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CURTAIN STRETCHING DEVICE

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14 Claims. (Cl. 45—24)

This invention relate to improvements in means for stretching fabrics, and more particularly to an improved curtain stretching device. It is to be specifically understood that the invention hereinafter characterized and specified as a curtain or fabric stretching device for purposes of illustration is equally suitable for use with any other class of flexible material. Moreover, it is emphasized that the clamping means described as part of the stretching device is not restricted to any particular use but is of general application.

One of the important objects of this invention is the provision of an improved stretching means which makes possible a more accurate adjustment of a fabric, such as a curtain material or other flexible substance, in position on a stretching frame.

Another object is the provision of a clamp structure having a slotted or bifurcated formation by means of which an adjusting implement may be engaged directly with the fabric or material being clamped, to slide such material into a desired position beneath the clamp without having to manipulate the tool underneath the clamping members as required by the devices heretofore available.

Another object is the provision of a simplified stretching structure which may be used with any fabric whether of the open-work or closely woven type and which permits stretching the fabric in localized portions near the clamping means on the frame so as to assure a uniform stretch or to permit stretching a fabric in particular directions or in a particular manner.

Another object is the provision of an improved curtain stretching structure of increased flexibility and adaptability and one which is inexpensive to manufacture and easier to handle than the type of device heretofore known.

Viewed from another aspect, it is an object of the invention to provide an improved curtain or other fabric stretching means including a frame member and clamping means mounted at intervals thereon and slidably adjustable with relation to the longitudinal marginal edge portions of the material stretched thereon, said clamping means being of a particular form and construction such as to permit the use of a picking or adjusting tool to engage the curtain near its edge portion and draw the adjoining portions of the curtain back beneath the clamp so as to distribute and adjust the stretch evenly or in a particular manner.

Still another object of the invention is the provision of improved clamp means including a slide bar mounting, a clamp having elongated spaced tongs and urged by spring means into clamping engagement with a stationary member or surface, the clamp and spring means being slidable on the slide bar, the space between the tongs providing a bifurcation or slot of adequate length to permit the manipulation therebetween of a pick or other adjusting tool for the purpose of sliding a fabric or other substance to be clamped directly beneath the clamp member so as to avoid the necessity of trying to work the tool beneath the clamping members as required by previously known forms of clamp.

Other novel aspects and objects of the invention reside in the particular form, construction and arrangement of parts hereinafter described in view of the drawing, in which:

Fig. 1 is a fragmentary perspective of one corner of the stretching device;

Fig. 2 is a vertical sectional detail along line 2—2 of Fig. 1;

Fig. 3 is a bottom plan view of the clamp as seen along line 3—3 of Fig. 2; while

Fig. 4 is a front elevation of the clamp to enlarged scale, as seen in the direction of line 4—4 of Fig. 2.

A preferred form of the invention is illustrated in Fig. 1 wherein there is shown a corner section of a stretching frame comprised of substantially flat and wide frame members 10. At suitable intervals around the frame, there are disposed a plurality of slide bars 11, each having an angled and threaded end portion 12 extended through the frame for engagement with a nut 13 on the opposite side of the same. The opposite ends 14 of the slide rods are left free and extend through screw eyes 15 seated in the frame members 10. It will be observed that the slide bars are preferably mounted closer to the outer edge of the frame members.

An improved clamp means forming part of the stretching device is shown in bottom plan view in Fig. 3 and includes an elongated piece of metal or other suitable material having a pair of aligned ears 16 struck up between its ends on opposite longitudinal sides thereof and having aligned apertures to receive the slide rod 11. The inner end portion of the clamp is flared to provide a handle portion 17. A coil spring 18 is loosely fitted onto the slide bar or rod 11 between the ears 16 of the clamp and is provided with opposite end portions 19 bearing downwardly against the top

in spaced relation thereon, said clamping members each having clamping teeth arranged in a substantially triangular relationship, there being two such teeth adjacent the inner edge of the frame and one tooth spaced away from the aforesaid two teeth toward the outer edge of the frame.

8. A stretching device including a substantially rectangular frame onto which a fabric to be stretched is laid, clamping means mounted in spaced relation around said frame including spring urged jaw members adapted to clamp a fabric against said frame, said clamps each having a bifurcated free end portion with the free extremities of the bifurcation turned down to provide clamping teeth, there being a third clamping tooth turned down at the inner extremity of said bifurcation, said bifurcation being of adequate width to permit the insertion therein of an adjusting tool.

9. A device of the class described including a frame and clamping means arranged on said frame, said clamping means including a clamp member having a pivotal mounting on said frame and having a bifurcated portion with clamping teeth at the free extremities of the bifurcation and also a clamping tooth at the inner terminal of the bifurcation, together with spring means normally urging said clamp and said teeth against said frame.

10. A clamp for use with curtain stretchers including a slide mounting constructed to be mounted upon a frame member, a clamping jaw slidably mounted on said slide mounting and pivotable about its axis of sliding movement, spring means arranged on said slide mounting and movable with the clamp, said spring means normally urging said clamp into clamping position relative to said frame, said clamp having a forked portion, the free end parts of which are turned down to provide clamping teeth and having a body portion between said forked portions also turned down to provide a hem engaging tooth, said forked portion being of a width adequate to permit the introduction therein of a tool for moving the hem portion of a curtain or the like into position beneath said hem engaging tooth.

11. In a clamp for curtain stretchers, a pivotally mounted clamping member having a handle portion and an elongated body portion opposite thereto, said elongated body portion being provided with an elongated slot extending from the free edge part thereof inwardly toward said handle, body portions of the clamp at the inner end of said slot being bent to provide an inner clamping tooth, the free end portions of the clamp body adjacent said slot being bent to provide outer clamping teeth, said slot being of a width adequate to permit the introduction therein of a tool whereby curtain or other fabric may be guided into position beneath said teeth.

12. In a curtain stretcher of the type including a stretching frame, clamping means including slide rods mounted in spaced relation around said frame, each of said slide rods being in the form of an elongated member having a laterally projected free end portion secured in said frame and having its opposite portion extended through a screw eye in said frame, and a clamp in the form of an elongated body member having a pair of opposite ears struck up between its ends on the longitudinal edges thereof, the body portion at one side of said ears constituting a handle, said ears having aligned openings for mounting the clamp slidably on said slide rod, spring means mounted on said rod between said ears and having portions slidably engaging said frame and other portions bearing against the under side of said handle, whereby the opposite end of said clamp from said handle will be urged into clamping engagement with said frame, said opposite end being bifurcated from the free edge extremities thereof inwardly toward said ears, a body portion of said clamp at the inner extremity of said bifurcation being turned down to provide an inner clamping tooth, the free end extremities of said bifurcations being similarly turned down to provide outer clamping teeth and said bifurcation being of a width adequate to permit the introduction of a pick or like tool therebetween, whereby edgewise portions of a fabric or the like may be guided into position beneath said inner tooth when said clamp is held in open condition.

13. In a clamp, a clamping jaw in the form of an elongated metallic member having a pair of opposite ears struck up between its ends along the longitudinal edge portions thereof, said ears having opposite apertures to receive a mounting pintle, a pintle extended through said opening in the ears, spring means mounted in said pintle between said ears and having a portion bearing against the under side of said clamp and other portions adapted to bear against a clamping surface with which said clamp is intended to cooperate, whereby a particular end of said clamp may be urged in clamping movement toward said surface, the opposite end of the clamp constituting a handle portion, said particular end of the clamp being bifurcated, the inner portion of said bifurcation terminating near said ears, there being a body portion of the clamp at the inner terminal of the bifurcation bent down to provide an inner clamping tooth, the free end portions of the bifurcations being likewise turned down to provide outer clamping teeth, said bifurcation being constructed to permit the movement of a stretching or like tool therebetween as far as the inner tooth, whereby a curtain or other fabric may be guided by the tool into position beneath said inner tooth.

14. In combination, means providing a relatively stationary clamping member, a movable clamping member arranged for movement into clamping engagement with said stationary clamping member, spring means normally urging the movable clamping member into clamping engagement with the stationary clamping member, said movable clamping member having spaced clamping teeth disposed at a point remote from its movable mounting and having an additional clamping tooth arranged at a point between said mounting and said first-mentioned clamping teeth, portions of said clamping member between said first-mentioned spaced clamping teeth and said additional clamping tooth being cut away to provide an opening in which a tool may be manipulated for engagement with a substance disposed between said clamping members.

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SEWING MACHINE

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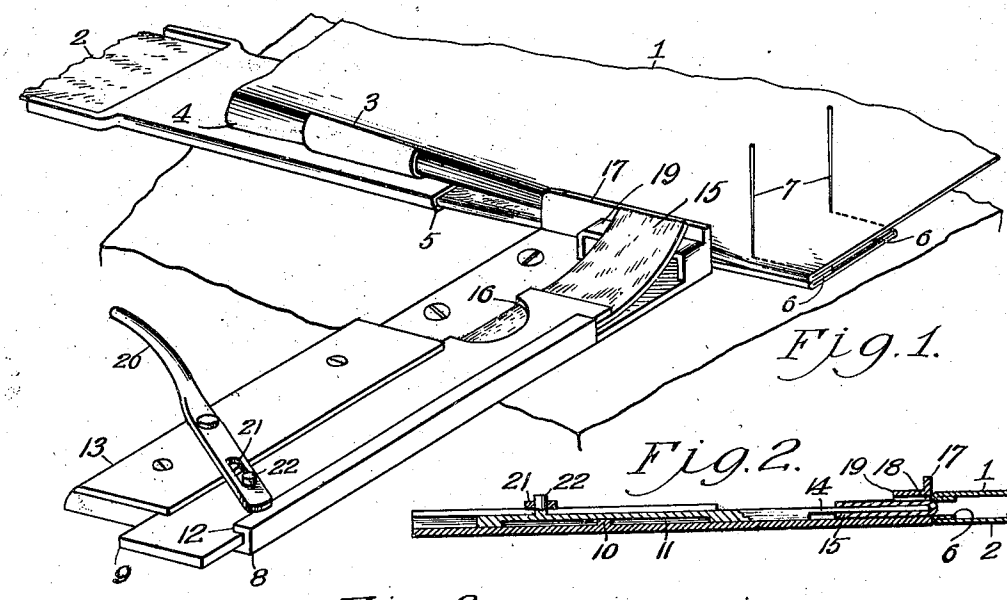


Fig. 1.

Fig. 2.

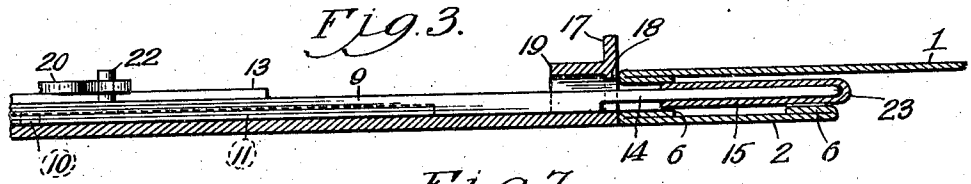


Fig. 3.

Fig. 7.

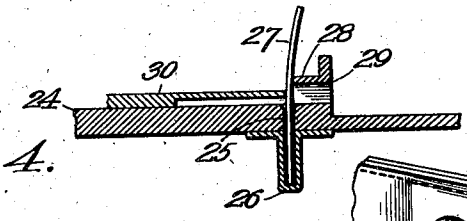


Fig. 4.

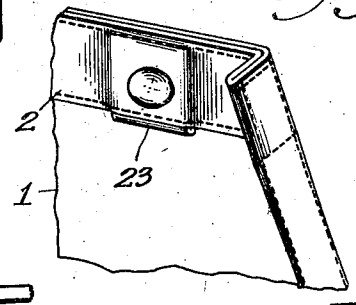
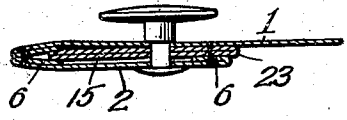


Fig. 6.



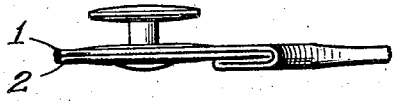


Fig. 5.

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