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A. H. TROTTER

1,887,741

FASTENING DEVICE

Filed Nov. 22, 1927

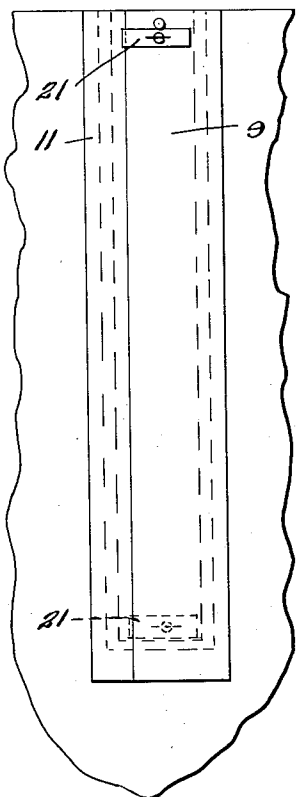
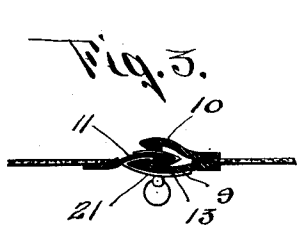


Fig. 4.

Fig. 6

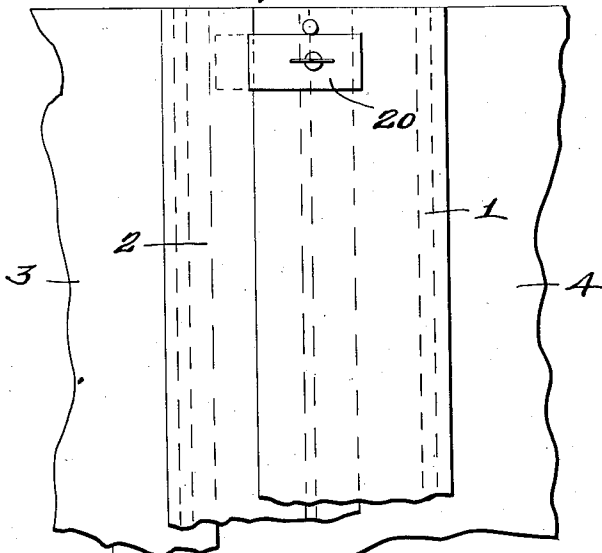
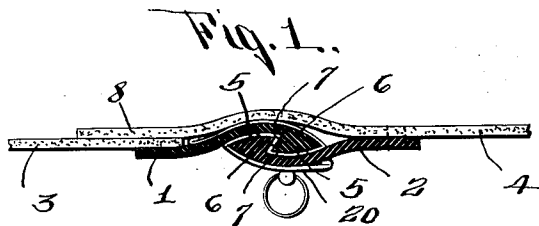
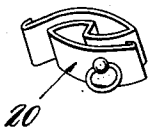


Fig. 2.

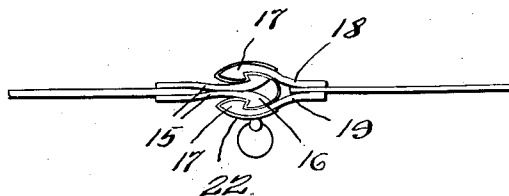


Fig. 5.

INVENTOR.  
*Arthur H. Trotter*  
BY  
*Parsons Rodell*  
ATTORNEYS.

# UNITED STATES PATENT OFFICE

ARTHUR H. TROTTER, OF SYRACUSE, NEW YORK, ASSIGNOR TO HOOKLESS FASTENER COMPANY, OF MEADVILLE, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA

## FASTENING DEVICE

Application filed November 22, 1927. Serial No. 235,023.

This invention has for its object a fastening device for articles as overshoes, arctics, boots and other footwear etc., articles of clothing, sacks, traveling bags and other containers, automobile and carriage curtains, tarpaulins, curtains etc., which fastening device is particularly simple and economical in construction, highly efficient, weather tight and durable in use and also which is readily operable.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawing, in which like characters designate corresponding parts in all the views.

Figure 1 is a cross sectional view of one form of my fastening device.

Figure 2 is a fragmentary front elevation of an article provided with my fastening means.

Figures 3 and 4 are views similar to Figures 1 and 2 of another embodiment of my invention.

Figure 5 is an edge view of a third embodiment of my invention.

Figure 6 is a detail perspective view of the slide.

This fastening device comprises generally, elongated strips designed to be secured as by stitching, cementing or otherwise to two parts to be fastened together or formed integral with said parts, the strips being of resilient material and lapping each other and so shaped that they are tensioned to press their lapping faces toward each other, the lapping faces being formed with continuous interlocking tongues and grooves extending lengthwise thereof, each strip being formed with a tongue and groove which is complementary to the tongue and groove on the other strip and the interlocking portions being under-beveled so that the lapping portions of the strip are virtually provided with lengthwise interlocking snugly fitting hook shaped beads extending the full length thereof.

The fastening device further includes an operating member as a slide which brings

the interlocking beads into interlocking engagement by being merely slidable along the strips in one direction. Sliding of the operating member along the strips in the opposite direction permits them to be unlocked and separated.

In Figure 1, 1 and 2 designate the strips of resilient material which are secured by sewing or otherwise to two pieces 3, 4 to be fastened together, the strips lapping each other. The strips 1, 2 are usually of rubber and formed with their lapping portions convex or bow-shaped in cross section and tensioned to be pressed toward each other and the opposing faces of the lapping portions being provided with concave lengthwise grooves 5 toward their base portions, that is, the portions which are secured to the strips 3, 4 and with continuous beads 6 toward their outer edges, the beads being complementary to the grooves 5. These beads are barb shaped in cross section, extend lengthwise the full length of the strips and are provided with under-cut faces 7 which interlock.

The surfaces 5 constitute the grooves and the barbs or beads 6 the tongues, and each strip 1 or 2 is therefore formed with a tongue and groove which interlocks with the complementary tongue and groove of the other strip. The parts 3, 4 may be the outer sides of an arctic or may be any other two separable parts which it is desired to fasten together.

In Figures 1 and 2, one of the strips as 4 is shown as provided with an extension 8 which forms the tongue of an overshoe although this tongue may be omitted as the interlocking strips of the fastening device are water or weather tight. The pieces 1, 2 are usually of rubber and owing to their bow shape are tensioned to press toward each other.

In Figure 3, three strips 9, 10 and 11 are used, the intermediate strip 11 being in the form of a single barb in cross section and interlocking with the barb shaped beads 13 on the inner strip 9. The strip 10 is shown as formed with a bead in the form of a barb, but the bead does not function as a barb. It happens to be barb shaped as the same mold is used for forming it as the other barbed strips.

In Figure 5, an intermediate strip is shown consisting of two duplicate parts 15 tensioned to press outwardly and interlock their barb shaped beads 16 with the beads 17 of the two outer strips 18 and 19, the outer strips being tensioned to press inwardly toward the strips 15.

In order that the strips may be quickly and accurately brought into interlocking engagement, an operating member as a slide 20 is provided, this slide being comparatively narrow and shaped to fit the interlocking lapping portions of the strips 1, 2 and conforming to the outer surfaces of these strips as well as the opposing lapping surfaces with the interlocking hook shaped part. When the strips are separated, merely sliding of the member 20 lengthwise thereof will bring the strips into interlocking engagement. To disengage the strips, this slide is moved in the opposite direction and then the strips unlocked by first separating their upper ends or the ends remote from the slide then pulling the strips apart.

In each of the forms shown in Figures 3 and 5, the slide conforms to the outline of the lapping portions of the strips. 21 designates the slide in Figure 3 and 22 the slide in Figure 5.

As the slide fits or conforms to the outline of the lapping portions including the hook shaped beads thereof, this slide when moved in one direction or from the fixed ends of the strips toward the free ends must necessarily guide the hook shaped beads of the strips into locking engagement, and when moved in the opposite direction or toward the ends of the strips where they are secured or anchored permits the free ends of the strips to be unhooked and by merely pulling laterally on them and separating from each other up to the slide.

When the slide has been moved from the fixed ends of the strips to the free ends thereof, the strips are anchored at both ends and their beads interlocked and held together by the resiliency of the strips. If the strips are unduly long, they can be separated between their ends, but in strips of such length as are used in overshoes or small bags usually closed by pucker strings, the parts are held interlocked by the resiliency of the strips after the beads have been guided into interlocking engagement. The slide is merely a convenient means for guiding the beads into interlocking engagement and holding the free ends of the strips anchored.

This fastening device is particularly advantageous in that it is of low cost, can be readily applied to the various articles for which it is adapted, is weather tight without the use of laps or tongues and further requires no expensive special machinery to produce it.

What I claim is:

1. A fastening device comprising strips of resilient material, the strips lapping each other and each having a portion of its surface opposed to the other strip concave and the remaining portion toward the edge of the strip in the shape of a barb in cross section extending lengthwise of the strip, the barb of each strip being arranged to interlock with the barb of the other strip and the barb of each strip fitting the concave surface of the other strip and said strips being tensioned to press toward each other.

2. A fastening device comprising strips of flexible resilient material bow shaped in cross section, the strips lapping each other with their concave faces toward each other, each strip being provided on its face toward the other strip with a continuous lengthwise marginal bead in the form of a barb in cross section for interlocking with the bead of the other strip.

3. A fastening device comprising strips of flexible resilient material bow shaped in cross section, the strips lapping each other with their concave faces toward each other, each strip being provided on its face toward the other strip with a continuous lengthwise marginal bead in the form of a barb in cross section for interlocking with the bead of the other strip and a slide movable along the strip and conforming to the outline of the bead, the slide extending between interlocking portions of the beads and along the outer side of the outermost strip.

In testimony whereof, I have hereunto signed my name, at Syracuse, in the county of Onondaga, and State of New York, this 14th day of November, 1927.

ARTHUR H. TROTTER.