Nov. 23, 1926. 1,607,808

J. ANTHONY

ORNAMENTAL CHAIN

Filed Feb. 10, 1925

Fig. 1.

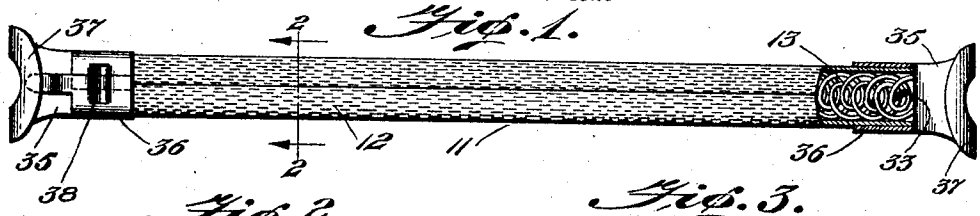


Fig. 2.

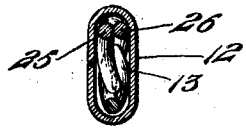


Fig. 3.

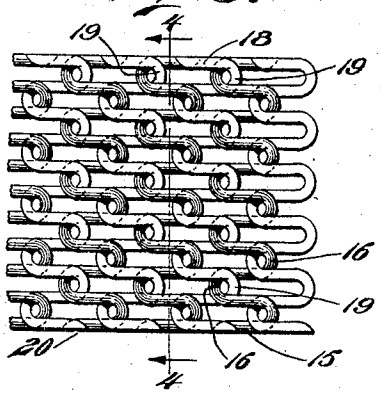


Fig. 7.

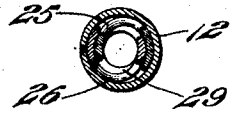


Fig. 4.

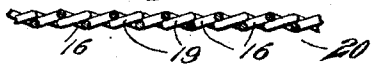


Fig. 5.

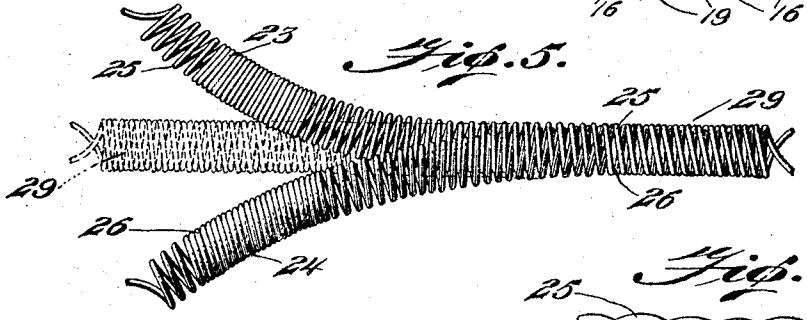
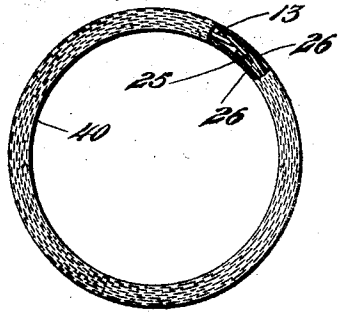


Fig. 6.



Fig. 8.



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UNITED STATES PATENT OFFICE.

JOHN ANTHONY, OF ATTLEBORO, MASSACHUSETTS.

ORNAMENTAL CHAIN.

Application filed February 10, 1925. Serial No. 8,137.

My invention relates to a resilient, expansible, chain or jewelry component adapted for embodiment in bracelets, armlets, girdles, belts, garters, and other articles for ornamental wear.

An essential object of this invention is to overcome the usual tendency of the chain to assume a twisted position.

Further objects are inexpensiveness of construction, strength, and facile expansion and contraction.

To the above ends essentially my invention consists in such parts and in such combinations of parts as fall within the scope of the appended claims.

In the accompanying drawings which form a part of this specification—

Figure 1 is a rear elevation of a length of my chain, embodied in a watch bracelet and partially in longitudinal section, wherein the detailed construction of the sheath is of a somewhat diagrammatic character,

Figure 2, an enlarged transverse section of the same,

Figure 3, an enlarged plan view of a portion of the material from which the sheath is constructed,

Figure 4, a section of the same on line 4—4 of Figure 3,

Figure 5, a plan view of an unflattened core partially assembled, showing in broken lines its complete form,

Figure 6, an enlarged plan view of a portion of the same flattened,

Figure 7, a section of a modified form of my invention, and

Figure 8, a plan view of a further modified form of my invention.

Similar characters of reference indicate like parts throughout the views.

In the present and preferred embodiment of my chain 11, a metallic tube or sheath 12 embraces a core 13. Both are flexible metallic and extensible, the latter preferably possessing a greater inherent degree of expansibility.

The sheath 12 is preferably constituted thus. A series of transversely disposed originally helical wire members have interengaging helices, and the whole wire fabric is then flattened. A strip of fabric so constructed is shown in Figure 3 wherein one transverse wire member 15, has open longitudinal loops 16 successively oppositely directed. The adjacent transverse wire member 18 of the series has the alternate loops 19 of its longitudinal series slidably interengaging alternate loops 16 of the series formed on member 15. The oblong wire fabric sheet 20 thus constructed, a portion of which is shown in Figure 3, has a moderate degree of flexibility, and a liberal degree of longitudinal expansibility through the slidable interaction of the loops 16 and 19. The strip is bent lengthwise into permanent tubular form to constitute a sheath 12 for the core 13, either flattened as shown in Figure 2, or cylindrical as shown in Figure 7. The described construction of the sheath is not exclusive, and it may be of a nonfabric character so long as it has a capacity for longitudinal extension or contraction.

The core 13 is constructed as follows. Two helical springs 23 and 24 are provided. The helices 25 of the former are wound in one direction, and the helices 26 of the spring 24 are wound and, therefore, inclined in a direction opposite to those of the spring 23. The windings may be distinguished from each other as right and left. The two springs placed side by side are pressed together so that the helices 25 of one are successively brought between the helices 26 of the other, and the interengaging helices form a composite helical spring. In Figure 5 is shown in full lines the interengaged portion 29 of the composite spring, in course of assemblage, and portions of the springs 23 and 24 not completely interengaged. When the interengagement of the free portions of springs 23 and 24 are completed they will assume the outline indicated in broken lines, and thus complete the composite spring 29. This spring is adapted as the core or retractive element of a chain, because it retains its longitudinal elasticity, but possesses no torsional property, as the torsional influence of one constituent spiral spring is neutralized by the torsional influence of the other constituent spring. Hence when the spring 29 is engaged within a cylindrical longitudinally expansible sheath, as shown in Figure 7, the chain will not assume a twisted position.

When my novel core is purposed for use in a flattened or transversely elliptical sheath, as shown in Figure 2, the core 29 is crushed or flattened by compression into the form of

core 13, shown in Figures 1, 2, 6 and 8. In the flattened spiral form of Figures 1 and 2 the relative positions of the loops or helices 25 and 26 are preserved and the nontorsional property of the core 29 is retained.

The contactual relation or natural frictional engagement of the core with its sheath causes the former to draw together the transverse members of the sheath and longitudinally contract the latter. By grasping the sheath with its enclosed core between the thumb and finger at two spaced points and pulling in opposite directions the transverse members of the sheath will separate and expand the chain. When the chain is manually released the core contracts the sheath. When the chain is to be subjected to excessive strain the ends of the core may be more positively engaged or attached to the sheath and in any convenient manner. Such supplemental engagement may be by a metal loop 33 threaded through a core helix and the material of the sheath at or near the ends of the core.

A length of my chain 11 is shown in Figure 1 as the body of a watch bracelet to whose ends are attached watch fastener members 35. The fasteners in this instance have split tubular sleeves 36 upon their inner ends and hooks 37 upon the outer ends. The sleeves are tightly wrapped around the sheath 20 and in this case are provided with transverse indents 38 compressing the sleeves, sheath, and core into still further engagement.

In Figure 8 my chain is shown embodied in a bracelet 40 of the annulus type wherein the ends of the sheath are joined together, as well as the ends of the core, to form an endless structure.

While both the flattened and unflattened forms of chain, 13 and 29, shown respectively in Figures 2 and 7, are effective, superior nontorsional results are attained by the structure shown in Figure 2, which is the preferred form.

I claim:—

1. In an ornamental chain, an extensible sheath, and a composite retracting member therein comprising a right hand spring and a left hand spring, the loops of one spring successively interengaging in overlapped relation the loops of the other spring.

2. In an ornamental chain, an external series of transversely disposed helical wire members, each member interengaging the members adjacent thereto and slidable thereon longitudinally of the chain, and a resilient core engaged by the members extensible by the extension of the members comprising interengaging series of opposite wound loops interengaged and overlapping and adapted to contract the members when released.

In testimony whereof I have affixed my signature.

JOHN ANTHONY.