

R. STOKES.
BUSK FASTENINGS.

No. 171,882.

Patented Jan. 4, 1876.

FIG. 1.

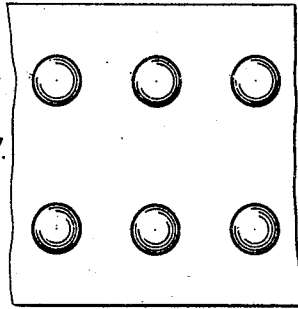


FIG. 2.



FIG. 3.

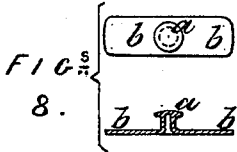


FIG. 4.

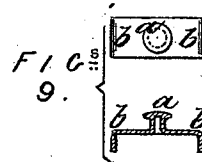


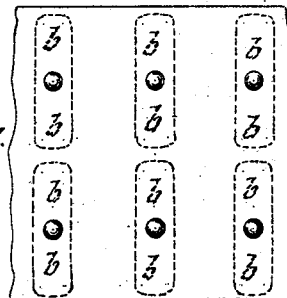
FIG. 5.



FIG. 6.



FIG. 7.



Witnesses
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Fred Hageman

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UNITED STATES PATENT OFFICE.

ROBERT STOKES, OF BOW, ENGLAND, ASSIGNOR TO THOMSON, LANGDON & CO., OF NEW YORK CITY.

IMPROVEMENT IN BUSK-FASTENINGS.

Specification forming part of Letters Patent No. 171,882, dated January 4, 1876; application filed August 2, 1875.

To all whom it may concern:

Be it known that I, ROBERT STOKES, of Bow, in the county of Middlesex, England, have invented certain Improvements in the Manufacture of Busk and similar Fastenings, of which the following is a specification:

The object of this invention is to improve the manufacture of the stud-fastening known as Thomson's unbreakable busk-fastening. In this fastening the stud was turned to shape, and secured to the strip of metal, which is made to clip the steel-busk by riveting the same to the strip. As, however, great strain is often put upon the studs, they are very liable, if imperfectly riveted, to be torn out of their sockets, and the busk then requires to be replaced by a new one.

To avoid this inconvenience, I propose to make the stud in one piece with the strip of metal that clips the busk. This is effected by striking up or raising the stud out of the metal composing the strip.

In the accompanying drawing I have illustrated the several stages of the process by which I produce the improved stud-clip.

Having provided a strip of malleable sheet metal of the required gage, I submit it to the action of a punch and die fitted to a fly or other suitable press, whereby one, two, or more dish-shaped projections may be struck up at one blow, of the form indicated in the plan view, Figure 1, and in the cross-section, Fig. 2. These projections may be conveniently struck up in pairs; and in that case the metal is shifted forward, after each striking up, to a gaged distance, when the punch again advances, and repeats its blow. In like manner the blow is repeated until the whole length of the metal strip has been passed through the press, and subjected to the action of the punch and die, whereby a large number of the dish-shaped projections are formed thereon. The strip of metal, thus prepared, is next operated upon by a punch and die, which are so shaped as to bring the projections to the form shown in Fig. 3. By the succeeding operations the projections are reduced from the form of a

broad cone, successively, to the forms indicated at Figs. 4, 5, and 6, in the last of which figures they are in a condition for undergoing the heading operation. Before, however, this takes place, I submit the strip to the action of stamping-dies, to cut out therefrom the stud-clips *b*, as indicated by dots at Fig. 7. The stud-clips, thus far formed, are now submitted to the action of a heading-press, which is provided on its bed with a pair of slides, that will advance toward, and gripe, the stud, thereby holding it steady to receive the blow of the heading-die. While the stud is thus gripped the die is brought down, and caused to depress the end of the stud, thereby expanding it laterally, and converting it into a flanged head, *a*, as illustrated at Figs. 8. To complete the stud-clip *b*, the ends of the metal are turned down at right angles, as illustrated at Figs. 9, and the clip *b* is then ready to be attached to the steel busk.

I would here observe that although, for the sake of clearness in the drawing, I have shown the dish-shaped projections as some distance apart, yet in practice, in order as much as possible to economize metal, I strike up the projections and form the studs as near together as can conveniently be done. I would also observe that the fly-presses used for the purposes of my invention are of the ordinary construction usually employed for striking up articles out of thin metal. I therefore lay no claim to them as constituting any part of my invention; but

What I claim is—

The stud-fastening for busks and other articles, consisting of a flanged head, *a*, and clip *b*, the said head and clip being composed of one piece of sheet metal, substantially in the manner and for the purpose specified.

Dated the 23d day of June, 1875.

ROBT. STOKES.

Witnesses:

H. K. WHITE,
A. S. BISHOP.