Oct. 6, 1931. F. E. WARNER 1,826,683

TACK FASTENED STUD FOR SNAP FASTENERS

Filed May 29, 1929

Fig. 1.

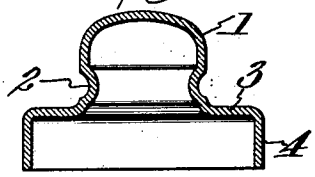


Fig. 2.

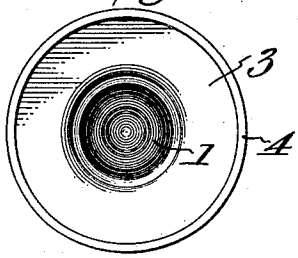


Fig. 3.

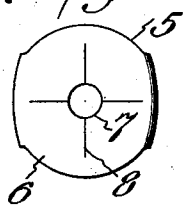


Fig. 4.

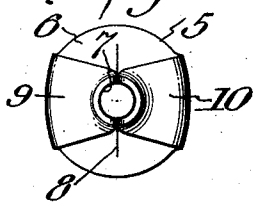


Fig. 5.

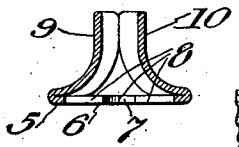


Fig. 6.

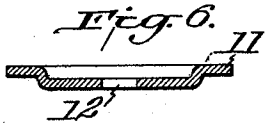


Fig. 7.

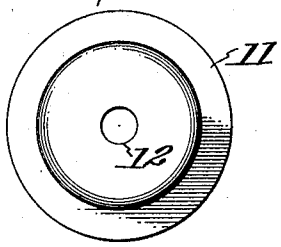


Fig. 8.

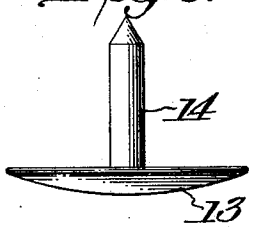


Fig. 9.

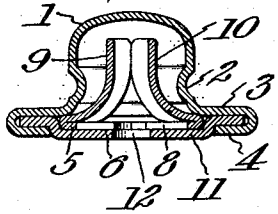
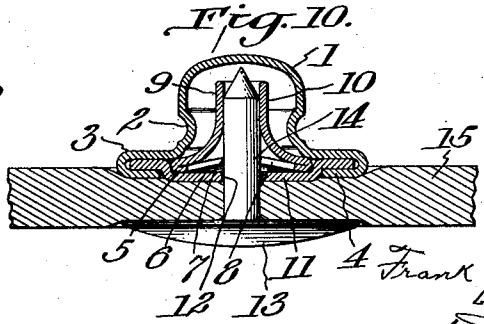


Fig. 10.



Inventor

Frank E. Warner

Attorney

Patented Oct. 6, 1931 1,826,683

UNITED STATES PATENT OFFICE

FRANK E. WARNER, OF WATERBURY, CONNECTICUT, ASSIGNOR TO SCOVILL MANUFACTURING COMPANY, OF WATERBURY, CONNECTICUT, A CORPORATION OF CONNECTICUT

TACK FASTENED STUD FOR SNAP FASTENERS

Application filed May 29, 1929. Serial No. 366,834.

This invention is in the nature of an improvement upon the device of the Patent No. 1,690,082, granted October 30, 1928, to Scovill Manufacturing Company, as assignee of the undersigned Frank E. Warner, for tack-fastened stud for snap fasteners.

The object of this invention is to provide a snap-fastener member, such as a stud or head, with means by which the member may be set by application thereto of a tack or similar driven device, without liability to tipping.

The invention consists of a snap-fastener member, having located within it an element which resiliently engages the shank of the tack and also embraces it near its point, in such way that the snap-fastener member is securely attached to an article and liability to tipping is prevented, as I will proceed now to explain more fully and finally claim.

In the accompanying drawings illustrating the invention, in the several figures of which like parts are similarly designated, Figure 1 is a vertical section of the shell of a non-resilient stud or head member of a snap fastener, and Fig. 2 is a bottom plan view thereof. Fig. 3 is a bottom plan view of the tack-engaging element; Fig. 4 is a top plan view thereof, and Fig. 5 is a vertical section thereof. Fig. 6 is a cross section of the centrally depressed back of the stud or head, and Fig. 7 is a bottom plan view thereof. Fig. 8 is an elevation of the tack. Fig. 9 is a vertical section of the assembled stud, and Fig. 10 is a similar view of the stud set upon a piece of fabric.

Illustrating one embodiment of the invention, the shell is composed of a non-resilient knob-like portion 1, adapted to engage the complemental resilient socket member of a snap fastener. This shell has the knurled neck 2 by which engagement of the stud or head and the complemental socket member is effected. This shell has the laterally extended base portion 3 and the downturned peripheral rim flange 4.

Within this shell is placed the tack-engaging element 5, composed of a single piece of steel or other metal, bent to form a base 6, which base is provided with a central hole 7 of slightly less diameter than the diameter of the shank of the tack to be employed as the fastening element. From this hole extend radial slits 8 whereby the base is rendered resilient in its action with relation to the engagement of the shank of the fastening tack. Extending from the base are oppositely arranged ends 9 and 10 which are curved longitudinally and transversely and bent upwardly and converged to form an upstanding element in line with the hole 7 and adapted to engage the shank of the tack substantially throughout the extent of the projection between the parts 9 and 10.

This tack-engaging element is placed within the shell, as indicated in Figs. 9 and 10, and then a centrally depressed back 11 is placed within the flange 4 and the flange closed down over its rim, as indicated in Figs. 9 and 10, whereby the tack-engaging element is securely clamped between the shell and the back, and the back of the shell closed. The hole 12 in the back 11 is enough larger in diameter than the diameter of the shank of the tack to permit the shank of the tack to start entering the spring member without binding on the back.

The tack is shown in Fig. 8, and comprises the head portion 13 and the pointed shank 14, and these two parts may be made in any usual or approved way and of any usual or approved form appropriate for use in connection with the fastening of the stud or head member of this invention to an article, which is indicated at 15, Fig. 10.

It will be noted from Figs. 9 and 10, particularly, that the parts of the shell between the knurled portion 2 and the lower adjacent parts of the laterally extended base portion 3 come into close contact with the portions 9 and 10 of the tack-engaging element and that the convergence of the parts 9 and 10 function together with the intervening edges of the base 6 to form projections that are intimately engaged between the shell and its back 11.

As shown in Figs. 3, 4, 5 and 9, the base 6 of the tack-engaging element is flat before the tack is inserted, but when, as shown in Fig. 10, the tack is inserted and the device

set, the tack raises the base adjacent to the hole 7 together with the contiguous slitted portion, so as to insure an effective resilient grip on the shank of the tack in order to hold the parts in engagement for use.

In the invention of the patent referred to, the base of the tack-engaging element is not slitted nor resilient, but is rigid, and the hole therein for the passage of the tack has a jagged edge whereby the shank of the tack is engaged frictionally. The hole in the back in the patent also is surrounded by a jagged edge. In the patent the tack-engaging element was of rigid material and purposely non-resilient.

In the present invention the tack-engaging element is of lighter stock than the stock used in the formation of the tack-engaging element of the patent and the hole in the base of the element is purposely made slightly smaller than the shank of the tack and the base of the element 5 containing the hole 7 is slitted so as to become resilient and thereby reacting on the shank of the tack after it has passed through the hole, to prevent the withdrawal of the tack and to ensure a reliable and permanent engagement of the tack and stud or head.

With the tack-engaging element made resilient in relation to the tack, the holes in the base of the tack-engaging element and in the back of the stud need not be angular, as in the patent referred to, but may be and preferably are circular.

I am aware that if it is not broadly new to make a stud with an internal member having a hole slitted radially to provide a resilient engagement with the shank of a tack, and to secure such member within the stud by various means, but I believe that I am the first to make a resilient tack-engaging member having the characteristics herein described and claimed.

Variations in the details of construction are permissible within the principle of the invention and the scope of the claims following.

What I claim is:—

1. A snap-fastener member, having a shell, and a one-piece tack-engaging member arranged within said shell and comprising a normally flat base having a hole of less diameter than the diameter of the shank of the tack and through which the shank passes, said base being slitted radially from the hole, whereby the shank of the tack when forced through the hole in the flat base raises the adjacent slitted parts of the base and is resiliently engaged thereby, and upstanding oppositely arranged parts rising from said base and curved longitudinally and transversely and converging above said hole to engage the shank of the tack throughout substantially the extent of its projection between said upstanding parts to prevent tipping.

2. A snap-fastener member, having a shell, and a tack-engaging member arranged within said shell and comprising in one unitary piece a base having a hole of less diameter than the diameter of the shank of the tack and through which the shank passes, said base being slitted radially from the hole whereby the shank of the tack is resiliently engaged, said base having a pair of upstanding parts curved longitudinally and transversely and converging over the hole in said base to engage the shank of the tack throughout substantially the extent of its projection between said upstanding parts to prevent tipping, and a back closed in upon the shell and having a hole of slightly larger diameter than the diameter of the shank of the tack, through which said shank passes freely.

In testimony whereof I have hereunto set my hand this 28 day of May A. D. 1929.

FRANK E. WARNER.