Feb. 7, 1939. J. A. JAUCH ET AL 2,146,629

WIRE STRETCHER

Filed April 14, 1938

Fig. 1.

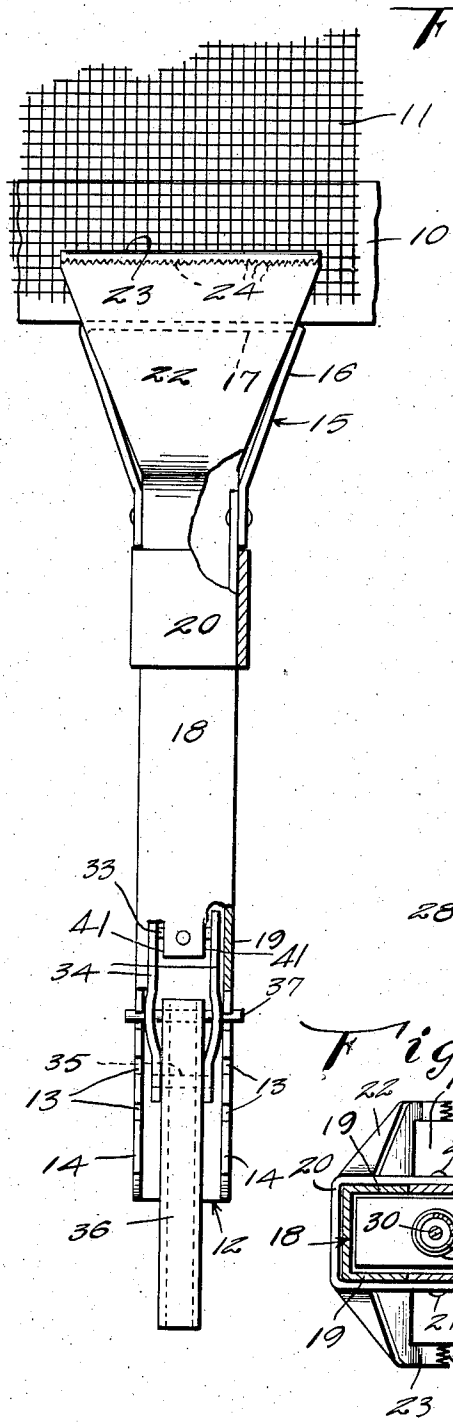


Fig. 2.

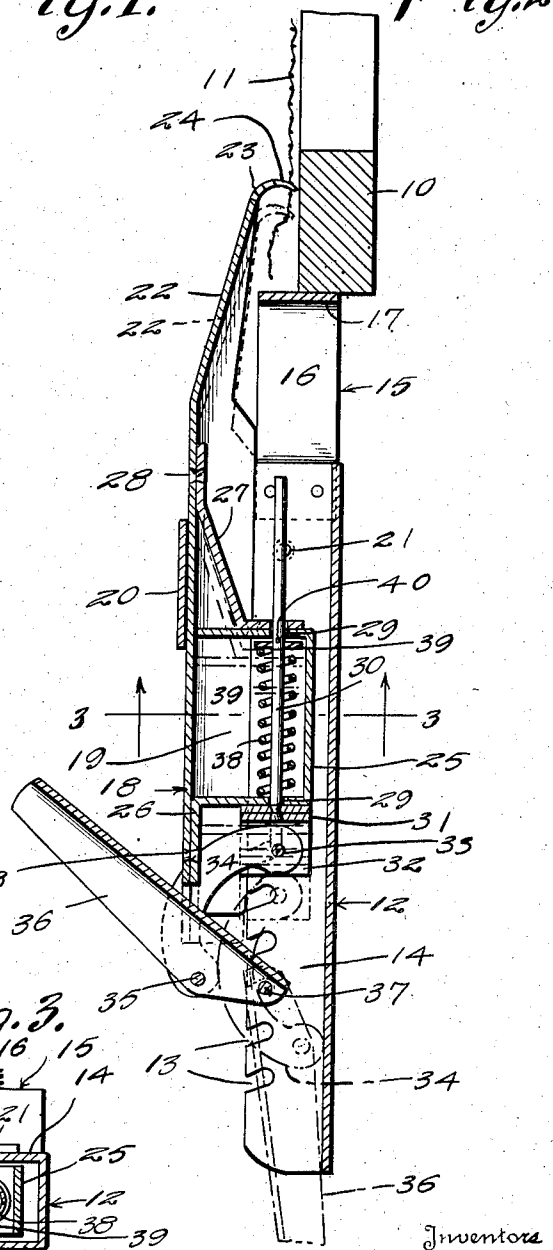
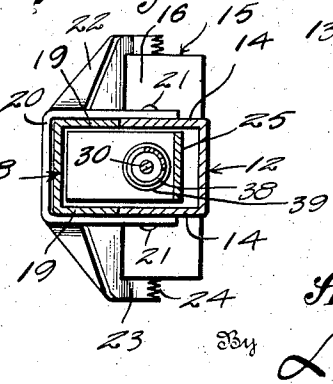


Fig. 3.



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WIRE STRETCHER

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Application April 14, 1938, Serial No. 202,096

7 Claims. (Cl. 140—109)

This invention relates to an improved stretcher for wire, particularly wire screen fabric and is likewise adapted for stretching other types of woven material.

It is an aim of this invention to provide a device of simple yet durable construction which may be readily employed in connection with a frame, to stretch a fabric across the open portion thereof so that it can be fastened taut to the frame.

More particularly it is an object of this invention to provide a device particularly adapted for use in constructing screen window and door frames whereby the mesh wire fabric can be held stretched while it is being secured to the frame.

A particular advantage of the invention resides in the fact that the material being stretched will not be damaged at the point of engagement; and the fabric may not be torn due to the fact that resilient means are provided to prevent the fabric from being stretched too tightly.

Other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawing which illustrates a preferred form of the invention, and wherein:—

Figure 1 is a top plan view of the stretcher shown attached to a piece of mesh wire fabric and engaging a frame on which the fabric is to be stretched,

Figure 2 is a longitudinal vertical central sectional view of the same, and

Figure 3 is a cross sectional view taken on the line 3—3 of Figure 2.

Referring more particularly to the drawing wherein like reference characters designate like or corresponding parts throughout the different views, 10 designates generally a portion of a frame on which the mesh wire fabric 11 is being stretched. The parts 10 and 11 being illustrated merely to show the application and operation of the invention which will now be described.

The invention includes a channel shaped member 12 having a plurality of aligned spaced notches 13 adjacent its rear end. The notches 13 are formed in the opposite sides 14 of the member 12, and are inclined rearwardly and open at the top of said sides as best seen in Figure 2. A strip of rigid material 15 has its ends secured to the sides 14 at the opposite end to the notches 13. The member 15 includes the diverging sides 16 and the intermediate portion 17 disposed at right angles to the plane of the member 12.

As seen in Figure 2, an inverted channel shaped member 18 is mounted on member 12 with the edges of its sides 19 resting on the edges of the sides 14 and adapted to slide thereon. Slide 18 is held in position on the member 12 by an inverted U-shaped strap 20 which is secured by fastenings 21 to the sides 14 adjacent their forward ends.

The slide 18 has a forwardly and downwardly diverging extension 22 having a downwardly and inwardly turned end 23 forming a claw provided with teeth 24 adapted to engage a line of openings in the fabric 11.

A U-shaped housing 25 depends from the underside of the slide 18 and extends into the member 12. Housing 25 has a flange 26 at one end, and a brace 27 secured to the side at the opposite end thereof and having its free end extending diagonally upwardly therefrom. Flange 26 and brace 27 are secured by fastenings 28 to the underside of slide 18 to support housing 25.

Aligned openings 29 are provided in the opposite sides of the housing 25 and in the depending end of the brace 27 to receive the rod 30 which extends therethrough and is slidably mounted therein. A plate 31 is secured to the rear end of the rod 30 and has rearwardly extending ears 32 in which are mounted a pin 33. A link 34, comprising a pair of arcuately shaped spaced members, is pivotally mounted on pin 33 and extends upwardly and rearwardly therefrom and has a pin 35 connecting its free ends.

A channel shaped lever 36 is mounted adjacent one end on the pin 35 and has a pin 37 extending through the sides of its end adjacent to which it is pivoted. Pin 37 extends beyond the sides of the lever 36 and is adapted to selectively engage an aligned pair of the slots 13.

An expansive spring 38 is mounted on rod 30 in housing 25 with one end engaging the rear end of the housing, and the opposite end held by a washer 39 and a pin 40 extending through rod 30.

From the foregoing it will be seen that end 17 can be placed against the outer edge of a frame 10, and the teeth 24 of claw 23 can then be connected to the screen 11 as heretofore described. It is to be assumed, that the opposite end of the screen 11 has already been suitably secured to frame 10 at its opposite end. Link 34 is swung upwardly into the slots 41 in the rear top end of the slide 18, to disengage pin 37 from the notches 13, so that slide 18 may be moved rearwardly to stretch screen 11. When the tension on screen 11 resists further movement of slide 18, link 34 is moved downwardly after the upper end of lever 36 has been swung forwardly, and the lever is adjusted to cause pin 37 to engage a pair

of the notches 13. By then swinging lever 36 rearwardly and downwardly to its dotted line position, as seen in Figure 2, the slide 18 will be drawn rearwardly relatively to member 12 to stretch the screen 11, until the screen is stretched to a certain point greater than the tension of spring 38, after which rod 30 will move rearwardly to compress spring 38 thereby permitting link 34 and lever 36 to move relatively to slide 18 so that the screen 11 will not be stretched beyond its endurance. The strength of the spring 38 must obviously be varied depending upon the size and strength of the screen fabric 11. When lever 36 has reached its dotted line position as seen in Figure 2, it will have passed the axis of its pivot point as represented by the axis of the pin 37, so that it will remain in this position until manually lifted therefrom, thus permitting the operator to devote his entire attention to securing the screen fabric 11 to the frame 10 with assurance that the screen will be held properly tensioned until this operation is completed. By then swinging lever 36 upwardly and disengaging pin 37 from the notches 13, slide 18 will move forwardly so that teeth 24 can be disengaged from the screen fabric 11.

The size and space between the teeth are made to correspond to the size of the openings in the mesh wire fabric, so that the teeth will not tend to distort the screen so that the portion to which the claw was attached could not be used. This is accomplished by providing the same number of teeth, in a unit of length, as there are openings in a line in the screen, in the same unit of length.

Various modifications and changes in the particular construction, arrangement and operation of the parts forming the device may obviously be made and are contemplated, and the right is therefore expressly reserved to make such modifications as do not depart from the spirit and scope of the invention as hereinafter defined by the appended claims.

We claim as our invention:—

1. A device of the class described, comprising a channel shaped member, a slide mounted in said channel shaped member, a housing secured to the slide and depending into the channel member, a link pivotally connected to said housing, a lever pivotally connected intermediate of its ends to the free end of the link, a pin mounted transversely of said lever, means on said channel shaped member to selectively engage the pin to cause the slide to be moved rearwardly when said lever is operated, and a claw projecting forwardly from the slide and adapted to engage a fabric or the like to stretch it when the slide moves relatively to the channel member.

2. A fabric stretcher comprising a pair of connected sections slidably mounted relatively to each other, one of said sections having a plurality of aligned spaced notches adjacent its rear end, a claw projecting forwardly and downwardly from the other section and adapted to engage the fabric to be stretched, said last mentioned section having a rearwardly extending pivotally connected link, a lever pivotally connected intermediate of its ends to the free end of said link, and means carried by the lower end of the link to selectively engage aligned pairs of said notches to actuate said last mentioned section when said lever is swung rearwardly on said means as a pivot.

3. In a fabric stretcher, a pair of connected sections slidably mounted relatively to each other, one of said sections having a forwardly extending bracket adapted to engage a frame on which the fabric is to be stretched, a claw projecting forwardly and downwardly from the other section to grasp the fabric, and means pivotally connected to said last mentioned section to selectively engage means on the first mentioned section, and operable to actuate the last mentioned section to stretch the fabric.

4. In a wire screen fabric stretcher, a channel shaped member having a plurality of spaced aligned notches in its opposite sides, a member having its ends secured to the forward end of the channel shaped member and extending forwardly to engage the outer edge of a frame on which the screen is to be stretched, a slide mounted in said channel shaped member and having a forwardly and downwardly disposed claw adapted to engage the screen fabric, a link pivotally mounted and carried by said slide, a lever pivotally connected intermediate of its ends to the free end of the link, and means on said lever adapted to selectively engage said aligned slots, said lever adapted to be swung rearwardly on said means as a pivot to move the slide rearwardly of the channel member to tension the screen fabric.

5. A device as in claim 4, said claw having a plurality of downwardly and rearwardly projecting teeth shaped and spaced to engage aligned openings in the wire mesh fabric.

6. A device as in claim 4, and means depending from said slide and extending into the channel member and to which said link is pivotally connected, said means being adapted to move relatively to the slide to control the tension on the wire fabric.

7. A device as in claim 4, a housing depending from the slide and extending into the channel member, a pin slidably mounted in opposite ends of the housing, said link being pivotally connected to the pin, and an expansive spring carried by said pin compressible to permit the pin to move rearwardly to control the tension on the wire fabric.

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