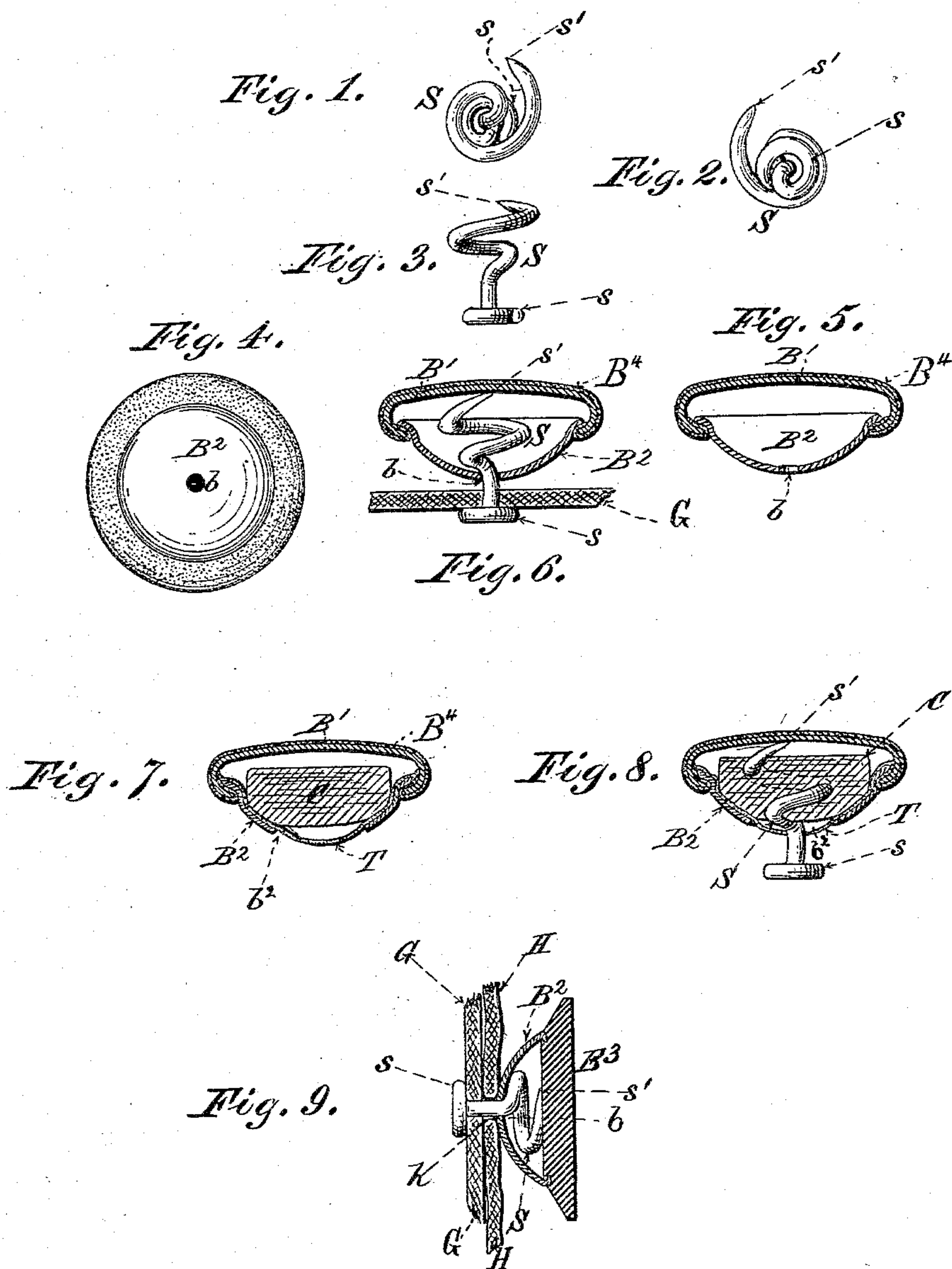


(No Model.)

L. WISE & J. O. FROST.
BUTTON AND BUTTON FASTENING.

No. 301,463.

Patented July 1, 1884.



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UNITED STATES PATENT OFFICE.

LEOPOLD WISE, OF NEW YORK, AND JAMES O. FROST, OF BROOKLYN, N. Y.

BUTTON AND BUTTON-FASTENING.

SPECIFICATION forming part of Letters Patent No. 301,463, dated July 1, 1884.

Application filed March 13, 1884. (No model.)

To all whom it may concern:

Be it known that we, LEOPOLD WISE, of the city, county, and State of New York, and JAMES O. FROST, of the city of Brooklyn, county of Kings, and State aforesaid, and both citizens of the United States, have jointly invented a new and useful Improvement in Buttons and Button-Fastenings, of which the following is a specification.

The accompanying drawings, in which similar letters designate similar parts, illustrate our invention.

Figure 1 is a front perspective view of the spiral-shaped wire hereinafter described; Fig. 2, a rear or reversed perspective view of the same. Fig. 3 is a side perspective view of the same; Fig. 4, a perspective view of the back of one of our improved buttons, hereinafter described; Fig. 5, a sectional view of said button; Fig. 6, a sectional view of said button and the substance to which it is attached, showing a perspective view of said spiral-shaped wire in position. Fig. 7 is a sectional view of one of the class of covered buttons now in use, hereinafter described; Fig. 8, a sectional view of said last-mentioned button with said spiral-shaped screw in position. Fig. 9 is a sectional view of a hard-faced button and the cap B², hereinafter described, showing same in position as fastened by the said spiral-shaped wire to material G, (shown in section,) and another piece of material, H, also shown in section, buttoned over said button.

Our invention relates to the fastening, as aforesaid, of that class of buttons which are generally known to the trade as "covered buttons," "lasting-buttons," "shank-buttons," &c., being buttons the backs of which are provided with means for sewing or fastening the same, as distinguished from buttons provided with perforations through which such sewing or fastening is accomplished. Such covered or shank buttons consist, generally, of a top or front, B', of metal or other suitable material sufficiently rigid to admit of its edges being bent over and clinched upon and around the under part or "back" of the button B², composed of similar material. The "front" is often covered with cloth or other textile fabric, and the interior often filled with the

"collet" or packing, while a piece of textile fabric, called the "tuft," is laid and retained between such collet C and the back, so as to project slightly through the hole b² in the back of the button, and thus afford a means whereby the button may be stitched to the garment. Instead of such tuft a "shank" or staple is sometimes employed in buttons of this class, especially in the case of metal, horn, or gutta-percha buttons.

The object of our invention consists in providing a durable, firm, inexpensive, and easily-applied means or method whereby a button or buttons may be fastened for use, a method substantially obviating the tendency of the buttons mentioned to break or wear away from the fabric to which they are attached, and entirely obviating the comparatively difficult, expensive, and tedious operation of "sewing on" such buttons, and the strain and wear and tear of the material to which such button is fastened by such sewing. We attain these objects by the devices shown in the drawings, as follows: A piece of strong and stiff wire, of steel preferably, or of any other suitable material, of a length and thickness depending upon the size of the button and the thickness of the material to be thereby united, is closely and tightly coiled at one of its ends, so as to form a retaining surface or head, S. The other end of the wire S' is sharpened to a fine point, and the portion of the wire intervening between said point and head is twisted into a spiral shape. The pitch and diameter of such spiral will of course vary with the size and shape of the button intended to be secured thereby, it being desirable to pitch the spiral so that the point S' may be brought against the under side of the front B' or B² before the wire is fully screwed in, as the resistance of the front thereby tends to force the spiral convolutions of the wire back upon themselves, and so lock the spiral into its place; and it is also desirable that the form of the spiral shall be such as to cause at least one whirl to rest closely against the inside of the back of the button. The diameter of the space inclosed by the spiral should also be as great as the interior of the button will admit of, as thereby greater permanency, firmness, and leverage are secured.

It is of course evident that the head may be formed of any properly-shaped piece of metal or other appropriate substance, and then soldered or otherwise fixed to the spirally-shaped wire; but we prefer to make such head out of the wire itself as more economical; and it is also evident that, instead of making said spiral out of a steel wire, any other suitable metal, material, or equivalent substance possessing sufficient rigidity and strength to retain the spiral shape and keep the button on may be employed without departing from our invention. Having thus shaped our wire, we therewith pierce and pass it through the fabric at the place to which it is desired to attach the button until the head *S* is brought closely in contact with such fabric on the side opposite to that to which the button is to be attached, thus leaving the whole of the spiral on the outside of the fabric and ready to receive the button. The point of the wire is now applied to the opening *b* in the back of the button, and while the head is prevented from revolving by any suitable means the buttons can be easily screwed down onto and over the spiral-shaped wire, which will enter the body of the button and retain the same in the desired position.

In order to secure greater permanency in the button thus screwed into position, we prefer to remove or dispense with the collet or body-filling of the button, and to make the aperture *b* in the back of the button of such a diameter as to constitute such aperture a close and nice fit for the wire inserted. Where a button with a hard front—such as metal or horn or other hard substance—is used, we secure as a back to such button, and in the usual well-known manner, a hollow metal cap or cup, *B*², as shown in Fig. 9, such cap being perforated at the center *b*, as in the case of our other buttons, and the hollow or cavity thereby formed being sufficiently spacious to admit of the spiral-shaped wire or other substance being screwed into and contained in it.

It is evident that our fastening device may be used as described not only to secure a "button," technically so called, but also any equivalent for a button, so far as use and function of the same are concerned—such as a stud, for example—and this without departing from our invention.

The advantages of fastening buttons by our method are obvious. Without in any way changing the appearance of the button from the outside and without changing the appearance of the garment from the inside, for the head of the spiral may be colored to match the cloth, or covered separately with cloth of the

same kind, a fastening is provided which is substantially indestructible, and which, as compared with the old method of sewing, is applied with much greater ease and with a great saving of time and labor, and also with comparatively no injury to the fabric to which the button is attached.

We are aware that the method of securing a "stud" or "button," so called, by means of a spirally-shaped wire permanently attached thereto is not novel, the same being in constant use for the purpose of fastening together the two sides of a shirt-bosom, &c.

We are also aware that Letters Patent No. 293,301 have heretofore been granted to Duke F. Baxter for an improvement in button or stud fastener, and we do not therefore wish to be understood as claiming any of the specific devices or improvements by him claimed in his said Letters Patent; therefore we do not wish to be understood as broadly claiming the method of attaching buttons by a spiral-shaped wire, or by a threaded stem screwed into a correspondingly-threaded opening.

What we do claim as new, and desire to secure by Letters Patent, is—

1. A button or stud fastening consisting of a spirally-shaped device as distinguished from a spirally-threaded screw-stem, the body and one end of which spirally-shaped device is adapted to be screwed into a threadless aperture and cavity contained in a button or stud, and the other end of which spirally-shaped device is enlarged or adapted, as described, so as to prevent it from slipping through the material to which such button or stud is attached, and thus adapted to hold such wire and button or stud, when united, in the position desired for use, substantially as and for the purpose described.

2. The spirally-shaped article *S*, in combination with a button or stud containing in its back a cavity fitted to receive and retain the spirally-shaped part of such article *S*, and containing also a perforation, *b*, for insertion of such article *S* into said cavity.

3. The spirally-shaped device *S*, having its spiral so pitched as to force back the whirls of the spiral upon themselves when screwed into the button or stud, and thus lock the spiral-shaped device *S* into place, substantially as described.

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