Aug. 1, 1939. A. McD. HESS 2,167,651

MEANS FOR FORMING PLEATS

Filed July 1, 1935

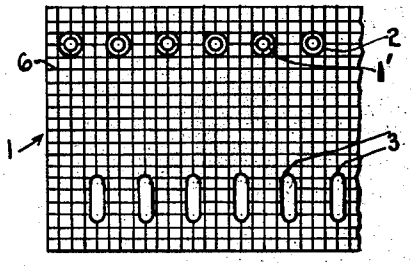


FIG. 1

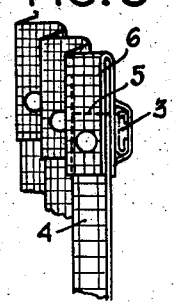


FIG. 3

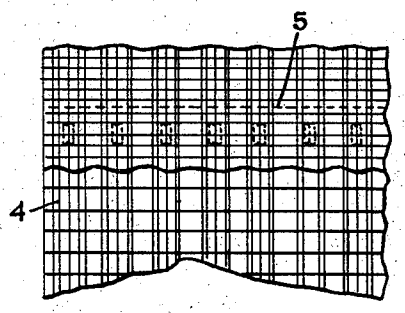


FIG. 2

FIG 4

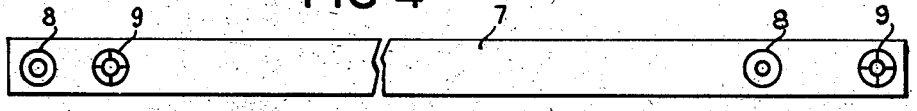


FIG. 5

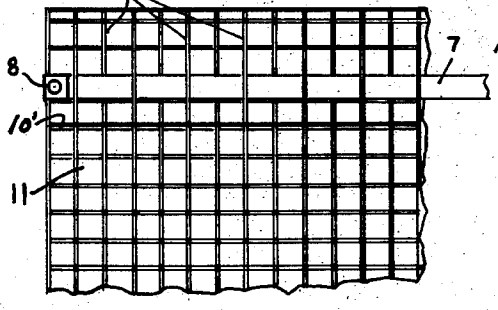


FIG. 11.



FIG. 6

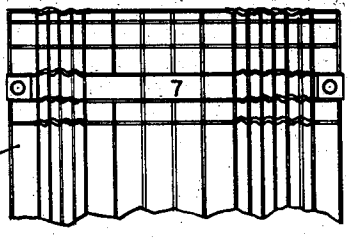
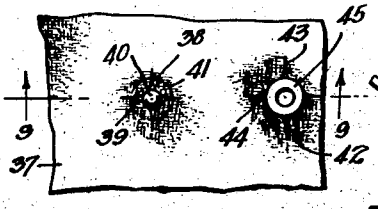


FIG. 7



FIG. 8.



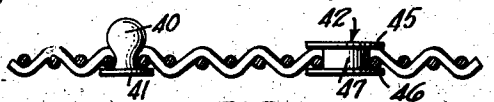
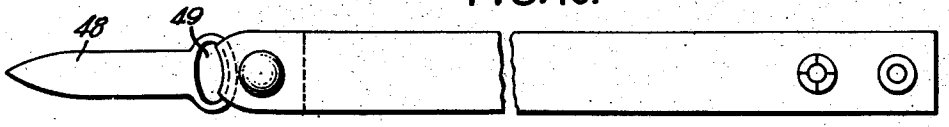


FIG. 9.

FIG. 10.



A. McD. Hess INVENTOR.

BY

Thomas Howe ATTORNEY.

Patented Aug. 1, 1939 2,167,651

UNITED STATES PATENT OFFICE

2,167,651

MEANS FOR FORMING PLEATS

Alexander McDonald Hess, Jamaica, N. Y.

Application July 1, 1935, Serial No. 29,339

5 Claims. (Cl. 156—10)

This invention relates to the pleating of curtains, drapes or other fabrics.

The main object of the invention is to provide a structure whereby the pleating of the fabric is readily and simply accomplished.

A further object of the invention is to provide improved structures of pleated fabrics whereby the pleating may be readily accomplished by the housewife or others without sewing or other special operations.

A further object of the invention is to provide means for readily adjusting the lateral and longitudinal dimensions of the curtain or drape.

A further object of the invention is to provide an improved hemming of fabrics such as curtains and drapes which may be readily accomplished without special tools.

A further object of the invention is to provide an improved means for securing snap fastening portions in fabric without mutilating or weakening the fabric.

Other and ancillary objects of the invention will appear hereinafter.

In the accompanying drawing which illustrates the invention—

Fig. 1 is a plan view, partly broken away, of the pleating tape adapted to be attached to a curtain and the like;

Fig. 2 is a front face view, partly broken away, of the tape of Fig. 1 in operative relation to a curtain or drape;

Fig. 3 is a perspective view of the device of Fig. 2;

Fig. 4 is a plan view, partly broken away, of a tape or band adapted to be threaded through or interwoven with the threads of an open work or loosely woven fabric to draw the fabric together laterally to pleat the same;

Fig. 5 is a front view, partly broken away, of the manner of inserting the tape of Fig. 4 into the fabric;

Fig. 6 is a front view, partly broken away, showing the tape threaded through the openings in the fabric and drawn into final position to pleat the curtain or other fabric;

Fig. 7 is a top plan view of a modified arrangement wherein the tape is secured to the fabric in a different manner;

Fig. 8 is a fragmentary face view of a fabric showing an improved manner of inserting and securing a metal and also a female snap fastening member in the fabric;

Fig. 9 is a section, on an enlarged scale, on the line 9—9 of Fig. 8;

Fig. 10 is a face view of a pleating tape as shown in Fig. 4 but with a threading tool attached thereto for interweaving the tape through the threads of the fabric to be pleated;

Fig. 11 is an edge view of the apparatus of Fig. 5.

Referring first to the structure as shown in Figs. 1, 2 and 3, a header tape 1 of suitable material has equally spaced at the lower side of the tape, a row of male snap fastening members 1' alternating with female snap fasteners 2. Also the tape 1 is provided with a series of equally spaced openings, preferably slots as shown, through which a supporting pole or rod may pass. In making use of the tape a loose or openly woven piece of material 4, as for instance a curtain, is laid with its upper edge 5 between the row of holes 3 and the row of fastener members as shown in Figs. 2 and 3. The upper portion 6 of the tape may then be turned to hang over the front and the respective pairs of fastener members, each pair being adjacent male and female portions, are then brought into securing position as shown in Figs. 2 and 3, through the curtain fabric and the portion 6, when it is apparent that the tape 1 or the lower edge thereof and the portion 6, as well as the curtain 4 will be wrinkled or pleated as indicated in Figs. 2 and 3. When it is desired, for any reason, for laundering or otherwise, to remove the curtain or other drapery, fasteners may be detached and the flap 6 may be thrown back. The drapery 4 may then be removed, having no permanent pleats in it but being flat so that it may be readily cleaned and laundered. Likewise the tape 1 will assume a flat position without pleats or wrinkles which lends itself to renovation of the tape.

Referring now to Figs. 4, 5, 6 and 11, there is therein shown a simple and efficient manner of hemming and which may be availed of for pleating wherein a band or tape 7 of suitable cloth or other material has a pair of spaced snap fastener members 8 and 9 secured adjacent each end, each pair comprising cooperating male and female members. The band or tape 7 is woven in and out of the threads 10 of an open or loosely woven textile fabric 11, which may be a drape such as a curtain or the like having its top portion 10' folded over after the manner of a hem. The tape 7 passing through both the fabric 11, and the folded over portion 10', the folded portion will be securely held in position as a hem without the necessity of sewing. One of the ends is passed about a thread or threads at one lateral margin of the drape and secured by snapping to-

gether the fastener members 8 and 9 at one end of the band while the other tape end is similarly secured to the thread or threads at the other side of the drape. The tape as thus adjusted, in addition to the hemming may also produce pleating by being shorter than the normal flat width of the drape, the drape being wrinkled or pleated as shown in Fig. 6.

If it be desired to still further shorten the width of the drape and thus deepen the pleats or wrinkles, the tape ends may be passed to the rear of the textile fabric and secured together by a fastener member in one tape end with a cooperating member in the other tape end thereby forming a loop (see Fig. 7) of the belt 7. The smaller the length of the loop the more will the fabric be wrinkled or pleated. The ones of the threads 10 which are within the loop will be held from expanding outwardly by the band and consequently those threads 10 which are outside the loop will be forced outwardly and form the outer ridges of the pleats or corrugations which are formed.

In Figs. 8 and 9 is illustrated an improved manner of securing snap fastening members in a textile or woven fabric. When the threads are cut in order to permit the insertion of the fastener there is apt to be an unraveling of the threads, which is not only unsightly but renders the holding of the fastening member less secure. According to the structure shown in Figs. 8 and 9 the threads of the fabric are not cut but are separated to permit the fastening member to be inserted and then, particularly in the case of tightly woven fabrics, the threads spring back into position and securely hold the fastening member without danger of unraveling or fraying of the threads. Thus in Figs. 8 and 9 the textile fabric 37 has its threads running in one direction spread apart as indicated at 38, and the threads running at right angles thereto spread apart as indicated at 39. Through the opening thus formed the head 40 of a male fastening member is inserted so that the head is upon one side of the fabric and the base 41 of the fastening member is on the other side of the fabric. When released the threads will spring back into position about the neck of the fastener, but the head and the base and the fastening member will be securely held in position. In the case of a female snap fastening member as 42, the fabric threads in one direction are separated as at 43 and the threads in the other direction are separated as at 44 so as to permit the turned-over edge 45 to be inserted through the fabric, so that the turned-over edge 45 will be on one side of the fabric and the base flange 46 will be on the other side of the fabric. If desirable the fastening member might be first placed in position in the fabric and then the edge 45 rolled over to hold it in place. In either manner of installing the female snap fastening member, however, when the threads are released they will tightly hug the neck 47 between the flanges 45 and 46 and the member will be held securely in the fabric.

In Fig. 10 is illustrated a device for threading the tape through the fabric as in Figs. 5 and 6. This tape, it will be recalled, has at each end a tape of male and female snap fastening members by which the ends of the tape may be secured to the drape or fabric. To thread the tape through the fabric a flat pointed metal tool 48 is provided having an eye 49, and to prepare for the threading operation one end of the tape has its end pass through the eye so that the eye will be between the male and female snap fastening members at one end and the fastening members are then brought into engaging relation, thus securing one end of the tape to the threading tool.

While the invention has been illustrated in what are considered its best applications it may have other embodiments without departing from its spirit and is not therefore limited to the structures shown in the drawing.

What I claim is:

1. The combination of a pleating tape comprising a row of pole or rod openings and a row of snap fastener members, and a fabric about an edge of which said tape is folded with said row of openings on one side of said fabric and said snap fastener members on the other side of said fabric, said fastener members being passed through said fabric for cooperative connection.

2. The combination with a pleating tape comprising a row of pole or rod openings and a row of snap fastener members and a curtain or drape secured to said tape by passing said fasteners therethrough and securing together fasteners secured to said tape at separated points.

3. A pleating fabric comprising in combination a tape interwoven in said fabric and snap fasteners secured to said tape to laterally constrict said fabric to shirr or pleat the same.

4. The combination with a fabric to be hemmed, said fabric having an edge folded back upon itself and a tape interwoven through the main body and the folded portion of said fabric and snap fastening members in said tape for securing it to said fabric.

5. The combination with a curtain or drape, of a row of separated snap fastener members secured thereto by passing through said drape at separated points said fasteners being connectable for pleating the drape.

ALEXANDER McDONALD HESS.