

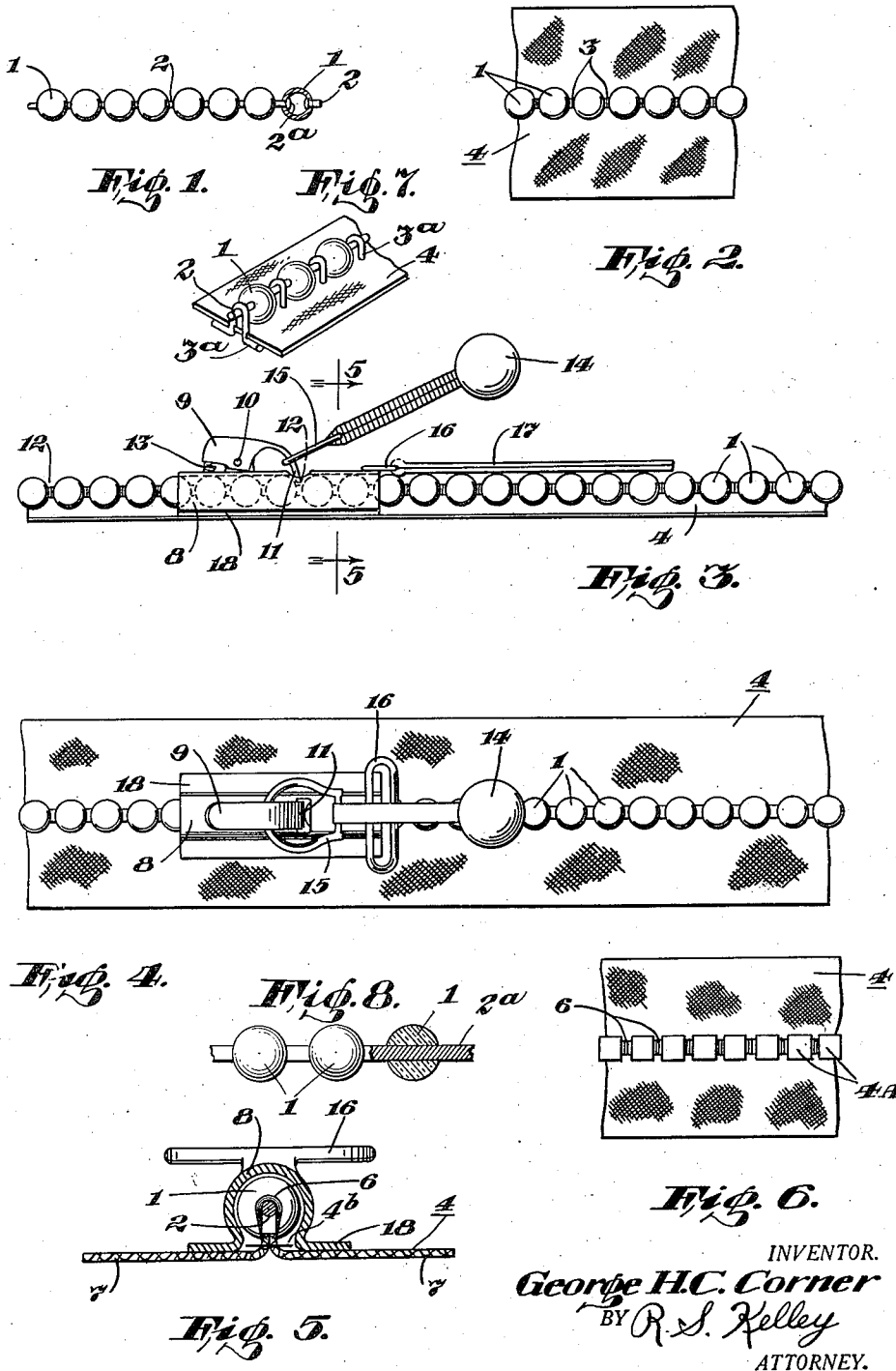
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ADJUSTABLE FASTENING DEVICE

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## ADJUSTABLE FASTENING DEVICE

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This invention relates to improvements in adjustable fastening devices adapted for fastening together two articles or two parts of the same article at any one of a plurality of different relative positions.

More particularly, this invention relates to adjustable fastening devices of the kind comprising two elements, one of which is in the form of a substantially flexible member or track and the other a slider or locking member adapted to slide over the track and to be detachably locked thereto in any one of a plurality of different positions. The flexible member or track is secured to, or constitutes part of, one of the parts or articles to be fastened together while the locking member or slider is secured to the other of the two parts or articles.

The chief object of my invention is to provide a construction which is simple and effective in operation and which presents a neat and attractive appearance. A further object is to secure ease and economy of manufacture. A still further object is to obtain improved flexibility of the track member whereby it may be secured to, or may form part of, braces, a belt, garter, suspender or any other article of leather, fabric or the like without diminishing the normal flexibility of that article to a substantial or harmful extent.

According to my invention in an adjustable fastening device of the kind described the track comprises a series of bead-like members or stops joined or connected together in a flexible manner in pre-determined spaced relation, said joined or connected series of members or stops being secured to a flexible supporting member. The slider or locking member is arranged to slide over the bead-like members for selective engagement with the same.

The flexible supporting member may be one of the articles or parts of the same article to be secured together or may be an auxiliary member which is then attached to said article, or part for example by sewing.

One construction in accordance with my invention is illustrated by way of example in the accompanying drawing, in which:

Figure 1 shows a plurality of connected bead members.

Figure 2 shows a plurality of such connected bead members attached to a flexible supporting member.

Figure 3 shows a side view of the assembled fastening device.

Figure 4 shows a plan view corresponding to Figure 3.

Figure 5 shows a sectional view through the line 5—5 of Figure 3, with the pull tab removed for the sake of clarity.

Figure 6 shows an alternative form of supporting member.

Figure 7 shows an alternative form of construction wherein staples are used to secure the connected bead members to the supporting member.

Figure 8 is a view, partly in section, showing connected bead members formed by moulding or casting plastic material upon a flexible mounting tape, cord or wire.

Referring to the drawings, the numeral 1 indicates a plurality of hollow spherical bead members, flexibly joined together by short connecting links 2. The connecting links 2 consist of separate members having enlarged end portions 2a enclosed in the interior of adjacent beads (Fig. 1). The bead chain thus formed is fastened, as shown at 3, by sewing preferably by machinery to a supporting member 4, the attaching threads being wrapped over the connecting links 2 (Fig. 2). Alternatively, the flexible supporting member 4 may be made with a series of small apertures 4a (Figure 6) extending longitudinally of the said member, the apertures being so shaped and spaced, as shown in Fig. 6, as to allow the bead members 1 to pass therethrough. The supporting member 4 is then folded over in order to enclose the connecting links 2 within the warp threads 6 with each bead member 1 disposed between the warp threads 6 at each end of each aperture 4a, and the two thicknesses of the folded supporting member 4 are then joined by stitches 4b (Fig. 5). The stitches 4b are disposed adjacent to the bead chain in order to ensure that the chain is held closely against the supporting member 4. The free edges of the supporting member 4 are then separated and flattened out as shown at 7, Figure 5. The bead chain may alternatively be secured to the supporting member by a series of staples 3a passing over the connecting links 2 and clinched beneath the support 4, as shown in Fig. 7.

The bead-like members may be made of metal of any suitable shape or of glass or other non-metallic material, for example, synthetic resin composition and shaped to enable the locking means of the slider to engage therewith or between adjacent members. While by virtue of its mode of formation the track presents an attractive appearance, this may be enhanced by em-

bellishments common in the jewelry and allied arts.

Particularly when the bead-like members 1 are made of plastic material, it may be convenient to mould or cast the same directly on to a flexible mounting tape, cord or wire 2a in a pre-determined spaced relation, as shown in Fig. 8, without impairing to any substantial extent the original flexibility of the mounting member, the mounting member 2a being then secured to the supporting member, preferably the article on which the device is to be used.

The slider or locking member may be of any suitable construction whereby it may slide over the track of bead-like members and is provided with means whereby it may be lockingly engaged either with one of the members or preferably in between two adjacent members. In the construction shown in Figures 3-5 the slider is arranged for automatic locking engagement with the track on being released from positive movement along the track. The body of the slider 8 is part cylindrical in shape to engage with the bead chain and is movable longitudinally thereof. Attached to the slider body 8 is a locking member 9, comprising a trough-shaped rocker-arm, pivoted at 10 to an upstanding lug attached to the upper surface of the slider body. The rocker-arm is provided at its free end with a locking prong 11 which is suitably shaped to allow of its insertion in the spaces 12 between adjacent bead members. A spring 13 positioned as shown, normally forces the locking prong into engagement with any adjacent bead members when the slider is positioned on the bead chain. The slider 8 is operated by a pull-tab which may be of any convenient form such as that shown at 14, attached to the locking member 9 as shown at 15, whereby the locking prong is held out of engagement with the bead members during positive movement of the slider along the bead-chain. The slider 8 is attached to one of the two ends of an article, such as a belt, to be joined together, the bead chain being attached to the other end of the article. The slider is attached

by means of a flattened loop as shown at 16, the end of the article being threaded through the loop and turned back and secured by sewing or other means as shown at 17.

As many apparently widely different embodiments of this invention may be made without departing from the spirit and scope thereof, it is to be understood that the invention is not limited to the specific embodiments thereof except as described in the appended claims.

I claim:

1. An adjustable fastening device of the kind comprising two elements, one comprising a substantially flexible member and the other a slider adapted to slide over the flexible member and to be detachably locked thereto, said flexible member comprising a series of bead-like members having flexible means connecting the same together in flexible manner in predetermined spaced relation, and flexible means securing the said bead-like members to a flexible supporting member.

2. A device as claimed in claim 1 in which the bead-like members are cast on to a flexible mounting tape in predetermined spaced relationship.

3. A device as claimed in claim 1 in which the flexible member comprises a bead chain composed of predeterminedly spaced bead-like members having connecting links pivotally secured therebetween, and cross threads extending over said connecting links and connecting said connecting links to said flexible supporting member.

4. A device as claimed in claim 1 in which the flexible member comprises a bead chain composed of predeterminedly spaced bead-like members having connecting links pivotally secured therebetween, and cross threads extending over said connecting links and connecting said connecting links to said flexible supporting member, said cross threads being woven into said flexible supporting member.

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