Oct. 22, 1935. G. SUNDBACK 2,018,099

SEPARABLE FASTENER

Filed Aug. 8, 1933

Fig. 1.

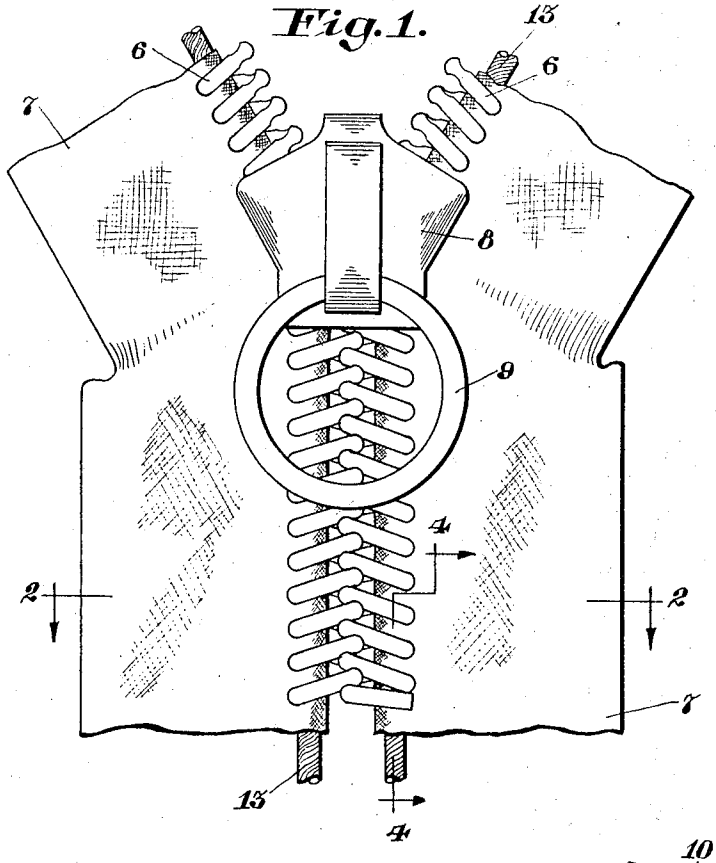
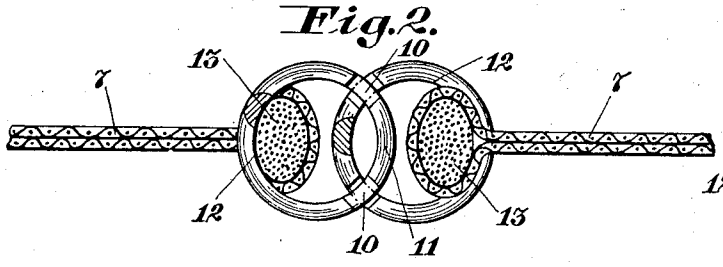


Fig. 2.



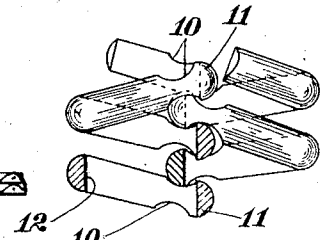


Fig. 3.

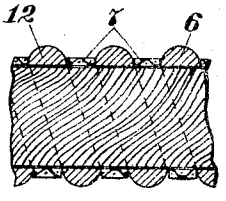


Fig. 4.

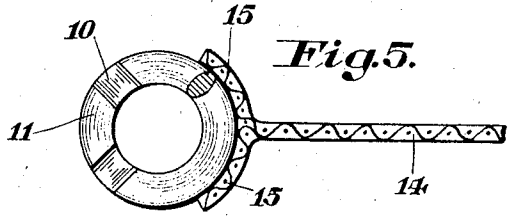


Fig. 5.

INVENTOR.
Gideon Sundback
BY Kelley & Chisholm.
ATTORNEYS.

Patented Oct. 22, 1935

2,018,099

UNITED STATES PATENT OFFICE

2,018,099

SEPARABLE FASTENER

Gideon Sundback, Meadville, Pa., assignor to Hookless Fastener Company, Meadville, Pa., a corporation of Pennsylvania

Application August 8, 1933, Serial No. 684,238

6 Claims. (Cl. 24—205)

My invention relates to separable interlocking fasteners and the principal object is to provide an improved fastener of the coil type which is particularly suitable for manufacture from non-metallic materials, such as celluloid, pyralin, hard rubber and analogous materials.

More detailed objects of the invention are to provide means for firmly holding each turn of the coil from shifting relative to the next adjacent turns; to unite the flexible support with the coil by sticking, for example, cementing, gluing or softening the surfaces of the coils sufficiently to cause them to adhere to the fabric; and anchoring the coils firmly at the ends by a sticking process which may consist of softening the material by the use of solvent and pressing the ends of the coil against the next adjacent turns. The term "sticking material" as used herein and in the appended claims refers to cement, glue or the like which forms a bond between two contacting surfaces.

In the accompanying drawing I have shown for purposes of illustration two embodiments which my invention may assume in practice. In this drawing:

Fig. 1 is a plan view of a fastener constructed according to my invention;

Fig. 2 is a cross-section on line 2—2 of Fig. 1;

Fig. 3 is a detail view showing the manner of engagement of the coils;

Fig. 4 is a longitudinal sectional view on line 4—4 of Fig. 1; and

Fig. 5 is a cross-section showing a modification.

Separable interlocking fasteners of the coil wire type are well-known and the general principle of operation will be only briefly described. The coils 6 are carried on the edges of flexible supports, such as fabric tapes 7, and the coils are brought into intermeshed relation by means of a slider 8, which may be actuated by the pull tab 9.

As noted in Fig. 3 the coils in the present case are preferably closely spaced and in order that they may intermesh they are provided with notches or grooves 10, which may be cut in the wire before or after it is coiled. These notches provide head portions 11 which interlock behind one another and securely hold the fastener together. The coils are made from non-metallic material of half round section so as to provide flat surfaces 12 on the inner surfaces of the coils. A flexible strand, herein a cord 13, extends through each coil and lies against the flat faces 12. In order to hold the individual turns of the coils in accurate relation, the cord 13 is stuck firmly to the flat surfaces of each coil by any convenient process. One desirable method of sticking when the coils are made of a soluble material, such as pyralin, is to soften the contacting surfaces sufficiently by the use of a solvent such as acetone, to cause them to adhere firmly together. The tapes 7 are assembled with the coils in a well-known manner, each tape being provided with a series of apertures extending along the longitudinal central portion, the apertures receiving the coils so that the tape can be folded in contact with the cord.

In the modification shown in Fig. 5, the cord is dispensed with and the tape 14 has bifurcated portions 15, which are stuck to the outside surfaces of the coils. This sticking may be accomplished by the use of solvents, cement or other suitable means.

While I have in this application shown and described two embodiments which my invention may assume in practice, it will be understood that these embodiments are merely for the purposes of illustration and description and that various other forms may be devised within the scope of the appended claims.

What I claim as my invention is:

1. A separable interlocking fastener comprising a pair of continuous coils having cooperating engaging means adapted to interlock when the coils are intermeshed, and means providing a flexible support for each of said coils, comprising a flexible strand extending through said coils and the contacting surfaces of said strand and coils being intimately bonded together, and means engaged around said strand and extending at one side of the coil to provide means for attachment of the fastener to an article.

2. A separable interlocking fastener having two continuous coils of soluble non-metallic material, said coils having interlocking means adapted to engage when the coils are intermeshed, and a cord extending through each of said coils in contact with the inner surface of each individual turn of the coil, sticking material forming a bond between said contacting surfaces of the cord and coil, and a fabric tape folded around said cord to provide means for attaching the fastener in an article.

3. A separable interlocking fastener of the class described comprising a pair of continuous coils of non-metallic material having interlocking means adapted to engage when the coils are intermeshed, a flexible support for each coil having portions contacting with each turn of the coil, and sticking material for bonding together

the contacting surfaces of the flexible support and coil.

4. A separable interlocking fastener of the class described, comprising a pair of coils having interlocking means adapted to engage when the coils are intermeshed, a flexible support comprising a fabric tape having portions disposed against the outer surface of each turn of the coil, and sticking material forming a bond between the fabric tape and coils.

5. A separable interlocking fastener of the class described, comprising a pair of continuous coils of substantially half round material with the flat part of the round on the inside of the coil, said coils having interlocking means adapted to engage when the coils are intermeshed, a cord positioned on the inside of each coil and contacting over a substantial area with the inside surfaces of each turn of the coil, and a fabric tape folded around said cord for attaching the fastener in an article, and sticking material for bonding together said contacting surfaces of the coil and cord.

6. A separable interlocking fastener comprising a pair of continuous coils having interlocking means adapted to engage when the coils are intermeshed, the ends of each coil being disposed in contact with the next adjacent turn of the coil, and sticking material for bonding together said contacting portions of the coil.

GIDEON SUNDBACK.