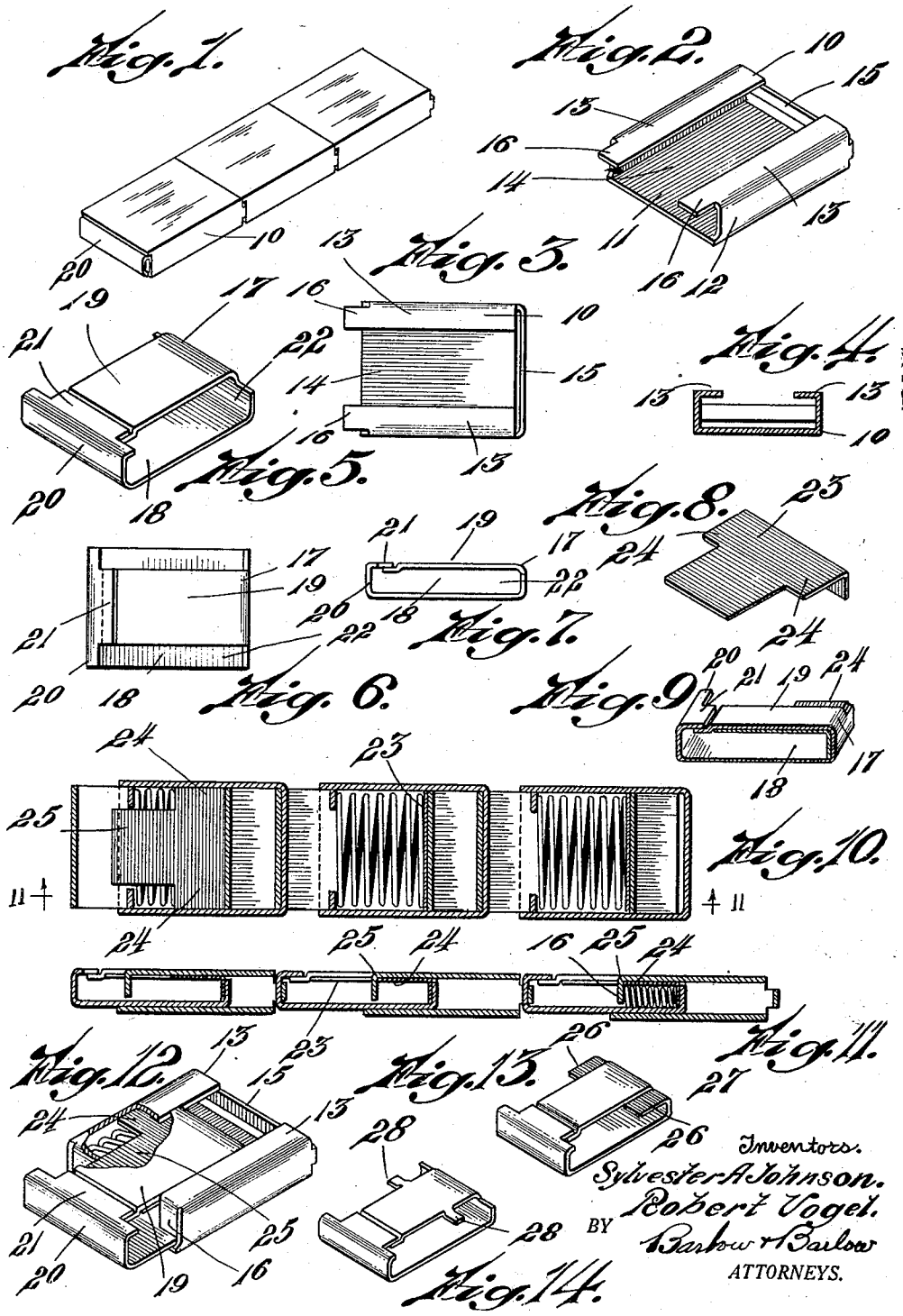
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CHAIN CONSTRUCTION

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UNITED STATES PATENT OFFICE.

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CHAIN CONSTRUCTION.

Application filed January 24, 1927. Serial No. 163,067.

This invention relates to an improved construction of chain or bracelet formed of a plurality of units comprising relatively slidable links and is an improvement on the construction illustrated in copending patent application Serial No. 153,529, filed Dec. 9, 1926; and the object of this invention is to provide a stop member for limiting the relative extending movement of the links of each unit to prevent injury to the spring acting between the links.

A further object of the invention is to so position the stop member on the slide link that it will engage with the folded down abutment finger on the guide link at the fold or juncture connecting the abutment finger to the guide link, whereby the effective strain between the links under longitudinal tension will be at the strongest point.

A still further object of the invention is to provide a sparate stop member with lateral oppositely extending stop portions to be positioned in the slide link of the type shown in the copending application above referred to.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings:

Figure 1 is a perspective view showing a series of links of the improved construction connected together.

Figure 2 is a perspective view of the under side of one of the guide links showing a central longitudinal space in the rear wall thereof and the abutment fingers in extended position on the rear wall portions thereof.

Figure 3 is a bottom view of this guide link.

Figure 4 is a section of Figure 3.

Figure 5 is a perspective view of the slide link showing the narrow arm of the band link as extending beneath the hook-shaped portion formed on the broad arm of the band.

Figure 6 is a bottom view of this slide link.

Figure 7 is a side elevation of this slide link.

Figure 8 is a perspective view of the stop member.

Figure 9 is a perspective view in central section of the slide link with the stop member mounted therein.

Figure 10 is a sectional view showing a plurality of slide links part of which are in extended position with the stop member in one of the links and the remainder of the links show the stop member in the links partly removed to expose the spring.

Figure 11 is a sectional edge view on line 11—11 of Figure 10 with the spring in several of the units removed.

Figure 12 is a perspective view partly broken away to illustrate the structure of the links of the unit.

Figure 13 is a perspective view of the slide link with the stop members formed integral therewith and extending from the folded end and from the sides of the relatively narrow arm.

Figure 14 is a modified view of the slide link showing the stop members as formed by integral portions extending laterally from the narrow arm of the slide link and bent downwardly sufficiently to extend beneath the rear wall portions of the guide link.

It is found desirable in the construction of flexible bracelets having a plurality of connected units, to form each unit of two relatively slidable links with a spring acting between them, the outer or guide link being of sheet stock folded to form a broad front face with narrow side walls, each having inwardly-extending rear wall portions spaced apart leaving a longitudinally-disposed guide slot therein, and the inner or slide link being of an elongated band-shape having a front relatively broad arm to be guided between the side walls of the guide link with a hook portion formed at one end thereof and a somewhat narrower rear arm to fit the longitudinal slot of the guide link and lie substantially in the plane thereof with its end portion extending beneath the hook and the spring being positioned to act between the closed end of the slide link and finger abutment folded from the rear wall portions of the guide link, and in order to best withstand the effective strain on each of the links due to longitudinal tension of the bracelet, we have positioned a stop to extend beneath the rear wall portions of the guide

link and engage the abutment finger at their fold or juncture with the rear wall portions so that there is practically no leverage tending to spring these abutment fingers to an extended position whereby the chain will withstand a great longitudinal strain. This stop also performs an important additional feature of preventing undue compression of the springs to injure the same; and the following is a detailed description of the present embodiment of our invention showing one means by which these advantageous results may be accomplished.

With reference to the drawings, 10 designates the guide link, the blank of which is formed from sheet stock and subsequently folded to provide a broad front wall 11 which may receive suitable ornamentation, with side walls 12, each of which is bent inwardly towards each other to form rear wall portions 13 spaced apart to provide a longitudinally-disposed central space 14 between them. The edges of these side wall portions at one end are connected by an integral bar 16 and at the opposite end of the guide link abutment fingers 16 extend to be bent inwardly, as illustrated in Figures 10, 11 and 12 to provide an abutment for the spring.

A slide link 17 is formed from sheet stock and folded into band shape as illustrated in Figure 5, with a broad, front arm 18 of a width to be guided in its sliding movement between the side walls 12 of the guide link and a relatively narrow arm 19 positioned in substantially the same plane as the rear wall portions 13 to complete the bottom wall of the unit and of a size to be guided between the edges thereof. The end of the resilient arm 19 extends beneath the reduced edges of a hook 20 formed from the relatively broad arm 18 to close the hook, the same being engageable with the cross-bar 15 of the guide link of the next adjacent unit for detachably connecting the units together. A spring is positioned within the band-shaped slide link to abut against the closed end 22 of this link and also is of a width to extend between the folded finger abutments of the guide link, as is clearly illustrated in Figure 12, whereby a relative yielding sliding movement of the links is permitted to expand the bracelet.

It will be seen that the abutment fingers 16 prevent a detachment of the guide link and its slide link therein and in order that the strains on these abutment fingers may be at a point which will best resist their bending, I have positioned a stop member 23 beneath the narrower arm 19 of the slide link which has opposite laterally projecting portions 24 to extend beneath the rear wall portions 13 in contact with the inner face thereof to engage with the abutment fingers 16 at the fold or juncture connecting them with the rear wall portions, as is illustrated at 25, in Figure 11, by which it will be observed that the minimum amount of leverage tending to move the abutments 16 from their inwardly folded position is obtained, and also there is the advantage of preventing undue compression of the springs under longitudinal strain.

It will be apparent that the stop member may be formed in various ways and we have illustrated in Figure 13 the formation of the member 26 as integral with the closed end 27 of the band link, while in Figure 14, we have illustrated the laterally-extending stop members 28 in the form of projections extending from the relatively narrow arm of the band link and deflected to extend beneath the rear wall portions of the guide link to permit the narrower arm 19 to lie substantially in the plane of these rear wall portions to complete the bearing surface thereof.

In assembling each of the link units the slide link with the spring is positioned within the guide link and after compressing the spring the fingers 16 are folded into position to form abutments for the end of the spring and the units after assembled in this manner may be detachably hooked together by moving each unit to extended position, depressing the narrow arm 19 to open the hook 20 and positioning the bar 15 of the guide link of the next adjacent unit within the hook as will be clearly apparent from Figure 11.

Our improved bracelet or chain is very simple and practical in construction, the unit parts may be readily assembled and detached without the use of tools and by the use of a stop member positioned to engage the abutment at its strongest point a bracelet is provided which can withstand excessive strains without breakage and without injury to the springs for permitting yieldable extension.

The foregoing description is directed solely towards the construction illustrated, but we desire it to be understood that we reserve the privilege of resorting to all the mechanical changes to which the device is susceptible, the invention being defined and limited only by the terms of the appended claims.

We claim:

1. A bracelet structure comprising a series of extendible units, each having a sheet metal guide link with a slide link therein, an abutting finger folded from a portion of the guide link, a spring acting between said finger and slide link, and a stop carried by said slide link positioned to engage said finger at its fold or juncture connecting it to the guide link to limit the relative movement of said links.

2. A bracelet structure comprising a series of extendible units, each having a guide link formed of sheet stock folded to

provide a front wall, side walls and spaced portions of a rear wall, an elongated band-shaped link slidable in said guide link, abutment fingers folded from the rear wall portions, a spring acting between said fingers and slide link, and a stop carried by said slide link positioned to engage said fingers at their juncture with the rear wall portions to limit the extent of movement of said slide link in the guide link.

3. A bracelet structure comprising a series of extendible link units, each having a guide link formed of sheet stock folded to provide a front wall, side edge walls and portions of a rear wall, said portions being spaced apart, an elongated band-shaped slide link in said guide link having a hook portion and having a broad arm member guided between the edge walls of the guide link and a narrow arm fitting between and lying substantially in the plane of said rear wall portions of said guide link, a spring guided between the edge walls of the slide link and having one end acting on the slide link, and inturned fingers on each rear wall portion of the guide link cooperating to provide spaced abutments for the opposite end of said spring, and a stop carried by said slide link and extending laterally in opposite directions beneath said rear wall portions and substantially in contact therewith to engage said abutment fingers at substantially their juncture with the rear wall portions to limit the relative movement of said links.

4. A bracelet structure comprising a series of extendible link units, each having a guide link formed of sheet stock folded to provide a front wall, side edge walls and portions of a rear wall, said portions being spaced apart, an elongated band-shaped slide link in said guide link having a hook portion and having a broad arm member guided between the edge walls of the guide link and a narrow arm fitting between and lying substantially in the plane of said rear wall portions of said guide link, a spring guided between the edge walls of the slide link and having one end acting on the slide link, and inturned fingers on each rear wall portion of the guide link cooperating to provide spaced abutments for the opposite end of said spring, and a separate stop member in contact with the inner surface of said narrow arm and having opposite laterally-extending portions to slide along the inner surface of said rear wall portions and engage said abutment fingers at substantially their juncture with the rear wall portions to limit the relative movement of said links.

In testimony whereof we affix our signatures.

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