Feb. 2, 1965 D. L. LEWIS 3,168,228

UPHOLSTERING TOOL

Filed Oct. 4, 1962

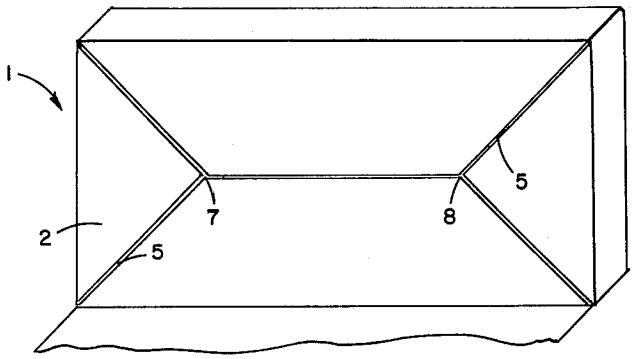


FIG. 1

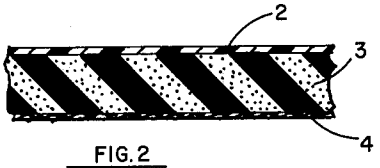


FIG. 2

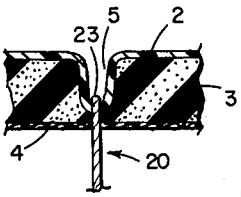


FIG. 6

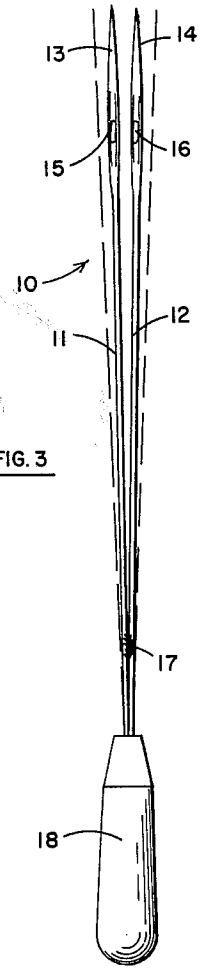


FIG. 3

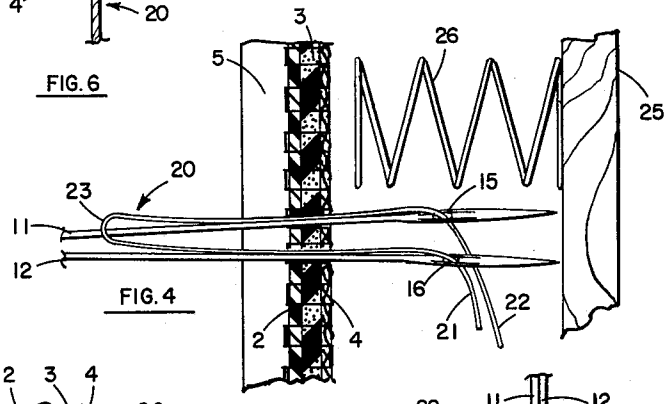


FIG. 4

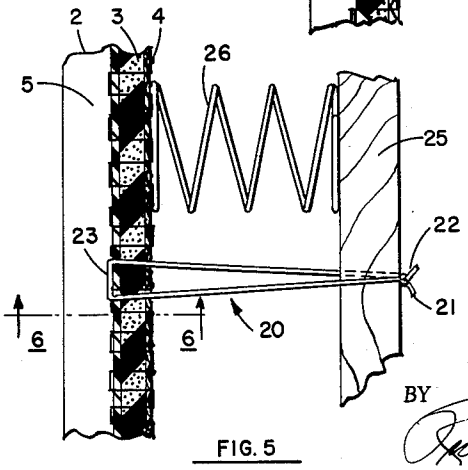


FIG. 5

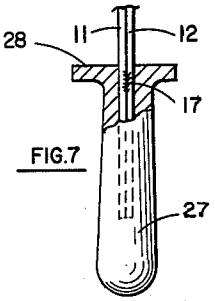


FIG. 7

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UPHOLSTERING TOOL

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This invention pertains to a tool primarily intended for extending a filament through an upholstered article for tying the unit together.

The device of this invention is particularly useful in the construction of upholstered furniture or mattresses. For example, in the manufacture of over-stuffed furniture, in many instances it is necessary to tie the seat back to the structure of the unit so that the back cover will be firmly anchored. When buttons are not used it has been the practice to thread an elongated needle with a cord, push the needle through the seat back at a place to be tied, disengage the cord on the back side, and then remove the needle. The other end of the length of cord then is threaded into the needle and the operation of pushing the cord through the seat back is repeated. In this manner, a loop of the cord is formed on the exterior side of the seat back, while the two ends are on the reverse side where they may be tied to the frame or base of the springs. The laborious and repeated threading of the needle for separately forcing two ends of the string used in tying the cover material has been extremely time-consuming. Consequently, this operation has become an unduly expensive one in furniture manufacture.

The arrangement of this invention provides a tool that is simple to use, but yet which reduces by at least one-half the time for stringing the length of cord through the seat back. This is accomplished by means of a duality of elongated needles which are secured together near one end and mounted in a suitable handle. The two ends of the string are threaded through the eyes of the twin needles which then are forced through the cover material in a single operation. The needles are deflectable so that the spacing between the two sections of the string extending through the seat back may be varied appropriately to suit the conditions at hand.

It is an object of this invention to provide an improved means for securing the covers of upholstered articles.

Another object of this invention is to provide a device for tying a cover in reduced time and at less cost than normally required.

A further object of this invention is to provide a single tool that will extend both ends of a length of cord through a cover or similar article in one operation.

Yet another object of this invention is to provide a device which will permit varying of the spacing of the apertures through which a cord used in tying a cover or the like extends.

These and other objects will become apparent from the following detailed description taken in connection with the accompanying drawing in which:

FIG. 1 is a perspective view of a seat back having a cover tied down by the device of this invention,

FIG. 2 is an enlarged fragmentary sectional view of the cover assembly,

FIG. 3 is an elevational view of the tool of this invention,

FIG. 4 is an enlarged fragmentary sectional view illustrating the manner in which the tool of this invention passes the string through the cover,

FIG. 5 is a view similar to FIG. 4 with the cover tied in place,

FIG. 6 is a sectional view taken along line 6—6 of FIG. 5, and

FIG. 7 is a fragmentary elevational view of a modified

form of the invention in which the handle includes a stop to limit the travel of the needles and preclude damage to the goods.

With reference to the drawings, the arrangement of the invention is particularly suitable for securing the covers of seat backs, such as the seat back **1** seen in FIG. 1. As shown in the enlarged fragmentary sectional view of FIG. 2, the cover for the seat back may consist of a layer of flexible plastic sheet material **2** placed over a foam interlayer **3**. The latter may be foam rubber or an open cell foam plastic material, generally around one and one-half inches thick. A thin layer of denim cloth **4** lies along the inner surface of the foam **3**.

For decorative purposes the cover may include a pattern such as that indicated by the lines **5** in FIG. 1. This is accomplished by sewing together the layers of the cover assembly along the lines **5** prior to associating the cover with the seat back. Hence, the layers **2**, **3** and **4** are sewn together on a conventional sewing machine which compresses the foam **3** creating a crevice, as seen in FIGS. 4, 5 and 6, along the line of the articles.

In securing the cover to the seat back, a string will be passed through the cover at locations within the crevices so that it will not be visible from the exterior when the articles of furniture is complete. This is because the deep narrow indentations where the cover assembly has been sewn hide the small exposed end of the string used for this purpose. Normally the cover will be tied down in two or more places depending upon the type of pattern formed in the cover. Usually it will be secured at some intersection of the crevices, such as at the points **7** and **8** in the arrangement of FIG. 1.

The tool **10** of this invention used in the attachment of the cord at the locations **7** and **8**, or for securing other upholstered items, includes a pair of elongated needles **11** and **12**. These members are provided with pointed ends **13** and **14**, and have eyes **15** and **16** spaced inwardly therefrom an appropriate distance. In a typical example, this is around one and three-fourths inches.

The two needles are secured together at a location adjacent their opposite ends. This may be by means of a weld **17**. Care should be taken in effecting the weld to assure that the temper of the needles is not lost. The attachment of the needles should be spaced a considerable distance from their tips **13** and **14**, being preferably around nine inches from the outer ends of the needles. A handle **18**, which may be of plastic or wood, carries the two needles adjacent the location where they are secured together.

In use of the device of this invention, a length of string **20** is threaded through the eyes **15** and **16** of the two needles. The ends **21** and **22** of the string, therefore, extend beyond the two needle eyes, while there is a loop **23** between the two needles. With the needle so threaded, it is introduced at its tips **13** and **14** into the crevice adjacent one of the locations where a tie is to be effected. Then as the looped portion **23** is held the needles are advanced axially. This causes them to pierce the cover at the crevice, bringing the ends **21** and **22** of the string through the cover to the back side. An intermediate position with this accomplished may be seen in FIG. 4. The needles are advanced through the back a sufficient distance so that as the loop **23** is held the ends **21** and **22** are disengaged from the needles by being pulled out through the eyes **15** and **16**. Then by retracting the handle **18** the tool **10** is removed from the seat back and is ready for an additional threading operation. This leaves the loop of the string extending through the openings in the cover formed by the needles **11** and **12**, with the free ends **21** and **22** disposed on the reverse side of the cover. This permits the string to be tied to the spring base or any convenient structure (see FIG. 5). The string

is drawn tight enough so that the cover is brought against the outer end of the coil spring **26**, hence being held firmly in place.

It can be seen, therefore, that through the provisions of this invention it is a simple matter to force the two ends of the string simultaneously through the seat back so that they are in position to be stapled or tied on the reverse side of the item. Time-consuming individual threading of a single needle is entirely eliminated. Furthermore, the handle **18** makes it easier to force the needles through the cover sheet **2** than is the case for a conventional needle having no such handle.

One desirable feature of this invention results from the securing of the needles together, such as by the weld **17**, at a location well inwardly of the outer tips of the needles. This permits the tips **13** and **14** to be spaced apart any desired distance as they are forced through the cover assembly with the string. This greatly adds to the versatility of the tool of this invention, because the spacing at the loop end of the string should vary depending upon the particular cover material used. Where the cover material is heavy, the needle ends are spread farther apart so that the openings through the cover are separated by a relatively large distance. For thinner covers, on the other hand, the points **13** and **14** are kept close together with only a small loop section between the apertures through the cover. By being located a considerable distance from the needle tips, the attachment of the needles does not interfere with use of the device of this invention for tying mattresses or other thick articles.

Thus the tool of this invention not only permits a great time saving in passing the filament through the cover for securing the cover to the unit, but also may be used advantageously regardless of the nature of the cover being attached.

The welded connection of the two needles also provides the unit **10** with the strength needed for use in most upholstering jobs. The attachment assures that the needles cooperate as a column to permit them to be driven through an upholstered article of any nature. If the needles had no interconnection, however, they could move independently when under load, which would permit excessive bending and breakage in many instances.

In order to prevent the needles from being forced too far into the item being sewn, the construction of FIG. 7 may be resorted to. If the needles inadvertently are inserted to the point of their connection at weld **17**, the cover material can be torn out as the tool is used. In order to preclude any such occurrence, the handle **27** of FIG. 7 extends to the location of weld **17**, or even inwardly of it. This handle terminates in a radially enlarged face **28** which acts as a stop to limit the axial travel of the needles. This makes it impossible to insert the needles to the point where the goods will be damaged. If desired, the end portion **28** may be formed as a separate collar rather than being integral with the handle as illustrated.

The foregoing detailed description is to be clearly understood as given by way of illustration and example only, the spirit and scope of this invention being limited solely by the appended claims.

I claim:

1. An upholstering tool for inserting a filament through an article of furniture comprising

a pair of elongated needles,

each of said needles having a pointed distal end,

an eye adjacent said distal end,

and an elongated shank extending from said distal end,

means attaching said needles together at a location remote from said distal ends so that said needles are in a side-by-side relationship,

said location being sufficiently spaced from said distal ends that said distal ends are movable toward and away from each other by deflecting said shanks of said needles intermediate said attaching means to said distal ends,

said shanks of said needles having portions extending beyond said attaching means on the the side thereof remote from said distal ends,

and a handle,

said portions of said shanks beyond said attaching means extending into said handle,

whereby said handle carries said needles for providing a means for forcing said needles through an upholstered article of furniture.

2. A device as recited in claim 1 in which

said attaching means is provided by a welded connection between said shanks of said needles,

and said portions of said shanks beyond said attaching means are in an abutting relationship.

3. A device as recited in claim 2 in which

said location of said attaching means is substantially nine inches from said distal ends of said needles.

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