Dec. 29, 1942. E. T. ZUMWALT 2,306,682

RUG STRETCHER MACHINE

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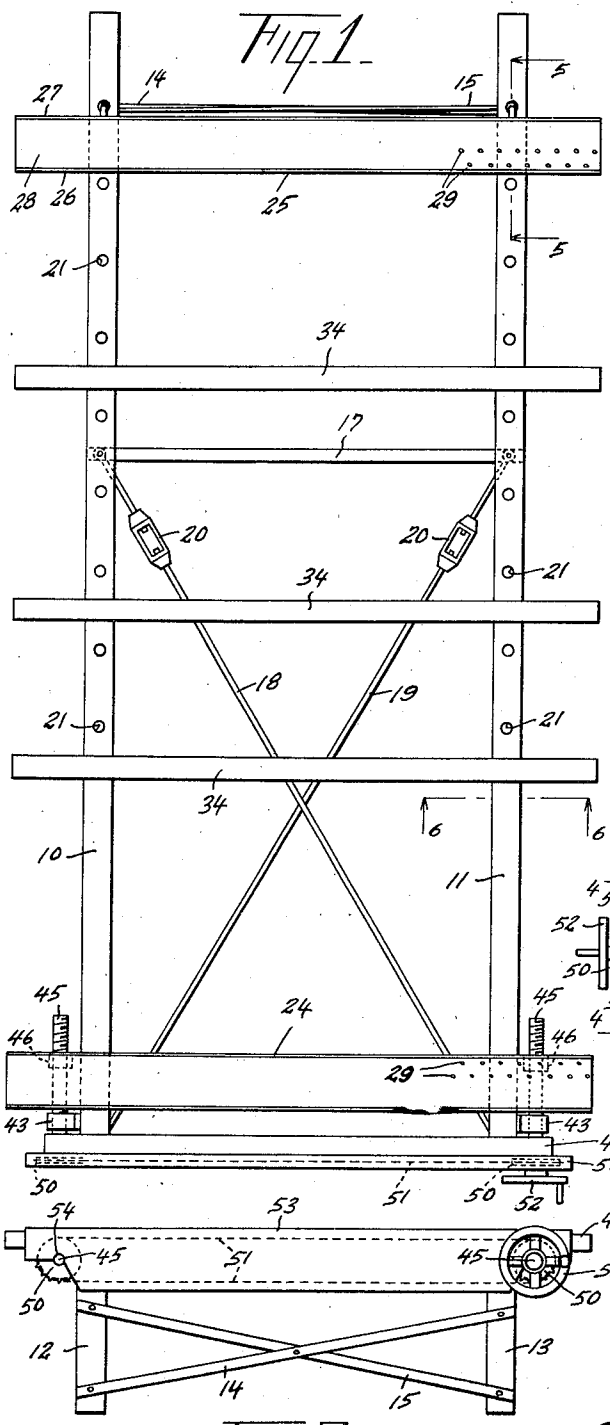


FIG. 1

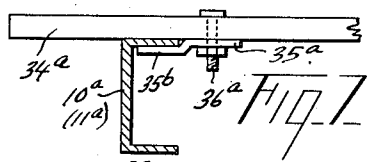


FIG. 7

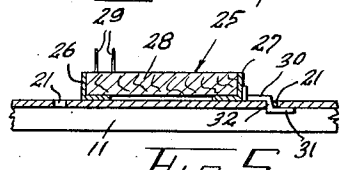


FIG. 5

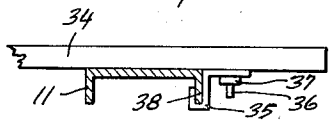


FIG. 6

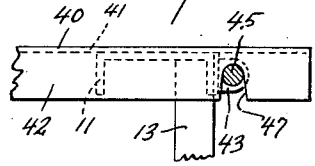


FIG. 4

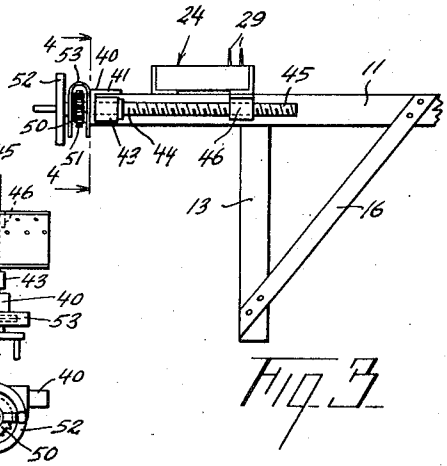


FIG. 3

FIG. 2

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RUG STRETCHER MACHINE

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Application January 23, 1941, Serial No. 375,641

1 Claim. (Cl. 45—24)

This invention relates to improvements in rug cleaning and stretching devices wherein it is desired to provide a device adapted to support rugs in position to be cleaned, stretched or sized.

It is an object of this invention to provide a rug cleaning and stretching machine which is adjustable to various sizes of rugs and which may be quickly and easily regulated to accommodate a large or small rug and is therefore of great value where a large amount of this work is to be done.

With the foregoing and other objects in view, the invention resides in the novel arrangement and combination of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

A practical embodiment of the invention is illustrated in the accompanying drawing, wherein:

Fig. 1 is a plan view of the rug stretcher machine.

Fig. 2 is a front elevational view of the machine.

Fig. 3 is a fragmentary side elevational view of an end of the machine showing the operating mechanism thereof.

Fig. 4 is a detail sectional view taken on line 4—4, Fig. 3.

Fig. 5 is a detail sectional view taken on line 5—5, Fig. 1.

Fig. 6 is a detail sectional view taken on line 6—6, Fig. 1.

Fig. 7 is a detail sectional view showing a modified mounting of a support bar.

Referring to the drawing, the combined rug stretcher and drying rack comprises a pair of parallel rails 10 and 11 of any desired length, the rails 10 and 11 being each formed of a metal channel arranged in inverted position with the webs thereof uppermost. The rails 10 and 11 are supported at each end by the legs 12 and 13 which are secured thereto in any desired manner and braced by the lateral cross-braces 14, 15 and longitudinal braces 16 so as to provide in effect a rigid table-like structure. To prevent warping of the rails 10 and 11 as well as to retain the same in their fixed parallel relation, the rails 10 and 11 are joined by one or more cross-members 17 intermediate their ends, and cross-rods 18 and 19 each of which includes a turnbuckle 20 for placing the same under proper tension, the ends of the cross-rods 18, 19 being respectively connected at one end to one end of the rails 10 and 11 and at their other ends to the point of connection of the cross-member 17 with the rails 10 and 11, see Fig. 1.

The web portion of each of the rails 10 and 11 is provided with a longitudinal row of openings 21 for a purpose to be hereinafter described. Arranged at each end of the rails 10 and 11 transversely across the same is a front head 24 and a rear head 25. Inasmuch as both are identical a description of one will suffice. Thus, each head is formed of a pair of angle-bars 26 and 27 arranged to face each other and in abutting relation to a wooden plank 28 seated thereon, see Fig. 5. The whole being fastened together in any desired manner to provide a unitary member. Projecting upwardly from the upper surface of the plank 28 is a double row of pointed pins 29, preferably arranged in staggered relation, and rigidly fixed to said plank, said rows of pins being disposed adjacent the side edge of the head opposite to the corresponding side edge of the other head and extending from end to end of each head. Viewing Fig. 5 it will be observed that the upper surface of the plank 28 lies flush with the top edges of the angle-bars 26 and 27, though it is immaterial whether the same projects slightly above said top edges. The length of each of the heads 24 and 25 exceeds the distance between the rails 10 and 11 such that an end portion of each head overhangs said rails. It is to be understood that the length of the heads 24 and 25 is to be such as to accommodate rugs of a predetermined maximum size as to the width thereof and that the rails are of a length to accommodate such a rug as to the length thereof. Obviously rugs of a smaller dimension than said predetermined maximum size may also be accommodated and for this purpose the relative distance between the heads 24 and 25 may be adjusted.

Adjacent each end of the rear head 25 and secured as by welding to the angle-bar 27 thereof is a positioning and holding lug 30. Each lug 30 is formed to provide a laterally and downwardly off-set end 31 to permit ready insertion thereof into the openings 21 in the rails 10 and 11, the lugs 30 being spaced apart a distance equal to the distance between the rows of openings 21 in the rails 10 and 11. The off-set end 31 of each lug defines a shoulder stop 32 which is adapted to engage a side of the opening 21 into which it extends, see Fig. 5. It is thus seen that the rear head 25 may be locked in any desired position to the rails 10 and 11 longitudinally thereof to hold one end of a rug (not shown) which is secured

thereto by the engagement of the pins 29 with said rug end in the manner readily apparent.

Between the front and rear heads 24 and 25 there is provided on the rails 10 and 11 a plurality of spaced support-bars 34 of the same length and thickness as said heads and provided with flat upper surfaces whereby to support the rug at a plurality of points. On the underside of each support-bar 34 there is provided a clip 35 mounted on a stud bolt 36 and locked in place by the nut 37 thereon, the clip 35 being formed to slidably engage the outer leg 38 of the channels 10, 11, as clearly shown in Fig. 6. This clamping construction permits the placement of the support-bars 34 in any desired position between the heads 24 and 25 longitudinally of the rails 10, 11, the support-bars being clamped in position by merely setting up on the nuts 37.

In Fig. 7 there is shown a modified arrangement of rail and support-bar. In this case the channel rails 10*a*, 11*a*, are arranged with the web of the channel vertical and with the channel legs facing each other. The support-bar 34*a* is provided with a clip 35*a* held thereon by the bolt 36*a*, the clip 35*a* being provided with an off-set extension 35*b* adapted to engage the underside of the upper channel leg as clearly shown, and clamped thereon by setting up of the nut on the bolt 36*a*. It is to be understood that a similar clip is provided on the other end of the support-bar to clamp the same to the channel supporting said end.

The forward head 24 which is identical in construction with the head 25 as above described is seated on the rails 10 and 11 for slidable movement thereon. Extending transversely across the forward terminal ends of the rails 10 and 11 is a stabilizer-bar 40 formed of angle bar stock, the horizontal leg 41 of which is seated on the upper surface of the rails 10 and 11, while the vertical leg 42 of which abuts the terminal ends of said rails. The stabilizer-bar 40 is substantially of the same length as the head 24 and is rigidly secured to the rails 10 and 11 in any desired manner. Suitably attached to the outer leg of each of the channel rails 10, 11 adjacent to the stabilizer-bar 40 is a bearing collar 43 adapted to rotatably support in fixed axial relation the shank 44 of a screw 45. Each screw 45 extends rearwardly and is in threaded engagement with a collar 46 attached to the underside of the forward head 24. In order to permit placement of the stabilizer-bar 40 in position the same is provided at each end portion thereof with a notch or re-entrant opening 47 in the vertical leg 42 thereof into which the shank 44 of the screw 45 fits, as clearly shown in Fig. 4.

The shank 44 of each screw 45 extends in a forwardly direction and has rigidly mounted thereon a sprocket 50, which sprockets are interconnected by a chain belt 51, see Fig. 2, and affixed to one of the shanks 44 is a hand-wheel 52. If desired, the chain belt 51 and sockets may be covered by a chain guard 53 which is formed of sheet metal and channel shaped, the legs of which are notched and cut-away as at 54 to permit the positioning thereof on the shanks 44 of the screws 45, the chain guard 53 straddling the chain-belt and sprockets, see Fig. 3, and is secured in any desired manner to the stabilizer-bar 40 to prevent accidental removal thereof.

In the operation of the device a rug is positioned on the forward and rear heads 24 and 25 and attached thereto by forcing the pins 29 into the end portions of the rug. The rug thus lies flat being supported both by the heads 24 and 25, and the support-bars 34, and is rendered taut by moving the forward head 24 back in a direction away from the fixed rear head 25 under the action of the screws 45 which are operated by the sprocket and chain-belt drive upon rotation of the hand wheel 52.

After cleaning and washing of the rug by any of the methods known the same is hung up to dry. When dry the rug is mounted on the stretcher (with the underside uppermost if it is to be sized) and the same is stretched to the desired size by movement of the forward head 24 as above described. When stretched to the desired size the back of the rug may then be sized. The use of this stretching machine will insure the maintaining of the rug in its proper size and will permit a greater number of rugs to be cleaned, stretched and sized with a minimum of effort and time.

Having thus set forth and disclosed the nature of this invention, what is claimed is:

A rug stretching machine comprising a pair of parallel side rails, supporting legs at each end thereof, a forward head, a rear head, each of said heads extending transversely of said rails and directly supported thereby, co-acting means on said rails and rear head for locking the same to said rails in selected positions thereon longitudinally thereof, a plurality of supporting bars adjustably positioned on said rails between said heads in parallel relation thereto, clamp means on said supporting bars for clamping same to said rails in adjusted position, a stabilizer bar extending transversely of and secured to the terminal ends of said rails, said stabilizer bar comprising an angle member the horizontal leg of which is seated on the upper surface of said rails and the vertical leg of which abuts the ends of said rails, manually operated means including a screw rotatably mounted outwardly of and in parallel relation to each side rail and supported by a bearing collar mounted thereon, a threaded collar mounted on the underside of said forward head adjacent each end thereof and threadedly receiving a screw, a sprocket mounted on the head end of each screw, a chain-belt interconnecting said sprockets, a hand wheel mounted on the head end of one of said screws, and a guard carried by the stabilizer bar enclosing said sprockets and chain belt.

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