Dec. 15, 1925. 1,566,059

F. S. WILLSON

TROLLING SPOON

Filed Dec. 10, 1924

Fig. 1

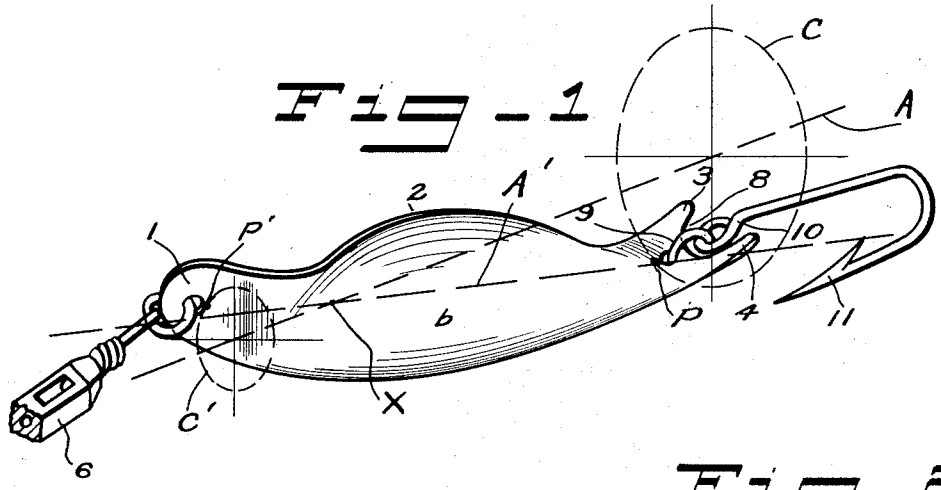
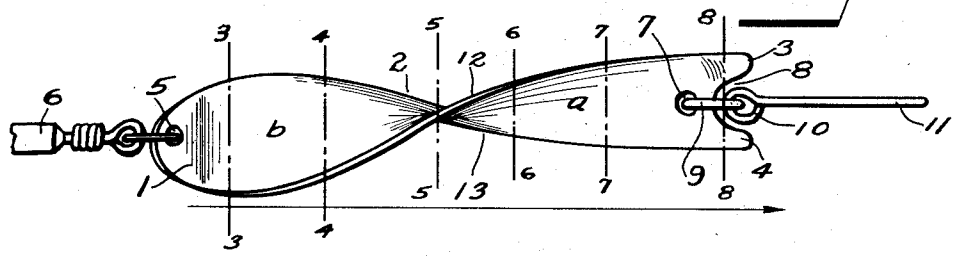


Fig. 2



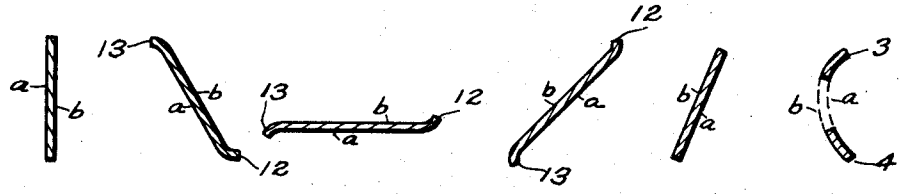


Fig. 3 Fig. 4 Fig. 5 Fig. 6 Fig. 7 Fig. 8

Fig. 9

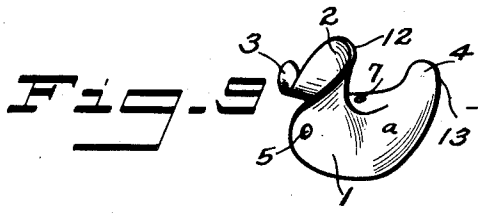
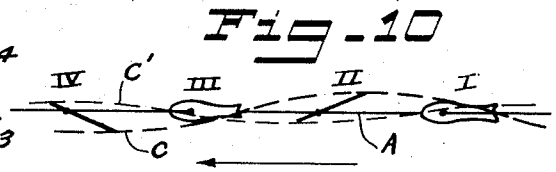


Fig. 10



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Patented Dec. 15, 1925. 1,566,059

UNITED STATES PATENT OFFICE.

FREDERIC S. WILLSON, OF SEATTLE, WASHINGTON.

TROLLING SPOON.

Application filed December 10, 1924. Serial No. 755,045.

To all whom it may concern:

Be it known that I, FREDERIC S. WILLSON, a citizen of the United States of America, and resident of the city of Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Trolling Spoons, of which the following is a specification.

My invention relates to trolling spoons and has for its object, first, the provision of a spoon which will have a rapid whirling movement in the water, yet a movement modified by a wiggling movement, such as a bodily movement about a point within the body of the spoon itself, as distinguished from a darting movement, in which the side to side movement is of some duration and extent; second, the provision of a spoon the movement of which will continue without undue change, though operated at relatively high speeds, as in power trolling; and third, the provision of means associated with such a spoon for attaching a hook thereto, whereby the hook cannot possibly become caught in its connecting means and held other than in the proper position, dangling behind the spoon.

My invention comprises the improved spoon and the improved connection of a hook therewith, all as shown in the accompanying drawings, as described in this specification and as particularly defined by the claims.

In the accompanying drawings I have shown my spoon in a form which is now preferred by me, it being understood that modifications of details, size and design may be adopted without departure from the spirit and scope of my invention.

Figure 1 is a perspective view of my spoon as it would appear while being drawn through the water.

Figure 2 is a side elevation of the spoon.

Figures 3, 4, 5, 6, 7 and 8 are sections on the corresponding lines 3—3, 4—4, etc., respectively, of Figure 2, looking in the direction of the arrow.

Figure 9 is a view from the head end of the spoon, looking rearward.

Figure 10 is a diagram of the action of the spoon as it is drawn through the water.

Many spoons have been proposed heretofore which are helically bent or which have helically turned fins or like members to cause them to spin upon an axis. Many have been proposed also which have surfaces formed upon opposite faces in such way as to cause the spoon to dart from side to side. The United States patent to Dukes, No. 632,554, is an example of the first type of spoon, and the patent to Breidenstein, No. 728,360, is an example of the second kind. My spoon is intended not as a simple spinner, nor as a darting spoon, but rather it simulates closer the movement of a small fish through the water, spinning on its axis to give shape and body to the simulation of the fish and also attracting attention by reflecting light in all directions; at the same time, it has a rapid bodily movement round about a center contained within itself, so that the movements, especially of the tail end, simulate the movement of the tail of a small fish, which as is well-known, moves from side to side to drive the fish through the water.

The spoon is formed of a flat strip, preferably of bright metal, as brass, for example, which should be substantially flat. This is formed in the general shape of a fish, having a rounded or narrowed head 1, an enlarged body portion 2, and a tail portion bifurcated to form flukes 3 and 4. After being thus formed it is twisted about a longitudinal axis about the extent of a half turn, that is to say, through approximately 180°. This brings the surface *b*, which is lowermost at the head end, uppermost at the tail end. This is preferred for the form and proportions shown in the drawings, but it will be evident that the extent of twisting may be varied to suit conditions and results desired. At the head end a hole 5 is provided for attachment of a swivel device 6, through which the spoon is attached to a fishing line.

At the tail end a similar hole 7 is formed, this being positioned, however, at the base of the bifurcation 8, and a ring 9 received in the hole 7 and passing through the eye 10 of a hook 11, lies wholly within a line extending between the outer extremities of the two bifurcations or flukes 3 and 4. By this means and by thus proportioning the ring 9 it is made impossible for the hook 11 to bend back upon itself and, by extending across a diameter of the ring 9, to be caught and held extending laterally from the axis of the spoon, or toward the head end. The construction described insures that the hook will always clear itself so that it lies rearward of and in proper position relative to

the tail end of the spoon, thus being in proper position to engage in the fish's mouth when the spoon is taken.

It will be noted from Figures 3–8, and from Figure 9, that the fluke 4 conforms to the general twist of the entire spoon but that the fluke 3 does not so conform, but in effect is bent reversely at its base, and thus opposes itself to water through which the spoon is drawn, in such way that it will modify the action of the general twist of the spoon, and will tend to throw the tail end to one side. Thus the tendency of the general twist of the spoon is to cause it to spin upon its axis, generally designated by the line A in Figure 1, but the action of the unbalanced and reversely bent fluke 3 at the tail end will cause it to throw this tail end out of its proper orbit, and this will cause the axis of the spoon to assume the position designated by the line A′. The spoon now tends to have spinning movement about its axis A′ which is at an angle to the axis A, lying in the line of draft and it also has a bodily movement of the tail. These two movements combined cause a point such as P at the tail end to describe a circle C, this of course, as the spoon is drawn forward, developing into the helix shown in Figure 10. The head end 1 preferably moves likewise in a circle, being bent to one side away from the axis A′, as is best shown in Figure 9, whereby this laterally bent surface engages the water, causing a point P′ at the head end to describe a circle C′ similar to, but preferably smaller in diameter than the circle C. The circle C′ likewise develops with the forward movement into the helix shown in Figure 10.

It will be noted that the point P lies at the opposite side of its circle C from the point P′ in its circle C′. The result is that the spoon actually oscillates or rotates bodily about a point X, where the axes A and A′ intersect, this point X being located toward the head end of the spoon. The spoon does not oscillate in the sense of following the circle C up one side and back down over the same path to the opposite side and return, but actually rotates following the circles C and C′ around and around always in the same direction. This action further distinguishes it from such spoons as that of Briedenstein, referred to above.

The movement of the spoon may be seen quite clearly by a study of the diagrams shown in Figure 10, wherein successive positions of the spoon, travelling in the direction of the arrow, are illustrated. In position I the head end lies above the line of movement of the spoon, designated as A, and the tail end lies therebelow. With a quarter turn of the spoon to position II, the head end, following helix C′, moves to the left of the line of movement, the tail end moving to the right. At position III, a quarter turn beyond, the tail end is now above the line A, and the head end is below. At position IV, the head end has moved to the right, and the tail end to the left of the line of movement, from which position the spoon will continue to rotate about the point X until position I is again reached.

The spoon is intended, in the form shown herein, more particularly for power trolling, and in order to accentuate the effect of water as the spoon is drawn through it, at relatively high speeds, to rotate the spoon, the side edges 12 and 13 are curled as is particularly noticeable in Figures 4, 5 and 6, to form a slight flange, which will engage the water and increase the effect of the helical twist of the plate itself. Thus, if the water tends to slide past the helical plates without giving the spoon sufficient rotary movement, it will engage the flanges 12 and 13 which are turned upward slightly, and will thus force the spoon to rotate. These flanges may be omitted, if desired, for hand trolling, but their presence does not deleteriously affect the action of the spoon for slower trolling.

What I claim as my invention is:

1. A trolling spoon twisted about a longitudinal axis, and having a rear portion at one side of said axis following the general twist of the spoon, the rear portion at the opposite side of the axis being reversely bent to modify the action of the twisted portion upon the water.

2. A trolling spoon twisted about a longitudinal axis, and having a pair of tail flukes lying at opposite sides of such axis, one of said tail flukes following the general twist of the spoon, and the other fluke being bent back in the opposite direction from said general twist.

3. A trolling spoon comprising a flat plate twisted about a longitudinal axis lying within the body of the spoon into a generally helical shape, the rear corners of said plate at each side of said axis being bent to the same side of the general plane of the plate to form a dished area at one side of the spoon.

4. A trolling spoon comprising a flat plate twisted into a generally helical shape, the side edges of said plate being curled upward slightly to form a water engaging flange, thereby increasing the effectiveness of water in rotating the spoon upon its axis, and a member at the tail end of the spoon bent reversely from its general curvature to throw the tail end of the spoon about a circle surrounding its axis.

5. A trolling spoon twisted about a longitudinal axis, and having its head end bent along a transverse line away from such

axis, thereby to throw its head end bodily about the spoon's line of movement.

6. A trolling spoon twisted about a longitudinal axis, and having a rear portion and a head portion bent out of the general curve of the helix, thereby to throw the head and tail end bodily about the spoon's line of movement as it rotates.

7. A trolling spoon twisted about a longitudinal axis, and having a rear portion and a head portion bent in opposite directions out of the general curve of the helix, thereby to throw the head and tail ends bodily about the spoon's line of movement, and at opposite sides thereof, whereby the spoon oscillates about a point contained within itself.

8. A trolling spoon comprising a plate having a rear portion and a head portion bent away from the longitudinal axis of the spoon, thereby to throw the head and tail ends bodily about the spoon's line of movement, to oscillate about a point contained within itself.

Signed at Seattle, King County, Washington, this 21st day of November, 1924.

FREDERIC S. WILLSON.