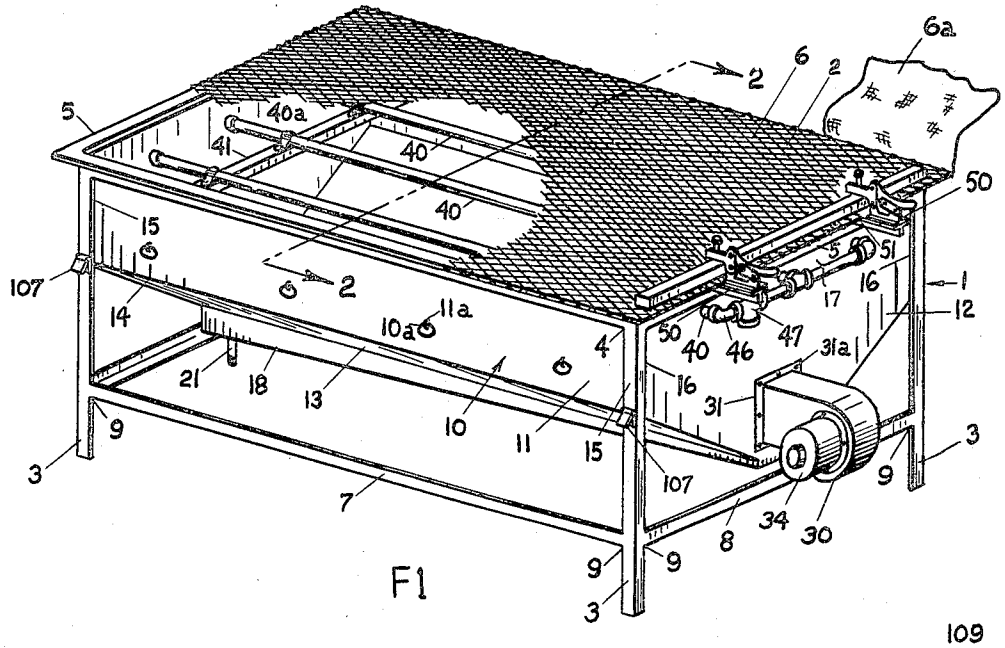
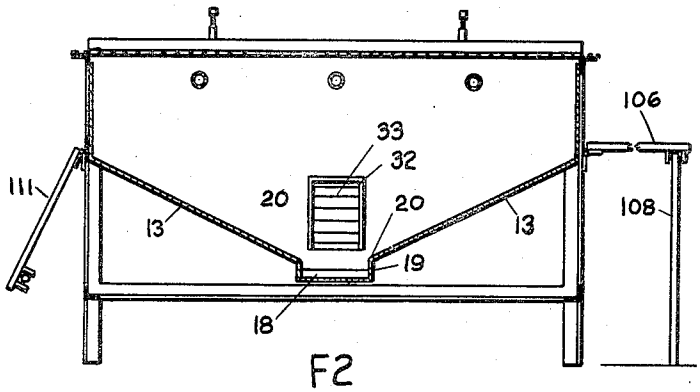
Dec. 27, 1955 B. KOFFMAN ET AL 2,728,129

DRAPERY STRETCHER AND FINISHER

Filed Jan. 12, 1953



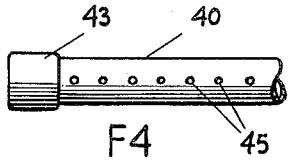
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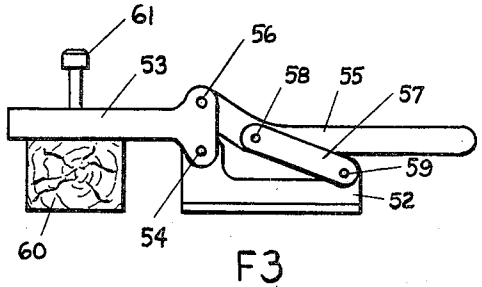
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F5



F4



F3

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DRAPERY STRETCHER AND FINISHER

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3 Claims. (Cl. 26—68)

This invention relates to fabric conditioning machines and more particularly to machines for returning fabrics to their original size after shrinking during a cleaning process.

In the process of dry cleaning, many cloths or fabrics have a tendency to shrink. This is particularly noticeable in window draperies where a very slight difference in the length of one drapery will be very apparent. When one drapery is slightly longer than the other drapery or one is not shrunk to quite the same length as the other, it is very noticeable. The shrinkage of clothing is noticeable in coats and suits which have been cleaned repeatedly.

It is, accordingly, an object of this invention to provide a device for use in stretching fabric material and causing it to take a permanent set in the stretched condition.

Another object of the invention is to provide a device for stretching fabric material using steam to cause the material to assume a condition subject to stretching.

Another object of the invention is to provide a device whereby fabric material can be stretched and dried in the stretched condition whereby it will take a permanent set.

Another object of the invention is to provide a device for stretching fabric material whereby steam is forced through the fabric material and a blast of air is subsequently applied to the material to dry the material.

Another object of the invention is to provide a novel type of fabric stretching and drying device.

Another object of the invention is to provide a fabric conditioning device.

Another object of the invention is to provide a fabric stretching and conditioning device which will be simple and effective in operation and economical to manufacture.

With the above and other objects in view, the present invention consists of the combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawing, and more particularly pointed out in the appended claims, it being understood that changes may be made in the form, size, proportion, and minor details of construction without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:

Fig. 1 shows a perspective view of our fabric conditioning device according to the invention;

Fig. 2 is a cross sectional view of our fabric conditioning device taken on line 2—2 of Fig. 1;

Fig. 3 is an enlarged view of the clamping device shown in Fig. 1;

Fig. 4 is a detailed view of a part of one of the pipes shown in Fig. 1; and

Fig. 5 is an enlarged view of a part of the loading table legs.

Now with more specific reference to the drawing, in Fig. 1, a conditioning device **1** is shown having a top **2** supported by legs **3** at **4**. The legs **3** are welded to the rim **5** at **4**; however, the legs could be made removable in a well known manner for storage and shipping purposes if such were desired. A screen mesh **6** is supported on the rim **5**. The legs **3** are held together at the bottom by

side braces **7** and end braces **8**. The braces **7** and **8** can be connected to the legs **3** at **9** by welding, brazing, or other fastening methods but could be made with removable connecting means for storing and shipping purposes. A tank **10** is disposed under the top **5**. The tank **10** is made up of sides **11** which are made of plates of steel or other suitable material and ends **12** of the same material. Rings **10***a* are attached to the sides of the side members **11** at **11***a*. These rings are provided for attaching the fabric material to be conditioned. Bottom member **13** is attached to the side member **11** at **14** and the sides **11** are welded to the legs **3** at **15** and the ends **12** are welded to the legs **3** at **16**. The entire tank slopes toward the end **17** and a channel **18** is provided in the bottom to carry away condensate. The channel **18** is made up of side members **19** welded to the bottom members **13** at **20** and a drain pipe **21** is disposed in the channel **18** whereby condensate from the tank can be conducted away.

The sides **11**, ends **12**, and channel **18** are all welded together to form an integral air and gas proof tank. Blower **30** is attached to one end **12** of the tank at **31** by means of bolts **31***a* and a discharge opening **32** is provided whereby air from the blower **30** will be discharged into the tank **10**. The blower may be a conventional centrifugal type blower having an impeller **33** driven by a motor **34**. Suitable wiring can obviously be provided with a switch disposed in a convenient location for access to the operator. Pipes **40** are supported in the tank on cross members **41** which may be made of angle iron and which are attached to the sides of the tank. The pipes **40** have caps **43** on one end thereof and are drilled in the bottom side by spaced holes **45**. Pipes **40** are attached by means of elbows **46** to T **47** which may be connected to any suitable supply of steam. A suitable valve or means to control the flow of steam through the pipes **40** will be provided.

At one end of the table, the clamps **50** are attached. The clamps **50** are attached to the member **5** of the table at **51** and are made up of base member **52** and clamping member **53**. The clamping member **53** is pivotally connected to the base member **52** at **54** and connected to the handle **55** at **56**. The handle **55** is pivotally connected to the link **57** at **58** and link **57** is pivotally connected to base **52** at **59**. The transverse member **60** is supported on the clamping member **53** by bolts **61**. The steam pipes **40** will be supported on the support member **41** by clamps **40***a* or other suitable clamping means.

When it is desired to return a window drapery or similar fabric member to its original size after it has been progressively shrunk by dry cleaning processes, one end of the fabric is clamped under the clamping bar **53** by elevating the handle **55**. This will raise the transverse member **60** from engagement with the screen mesh **6**. One end of the drapery or other fabric material is placed under the transverse member **60** and the handle **55** moves downward until the pivot point **58** moves below a line drawn through pivots **56** and **59**. In this position, the clamp will be held down by toggle action. An operator then grasps the end of the material remote from the end clamped by the member **60** and exerts a tension thereon. The sides of the material can be attached to the rings **10***a*.

Loading tables **106** can be connected to the sides **11** by means of hinges **107**. The loading tables are supported by means of the hinges **107** and the legs **108** which are pivoted to the bottom of the table at **109** and can be folded longitudinally against the bottom of the loading table in a position shown in Fig. 5. The loading tables can then be swung downwardly to the position **111** as shown in Fig. 2. These loading tables are provided to lay draperies or other fabric material on preparatory to conditioning them.

If lateral stretching is desired, one operator can be stationed at either side of the table to grasp the sides of the material and exert a tension thereon. Steam is then admitted through pipes **40** until steam fills the tank **10**. Then the blower **30** is started and air from the blower **30** forces the steam in the tank **10** up through the wire mesh **6** and through the drapery material, thereby heating and dampening the material. During this step in the operation, the material is stretched. When the material is stretched to the size desired, the motor is allowed to continue to run and air from the blower flowing up through the fabric material will drive the steam and cause the material to take a permanent set.

The material to be conditioned can be laid on one of the loading tables **106** and removed therefrom to the screen mesh **6** and when the conditioning operation is finished, the drapery can be laid on the loading table **106** at the other side of the machine.

If a drying cycle is not desired, a constant flow of steam can be allowed into the tank and the blower started when a flow is desired through the cloth. A cloth cover *6a* can be disposed over the top of the wire mesh upon which the goods to be stretched can be placed.

In the foregoing specification, we have set forth the invention in its preferred practical forms but we are aware that the structure shown is capable of modification within a range of equivalents without departing from the invention which it is to be understood is broadly novel as is commensurate with the appended claims.

What we claim is:

1. A machine for conditioning fabric material comprising a tank having a bottom and sides and an open top, means to admit steam into said tank, a flat table like supporting member supported on and over said tank having a plurality of openings therethrough and adapted to support a fabric material to be conditioned, means to clamp one end of said fabric material whereby a tension may be exerted thereon, and a blower connected to said tank adapted to be started to force air into said tank, thereby forcing said steam out of said tank through said openings and through said fabric material adapted to be supported thereon.

2. A machine for conditioning fabric material comprising a tank having an open top, a screen mesh table like cover on said tank, means at one end of said cover to clamp a piece of fabric material, a perforated steam pipe supported on said tank and disposed under said mesh cover, and an air blower attached to one end of said tank adapted to force steam admitted through said pipe upward through said wire mesh and through a sheet of fabric material adapted to be supported thereon.

3. The machine recited in claim 2 wherein the bottom of said tank is sloped toward one end and the central portion of said bottom is formed in the shape of a channel to accumulate condensate and a drain is provided in said channel.

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