The present invention relates to an adjustable bracelet or chain construction. More particularly the present invention relates to a slide-lock assembly for use in bracelets and chains wherein the effective dimension of the bracelet or chain may be adjusted.

It is the usual practice in the securment of adjustable watch bands or bracelet constructions on a wearer's wrist to provide a buckle securing means or an expandable bracelet construction that combines with the watch or other ornamental article to form a wrist encircling member. Although the flexible type of bracelet construction and the buckle type of design provide for adjustability of the watch band or bracelet, they normally are applied in tight skin engaging relation on the wearer's wrist. Moreover, watch straps and expandable bracelets are limited in their ornamental presentation since they can only be constructed in several well known forms. Consequently it is not only desirable to construct a bracelet wherein the encircling member may be adjusted as desired on the wearer's wrist but to also provide a construction which includes ornamental chain not normally associated with bracelets. In carrying out the invention, a novel slide lock member is employed that cooperates with a chain construction and is easily manipulated to adjust the bracelet on the wrist of the wearer as desired. Although the present invention has particular application with bracelets for use with watches and other ornamental articles that are applied to a wearer's wrist, it will be understood from the following description that the invention may be applied to expandable chains and the like.

Accordingly it is an object of the present invention to provide a slide lock construction for use in bracelets for adjusting the effective dimension thereof.

Another object of the present invention is to provide a slide lock for use in a bracelet or chain construction that frictionally engages opposed portions of the chain construction for varying or adjusting the effective dimension thereof.

Still another object is to provide a variable extension construction for use in bracelets, key chains and other jewelry articles having flexible chain parts.

Still another object is to provide a slide lock for use with flexible chain portions, the slide lock including resiliently biased frictional guides that slidably receive the flexible chain portions therein, wherein the chain portions are frictionally locked in position by the slide lock.

Still another object is to provide a slide or friction lock for use in flexible chains wherein the chains are extended through the slide lock are easily moved through but are held in tight frictional engagement at the position to which they are moved.

Other objects, features and advantages of the invention will become apparent as the description thereof proceeds when considered in connection with the accompanying illustrative drawings.

In the drawings which illustrate the best mode presently contemplated by me for carrying out my invention:

FIG. 1 is a side elevational view of the bracelet construction embodied herein showing the manner in which the bracelet construction is attached to a watch and further showing the relation of the slide lock with respect to the chain portions of the bracelet;

FIG. 2 is a sectional view taken along lines 2—2 in FIG. 1;

FIG. 3 is a sectional view taken along lines 3—3 in FIG. 2;

FIG. 4 is a perspective view of one of the spring members that forms a part of the slide lock assembly; and

FIG. 5 is a perspective view of one of the bearing or friction guides that forms a part of the slide lock assembly.

Although the present invention will be described for use with a wrist watch or the like it will be understood that the basic concept embodied herein may be utilized in other jewelry articles such as key chains, neck chains, bracelets and other jewelry items having flexible chain parts.

Referring now to FIG. 1, a wrist watch indicated at 10 is illustrated, and although a watch is shown in the drawing, it is understood that other ornamental articles such as precious gems, identification bars, photograph holders, and other jewelry items may be utilized with the chain construction to be described hereinafter without departing from the spirit of the invention. Formed on the watch 10 are opposed spaced ears 12 and 14 to which chain members generally indicated at 16 and 18 respectively are adapted to be pivotally secured. The chain members 16, 18 which define a chain assembly include chain portions 20 and 22 respectively that terminate in ferrules 24, 26, the ferrules including clamp portions 28 and 30 respectively that are interlocked in rings 32 and 34. The chain portions 20 and 22 are shown as of the snake type chain construction although it is understood that other types of flexible chain constructions may be utilized without departing from the spirit of the invention. For example, the flexible chain portions 20 and 22 through ferrules 36 and 38 respectively are extensions 40 and 42 that are preferably formed in a small link chain construction and that terminate in free ends to which are secured hollow capsules 44 and 46 respectively, which in effect define ornamental tassels. The extensions 40 and 42 of the chain members extend through a friction or slide lock assembly generally indicated at 50 which is adapted to have relative movement with respect to the chain portions and is thereby adapted to vary or adjust the effective encircling dimension of the chain assembly for tightening or loosening the bracelet construction on the wrist of the wearer.

Referring now to FIGS. 2 through 5, the details of the friction or slide lock 50 assembly are illustrated and include semi-spherical shells 52 and 54 which are provided with aligned openings 56 and 58 therein through which the chain member extensions 40 and 42 project. As shown in FIG. 5, the shell 52 is formed with an annular flanged rim 60 which frictionally engages the adjacent edge of the shell 54 for securing the shells together to define a unitary housing. Disposed within the shells 52, 54 which define the slide lock housing are opposed bearings or friction guides one of which is generally indicated at 62 in FIG. 5. As seen in FIG. 5, the friction guide 62 includes a central arcuate portion 64 that is joined along the length thereof by flanges 66, the peripheral edges of which are arcuate in configuration. As shown more clearly in FIG. 2, the guides 62 are positioned within the slide lock housing such that the open or concave sides of the arcuate portions 64 are in spaced opposed relation, thereby defining a channel 68 therebetween that communicates with the housing openings 56 and 58. Since the channel 68 defined by the concave side of the arcuate portions 64 of the guides 62 is aligned with the openings 56 and 58, the extensions 40, 42 of the chain members 16, 18 extend therethrough and are located in engaging relation with the inner curved surfaces of the guides 62. Thus it is seen that the friction guides 62 define bearing surfaces for the chain members 16, 18 that enables the chain members to be slidably...
moved within the slide lock 50. However, it is understood that contact between the chain extensions 40, 42 along their inner surfaces and contact of the chain extensions with the surfaces of the friction guides 62 enable the chain extensions 40, 42 to be frictionally locked in the slide lock assembly at any place along their length thereof.

In order to force or urge the friction guides 62 into positive engagement with the chain extensions, spring members 70 are positioned one of the friction guides 42 is engaged with the arcuate portion 74. The curvature of the arcuate portion 74 is substantially similar to the curvature of the spring fingers 72 so that the arcuate portion 74 is, in effect, parallel with the spaced spring fingers 72. In the assembly of the slide lock 50, the spring members 70 are positioned between the housing walls and the friction guides 62. Thus the spring fingers 72 are disposed in engaging relation with the walls of the housing while the arcuate portion 74 engages the arcuate portion 64 of the friction guide 62. It will be noted that although the curvature of the arcuate portion 74 of the spring member 70 is not identical with the curvature of the arcuate portion 64 of the friction guide 62, the curvatures are sufficiently similar to permit the arcuate portion 74 to be made therebetween. Thus when the spring members 70 are positioned between the housing walls and the friction guides 62, the spring fingers 72 will be compressed, thereby forcing the arcuate portion 74 against the arcuate portion 64 to urge the friction guides 62 into frictional engagement with the extensions 40 and 42. By forcing the friction guides 62 into engagement with the chain extensions 40 and 42, the chain extensions themselves are urged into engaging relation and due to the undulating nature of the chain construction additional frictional surfaces are defined therebetween for restraining movement of the chain extensions within the slide lock 50. However, since the concave surfaces of the arcuate portions 64 of the friction guides 62 in effect form bearing surfaces, the chain extensions 40 and 42 may be moved relative to the slide lock 50 when the effective dimension of the chain members 16, 18 is to be adjusted.

In use the watch and the bracelet construction may be slipped onto the wrist of the wearer by increasing the encircling dimension of the chain assembly. This is accomplished by pulling outwardly on the slide lock 50 toward the free ends of the watch members 16, 18. Since the extensions 40 and 42 of the chain members 16, 18 are adapted to slide within the channel 68 defined by the friction guides 62, the slide lock 50 will move toward the free ends of the chain members. Sufficient pressure is exerted by the spring members 70 on the friction guides 62 to cause the extensions 40, 42 to be retained in frictional engagement, so that the slide lock 50 will be moved only if sufficient force is exerted thereon to overcome the frictional resistance between the extensions 40, 42 and their respective friction guides 62. It is also seen that the effective dimension of the bracelet construction may be varied or adjusted by exerting a pull on one or the other of the chain members, thereby moving one of the chain members with respect to the other. In this connection it will be noted that the present invention has particular application in devices other than that illustrated, and particularly in a key chain construction where in the effective length of an extendable chain may be adjusted. If desired, the frictional engagement of the friction guides 62 with respect to the chain extensions 40, 42 may be adjusted by varying the tension of the spring fingers 72 of the spring members 70. Since the spring fingers 72 positively engage the slide lock housing, pulling of the spring fingers outwardly with respect to their arcuate portion 74 will cause the spring fingers to be additionally compressed when the spring members 70 are assembled within the slide lock housing. This, of course, will cause the friction guides 62 to be engaged into frictional engagement with the extensions 40, 42 of the chain portions.

The bracelet construction is tightened as desired on the wrist of the wearer by forcing the slide lock 50 toward the chain portions 20, 22 thereby decreasing the encircling or effective dimensions of the chain assembly. Since the slide lock being defined by a chain member, the frictional engagement of the chain portion may be located in any position desired with respect to the extensions 40, 42, the required encircling dimension of the bracelet construction may be easily and quickly obtained. As contrasted with the expandable type of bracelet construction, the bracelet embodiment herein may be adjusted at any time and without the need of adding or eliminating links or springs.

While there is shown and described herein a specific structure embodying the invention, it will be manifest to those skilled in the art that various modifications and rearrangements of the parts may be made without departing from the spirit and scope of the underlying inventive concept and that same is not limited to the particular forms herein shown and described except as indicated by the scope of the appended claims.

What is claimed is:

1. In a bracelet construction, a chain assembly including chain members terminating in opposed free ends, a slide lock through which said chain members extend, said slide lock and chain members having relative movement to change the effective dimension of said chain assembly, said slide lock being defined by a housing in which spaced friction guides are positioned, each of said guides including an arcuate portion having flanges joined thereto, the concave sides of said arcuate portions being disposed in facing relation to define a channel for receiving said chain members therein, the depth and width of said channel being proportioned with respect to the dimension of each chain member in the direction of the depth of said channel, so that when the opposed arcuate portions of said friction guides are in their closest position, said chain members are in engagement with said arcuate portions, and resilient means positioned in said housing in engagement with said guides, said resilient means including spaced spring members, each of which includes curved spring fingers that engage the inner walls of the slide lock housing and an arcuate portion that is formed similarly to the arcuate portions of said guides, each of said spring member arcuate portions engaging the associated guide arcuate portion for urging the associated guide into frictional engagement with a chain member, whereby said slide lock frictionally retains said chain members in their relative position with respect to said slide lock regardless of the position to which said chain members are slidably moved.

2. In a bracelet construction, a chain assembly having chain members terminating in free ends, the slide lock housing engaging said chain assembly and including coacting semi-spherical shells, said slide lock housing having opposed openings formed therein, friction guides disposed within said housing and including opposed arcuate portions that define a channel that communicates with said openings, the depth and width of said channel being proportioned with respect to the dimension of each chain member in the direction of the depth of said channel, so that when the opposed arcuate portions of said friction guides are in their closest position, said chain members are in engagement with said arcuate portions, and spring members located in said slide lock housing and curved spring fingers that generally follow the curvature of said slide lock housing and arcuate portions joined to said spring fingers and engaging the arcuate portions of said friction guides for positively urging each of said friction guides into engagement with said chain members that extend through the openings in said slide lock housing and through the channel defined by said friction...
guides, wherein said chain members are movably retained in said slide lock housing by said spring members and are movable relative to said slide lock housing so that said slide lock housing may be frictionally retained in any position on said chain members for changing the effective dimension of said chain assembly.

3. In a bracelet construction, a chain assembly including opposed chain members, a slide lock engaging said opposed chain members, said slide lock and opposed chain members having relative movement with respect to each other to reduce the effective encircling dimension of said chain assembly, said slide lock including a housing defined by coating substantially semi-spherical shells, each of said shells having an opening formed therein through which said chain members extend, opposed friction guides positioned in said housing, each of which includes a portion that is arcuate in configuration, the concave sides of said arcuate portions facing each other to define a channel therebetween for receiving said chain members therein, the depth and width of said channel being proportioned with respect to the dimension of each chain member in the direction of the depth of said channel, so that when the opposed arcuate portions of said friction guides are in their closest position, said chain members are in engagement with said arcuate portions, and spring members positioned in said housing between the inner surfaces of said shells and said friction guides, said spring members including spaced curved spring fingers that engage the adjacent portions of the semi-spherical shells, wherein said spring members are compressed against the friction guides to urge said guides toward each other, thereby causing said friction guides to frictionally engage said chain members, whereby said chain members and slide lock will be retained in the relative positions to which they are moved.

4. In a bracelet construction, a chain assembly including opposed members that terminate in free ends, a slide lock engaging said opposed members and including a substantially spherical housing defined by coating substantially semi-spherical shells, each of said shells having an opening formed in the end thereof through which the chain members extend, opposed friction members, each of which includes an arcuate portion that is shaped and proportioned for fitting in said spherical housing, the concave sides of said arcuate portions being disposed in facing relation to define a slot therebetween through which said chain members extend, the depth and width of said slot being proportioned with respect to the dimension of each chain member in the direction of the depth of said slot, so that when the opposed arcuate portions of said friction members are in their closest position, said chain members are in engagement with said arcuate portions, and spring members each of which includes an arcuate portion that is shaped and proportioned for engaging an adjacent friction member, whereby said friction members are urged into frictional engagement with said chain members, said chain members and said slide lock being relatively movable to change the effective dimension of said chain assembly, the chain members being maintained in their relative position by the frictional engagement between said chain members and said friction members.

5. In a bracelet construction, a chain assembly including chain members terminating in opposed free ends, a slide lock through which said chain members extend, said slide lock and chain members having relative movement to change the effective dimension of said chain assembly, said slide lock being defined by a housing in which spaced frictional guide members are positioned, each of said guide members including an arcuate portion having flanges joined thereto, the concave sides of said arcuate portions being disposed in facing relation to define a channel for receiving said chain members therein, the depth and width of said channel being proportioned with respect to the dimension of each chain member in the direction of the depth of said channel, so that when the opposed arcuate portions of said frictional guide members are in their closest position, said chain members are in engagement with said arcuate portions, and resilient means positioned in said housing between the housing walls and said guide members and being located in positive engagement with said guide members for forcing said guide members into frictional engagement with said chain members, whereby said slide lock frictionally retains said chain members in their relative position with respect to said slide lock regardless of the position to which said chain members are slidably moved.

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