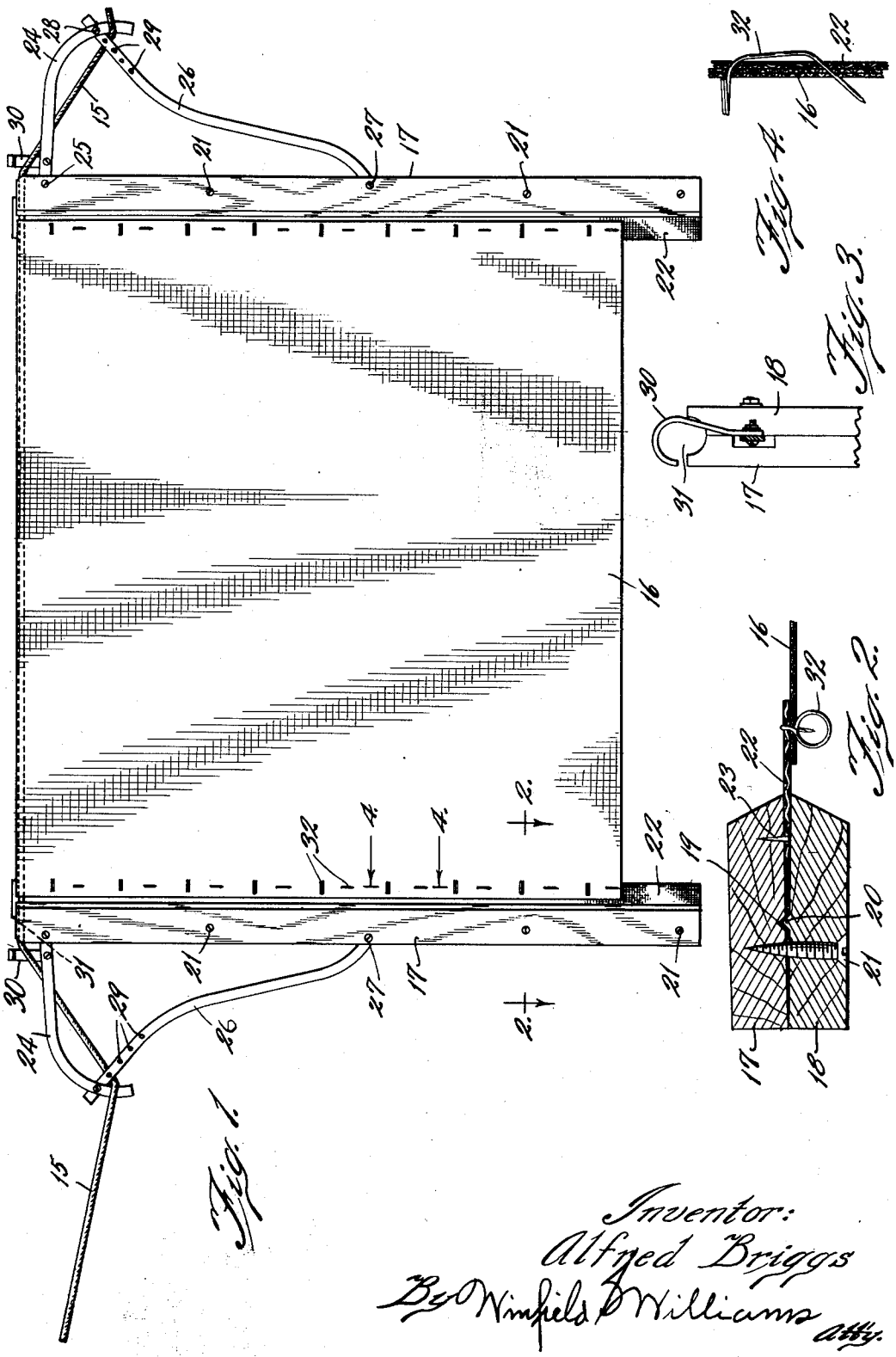



Fig. 1.




Fig. 4.




Fig. 3.




Fig. 2.

Inventor:
Alfred Briggs
By Winfield & Williams
Attys.

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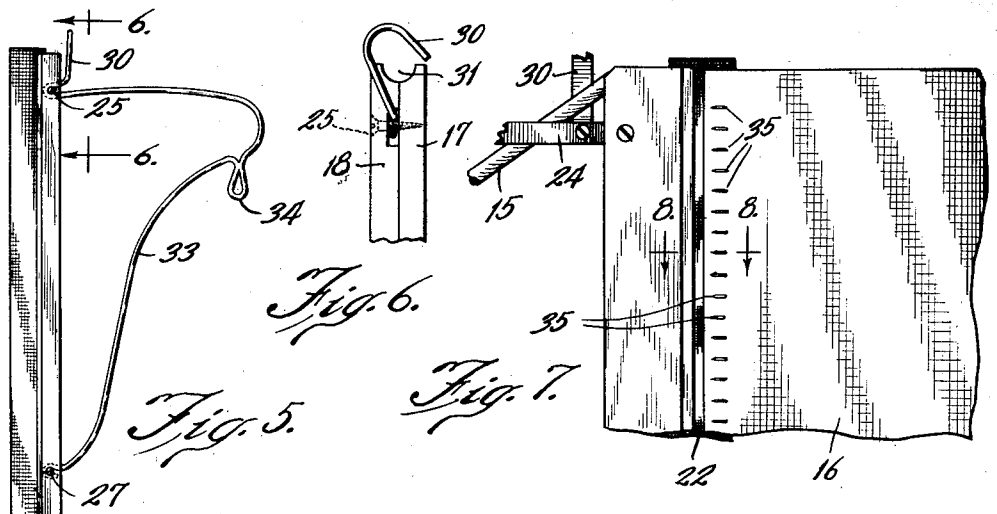



Fig. 5.




Fig. 6.




Fig. 7.

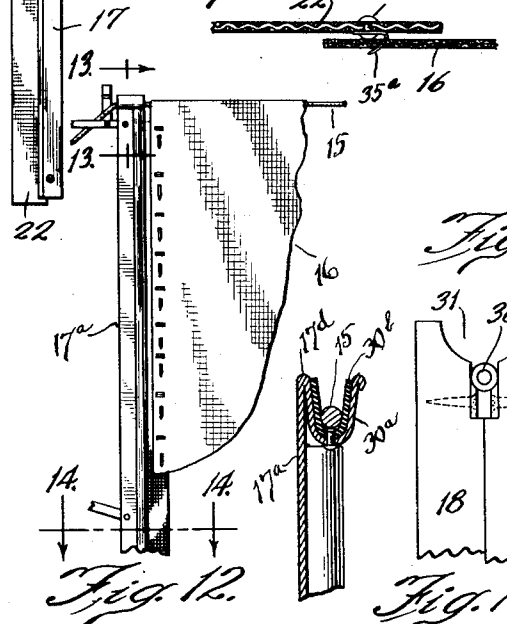



Fig. 8.




Fig. 12.

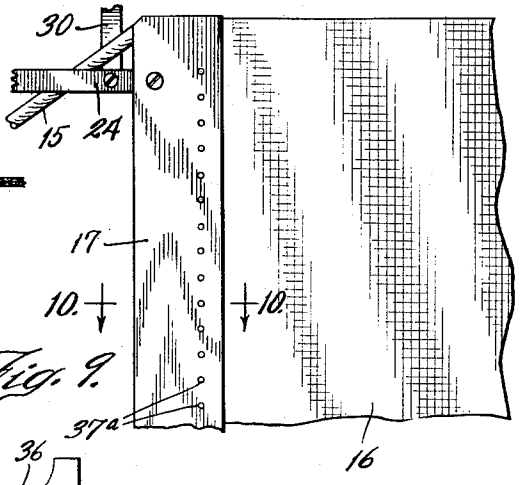



Fig. 9.




Fig. 13.




Fig. 11.

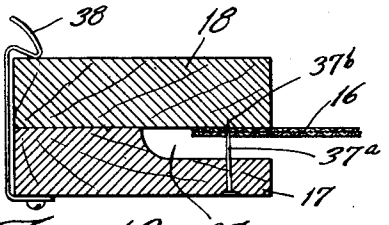



Fig. 10.

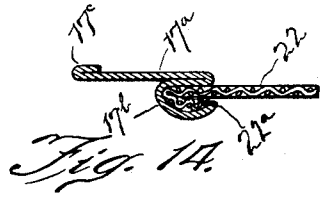



Fig. 14.

Inventor:
Alfred Briggs
By Winfield D. Williams
Atty.

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# UNITED STATES PATENT OFFICE

1,939,841

## CURTAIN STRETCHER

Alfred Briggs, Chicago, Ill.

Application January 14, 1933. Serial No. 651,687

11 Claims. (Cl. 45—24)

My invention relates to improvements in stretchers for curtains, fabrics of certain types, and quilting.

The main object of my invention is the provision of a simple, inexpensive, and eminently efficient device which can be suspended from a line, such as an ordinary clothes line, and is subject to swaying in the wind.

Among further objects are: the provision of a stretcher which can be simply operated by a single individual, and is substantially self-adjusting to any measurement, without the use of any scale measuring device; a stretcher which has practically unlimited range, and—in the use of the article—a locking of the stretcher and its stretched article to the suspending line, while the operator is in the act of stretching the object; a stretcher which will not injure the material of the most delicate fabric; and a very practical object is the provision of such a stretcher which when not in action occupies a very small space. Other objects will appear as the device is comprehended.

In the accompanying drawings I show an embodiment of my invention, in which Fig. 1 is an elevation of my device, in combination with a rope from which it is suspended; and showing a curtain which is being stretched for drying. Fig. 2 is a cross section of one of two duplicate members, taken at the point 2—2 in Fig. 1. Fig. 3 is a broken section of the upper end of one of the stretcher members showing the primary suspension hook in relation to the body of the stretcher. Fig. 4 is a detail of a manner of attaching a curtain being stretched to the body of the device. Fig. 5 is a modified form, simply using a slight change of material in the arm extension. Fig. 6 is a broken section of Fig. 5 displaying its hanging member. Fig. 7 is a form of the device showing an alternate method of attaching the curtain to the stretcher member; and Fig. 8 is a detail cross-section of Fig. 7 at the point 8—8 in the direction of the arrows. Fig. 9 is a modified form of attaching the curtain to the stretcher, detail of which said modified form is shown in cross-sectional Fig. 10 taken along the line 10—10 of Fig. 9 in the direction of the arrows. Fig. 11 is a broken section of the upper part of each body member of Figs. 9 and 10 showing a hinged mechanism uniting the two portions 17 and 18 of the member. Fig. 12 is a modified form in which the body is made of metal instead of wood; Fig. 13 is a cross-section of Fig. 12, at arrow 13; and Fig. 14 is a cross-section of Fig. 12, at arrows 14—14.

As illustrated, the primary device when made of wood comprises two elements, each a duplicate of the other; each of these duplicate elements comprises a body consisting of portions 17 and 18, adapted to be bound together by joining means 21. On adjacent joining faces of portions 17 and 18 I provide in one a longitudinal channel 19 and on the face of the other a longitudinal bead 20 to match and coact. Between 17 and 18 I insert a fabric 22—preferably a canvas formation—primarily attached by a series of tacks 23—running longitudinally of the frame and the fabric: and I preferably extend the fabric so attached to a point internally beyond where the channel 19 and the bead 20 come into contact with the fabric and pinch the same in the channel when the attaching members 21 are applied. The fabric 22 runs the length of the members 17 and 18, is flexible and adapted to receive means 32 of flexibily attaching the curtain, or other object, thereto. Pivotally attached at a point 25 on each of the supporting members 17 and 18 I provide an arm 24 downwardly bent in its outer portion and having a hole spaced a short distance from its terminal, adapted to form a locking means. I provide a complementary member 26 which is pivotally attached to the supporting member 17—18 about 27, the said member 26 having holes 29 spaced apart along the free end of 26 and adapted to register with the hole in 24 for locking together by a bolt means 28. 24 and 26 being pivotally hung a variation can be made in the point of registration of these holes 29 so as to increase the locking strain when desired, and intensify the stretching procedure. Attached to the arm 24 immediately adjacent its pivotal point 25 I provide an upward extending hooked member 30 having its terminal slightly spaced apart from the plane of the upper edge of the combination member 17—18. Transverse of the edge of the body member 17—18 I provide a groove 31 and this groove is adapted to receive a line 15 when the body member is hung upon the line by means of the hook 30, prior to the locking of the object to be stretched. 32 is a suggested form of pin means for attaching the curtain 16 to the fabric 22 at either end of the curtain; in Figs. 7 and 8 I show a form of curtain attachment 35, as also in Figs. 9 and 10.

In Fig. 5 I show a modification in which the three portions 24, 25, and 30 are a unit; the portion 33 being pivoted at 27 has a loop 34, a loop around the pivot 25 and again looped upwardly at 30: this is simply showing the same operation but using round wire instead of flat metal,

with an adjustable locking device as shown in Fig. 1. In Figs. 7 and 8 I show a means of attaching the curtain 16 to the fabric 22, which consists of pins 35*a* fixedly attached to the fabric 22 adapted to the hooking thereon of an end of the curtain 16. In Figs. 10 and 11 I show a still further arrangement wherein I provide a hinge 36 at the grooved end of the elements 17—18. In one member of these coacting elements 17—18 I may provide a longitudinal cutaway portion or clearance 37; and longitudinal thereof pins 37*a* adapted to bridge the clearance 37 and piercing the curtain to recess in holes 37*b* in the member not having the cutaway portion 37, and when so placed to be locked by a locking means substantially of the character shown at 38.

In operating this device the line 15 is hung in a somewhat slack position, leaving some freedom in its use. A curtain, or other object to be dried and stretched, is ordinarily thrown over the line 15, more or less doubling its form. The curtain being operated upon is drawn tightly along the line 15 to displace any looseness. One of the members 17—18 is hung at one end of the curtain 16 on the hook 30, its locking arm 24—25 extending away from the curtain: the other of the duplicate devices is hung upon its hook 30 adjacent the opposite end of the curtain, its locking arm extending in the opposite direction from that of the other member. When so placed the line 15 lays above the groove 31 with the stretchers hung therefrom by the loops 30. Attachment is made of the curtain to the fabric 22 at either end thereof: the curtain being properly pinned to the fabric on each of the duplicate stretchers, the line 15 is drawn down outside one stretcher member while that stretcher member is slightly lifted and the line locked in the recess at the junction of the arm portions 24 and 26 (or in the case of Fig. 5 the line is passed under a depending loop 34) then the line 15 outside the other stretcher member is brought down while said stretcher is lifted up and the line placed in locking union of the said member. The curtain is stretched by the coaction of the line, the locking means and the weight of the object being stretched and the members constituting the stretcher. The tension may be increased by having the line primarily slightly more taut and the locking arms moved to such of the holes 29 as are needed to give increased tension to the fabric being stretched, it being clear that as the tautness of the line is increased initially and the range along the holes 29 shortened the arms 26 will draw the main frames to an increased extent. The attaching device as is shown in Fig. 7 simply differs in having permanent hooks in the portion 22 instead of having loose separable pins 32. And it will be evident that the modification shown in Fig. 10 is simply a manner of providing fixed pins 37*a* to which the curtain 16 may be attached and have the attaching point locked in between the frame members 17—18 for security and protection.

A modified form is shown in Figs. 12, 13, and 14 in which the basic frame 17—18 is constructed of sheet metal 17*a*, the body 17*a* being longitudinally looped upon itself at one edge and curved 17*b* into a partial loop; the opposite longitudinal edge is folded back upon itself 17*c*; the upper end of 17*a* being turned over 17*d* and formed into a pocket or recess 30*a* in which I place a more or less elastic material 30*b* in which to seat the line 15. With this metal structure I manifold one longitudinal edge of the fabric 22 and 22*a*, and insert this folded portion 22*a* in the longitudinal curved portion 17*b*, the said curved portion then being pinched to an approximate clearance the thickness of the fabric 22. The fundamental principles are exactly the same as in Fig. 1 except the making of the basic supporting member of metal instead of two sections of wood. The arm elements illustrated in Figs. 1 and 5 are just the same when applied to the modification in Fig. 12.

I claim:

1. A curtain stretcher consisting of two members, substantially duplicates, adapted to coact with a line and a curtain attached to said members; each of said members being primarily an elongated strip having means for being supported on said line, means for attachment to the curtain, means for deflecting portions of the line for stretching the curtain and means for holding the line frictionally in such deflected position and locking the stretched curtain to the line.

2. A curtain stretcher consisting of two members, substantially duplicates, adapted to be operatively associated with a line and a curtain suspended from said line, each of said members being elongated strips adapted to hang substantially vertically from said line and having means for being supported on said line, means for attaching the members to the curtain, an arm extension of each member having means to bring into conjunction the line and the members for placing stretching tension on the curtain, means for locking the stretchers to the line for maintaining stretcher tension on the curtain.

3. A curtain stretcher comprising two members adapted to be associated with a curtain and a line for the purpose of stretching the curtain, each of said members being basically narrow elongated strips with means to vertically suspend the said members from the line, each member having a portion adapted to be flexibly attached to the curtain, means for creating a tension of each member upon the curtain consisting of an extended arm on each member having thereon means for frictionally engaging with the line, and automatically forcing frictional engagement of the line and an end of each strip, whereby the coaction of gravity, the weight of the stretchers, and the curtains produce such stretching tension upon the curtan.

4. A curtain stretcher comprising a pair of stretching members adapted to be associated with a line and a curtain: said stretcher members being elongated portions each having means for suspension from the line and having means for flexible attachment to a curtain to be stretched between the stretcher members, one stretcher member at either end of the curtain, an arm extension at right angles to each of the stretcher members and projecting in opposite direction to the curtain and its points of attachment, said arm extensions having thereon means for frictional engagement with the line at points distantly removed from the point of attachment of the curtain to the stretcher members whereby the stretcher members and the curtain are brought into position where the line between the opposite points of frictional contact of the arms is in a sustained taut horizontal position, without reference to the line outside of the points of frictional contact of the arms of the stretcher members.

5. In a device for stretching curtains the combination with a line and a curtain hanging from said line of a pair of stretching members each having means for flexible attachment to one ver-

tical end of the curtain and having an arm extending in the opposite direction from the curtain attaching portion, said arm extension having a means spacedly removed from the vertical line of attachment between the curtain and the stretching member adapted to coact with the line, its point of activity being below the horizontal plane of the line adapted to be brought into frictional relation to the line and deflect the said line to produce stretching tension of the depending portions upon the curtain attached to and assembled between the depending portions.

6. In a curtain stretcher the combination of a flexible line, a pair of stretcher members each having means for hanging the same upon the line and means for attaching a curtain to the said suspended stretcher members, one of said stretcher members being attached at one vertical end of the curtain and the other member being attached at an opposite vertical end of the curtain, means forming part of each of the stretcher members adapted to be brought into frictional association with the line to laterally stretch the curtain and lock the combination to the line.

7. In combination, a flexible line, a curtain disposed on said line, and a stretching means comprising a pair of elongated strips, one such strip being at either end of the curtain and an arm extension adapted to co-act with the line to produce tension on a curtain disposed between the elongated strips, the curtain being held in taut position by the combination of line, the elongated strips, the arm extensions, and the weight of the depending factors.

8. In combination with a flexible line and a curtain disposed on the said line of a pair of stretching members having means to be suspended from the line, and means to attach the stretcher members to the curtain, one such stretcher member disposed adjacent to and at either vertical side of the curtain, an arm extension on each of the stretcher members having means on said arm extension to automatically lock the stretcher to the line and stretch the said curtain by the co-action of the stretchers, the arm extensions, and the gravity of the depending elements.

9. In a curtain stretcher two members substantially duplicates; each of said members being basically an elongated strip having means for dependingly supporting the said member on a line, means on each elongated strip for flexible attachment of the said strip to a curtain suspended between the elongated strips, an arm extension on each said strip at a substantial right angle to the vertical portion of the strip and having means thereon for co-action with the line to produce plural frictional resistance on the line and exert lateral tension on the curtain by the depending elongated strips.

10. In a curtain stretcher the combination with a line of a pair of elongated strips having means for vertical suspension from the line, and a curtain assembled between and attached to the elongated strips, means for frictionally engaging the elongated strips with the line, means for simultaneously tensioning the elongated strips on the line and on the curtain, means for varying the degree of tension of the elongated strips on the curtain.

11. In a curtain stretcher the combination of a flexible supporting line and a curtain hanging thereon with a stretching means comprising a pair of elongated strips having means for loosely suspending the same from the line, fabric means for flexible attachement of the elongated strips to the curtain, an angular arm extension projected at substantially right angles from each of the elongated strip portions having thereon means for locking engagement with the line and adapted to simultaneously induce frictional engagement between the line and the upper end of each elongated strip portion and lateral stretching tension between the elongated strips on the curtain.

ALFRED BRIGGS.