The present invention relates to improvements in cuff link actions.

An object of the present invention is to provide an improved cuff link action wherein the assemblage requires a minimum of components and wherein wear of any of the component elements is minimized to give long life to the action.

Another object of the present invention is to provide an improved cuff link action wherein the assemblage consists of a shank and toggle bar assembly and the toggle bar assembly consists of a pair of elements cooperatively associated with the cross bar of the shank and wherein these are the only required elements for an operative cuff link action.

Still another object of the present invention is to provide an improved cuff link action comprised of a minimum number of component elements and wherein wear of any of the component elements is minimized to give long life to the action.

A further object of the present invention is to provide an improved cuff link action which will be appealing in appearance as well as facile in operation.

Still other objects of the present invention are to provide an improved cuff link action which is of simple construction, consists of a minimum number of component elements, is easily manufactured and assembled and has long life characteristics.

Various other objects and advantages will become apparent from the detailed description to follow.

In the drawings:

Figure 1 is a perspective view of the cuff link action with an ornamental head attached thereto;

Figure 2 is a top plan view looking down on the toggle bar assembly of the action of Figure 1;

Figure 3 is a vertical sectional view taken substantially along the plane of line 3—3 in Figure 2;

Figure 4 is a detailed transverse sectional view taken substantially along the plane of line 4—4 in Figure 3;

Figure 5 is a bottom plan view of the assemblage as seen along the plane of line 5—5 in Figure 3;

Figure 6 is a sectional view similar to Figure 4 but showing a modified form of toggle bar assembly; and

Figure 7 is a vertical sectional view through the cuff link action and showing the toggle bar assembly in an intermediate position.

Referring more particularly to the drawings, wherein like numerals apply to like parts throughout, it will be seen that I have provided a cuff link 10, as shown in Figures 1 and 2, which comprises a cuff link action 12 and an ornamental head 14. The ornamental head 14 may be of any desired form or configuration.

The cuff link action 12 is comprised of a post or shank 16 which has one end 18 thereof adapted to have the ornamental head 14 secured thereto, as by solder, in order to complete the cuff link action. I have discovered that bar stock of T cross-section is uniquely applicable for use in my cuff link action. The shank 16 if formed partly by a stamping operation which punches out the opening at 20 and the cutaway portion at 22, the T cross-section stock can be cut to the size of the shank 16 as shown.

The cuff link assembly 12 further includes the toggle bar assembly 24, best shown in Figures 3, 4 and 5. The toggle bar assembly 26 is comprised of a shell 28 and a spring plate 30. The shell 28 is of a design that can be formed in a conventional way on a press. The shell 28 includes a pair of side walls 32 and 34 which are substantially parallel and adapted to be received between the legs 36 and 38 of the shank 16. The side walls 32 and 34 are formed with aligned openings 40 and 42 which open out at the lower edges 44 and 46 of the side walls 32 and 34, respectively. The openings 40 and 42 receive the cross-bar 24 therethrough for free rotation therein. The side walls 32 and 34 are joined by the outer wall 48 which, as here shown, is of longitudinally arcuate form, with its ends beveled at 50 and 52. The outer wall 48 with its end portions 50 and 52 join the side walls 32 and 34. The outer wall 48 is substantially reduced from the edges 44 and 46 so as to give the toggle bar assembly the thickness necessary for easy manual manipulation when inserting the same through holes in shirt cuffs and when pivoting the toggle bar assembly with respect to the shank 16 after insertion through the cuff hole. However, it is to be noted that the shell 28 because of its design must be made of a material which is easily formed to the shape shown, or other desired shapes, and therefore the material conventionally has poor wear characteristics. Thus, with the spacing of the outer wall 48, as required for the necessary thickness of the toggle bar assembly, the cross-bar 24 will be engaged against the outer edges of the openings 40 and 42. In pivoting the toggle bar assembly with respect to the cross-bar, the relatively hard cross-bar 24 will immediately begin to wear down the side walls 32 and 34 at the outer edges of the openings 40 and 42, thereby seriously reducing the life expectancy of the action. Accordingly in order to materially lengthen the life of the cuff link action without the addition of additional elements, I provide at least one offset wall portion formed in the outer wall 48 which offset wall portion is positioned to abut against the cross-bar and thereby absorb wear over a large area. In the embodiment of Figures 4 and 5, the offset outer wall portions are shown at 54 and 56, and thus are located at the side portions of the outer wall 48, adjacent the openings 40 and 42 formed in the side walls 32 and 34.

In order to hold the spring plate 30 in desired relation to the shell 28, end tabs or flaps 58 and 60 are integrally formed with the beveled end portions 50 and 52. The spring plate 30 is formed with offset portions 62 and 64 at the ends thereof so that when the flaps 58 and 60 are bent they are received in recesses formed by the offset portions 62 and 64, thereby forming a flush surface. The spring plate 30, being on the opposite side of the cross-bar 24 from the bearing portions 54 and 56, abuts against the cross-bar 24 and holds the bearing portions 54 and 56 against the opposite side of the cross-bar.

The spring plate 30 has lateral projections at 66 and 68 which are received in portions of the openings 40 and 42 in the side walls 32 and 34.

In operation, when it is desired to pivot the toggle bar assembly 26 with respect to the shank 16, the assembly is manually pivoted with respect to the shank with the bearing portions 54 and 56 bearing against the cross-bar 24 as shown in Figures 4 and 7. When the spring bar or plate 30 being bowed by the cross-bar. When the toggle bar assembly 26 reaches a relationship
substantially coplanar with the shank 16, the spring bar 30 will have returned to its normal relationship with the shank as desired for insertion through a cuff hole. Thereafter, the toggle bar assembly can be again pivoted to return to the relationship shown in Figure 1. It will be understood that my improved assembly permits rotation of the toggle bar assembly through 360° with respect to the shank 16.

In Figure 6, a slightly modified form of shell 28 is disclosed. The outer wall 48° is, as in the previous species, spaced from the cross-bar 24 and a longitudinal central portion 70 thereof is offset inwardly so as to provide a bearing surface at 72 in contact with the cross-bar 24. Otherwise, the assembly of Figure 6 is substantially the same as in the above described embodiment and a more detailed description thereof is deemed unnecessary.

In view of the foregoing, it is believed that I have provided an improved cuff link assembly which fulfills all of the objects hereinafter enumerated.

As this invention may be embodied in several forms without departing from the spirit or essential characteristics thereof, the present embodiment is therefore illustrative and not restrictive, since the scope of the invention is defined by the appended claims rather than by the description preceding them, and all changes that fall within the metes and bounds of the claims or that form their functional as well as conjointly cooperative equivalents, are therefore intended to be embraced by these claims.

1. A cuff link action comprising a shank having at one end thereof a cross bar of non-circular cross-section and at its other end being adapted to have an ornamental head attached thereto, a toggle bar assembly pivotally carried on said cross bar and comprising a one-piece shell and a spring plate, said shell being of a selected wall thickness and having side walls and an outer wall joining the side walls with aligned openings in said side walls receiving the cross bar therethrough in spaced relation to a portion of said outer wall, said spring plate having its ends anchored to end portions of said shell and being located on the opposite side of said cross bar from said outer wall and resiliently engaging said cross bar so as to hold the assembly in selected relationship to the cross bar and substantially conceal the latter within the shell, and at least one wall portion of said shell being offset so as to extend along a portion of the length of said cross bar to provide a bearing surface for said cross bar of greater extent than the thickness of said walls.

2. A cuff link action comprising a shank having at one end thereof a cross bar of non-circular cross-section and at its other end being adapted to have an ornamental head attached thereto, a toggle bar assembly pivotally carried on said cross bar and comprising a one-piece shell and a spring plate receiving said cross bar therebetween, means joining end portions of said shell and spring plate so that an intermediate portion of said spring plate is free to flex upon pivoting of said assembly relative to said cross bar to resiliently, releasably hold the assembly in relation to the cross bar, said shell having side walls and an outer wall of a selected thickness, said side walls having aligned openings freely rotatably receiving said cross bar therethrough, and at least one wall portion of said shell being offset so as to extend along a portion of the length of said cross bar to provide a bearing surface for said cross bar of greater extent than the thickness of said walls.

3. A cuff link action comprising a shank having at one end thereof a cross bar of non-circular cross-section and at its other end being adapted to have an ornamental head attached thereto, a toggle bar assembly pivotally carried on said cross bar and comprising a one-piece shell and a spring plate, said shell being of a selected wall thickness and having side walls and an outer wall joining the side walls with aligned openings in said side walls receiving the cross bar therethrough in spaced relation to a portion of said outer wall, said spring plate having its ends anchored to end portions of said shell and being located on the opposite side of said cross bar from said outer wall and resiliently engaging said cross bar so as to hold the assembly in selected relationship to the cross bar and substantially conceal the latter within the shell, and at least one wall portion of said shell being offset so as to extend along a portion of the length of said cross bar to provide a bearing surface for said cross bar of greater extent than the thickness of said walls.

4. A cuff link action comprising a shank having at one end thereof a cross bar of non-circular cross-section and at its other end being adapted to have an ornamental head attached thereto, a toggle bar assembly pivotally carried on said cross bar and comprising a one-piece shell of a spring plate, said shell having side walls and an outer wall joining the side walls with aligned openings in said side walls receiving the cross bar therethrough in spaced relation to portions of said outer wall, said spring plate having its ends anchored to end portions of said shell and being located on the opposite side of said cross bar from said outer wall and resiliently engaging said cross bar so as to hold the assembly in selected relationship to the cross bar and substantially conceal the latter within the shell, and at least one wall portion of said shell being offset so as to extend along a portion of the length of said cross bar to provide a bearing surface for said cross bar of greater extent than the thickness of said walls.

5. A cuff link action comprising a shank having at one end thereof a cross bar of non-circular cross-section and at its other end being adapted to have an ornamental head attached thereto, a toggle bar assembly pivotally carried on said cross bar and comprising a one-piece shell of a spring plate, said shell having side walls and an outer wall joining the side walls with aligned openings in said side walls receiving the cross bar therethrough in spaced relation to portions of said outer wall, said spring plate having its ends anchored to end portions of said shell and being located on the opposite side of said cross bar from said outer wall and resiliently engaging said cross bar so as to hold the assembly in selected relationship to the cross bar and substantially conceal the latter within the shell, and at least one wall portion of said shell being offset so as to extend along a portion of the length of said cross bar to provide a bearing surface for said cross bar.

6. A cuff link comprising a shank having at one end a pair of spaced legs joined by a cross bar of non-circular cross-section, the opposite end of said shank adapted to have an ornamental head attached thereto, a toggle bar assembly pivotally carried on said cross bar and said toggle bar comprising a one-piece shell and a spring plate, said shell having side walls and an outer wall joining the side walls with aligned openings in said side walls receiving the cross bar therethrough in spaced relation to a portion of said outer wall, said spring plate receiving its ends anchored to end portions of said shell and being located on the opposite side of said cross bar from said outer wall and resiliently engaging said cross bar so as to hold the assembly in a selected relationship with respect to the cross bar and substantially conceal the latter within the shell, and at least one wall portion of the outer wall inwardly offset along said cross bar in such a manner as to provide bearing surfaces having wear contact with said cross bar.
7. A cuff link comprising a shank including a pair of spaced legs joined at one end by a cross bar of non-circular cross-section, the opposite end of said shank adapted to have an ornamental head attached thereto, a toggle bar assembly pivotally carried on said cross bar and movable thereon to one of at least two preselected positions with respect to said shank, said toggle bar assembly including as a complete operative assembly an elongated, dish-shaped shell of a depth greater than the cross-section of said cross bar and made of a relatively non-resilient material, and a generally flat, elongated spring plate of a relatively resilient material, said shell having opposed side walls and an outer wall joining the side walls, said shell being disposed at one side of said cross bar and having transversely aligned openings formed in the side walls thereof receiving said cross bar therethrough in spaced relation to at least a portion of said outer wall extending between the openings, said spring plate being disposed on the opposite side of said cross bar from said shell and bearing against said cross bar, said shell having retainer portions extending in juxtaposition to and holding the ends only of said spring plate in an operative relationship permitting flexing of an intermediate portion of the spring plate with respect to said cross bar to resiliently, releasably hold the assembly in one of said preselected positions, and at least one portion of said side walls of said shell being inwardly offset to extend along a portion of the length of said cross bar on the side thereof opposite to said spring plate so as to provide a bearing surface of a length greater than the thickness of said side walls.

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