(No Model.)

F. E. HALL.

GLOVE FASTENER.

No. 490,436. Patented Jan. 24, 1893.

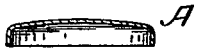

Fig. 1.

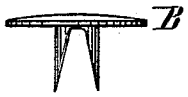

Fig. 2.

Fig. 3.

Fig. 4.

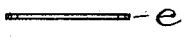

Fig. 5.

Fig. 6.

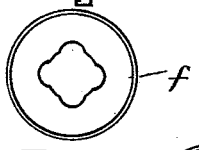

Fig. 7.

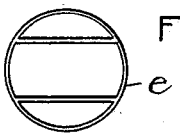

Fig. 8.

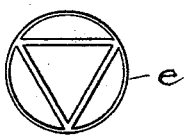

Fig. 9.

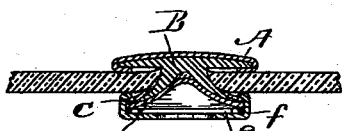

Fig. 10.

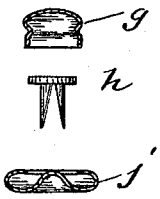

Fig. 11.

Fig. 12.

Fig. 13.

WITNESSES.

E. W. Gilman

L. H. Fawcett

INVENTOR.

Frank E. Hall

by H. B. H. Dowd

Atty.

UNITED STATES PATENT OFFICE.

FRANK E. HALL, OF NEWTON, MASSACHUSETTS, ASSIGNOR TO THE CONSOLIDATED FASTENER COMPANY, OF PORTLAND, MAINE.

GLOVE-FASTENER.

SPECIFICATION forming part of Letters Patent No. 490,436, dated January 24, 1893.

Application filed September 16, 1892. Serial No. 446,049. (No model.)

To all whom it may concern:

Be it known that I, FRANK E. HALL, a citizen of the United States, residing at Newton, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Snap-Fasteners for Gloves, Garments and the Like, of which the following is a full specification.

My invention relates to an improved two-part snap fastener for gloves, garments, pocket books, and other articles, and consists in certain details of construction which are hereinafter pointed out.

The socket or female member of the fastener is preferably composed of the parts which are shown by the accompanying drawings in detail in Figures 1, 2, 3, 4, 5, 6, 7, 8, and 9. Fig. 10 is a vertical section through the socket member, showing an assembly of the different parts. Fig. 11 shows in detail the pieces of which the stud member is preferably composed. Fig. 12 is a section through stud member assembled. Fig. 13 illustrates the method by which the members of the fastener are riveted to the goods without perforating the same.

Referring to the drawings representing the socket member of the fastener; A, Fig. 1, is the cap or cover struck up from sheet metal, the edge of which is inwardly turned around the flat upset head of a two-pronged riveting stud shown at B, Fig. 2. This riveting stud is made of malleable steel with a solid head and with attaching prongs made by cutting out or removing portions of the solid shank. The combination of these parts forms the cap of the fastener resting on top of the material.

The part of the socket member which rests on the under side of the material is preferably made of the collet *f*, the spring *e*, the anvil piece *d*, and a washer *c*. *f* is shown in section in Fig. 6, and in plan in Fig. 7. In the bottom of *f* is cut the hole shown in Fig. 7, which is just large enough to centrally admit the circular stud *g* of the other member. On the bottom of the collet *f* is placed a spring *e*, shown in section in Fig. 5, in plan in Fig. 8, and in modified form in Fig. 9. This spring, which is blanked out of spring metal, is so arranged that the distance between the cross-bars is slightly less than the diameter of the stud *g* by which means the necessary resilience is given to the socket. On top of the spring rests the anvil-piece *d*, Fig. 4, and on this rests a washer *c*, Fig. 3, having its inner edge slightly turned up to conform with the shape of the anvil-piece. Finally, the upright flange of the collet *f* is turned over the edge of the washer, by which means the spring and anvil-piece are held together loosely; space being left for the prongs of the riveting-stud to enter between the washer and anvil-piece. The cap and riveting-stud being placed on top of the material and the assembled part of the socket containing the spring beneath, they are pressed together and automatically clinch, no perforation of the material being necessary, as the prongs themselves are not designed to cut the material, but to pass between the web and woof. The prongs are deflected outward by the anvil-piece and forced between the anvil-piece and washer, and so clamp the whole securely together.

The stud member is preferably composed of the pieces shown in Fig. 11. *g* is a non-resilient ball struck up from sheet metal, in the shape shown. The flange of *g* is inwardly turned around the flat upset head of the two-pronged riveting stud *h*, which is made of steel, similar to B in Fig. 2. These two pieces assembled are placed on the upper side of the material, while the single piece *j*, forming the washer and anvil-piece, is placed beneath, and the two parts are automatically clinched.

The pronged stud rivet *h* of the stud member is provided with a head which is of such shape and stiffness that it supports the head or ball of the stud and furnishes a finish for the lower end of the stud, thus saving the use of an inner supporting rivet and an extra washer.

The hole in the bottom of the socket member is made in the scallop shape shown in Fig. 7, *i. e.* formed by four partial circumferences of equal radii, but being struck from four different equi-distant centers, said partial circumferences being joined by suitable curves.

As before stated the hole is just large enough so that the largest section of the stud will pass through centrally. However when any lateral pull is given to the fastener, as is the case when it is used on garments and the like,

the stud is pulled into one of the said scallops—which just fits the smaller section of the stud—and so forms a much larger bearing between the stud and socket than is the case with a circular hole. It is thus absolutely impossible to pull the stud out of the hole unless in its central position.

I claim:

1. In a spring button fastener, the combination of a stud member and socket member having a stud receiving part *f* provided with an anvil plate *d*, and a struck up spring *e* in combination with an attaching rivet B, substantially as described.

2. A spring button fastener consisting of a stud member and a socket member, the stud member consisting of a headed sheet metal stud and a malleable steel pronged rivet having prongs cut from its solid shank having a solid flanged supporting and finishing head and a socket member provided with an anvil-plate substantially as described.

3. A spring button fastener consisting of the combination of a socket member and a stud member, wherein the socket member is provided with a scalloped shaped mouth formed by four partial circumferences of equal radii, substantially as described.

4. A socket member of a spring button fastener, consisting of a rivet B, the washer *c*, anvil piece *d*, the spring *e*, and the collet *f*, in combination with a stud member substantially as described.

5. A socket member of a spring button fastener consisting of a steel pronged riveting cap and a sheet metal anvil-containing stud chamber consisting of the washer *c*, the anvil piece *d*, and the collet *f* substantially as described.

In witness whereof I have hereunto set my hand.

FRANK E. HALL.

Witnesses:
L. H. FAWCETT,
E. H. GILMAN.