

May 23, 1939.

G. F. FRENCH
CURTAIN HEADING TAPE

2,159,733

Filed June 7, 1938

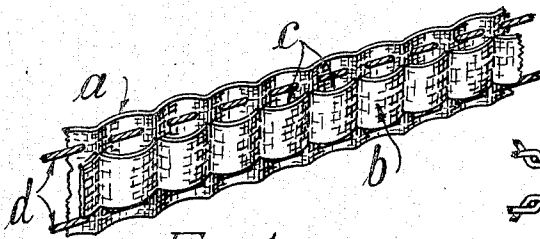


FIG. 1.

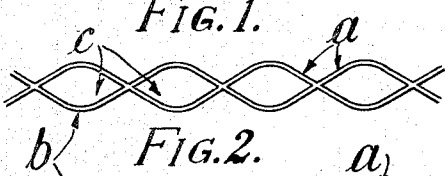


FIG. 2.

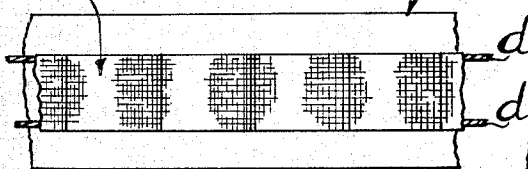


FIG. 3.

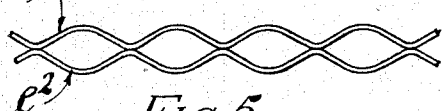


FIG. 4.

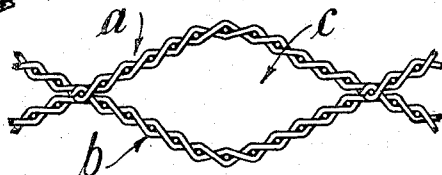


FIG. 5.

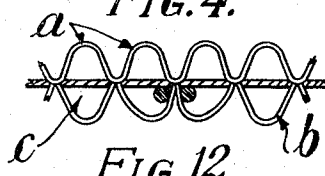


FIG. 6.

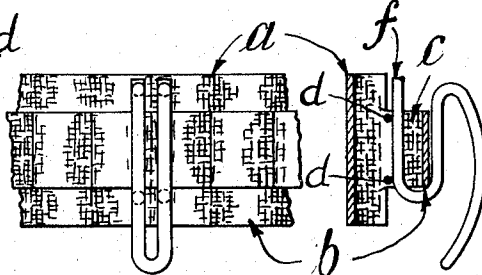


FIG. 7.

FIG. 8.

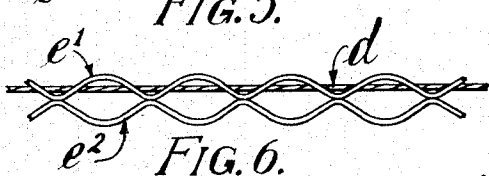


FIG. 9.



FIG. 10.

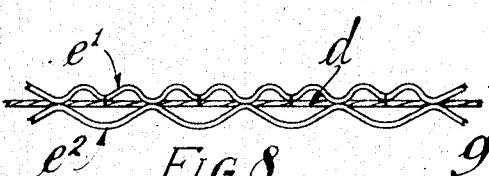


FIG. 11.

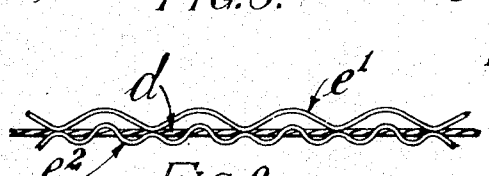


FIG. 12.

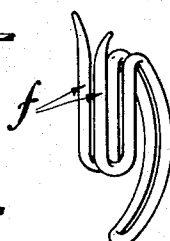


FIG. 13.



FIG. 14.



FIG. 15.

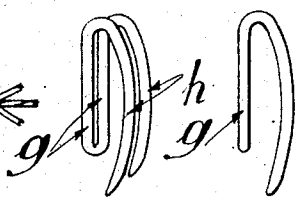


FIG. 16.

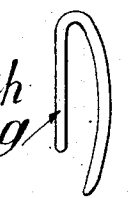


FIG. 17.

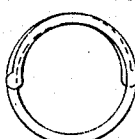


FIG. 18.

Inventor:

George F. French

By his Attorney: Walter Summ.

UNITED STATES PATENT OFFICE

2,159,733

CURTAIN HEADING TAPE

George Frederick French, Manchester, England

Application June 7, 1938, Serial No. 212,263
In Great Britain February 25, 1937

2 Claims. (Cl. 156—10)

This invention relates to curtain heading tape, and in particular to heading tape of the kind embodying suspension hook-tubes and drawcords for pleating the tape and in which the hook-tubes are shorter (along their axes) than the width of the tape so as to leave a strip of material free from hook-tubes at the bottom and top of the tape for sewing on purposes.

The term "hook-tube" when used in this specification means a pocket open at each end with its axis across the length of the heading tape and includes both the walls of such pocket and the space enclosed thereby.

Hitherto in the usual form of heading tape of the kind described above, the hook-tubes are spaced apart when unpleated by a distance substantially equal to, or greater than the width of a hook-tube. In one known form, however, the hook-tubes are spaced apart when the tape is unpleated by a distance somewhat less than the width of a hook-tube, but in this form, the drawcords with which the tape is intended to be used only pass through every alternate hook-tube with the result that on pleating every other alternate hook-tube tends to close.

According to this invention, there is provided a curtain heading tape of the kind referred to, in the whole, or a portion of which the hook-tubes (both when the tape is pleated and unpleated) are contiguous or substantially contiguous to one another, so that each such hook-tube finishes where the adjoining hook-tube starts, and in which the drawcords are so applied that the walls of each and every hook-tube separate from each other on the tape being pleated ready to receive the hooks.

The common part of the walls, or united parts of the walls of adjacent hook-tubes, is referred to herein as "the junction" or "junctions", and the parts of the walls of the hook-tubes between the junctions are referred to as the front walls and rear walls respectively of the hook-tubes according as to whether they are at the front or rear of the curtain heading tape.

With a heading tape thus formed, the hook-tubes, where they occur in the tape, lie close together, and all tend to open when the tape is pleated. Thus, a greater number of easily accessible points of suspension is afforded in a given length. Moreover, by reason of such close proximity, they allow of the use of suspension hooks, which serve both to suspend or support the curtain and (or) to grip and hold vertical the intervening parts of two adjacent hook-tubes, which, in turn, by being so gripped, help

to hold the hook vertical and against accidental displacement, and re-acting on the channels of the pleats also help to keep the curtain heading erect.

The invention is not limited to any particular arrangement of drawcords provided that the drawcords serve to cause each and every hook-tube to open out on the tape being pleated, and for such purpose one or more will preferably pass through some part of each of the contiguous hook-tubes. For instance, the drawcords may pass in and out of the back wall of each hook-tube as is usual in heading tapes where the hook-tubes are separated by a strip of material substantially as wide as, or wider than the hook-tubes. Alternatively, the drawcords may pass in and out of the front wall of each hook-tube. Preferably, however, the drawcords should pass through the junctions between adjacent hook-tubes, and in such case the drawcords may, for example, extend either directly across each hook-tube, or (to prevent the front and rear walls separating too far from each other) in and out through the front wall of the hook-tube, or engage one or two wefts of the back wall. When the drawcords are applied in the last described three ways, the improved tape affords the further advantage that with no part of the drawcords passing in and out at the back of the tape, the rear face of the tape is flat and smooth, and in no way interferes with the even and full-depth pleating of the curtain. Or, with the cords passing in and out of the rear walls or between the front and rear walls of the hook-tubes they are not visible from the front side, and in such connection, the user of the hooks is not liable to apply the hooks to the cords instead of to the hook-tubes.

Heading tapes according to the invention may be produced in any way desired, but the tape is preferably produced by a continuous weaving operation.

In one method, the front and back walls of the hook-tubes are woven side by side (one over the other) by the warp threads of the front and rear walls respectively of one hook-tube being made to cross over to the rear and front walls of the next hook-tube at the junction between the hook-tubes.

In another continuous weaving method, two strips of material are woven side by side to constitute the front and rear walls of the hook-tubes, and at intervals a few weft and warp threads of one such continuous strips is inter-

woven with the warps of the other strip to form the junctions between adjacent hook-tubes.

In the accompanying drawing:—

Fig. 1 illustrates in perspective a portion of an example of the improved heading tape produced by the first method hereinbefore described.

Fig. 2 is a geometric longitudinal section (with the drawcords not shown), and

Fig. 3 a geometric front view of a slightly modified form of tape.

Fig. 4 is an enlarged sectional plan view of one of the hook-tubes shown in Fig. 2.

Fig. 5 illustrates a top edge plan view of an example of the improved heading tape produced by the second method hereinbefore described (the drawcords not being shown).

Figs. 6, 7, 8 and 9 illustrate further top edge plan views and show various methods of applying the drawcords.

Fig. 10 illustrates an enlarged face view,

Fig. 11 a vertical cross section, and

Fig. 12 a top edge plan view of a portion of a tape as shown in Fig. 2 (with drawcords inserted) and with a curtain suspension hook applied thereto.

Fig. 13 illustrates in perspective one example of hook suitable for engaging any two adjacent hook-tubes, and gripping the intermediate parts of the tape.

Figs. 14 and 15 illustrate another example of the same type of hook.

Figs. 16, 17 and 18 illustrate examples of known hooks and rings suitable for engaging only a single hook-tube.

In Figs. 1 to 3, *a* is the wide rear part of the tape, and *b* the narrow front part of the tape, the latter being integral at intervals with the back part *a* of the tape, and thereby producing a succession of front loop portions, which, in conjunction with the opposite portions of the rear part *a* of the tape, provide the desired contiguous hook-tubes or pockets *c, c*. Cords *d* pass through the tape so that they are behind the front *b* when the tape is viewed from the front.

The weaving of the tape may be effected by suitable heald motions allowing the warps forming the front part *b* to interchange at intervals with the corresponding warps of the central portion of the rear part *a* of the tape to form the junctions between adjacent hook-tubes so that the weave at the junction of the two parts will be similar to that shown in Fig. 4.

As shown in Figs. 5, 6, 7, 8 and 9, instead of the hook-tubes being formed by the interchange of warp threads, they may be formed by means of two strips of tape *e¹, e²* (one narrower than the other), joined together at intervals, equal in distance apart to the width of a hook-tube, by a few of the weft threads of one of the strips engaging the warp threads of the other strip. The cords *d* in Figures 6, 7, and 8 are usually arranged so that, as in Figure 3, they are not visible from the front.

In both examples of the improved tape, there is no intervening or no substantial intervening length of tape between successive hook-tubes, each hook-tube finishing where the next one starts.

The drawcords *d* may pass in and out through those parts of the tape forming the rear walls of the hook-tubes, and thus be concealed from view, as well as protected from being engaged by the suspension hooks, especially when ordinary suspension hooks are used. Or, the drawcords may pass in and out of each of the front

walls of the hook-tubes, as shown dotted in Fig. 6. Or, the drawcords may pass directly through the junctions of adjacent hook-tubes, i. e., between the front and rear parts of the tape, as shown in Figs. 7, 8, and 9. The drawcords can in all cases be introduced when weaving the tape.

As shown in Figs. 8 and 9, when the drawcords pass through the junctions of adjacent hook-tubes, they may also be threaded through the front walls of the hook-tubes, or they may be engaged by one or more weft threads of the rear walls of the hook-tubes and serve to prevent the rear walls of the hook-tubes unduly separating from the front walls. Obviously, in all cases, the drawcords may be applied to the selvages of the tape.

Curtain heading tape according to the invention may be formed with the contiguous hook-tubes along portions of its length only, intervening portions of the tape being left plain. And, although preferring the front wall of each hook-tube to be the same width as the rear wall, and the drawcords to pass through such front walls as shown in Fig. 9, the front walls may, if desired, be made slightly wider, and the drawcords pass behind the said front walls which may then project well beyond the pleat ridges when the tape is pleated, and thus be more readily findable.

In all cases, with the hook-tubes contiguous, they stand out from the curtain material, when pleated, and thereby allow of the hooks being readily applied thereto, and when applied, the hooks lie in a plane slightly in advance of the curtain, instead of lying in the folds of the pleats as in the case of known pleating tape and interfering with the formation of even or regular pleats.

The improved heading tape allows of the curtain being suspended by the ordinary hooks, see Figs. 16 and 17, or split rings, see Fig. 18, but it will preferably be suspended by the type of hook forming the subject of my co-pending application, Serial No. 212,264. One of such hooks is shown in Fig. 13, and two views of another are shown in Figs. 14 and 15. The hook shown in Fig. 13 is made of a length of wire folded upon itself to produce two straight parallel portions *f, f* which are spaced a slight distance apart, and are thereby adapted when the hook requires to be applied to the tape, to pass one limb up into one hook-tube and the other limb up into the next hook-tube, and, by the elasticity of the wire, to grip and hold the intervening parts of the walls of the hook-tubes firmly one against the other, see Figs. 11 and 12. The hook shown in Figs. 14 and 15 is also made of a length of wire, folded upon itself to produce two straight parallel parts *g, g*, and two downwardly extending curved parts *h, h*, spaced a slight distance apart, and adapted, on the hooks being inverted, to enter any two adjoining hook-tubes, and, when fully engaged with the hook-tubes, to be reversed (turned right way up) with the intervening parts of the walls of the hook-tubes lying between the parts *g, g*.

What I claim is:—

1. A curtain heading tape comprising a rear tape of relatively great length, hook-tubes integral with said tape, said hook-tubes being contiguous with each other, and a draw-cord passing through said heading tape, said draw-cord being placed behind the front wall of said hook-tubes and being invisible when viewed therefrom, said cord lying within each of said tubes and passing through the junctions of adjacent tubes.

2. A curtain heading tape in which the hook-

tubes, both when the tape is pleated and un-pleated, are contiguous to one another (so that each hook-tube finishes where the adjoining hook-tube starts), all the hook-tubes lying on the same side of the tape, and each consisting of a rear wall part and a front wall part, which parts, on the tape being pleated, separate from each other, one to form a pleat channel and the other to bridge the channel and thereby provide an open passage for a curtain suspension hook adapted to straddle two adjacent hook-tubes, and a drawcord passing through every hook-tube, said drawcords engaging one or more wefts of the back wall of each hook-tube. 5

GEORGE FREDERICK FRENCH.