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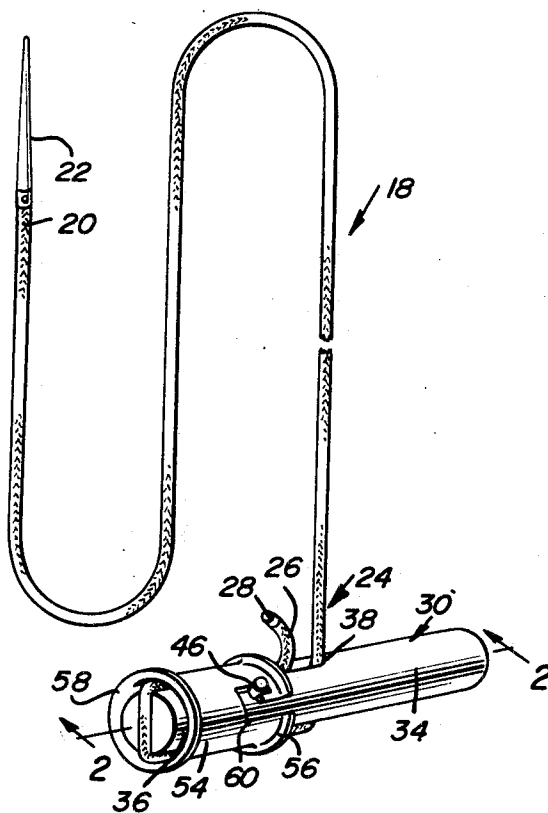
[54] **FISH STRINGER WITH RELEASABLE CROSSBAR**
 4 Claims, 15 Drawing Figs.

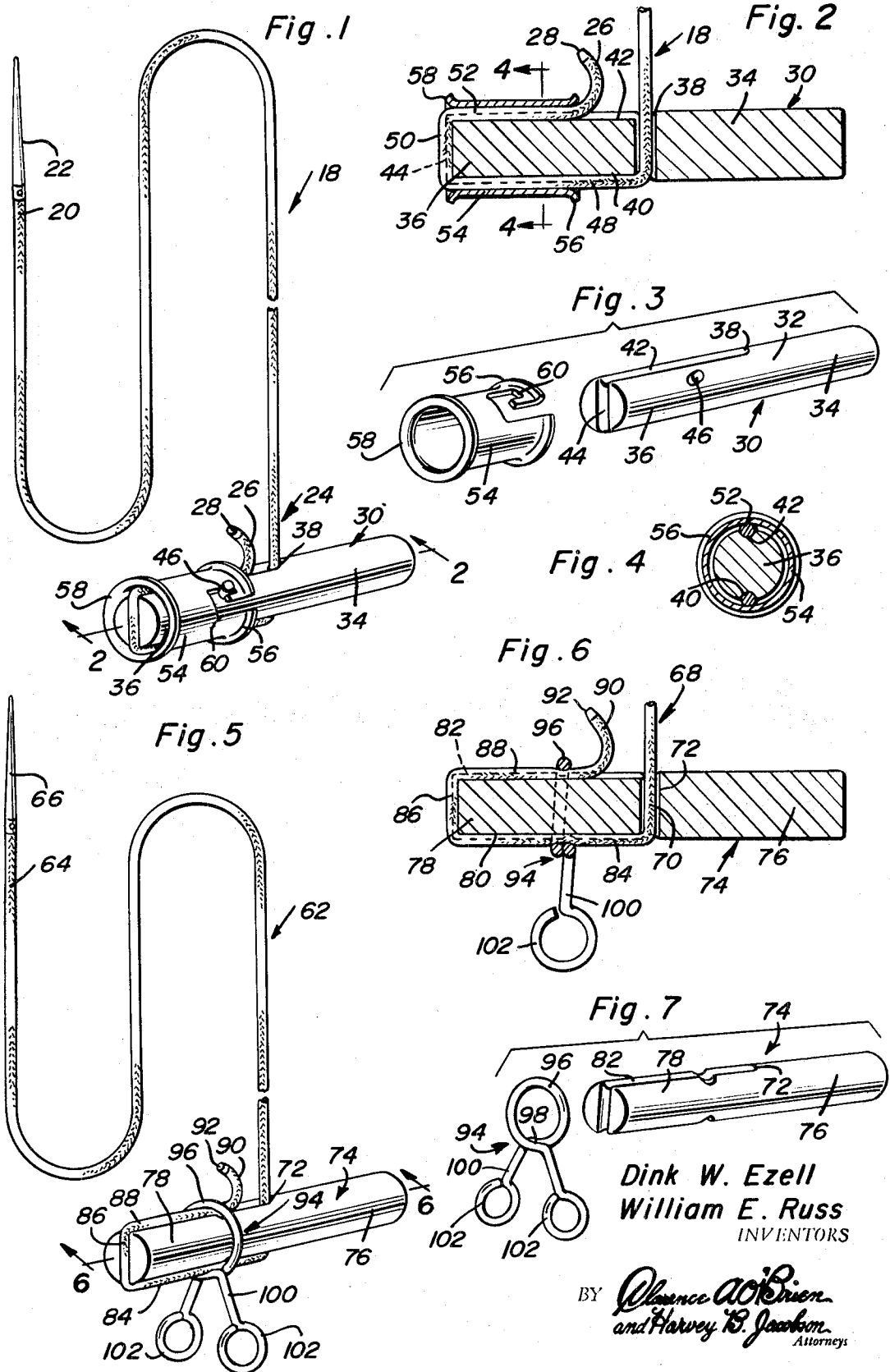
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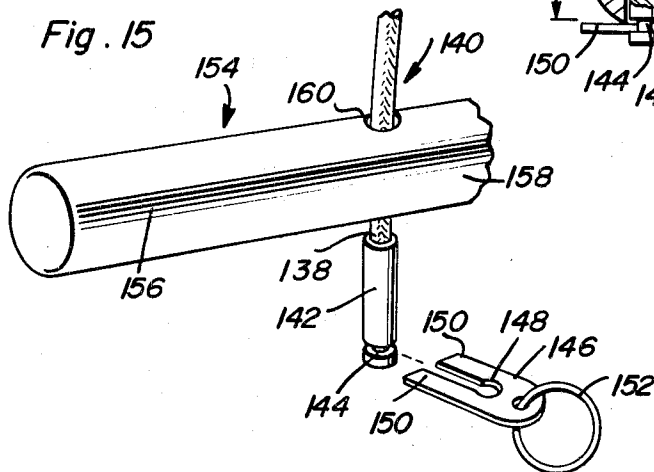
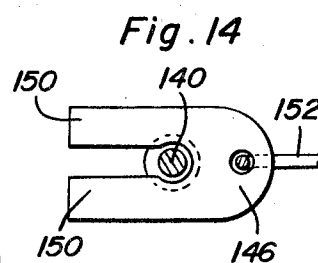
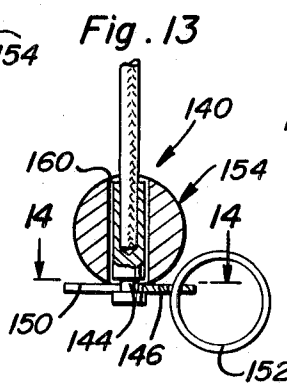
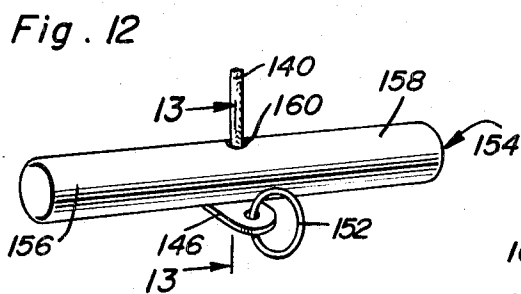
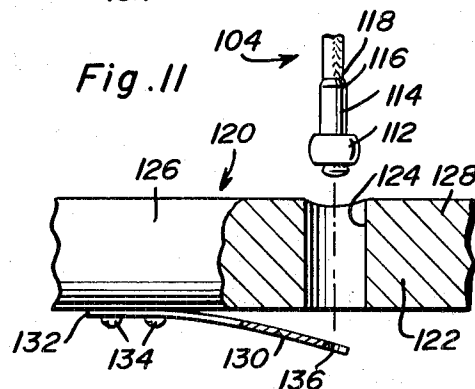
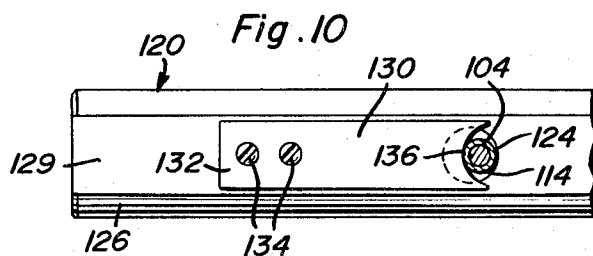
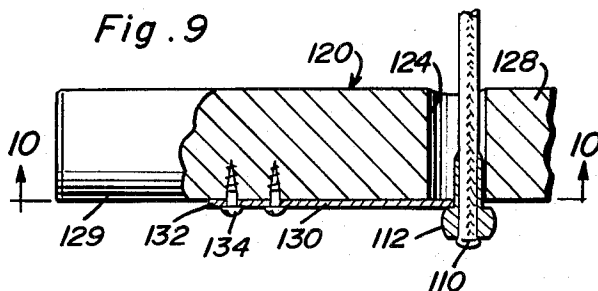
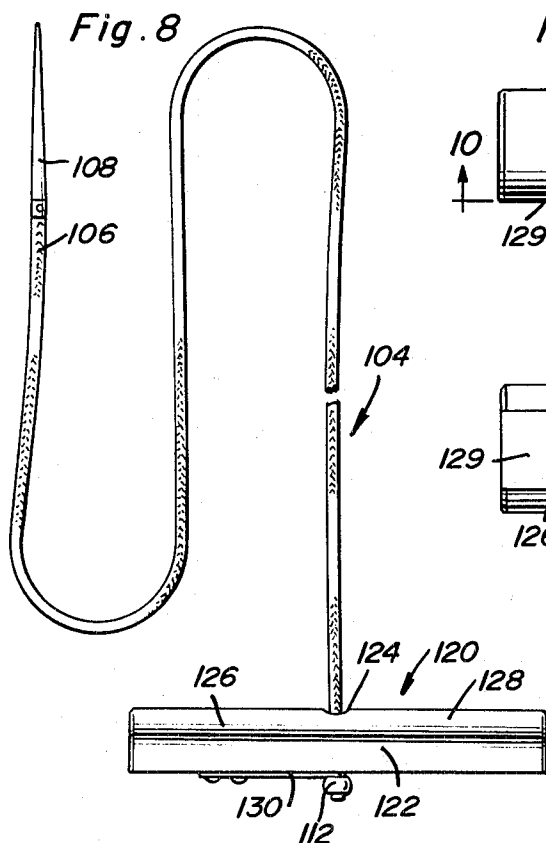
ABSTRACT: The stringers shown are all characterized by a limit stop, more particularly, a dowel-type crossbar having a centralized hole through which the lower end of the nylon or equivalent string is threaded upwardly. The upper end is equipped with the customary impaling needle. Four similar but comparably distinct retainers are herein disclosed for releasably connecting the crossbar. When the crossbar is unfastened the strung fish are freed and drop into a container without handling them. Each embodiment reveals unique quickly releasable crossbar coupling means.





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FISH STRINGER WITH RELEASABLE CROSSBAR

This invention relates to certain new and significantly useful improvements in a fish stringer which, similar to prior art adaptations, is characterized by a suitably long flexible string whose upper end is provided with a conventional needle and whose lower end is coupled to a centrally apertured dowel-like crossbar by quickly and easily releasable string connecting and fastening means.

As the above general statement of the invention reveals, it is common in the art to separably couple the lower or trailing end of a needle-equipped stringer with the median portion of a limit-stop-type crossbar. Many patents possessed of the above named facilities have been granted. A typical example is the patent to Fiske 1,423,203 which may be referred to for background information, if so desired.

The general objective in the instant matter is to improve upon prior art stringers and to advance the art by providing stringer and crossbar assembling and fastening means wherein the latter functions with certainty to permit the string of fish to fall off into a bucket or container unhampered and without bothering with or handling the same.

Briefly, the herein disclosed stringer comprises an elongated nylon or equivalent string having upper and lower terminal ends, said upper end provided with a securely attached fish penetrating needle, readily applicable and removable limit stop means normally but detachably connected with said lower end, and manually controllable fastening means accessibly cooperable with said lower end and limit stop means and separably connecting the limit stop means in a manner that when it is unfastened and bodily detached the strung fish are freed and can slide off the lower end into an aligned container unhampered.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIG. 1 is a view in perspective of a fish stringer with the improved releasable crossbar constructed in accordance with the principles of the present invention.

FIG. 2 is a view in section and elevation and with a portion of the string broken away and taken on the plane of the section line 2-2 of FIG. 1.

FIG. 3 is an exploded perspective view of the dowel-type crossbar and the line-end attaching and retaining sleeve with the line or string omitted.

FIG. 4 is a cross section on the plane of the section line 4-4 of FIG. 2.

FIG. 5 is a view in perspective similar to FIG. 1 but showing a modified form of the invention.

FIG. 6 is a view similar to FIG. 2 and in section and in elevation and taken on the plane of the line 6-6 of FIG. 5.

FIG. 7 is a view in perspective similar to FIG. 3 but showing this particular form of the invention.

FIG. 8 is a view in side elevation of a third form or modification of the invention wherein a latch and ball detent is employed.

FIG. 9 is a fragmentary view on an enlarged scale of the left hand end of the crossbar and detailing the latch and ball detent in section.

FIG. 10 is a fragmentary detail view taken approximately on the plane of the section line 10-10 of FIG. 9.

FIG. 11 is a view fragmentarily shown and somewhat similar to FIG. 9 with end portions of the crossbar broken away and showing the manner in which the spring latch is released in a manner to release the ball detent and separate the string from the crossbar or, alternatively, the crossbar from the detent equipped string.

FIG. 12 is a view in perspective with the major portion of the string omitted and showing a fourth modification with the fastener applied and the string and crossbar separably coupled.

FIG. 13 is a view on a slightly larger scale taken on the plane of the section line 13-13 of FIG. 12.

FIG. 14 is a view on the section line 14-14 of FIG. 13.

FIG. 15 is an enlarged perspective view which ties in with FIGS. 12, 13 and 14 and which shows the manner in which the cleat-type fastener is separably connectible with the headed neck on the ferrule to provide the cleat-type (also clip-type) fastener.

By way of introduction to the description of the details it will be evident that FIGS. 1 to 4 are grouped together to conveniently show a first embodiment or form of the invention. FIGS. 5, 6 and 7 are grouped together to show the second embodiment or form of the invention. FIGS. 8 to 11 are grouped together to show the third form or embodiment of the invention. And, FIGS. 12 to 15 inclusive are grouped together to show the details of the fourth form or embodiment of the invention.

With reference first to FIGS. 1 to 4 inclusive it will be noted that the flexible nylon string is denoted by the numeral 18. Manifestly this string may be of any length, cross section and suitable material other than nylon. In either event the terminal end, which is here referred to as the upper end in FIG. 1, is denoted by the numeral 20 and is provided with a permanently attached fish penetrating and impaling needle 22. The lower end portion of the string is denoted generally in FIGS. 1 and 2 by the numeral 24. The free terminal lower end is denoted at 26 and to prevent unravelling, this end terminates in an appropriate plastic or equivalent cap 28. With reference now to FIGS. 2 and 3 the limit stop member or means comprises a dowel-type cross head which is denoted at 30. This cross head can be constructed of wood which can be suitably varnished or otherwise made substantially waterproof. It may also be constructed of an appropriate grade of moldable plastic material. The median body portion is denoted at 32, one end portion at the right at 34 and the other end portion at the left at 36. The median portion is provided with a passage or hole 38 which extends through the top and bottom surfaces. The left-hand half portion is provided with a longitudinal first groove 40 and a diametrically opposite second groove 42 and an end groove 44 which connects the two grooves 40 and 42 together. The numeral 46 designates a laterally projecting retaining pin. In practice the end portion of the nylon string is passed or threaded through the hole 38 and the component portions 48, 50 and 52 are seated in the grooves 40 and 42 which are provided therefor. The fastening and retaining means comprises an open ended suitably proportioned sleeve 54 which is provided at its open end with optional outstanding flanges 56 and 58. These flanges can be omitted if desired. The end portion at the right is provided with a bayonet slot 60. When the sleeve is sleeved over the grooves and component portions 48, 50 and 52 it will be evident that the separable end portion of the string is connected to the crossbar so that the fish (not shown) can be strung on the stringer in a customary manner. By simply detaching the slot from the pin 46 the sleeve can be removed and the crossbar unfastened so that the entire string of fish can be allowed to gravitate freely off the string and into a bucket, receptacle or the like (not shown).

With reference now to FIGS. 5 to 7 inclusive it will be seen that the string 62 is the same as the one already described and the upper end 64 has an impaling needle 66 attached thereto. The lower end portion is denoted generally at 68 and has a portion 70 extending down through the string hole 72 in the median portion of the dowel-type crossbar 74. Here again the right-hand end portion is denoted at 76 and the left-hand end portion at 78, the latter portion having longitudinal grooves 80 and 82 to accommodate the bent portions 84, 86 and 88 of the string. The free end portion is denoted at 90 and the reinforcing cap or tip at 92. The difference here is in the use of the wire or equivalent type readily applicable and removable fastening clip or clasp which is denoted generally by the numeral 94. This fastener comprises a split ring 96 which encircles and embraces the component portions 84 and 88 of the string as clearly shown in FIGS. 5 and 6. Instead using the sleeve 54 with bayonet slot and pin connection this specially bent wire or equivalent fastening clip 94 is employed. The split end portions 98 are provided with diverging legs or limbs 100

which terminate in finger gripping eyes 102. The manner in which this clip means is constructed and applied and removed and the manner in which it separably couples the string to the crossbar is believed to be evident from the views of the drawing and a more extended description would seem to be unnecessary keeping in mind the description already given in reference to FIGS. 1 to 4 inclusive.

Taking up now the form or embodiment of the invention appearing in FIGS. 8 to 11 inclusive it will be noted that the flexible elongate string 104 has an upper end 106 provided with a permanently attached impaling needle 108. The lower end portion 110 of the string is provided with unique detent means. This means comprises a head which is conveniently referred to as a ball-type head 112 and which is disposed at the lower end of a thimble 114 whose upper end portion 116 is swaged and clinched on the line or string as denoted at 118 in FIG. 11. In this embodiment the wooden dowel or equivalent crossbar is denoted by the numeral 120. The central or body portion 122 is provided with a through hole of prescribed diameter 124 which extends from top to bottom and divides the end portions 126 and 128 into equal half portions. The bottom side is flattened as at 129 (FIG. 10). The ball member 112 provides a coupling detent which is releasably clipped and cooperable with the hole in the manner detailed in FIGS. 8 to 10. A flat leaf spring 130 functions as a spring latch and has one end portion 132 screwed in place and anchored at 134. The free end portion is lined up or substantially so with the hole 124 and has a keeper notch 136 which is releasably engageable with the thimble-equipped head 112. The manner in which this latch uniquely engages the detent is shown in FIGS. 8, 9 and 10. The manner in which the detent is released, by disengaging the latch, is shown in FIG. 11. By disengaging the ball detent from the notched end the latter end is released and the latch springs open to the position shown in FIG. 11 whereupon the crossbar can be disconnected. It is believed that the construction and manner of use of this embodiment (FIGS. 8-11) is self-evident and that a more explicit description appears to be unnecessary.

With reference now to the final embodiment or form of the invention, this is shown in FIGS. 12 to 15 inclusive. Here the entire or complete string is not shown. This is to say only the lower separable and connectible end portion of the string is shown and is denoted at 138. With reference to FIG. 15 the overall string is denoted at 140 and the lower end portion 138 is provided with a socket member or ferrule 142 having a reduced neck and head at the bottom thereof which provides an appropriate detent. The detent is denoted generally at 144 and it serves to accommodate the prongs of the fork on a readily attachable and detachable cleat. The cleat is denoted at 146 and one end portion is bifurcated to provide what may be described as a keyhole-shaped slot 148. This slot provides fork arms or limbs 150 which can straddle the headed detent to provide the retaining result which is evident as submitted from FIGS. 12, 13 and 14. To facilitate use of the retaining cleat it is provided at one end with a finger ring 152. In this form of the invention the cylindrical or dowel-type crossbar is denoted at 154 and the right-hand and left-hand halves are denoted at 156 and 158 respectively. The through hole for the string is denoted at 160. The manner in which the end portion is threaded through the hole and is retained by the cleat or clip is evident in FIGS. 12-14. The manner in which the cleat 46 is constructed and is cooperable with the detent is believed to be evident in the four views when taken particularly with FIG. 15. All that is necessary is to detach the cleat or clip whereu-

pon the detent means on the string is free to slide up through the hole 160 and permit the crossbar 154 to be detached after which the string of fish (not shown) will slide off without hindrance.

- 5 It will be noted that the four embodiments have been singly and collectively construed and described so that the subject matter can be interpreted generically and specifically. All of the forms of the invention are simple and readily understandable. Under the circumstances a more specific description is deemed to be unnecessary.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.

We claim:

1. A fish stringer comprising an elongated flexible string having upper and lower terminal ends, said upper end provided with an axially extending permanently attached fish impaling needle, said lower terminal end being free, an elongated rigid dowel, said dowel being circular in cross section and uniform in cross section from end to end and providing a crossbar which is adapted to function as a limit stop and having a median body portion provided with a through hole, said hole dividing said dowel into equal half-portions, the peripheral surface of one half portion being provided with diametrically opposite longitudinal grooves having outer ends joined by a complementary end groove; said end groove being formed across adjacent terminal end of said dowel, the respective inner ends of said longitudinal grooves communicating with oriented upper and lower ends, respectively, of said hole, the lower end of said string passing downwardly through said hole and having adaptable components thereof aligned with and partially but retentively seated in all three of said grooves, and manually and bodily attachable and detachable line end retaining means snugly but removably fitted over the grooved end portion and embracing coacting seated components of said lower end portion and removably attaching said crossbar to said lower end, whereby when said retaining means is removed said dowel can be freed from said lower end in a manner to allow a string of fish to be freed and removed from said lower end portion.

2. The fish stringer defined in and according to claim 1, and wherein said line end retaining means comprises a readily applicable and removable snug fitting sleeve, said sleeve being commensurate in length with the grooved half-portion of said dowel and being sleeved over the grooved half-portion, said sleeve having an inward end portion provided with a manually actuatable bayonet slot, and a securing pin for said bayonet slot fixed on a peripheral surface of said dowel in a position for alignment and cooperation with said bayonet slot.

3. The fish stringer defined in and according to claim 2, and wherein said sleeve is provided at its respective ends with outstanding flanges which facilitate the steps of applying, removing and turning the slotted end of said sleeve.

4. The fish stringer defined in and according to claim 1, and wherein said line-end retaining means comprises a spring clip embodying a split expanding ring encircling portions of the longitudinal grooves and line components which are seated therein, the split end portions of said ring having a pair of outwardly diverging legs terminating in finger gripping eyes.