Jan. 18, 1966 C. W. COCHRAN 3,229,342

PAPER CONSTRUCTED SNAP FASTENER

Original Filed April 11, 1961

Fig. 1.

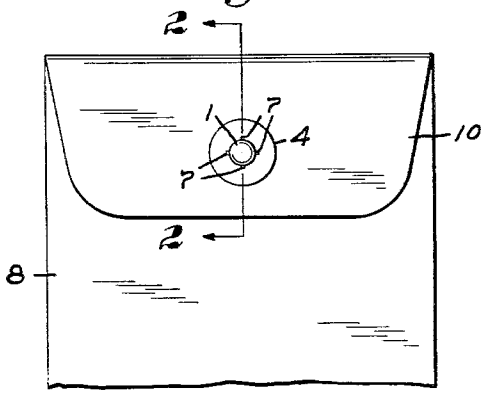


Fig. 2.

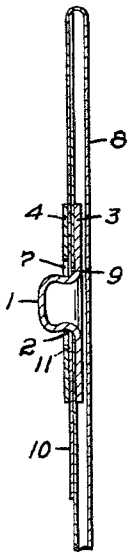


Fig. 3.

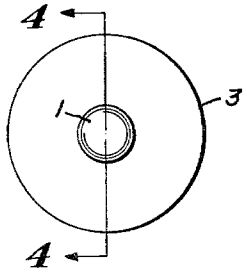


Fig. 4.

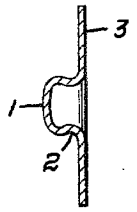


Fig. 5.

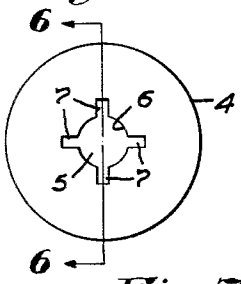


Fig. 6.

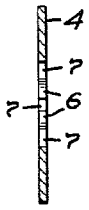


Fig. 8.

Fig. 9.

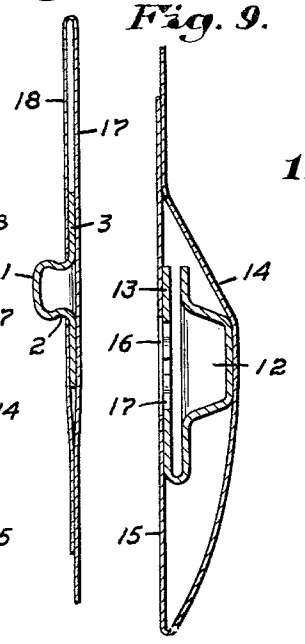


Fig. 10.

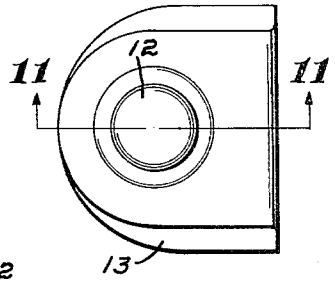


Fig. 11.

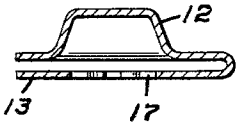
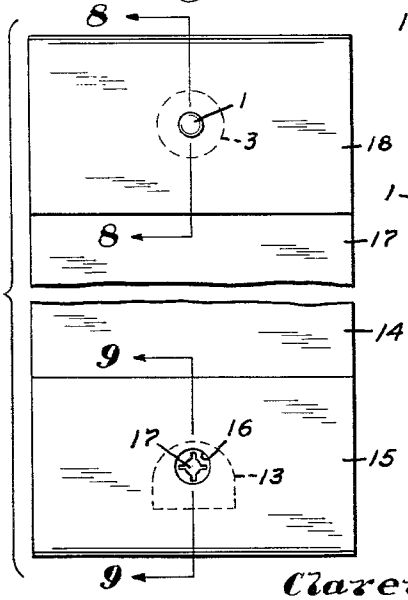


Fig. 7.



Inventor:
Clarence W. Cochran, (deceased)
by Lois Cochran, Administratrix,
by Walter S. Jones
Atty.

United States Patent Office 3,229,342 Patented Jan. 18, 1966

3,229,342

PAPER CONSTRUCTED SNAP FASTENER

Clarence W. Cochran, deceased, late of Belmont, Mass., by Lois F. Cochran, administratrix, Belmont, Mass., assignor to United-Carr Incorporated, a corporation of Delaware

Continuation of application Ser. No. 102,320, Apr. 11, 1961. This application Apr. 2, 1963, Ser. No. 274,892
2 Claims. (Cl. 24—208)

This invention aims to provide improvements in separable snap fasteners of the stud and socket type.

An object of the invention is to make a separable snap fastener stud or socket, or both, from a paper material, and preferably from a relatively tough formable paper in strip form, by passing the strip through suitable tools and forming and blanking the part or parts from the strip.

Another object of the invention is to provide a simple snap fastener device from relatively inexpensive paper material, rather than metal or plastic as has been the case heretofore.

A further object of the invention is to form separable stud and socket snap fasteners from paper material, such as vulcanized fibers, paper material with a snap fastener life and action particularly useful for application to articles of commerce made of paper or other fragile material.

Referring now to the drawings:

FIG. 1 is a front elevation of the upper portion of an envelope showing an improved snap fastener stud and socket attached thereto;

FIG. 2 is an enlarged section taken on the line **2—2** of FIG. 1;

FIG. 3 is an enlarged plan view of a snap fastener stud;

FIG. 4 is a section taken on the line **4—4** of FIG. 3;

FIG. 5 is an enlarged plan view of a simple construction of the socket member of the invention;

FIG. 6 is a section taken on the line **6—6** of FIG. 5;

FIG. 7 is a plan view of a foldable support construction partly broken away showing a stud and a modified form of socket;

FIG. 8 is an enlarged section taken on the line **8—8** of FIG. 7;

FIG. 9 is an enlarged section taken on the line **9—9** of FIG. 7;

FIG. 10 is an enlarged plan view of the modified form of socket shown in FIGS. 7 and 9; and

FIG. 11 is a section taken on the line **11—11** of FIG. 10.

This application is a continuation of application Serial No. 102,320 filed April 11, 1961, now abandoned.

In the drawings, which illustrate two embodiments of the invention, there are shown in FIGS. 1 through 6, a novel snap fastener stud and socket means both formed of a paper material rather than from metal or plastic material.

The particular snap fastener means illustrated includes a one-piece snap fastener stud (FIGS. 2, 3 and 4) formed from a relatively tough paper material which is pliable enough to have a head **1** and neck **2** drawn, by any suitable tools, from a flat piece of paper stock and leaving a base flange **3**. The thickness of the walls forming the head and neck is substantially uniform throughout as shown in FIGS. 2 and 8.

The socket member may also be formed of paper material and that will have a springy construction when completed. In FIGS. 2, 5 and 6, this socket is shown as a flat disk **4** having a stud receiving aperture **5** surrounded by a wall **6** divided by any suitable number of slits **7** depending upon the type of snap action desired.

The snap fastener disclosed in connection with FIGS. 1 through 6 may be particularly adapted for use with articles made of paper such as envelopes, paper clothing, etc., but may be used with other material that would not be strong enough for the use of metal snap fasteners. It has been found that snap fastener studs and sockets made of a paper sometimes called vulcanized fiber in the paper trade can be made with suitable tolerances and that the snap action is more suitable for flimsy or easily torn material because the snap action can be made lighter and more uniform than can be consistently secured by making snap fasteners from metal.

In FIGS. 1 and 2 the snap fastener stud and socket, described above, are adhesively secured to a paper envelope **8**. The stud has its flange **3** adhesively secured to the inside surface of the envelope and the head **1** and neck **2** pass through an aperture **9** and are exposed on the outer face of the envelope **8** to be engaged by the socket disk **4**.

The socket disk **4** is adhesively secured to the outer surface of the envelope flap **10** adjacent to an aperture **11** so that when separation force is exerted to remove the socket from the stud there will not be any tendency to pull the socket loose from the flap.

In some cases it may be desired to conceal the fastener relative to the article of commerce when viewed from the outside thereof. Therefore, there is shown in FIGS. 7 through 11 a modified structure wherein the socket has an integral cover portion **12** hinged to the disk portion **13**. The reason for the cover will be apparent from a study of FIG. 9 wherein the socket is shown concealed between two layers **14** and **15** of the material of the article of manufacture. This cover portion **12** is dome shaped to receive the head of a stud and thus prevents the stud head from breaking through the layer **14**, which would cause an unsightly appearance. Furthermore, the cover portion **12** supports the pressure of the operator's finger or thumb and also allows the socket to flex toward the cover portion **12** around the aperture **16** when the stud head **1** is passed through the aperture **16** and is forced into the aperture **17** in the modified socket shown in FIG. 9. In this construction shown in FIGS. 7 through 11, the stud member is the same construction as the stud member shown and described above. Also, in this construction, the flange **3** of the stud is interposed between the layers **17** and **18** as shown in FIG. 8.

While there have been illustrated and described two embodiments of the invention, it should be understood that the invention is best defined by the following claims.

Since certain other obvious modifications may be made in this device without departing from the scope of the invention, it is intended that all matters contained herein be interpreted in an illustrative and not in a limiting sense.

There are claimed:

1. A snap fastener device adapted to be engaged and disengaged by snap action comprising, in combination, a stud member having a head and a neck, and a socket

member, said socket member comprising a disk portion having an edge and a cover portion integral with said edge and bent back along the line of jointure and being in spaced relation to said disk portion for its full length, said disk portion being provided with an aperture therethrough and being divided by a series of slots intersecting said aperture, and said cover portion having a dome shaped portion formed therein, open at one end the axis of said dome shaped portion and said aperture being coincident and said open end of said cover portion facing toward said aperture, both said studs and said socket member being formed of paper.

2. The combination of a snap fastener formed of a paper material and a pair of supports formed of a paper material, one of said supports overlapping the other, said snap fastener comprising a stud having a hollow, drawn, bulbous head and neck extending from a flange and attached by said flange to one of said supports and a unitary socket attached to the other one of said supports, said socket comprising a base portion and a slotted wall defining an aperture to receive said bulbous head and neck of said stud.

References Cited by the Examiner

UNITED STATES PATENTS

1,230,412	6/1919	Kinch	40—23
2,547,871	4/1951	Kirk	229—43
2,772,043	11/1956	Foord	229—43

FOREIGN PATENTS

213,080	9/1909	Germany.

WILLIAM FELDMAN, *Primary Examiner.*

DONLEY J. STOCKING, *Examiner.*