

[54] **FASTENERS FOR ATTACHING
UMBRELLA CLOTHES TO RIBS**
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2,087,756	7/1937	Farkas.....	135/34
3,080,630	3/1963	Paliotta.....	24/101 S X
3,110,647	11/1963	Tong.....	24/16 PB X
3,149,385	9/1964	Beekenkamp.....	24/101 S
3,399,432	9/1968	Merser.....	24/150 FP UX

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Primary Examiner—Donald A. Griffin
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102 A, 24/73 CF, 73 PF, 208 A,
30.5 PB, 101 S

[57] **ABSTRACT**
A fastener for attaching an umbrella cloth to a rib is comprised of a longitudinal rod, a transverse member connected to one end of the longitudinal rod and adapted to pierce through the cloth and an anchor provided on the other end of the longitudinal rod and adapted to be secured to the rib. These component parts are made of relatively soft deformable material as an integral unit.

[56] **References Cited**
UNITED STATES PATENTS
1,693,536 11/1928 Woodley 135/34

1 Claim, 6 Drawing Figures

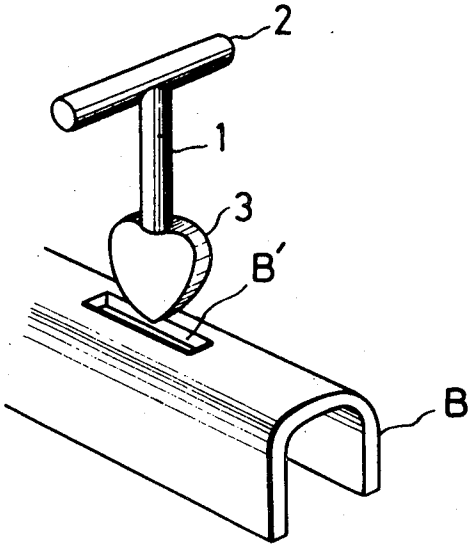


FIG. 1

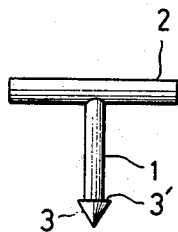


FIG. 2

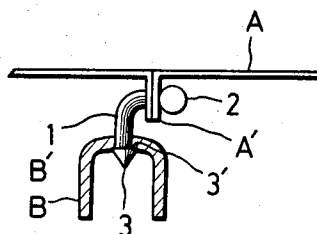


FIG. 3

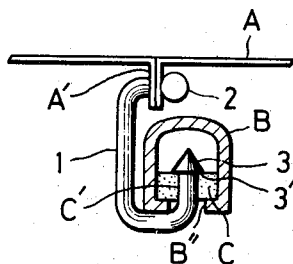


FIG. 4

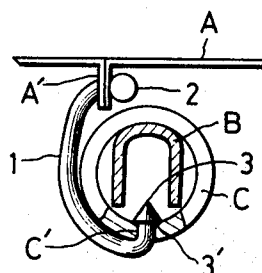


FIG. 5

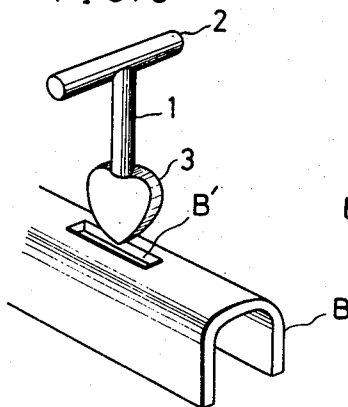
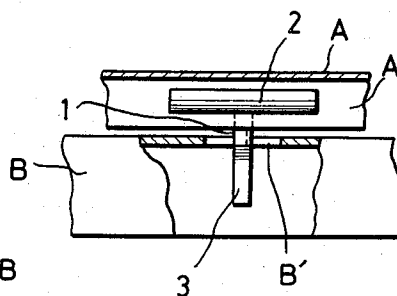


FIG. 6



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FASTENERS FOR ATTACHING UMBRELLA CLOTHES TO RIBS

BACKGROUND OF THE INVENTION

This invention relates to fasteners for attaching an umbrella cloth to it ribs. Heretofore it has been the practice to attach the cloth to the ribs by sewing the seams between elongated triangular pieces of the cloth to the ribs but this operation requires substantial skill and labor. Moreover, the sewing threads are liable to be broken and in order to remove the cloth it is necessary to cut the threads.

SUMMARY OF THE INVENTION

It is an object of this invention to provide a novel fastener which can promptly and readily attach the umbrella cloth to the ribs without utilizing any sewing operation.

Another object of this invention is to provide a novel fastener which is more durable than ordinary sewing threads.

The fastener of this invention comprises a longitudinal rod, a transverse member connected to one end of the longitudinal rod and adapted to pierce through the cloth and an anchor provided on the other end of said longitudinal rod and adapted to be secured to the rib, said transverse member, longitudinal rod and anchor being made of deformable material as an integral unit.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention can be more fully understood from the following description taken in conjunction with the accompanying drawing in which:

FIG. 1 shows a front view of a fastener embodying this invention;

FIGS. 2, 3 and 4 are partial sectional views illustrating different manners of attaching the cloth to the rib by utilizing the fastener shown in FIG. 1;

FIG. 5 shows a perspective view of a modified fastener and of a portion of the rib, and

FIG. 6 is a side view, partly in section, of the modified fastener and rib shown in FIG. 5, as they are assembled.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The fastener of this invention is made of deformable material such as relatively soft synthetic resin or metal and comprises a longitudinal rod 1, a transverse member 2 connected to the top of the rod 1 like a letter T and an anchor 3 pointed to pierce the rib. In the example shown in FIG. 1 the anchor 3 is in the form of a

cone having a shoulder 3' having a diameter larger than the rods 3 for preventing the faster from being removed from the rib.

In the modified embodiment shown in FIG. 5, the anchor 3 takes a form of a heart lying in a plane perpendicular to the axis of transverse member 2. Preferably, at least one end of the transverse member is pointed to facilitate piercing.

To use the fastener shown in FIG. 1, first the transverse member 2 is twisted into substantial alignment with rod 1 and then the transverse member is pierced through a seam A' between pieces of cloth A of the umbrella by using an appropriate tool, if desired. Then the transverse member is restored to the original position.

The rib B is formed with a plurality of openings B' having a diameter smaller than that of shoulder 3', of a predetermined spacing. Then the anchor 3 is forced into the opening B' at this time the resiliency of the material permits such insertion. Thereafter, the anchor resumes its original configuration to hold the fastener against withdrawal.

In the case shown in FIG. 3, a locking piece C of a suitable material having openings C' is inserted in a U-shaped rib B. The lower ends B'' of the rib are bent inwardly to hold in position the locking piece C. The lower end of the fastener is bent upwardly like a fishing hook and the anchor 3 is forced into opening C' in the same manner as in FIG. 3.

In the case shown in FIG. 4, a circular ring shaped locking piece C encircling the rib B is used and the anchor 3 of the fastener is inserted in an opening C' in the locking piece C.

To use the modified fastener shown in FIG. 5 an elongated slot B' is formed through the rib B in the longitudinal direction thereof. After insertion of heart shaped anchor 3 through opening B', the anchor 3 is twisted 90° as shown in FIG. 6 to lock the faster.

Thus it will be clear that the invention provides a novel fastener which can readily and quickly attach the umbrella cloth to the ribs without any skill and is more durable than sewing threads. Further, the fastener permits easy removal of the cloth by merely pulling it away from the rib. Moreover, the fastener can be used again.

What is claimed is:

1. A fastener for attaching umbrella cloth to ribs comprising a short longitudinal rod, an elongated transverse member connected about at its center to one end of said longitudinal rod and adapted to pierce through the cloth, and, a heart shaped anchor having a base larger than the diameter of said longitudinal rod provided on the other end of said longitudinal rod and adapted to be secured to the rib, said transverse member, said longitudinal rod and said anchor being made of deformable material as an integral unit.

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