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D. J. DADDONA, JR

3,470,637

NON-REMOVABLE TAG

Filed Jan. 27, 1967

Fig. 1.

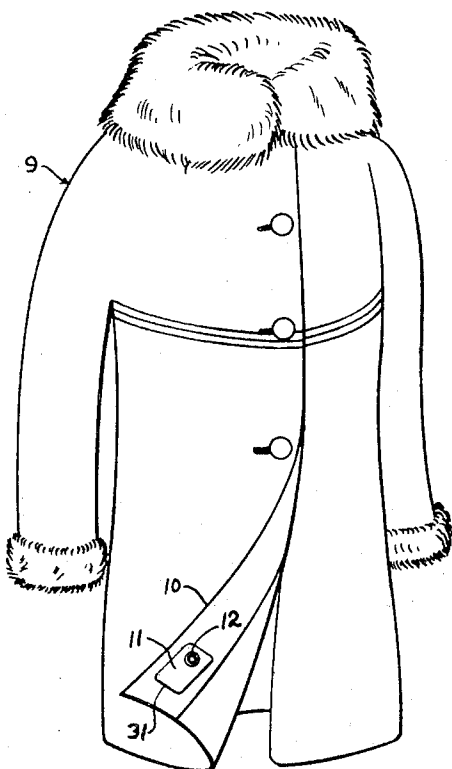


Fig. 2.

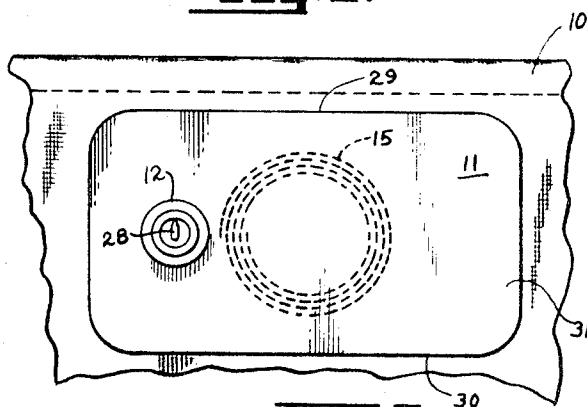


Fig. 3.

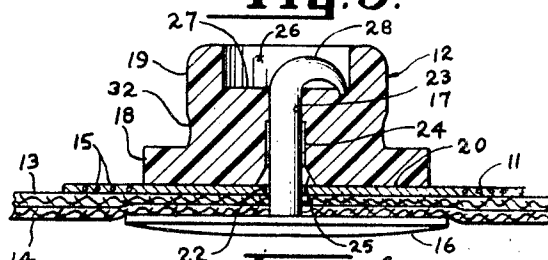


Fig. 4.

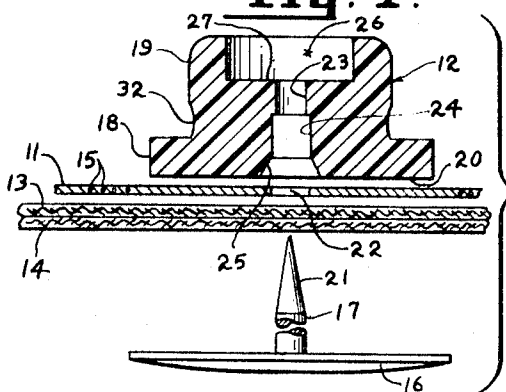


Fig. 5.

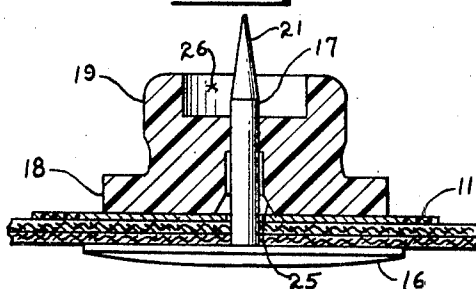
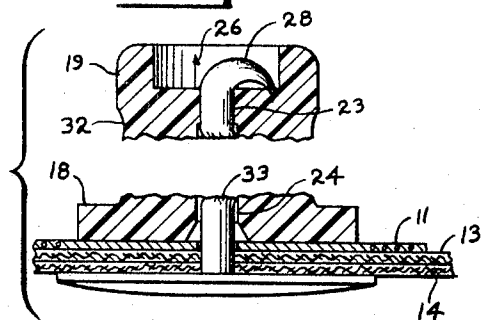


Fig. 6.



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NON-REMOVABLE TAG

Domenic J. Daddona, Jr., Waterbury, Conn., assignor to
Scovill Manufacturing Company, Waterbury, Conn.,
a corporation of Connecticut

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4 Claims

ABSTRACT OF THE DISCLOSURE

Intended primarily as a theft-detection device, a tag of relatively tough and stiff material is secured to an article of merchandise by unique fastening means which prevents unauthorized removal. A tack extends through a portion of the article and through a hole in the tag into a tack anchor, the pointed end of the tack being clinched in such a way that it is inaccessible and cannot be bent by pulling on the tag. The anchor has one section with a small bore for a tight fit with the tack shank and another section with a substantially larger bore so that the parts will easily separate when the anchor and tack are sheared across the larger bore section.

The invention relates to a non-removable tag assembly and particularly to improved fastening means for a tag containing a signal-triggering device, such as a coil of wire, the tag being non-tearable and made preferably of plastic material which is sufficiently stiff and strong without being excessively thick.

While it is well-known that various riveting techniques have been employed in holding tags and seals, nothing has been found in the prior art which will adequately solve the problems encountered in the field of theft detection in large department stores.

It is known that a coil of wire embedded in a plastic tag attached to a garment or the like can trigger a visual or audible signaling device arranged in an area to detect unauthorized removal of the garment from a department where it is offered for sale. The present invention aims to provide fastening means for such a tag which not only will prevent removal by pulling on the tag or by the use of simple hand tools, but also fastening means which is simple in construction and economical to make, which can easily be secured in the desired location to the article of merchandise by comparatively unskilled store personnel, and which may readily be removed without damage to the article when severed by a special shearing tool provided at the sales desk.

In the accompanying drawing, I have shown for purposes of illustration one embodiment which my invention may assume in practice.

In the drawing:

FIG. 1 is a front view of a coat with my improved tag assembly;

FIG. 2 shows the tag as seen from inside or normally concealed face of the coat flap;

FIG. 3 is a central section axially through the tag-fastening means;

FIG. 4 is a sectional view of the separate parts in position for assembly;

FIG. 5 is a view similar to FIG. 4 showing the parts assembled ready for tack-clinching; and

FIG. 6 is an axial section indicating what happens when the fastening means is severed by a special shearing tool.

The coat depicted in FIG. 1 is a good example of an article of merchandise with my invention employed thereto. The coat 9 has a front flap 10 shown turned outwardly

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to see a tag 11 held flat against the inside face and near the edge of the flap by fastening means generally indicated by the numeral 12. The supporting section of the flap as seen in the sectional views, comprises two layers of material 13 and 14. The tag 11 is a flat plate-like member of rectangular shape and made preferably of suitable plastic material and of sufficient thickness that for practical purposes, it is non-tearable. Concealed in the tag is a signal-triggering device such as a coil of wire 15.

The tag-fastening means is located adjacent one end of the tag 11 and comprises only two parts: a tack with a large head 16 and a shank 17, and a tack anchor consisting of an annularly flanged base 18 and a hub 19 projecting outwardly from the base. The parts are assembled so that only the tack head shows on the outer face of the coat flap. The tack anchor has a flat bottom surface 20 on the base 18 which bears against the tag opposite the tack head and if desired, this surface 20 may be roughened to resist any turning of the tag 11 relative to its fastening means.

In assembling the parts, the pointed end 21 of the tack pierces through the flap 10 until the head 16 bears against the outer face of the flap and the tag 11 is placed in position with the tack shank 17 projecting through the aperture 22 in the tag and, of course, one flat surface of the tag bears against the inner face of the flap 10. An axial hole through the tack anchor has a smaller diameter portion 23 intermediate the axial length of the hub of such size as to have a friction fit with the tack shank 17, and a larger diameter portion 24 extends inwardly from the portion 23 with a conical lead-in surface 25 around the entrance of said hole at the base of the anchor member. Thus, the anchor member may be pushed in place by hand and the friction fit will retain the parts together as seen in FIG. 5, until the tack-clinching operation is completed. The end portion of the hub 19 has an outwardly opening recess 26 providing an annular wall or shelf 27. The clinching operation can be performed by a suitable power tool or by a pair of special hand pliers. Such power tool or plier jaws are designed to bend the tack end 21 only in a direction crosswise of the rectangular tag 11 so that the bent or clinched end 28 as seen in FIG. 3, always extends toward one of the longer edges, as designated in FIG. 2 by the numerals 29 and 30.

In the clinching operation, the parts are clamped firmly together so that the tag always maintains the same relative position with respect to the clinched end 28 of the tack. This is important because anyone trying to tear away the tag will grip the larger free end portion 31 since the fastening means is located adjacent the other end. The clinched end 28 is thus in the best position to resist an outward pulling force on the tag. If it were pointed toward the free end 31 of the tag, there would be a tendency for the clinched end to bend outwardly. On the other hand, if it were pointed toward the opposite end of the tag, there would be a tendency for the tack anchor to pivot around the clinched end under force.

In addition to facilitating assembly, there is another important reason for making the portion 24 of the axial hole in the tack anchor of substantially larger diameter than the tack shank 17. When the tag is to be removed at the sales desk, the hub 19 is transversely severed and in order to reduce somewhat the required shearing force, there may be formed a groove 32 around the hub adjacent the base flange. Since the anchor member will normally be made of plastic material and the tack shank of metal, any burr as may be seen at 33 in FIG. 6, could dig into and bind in the plastic material, but since the hole portion 23 is substantially larger than the tack, the tag with the sheared portion of the anchor will be freed from the sheared tack.

What I claim is:

1. Non-separable fastening means for a tag assembly comprising

(a) a metal tack having a head and a pointed shank adapted to pierce through a tag-supporting article and through a hole in a tag, and

(b) a one-piece anchor member of rigid plastic material having a base including an annular flange and a hub projecting outwardly from said base, said anchor having a preformed hole extending axially therethrough, that portion of the hole which extends through said base and partially into said hub being of substantially larger diameter than that of said tack shank, the adjacent portion of said hole being sized to have a friction fit with said shank and a preformed outwardly opening recess in the outer end of said hub adapted to contain the clinched-over pointed end of said tack.

2. Fastening means according to claim 1 wherein there is a groove around said hub adjacent said base flange to facilitate transverse shearing of said hub and tack shank in the region where said hole is larger than said shank.

3. A non-removable tag assembly comprising

(a) an article having a tag-supporting section with inner and outer faces;

(b) a tag in the form of a flat plate-like member having one of its flat surfaces positioned against one of said faces; said tag having an aperture there-through;

(c) a tack having a head bearing against the other of said faces and a shank extending through said tag-

supporting section and through said aperture in the tag; and

(d) a tack anchor having a base with an inner surface bearing against said tag opposite the tack head, a hub projecting outwardly from said base having an axial hole through which said tack shank extends, a portion of said hole having a friction fit with said tack shank, that portion of said hole which extends inwardly from said first portion being of substantially larger diameter than the tack shank, and an outwardly opening recess in the outer end of said hub;

(e) the end of said tack being clinched over in the recess to bear tightly against the bottom wall of said recess.

4. A non-removable tag assembly as defined in claim 3 wherein the tag is of generally rectangular shape and wherein the clinched end of said tack extends crosswise of the tag or toward one of its longer side edges.

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EUGENE R. CAPOZIO, Primary Examiner

WENCESLAO J. CONTRERAS, Assistant Examiner