Sept. 1, 1970 R. M. KIRCHE 3,526,109

PORTABLE STEAMER FOR PLEATED AND FOLDED FABRICS

Filed Sept. 16, 1969

FIG. 1

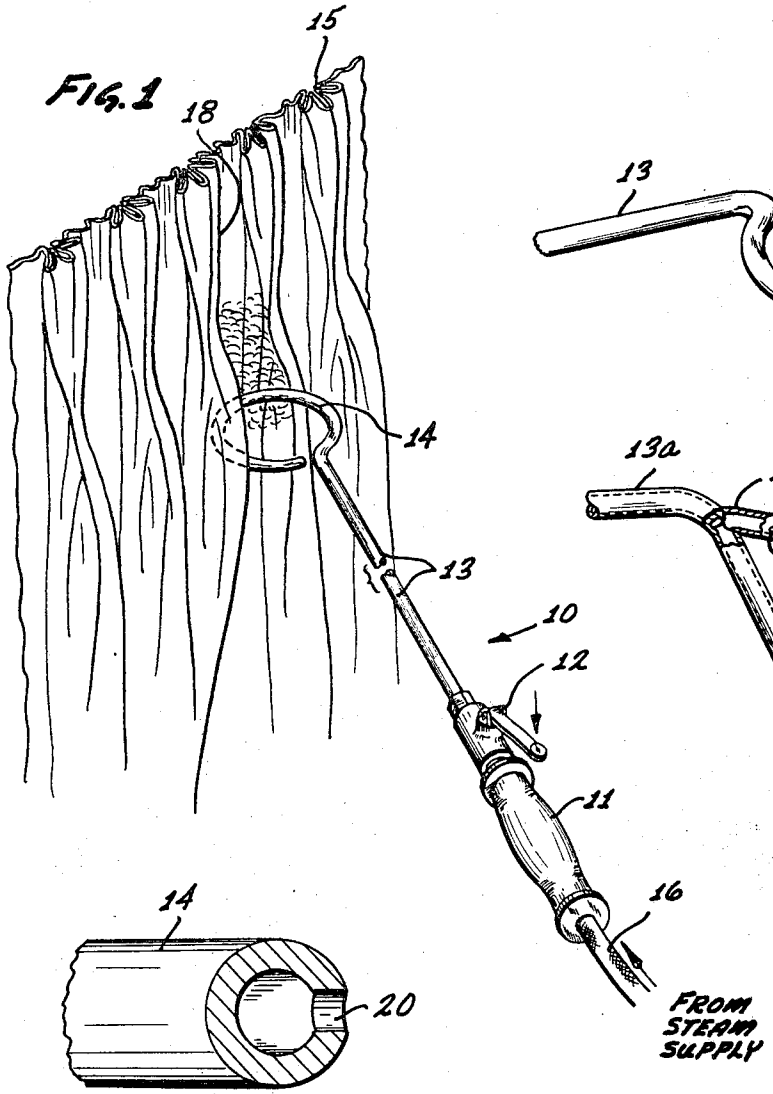
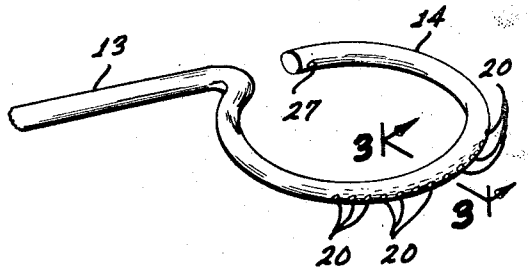


FIG. 2



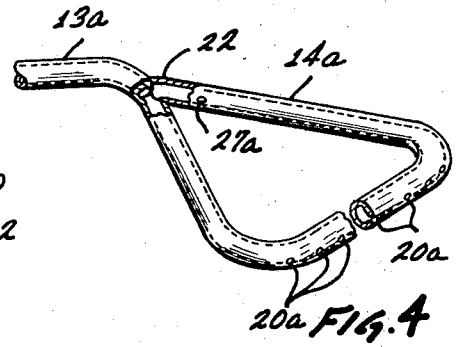


FIG. 4

FIG. 3

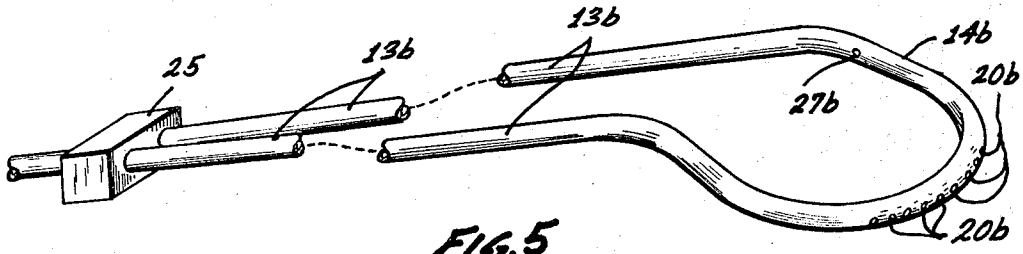


FIG. 5

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PORTABLE STEAMER FOR PLEATED AND FOLDED FABRICS

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U.S. Cl. 68—222 9 Claims

ABSTRACT OF THE DISCLOSURE

A fabric steaming apparatus of a lightweight construction having an elongated wand and a steam applying head at the end thereof which is adapted to closely engage and conform to pleats and folds. The wand and steam head are fabricated from thin wall tubing so that they will rapidly approach the temperature of the steam preventing the steam from condensing therein.

BACKGROUND OF THE INVENTION

The present invention relates generally to fabric steaming apparatus and more particularly, to an improved apparatus for use in steaming pleated and folded fabrics.

It has long been known that during dry cleaning and pressing operations, the application of steam to many types of fabrics tends to remove creases and wrinkles, raise the nap, and in the case of hung drapes and curtains, the application of steam results in a relaxing of the fabric which improves their hung appearance and allows them to be uniformly stretched if so desired.

It is, accordingly, the general aim of the present invention to provide a new and improved apparatus for applying steam to pleated and folded fabrics which is light in weight and easily maneuverable, yet which produces a high quality steaming job in less time than has heretofore been possible.

It is another object of the invention to provide a relatively low cost steaming apparatus which enjoys an ease of operation and yields a coverage of pleat and folds with steam far greater than that obtainable from conventional steaming equipment.

BRIEF DESCRIPTION OF THE DRAWINGS

Other objects and advantages of the invention will appear from the following description taken in conjunction with the accompanying drawings in which:

FIG. 1 is a perspective view of an exemplary steaming apparatus depicted in use on a hung pleated drapery section;

FIG. 2 is an enlarged perspective view of the pleat and fold engaging portion of the steaming apparatus shown in FIG. 1;

FIG. 3 is a fragmentary sectional view, taken generally along the line 3—3 of FIG. 2;

FIG. 4 is a perspective view illustrating a modified pleat and fold engaging portion of a steaming apparatus embodying the feature of the present invention; and

FIG. 5 is a perspective view illustrating still another modified pleat and fold engaging portion of a steaming apparatus embodying the features of the present invention.

While the present invention is susceptible of various modifications and alternative constructions, illustrative embodiments are shown in the drawings and will herein be described in detail. It should be understood, however, that it is not intended to limit the invention to the particular forms disclosed, but, on the contrary, the intention is to cover all modifications, equivalents, and alternative constructions falling within the spirit and scope of the invention as expressed in the appended claims.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to FIG. 1, an exemplary steaming apparatus or gun, generally indicated at **10**, is illustrated, the apparatus including a handle **11**, steam control valve **12**, tubular wand **13** and the fold and pleat engaging head **14**. A flexible steam line **16** is connected to the handle **11** side of the valve **12** and in use the steam line **16** is connected to a rigid steam line leading to a source of steam such as a steam generator of the type used in dry cleaning establishments.

In accordance with one of the important aspects of the present invention, provision is made for readily and thoroughly applying steam within the individual folds or pleats of a hung fabric such as for example draperies. It will readily be appreciated that by applying steam thoroughly and uniformly directly to each pleat and within each fold, a superior shaping of the hung fabric can be obtained and the steam leaving the apparatus **10** will not have the opportunity to cool in the air and moisten before being applied to the fabric, a situation which would result in an undesirable excessive dampening and possible spotting of the fabric and less effective shaping result. In order to accomplish these aforestated objectives, the head **14** of the apparatus **10** is sized and shaped so as to be readily inserted into a fold **18** (FIG. 1) of a hung or stretched drapery and unformly apply steam therein to remove wrinkles, creases and allow the fabric to hang smoothly. To apply the steam to the fabric, the head **14** (FIGS. 2 and 3) is provided with a plurality of orifices **20** which are distributed about the forward outer portion of the head **14** to apply an even distribution of steam to the fabric.

In order to further insure that the steam applied to the fabric is dry when it leaves the apparatus **10**, the present invention contemplates that the wand **13** and head **14** be fabricated from a relatively thin wall metallic tubing. When the apparatus is initially activated the steam entering the wand **13** and head **14** will rapidly heat up their tubular structure so that the steam will not tend to condense in the wand or head.

In order to prevent any water or condensation which may occur or accumulate in the head **14** or wand **13** during the initial warmup period from being deposited on the fabric, a drain hole **27** is provided at a rearward portion of the head **14** to permit same to drain off.

In order to use the exemplary steaming apparatus, a newly made or cleaned drape **15** (FIG. 1) is hung in its intended arrangement or in a drapery folding and stretching apparatus of the type disclosed in my U.S. Pat. No. 3,279,661. The head **14** is then inserted into each fold **18** and drawn along same with the steam being simultaneously applied by actuating valve **12** to eliminate wrinkles and relax the fabric.

In order to effectively steam each fold **18**, the head **14** of the steaming apparatus is sized and shaped to engage an individual fold of a drapery. As seen in FIG. 1, the end of wand **13** which conducts the steam to the head **14**, is integral with the head **14** and is shaped to substantially align the orifice **20** in a perpendicular arrangement with respect to the wand **13** so that a generally wide band of steam can be applied to each fold.

While the head **14** of the embodiment depicted in FIGS. 1 and 2 is in a generally circular shape, those skilled in the art will appreciate that other configurations would also be embraced by the instant invention. For example, FIG. 4 shows a modified head **14*a*** of a generally triangular configuration which joins back to itself at junction **22**. Still another modified head **14*b*** is shown in FIG. 5 which instead of partially or completely closing upon

itself in a loop, extends rearwardly as two wands 13*b* and 13*c* to a common manifold or junction 25.

What is claimed is:

1. A portable steaming apparatus for steaming pleated and folded draperies and curtains of fabric materials comprising:

a longitudinally extending wand;

a handle attached at one end of said wand for manually gripping and manipulating the apparatus;

means for attaching said apparatus to a flexible steam conduit;

a steaming head attached to the other end of said wand and in operative communication with the flexible steam conduit, said head including an elongated tubular member having a plurality of orifices therein for applying steam to the material, said member sized and shaped whereby it can be inserted into a fold between two pleats in a generally horizontal disposition and drawn along the interior of the fold with said orifices disposed proximate to the fabric therein;

and said head further including condensation drain means disposed at a rearward portion thereof.

2. The apparatus as set forth in claim 1 wherein at least a portion of said head member defines an arcuate configuration.

3. The apparatus as set forth in claim 1 wherein said head member defines an open loop.

4. The apparatus as set forth in claim 1 wherein said head member defines a closed loop.

5. The apparatus as set forth in claim 1 wherein said wand and head are fabricated of a metallic tubing and at least a portion of said wand operatively connects said head to the flexible steam conduit.

6. The apparatus as set forth in claim 1 wherein said orifices generally conform to the interior of the fold.

7. The apparatus as set forth in claim 1 further including a manually actuated steam valve disposed between said head and the flexible steam conduit.

8. The apparatus as set forth in claim 5 wherein said wand comprises a pair of tubes connecting said head with said handle, each said tube being connected to an opposite end of said head member.

9. The apparatus as set forth in claim 5 wherein said orifices are longitudinally aligned and disposed at substantially the forward end of said head member.

References Cited

UNITED STATES PATENTS

2,998,924	9/1961	Schaeffer	68—222 X

FOREIGN PATENTS

129,170	3/1902	Germany.
307,176	4/1933	Italy.

WILLIAM I. PRICE, Primary Examiner

U.S. Cl. X.R.

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