July 26, 1932. L. A. DOCKMAN 1,869,305

SINKER

Filed Dec. 15, 1930

Fig. 1.

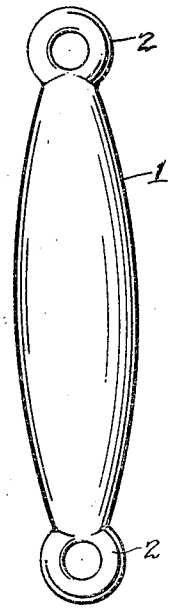


Fig. 2.

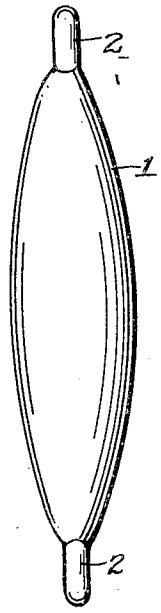


Fig. 3.

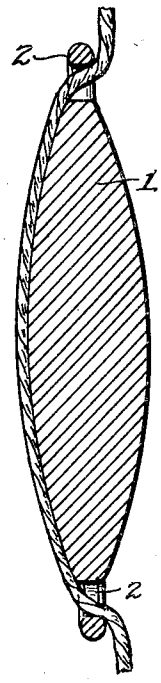


Fig. 5

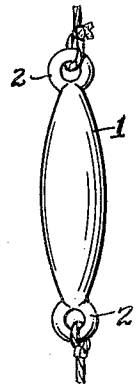


Fig. 6.

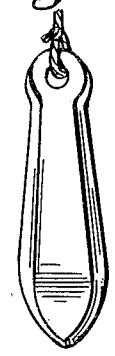
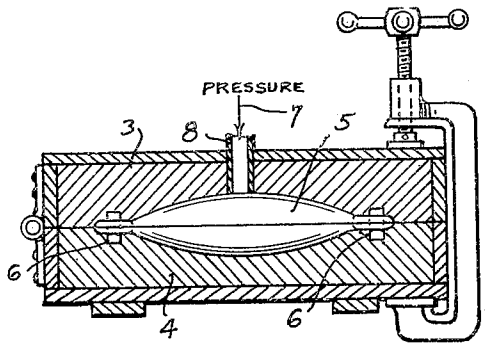


Fig. 4.



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1,869,305

UNITED STATES PATENT OFFICE

LOUIS ALOYSIUS DOCKMAN, OF BALTIMORE, MARYLAND

SINKER

Application filed December 15, 1930. Serial No. 502,586.

This invention relates particularly to sinkers for fishing lines, although it is adaptable to the construction of weights of any type where it may be advantageous to have a strong but slender eye at the ends of the weight.

One of the objects of the invention is to provide a sinker of the type exemplified by that disclosed in the patent to Chester No. 1,068,409, granted July 29, 1913, in which the inserted wire eye at each end is substituted by an eye integrally cast under pressure.

Other objects of the invention will appear as the following description of a preferred and practical embodiment thereof proceeds.

In the drawing in which the same characters of reference have been used throughout the several figures to designate identical parts:

Figures 1, 2 and 3 are respectively, a side elevation, an end elevation, and a longitudinal cross section through a sinker made according to the principles of the invention;

Figure 4 is a hypothetical representation of a die by means of which the method of constructing the improved sinker may be carried out; and

Figures 5 and 6 are views in elevation, showing respectively, a sinker embodying the present invention contrasted with one which is old.

Before adverting to a detailed description of the several figures, it may be stated that sinkers are in general, of two types, the "bank" sinker such as is shown in Figure 6, which comprises a massive bulb-shaped weight having an eye cast in the upper end. This type of sinker is designed to be attached to the extremity of the fish line, and is never subjected to any stress greater than the weight of the sinker itself or the force with which it may be thrown, as in casting. In consequence, no thought has been necessary in the construction of the eye with a view to providing sufficient tensile strength, and furthermore, the sinker being massive, and the rim of the eye being massive, any process of casting produces an eye structure of sufficient strength to satisfy the requirements of use.

The other type of sinker is of slender stream line shape, having two eyes, one at each end of the sinker, and designed to be intercalated in the fish line intermediate the ends thereof, either by having a bight of the line pass lengthwise of the sinker and within the eyes, or by having the line severed, with the sinker tied in between the severed ends. In either of these instances, the sinker bears either the whole or a proportion of the stress imposed upon it by the pull or jerk of the fish and consequently, the eyes must have sufficient tensile strength to withstand this pull or jerk without breaking away.

It is impossible to make the eyes massive and to rely upon the mere massiveness as an element of strength, for the stream line type of sinker is particularly designed to enter and descend through the water without agitation of the water which might scare off the fish and this construction negatives the practicability of providing massive eyes at the ends of the sinker.

On the other hand, it has heretofore never been successfully accomplished to cast a sinker of this type with non-massive eyes at the ends for the reason that the cross section of the metal forming the rims of the eyes is so small that the metal cools or granulates, forming an eye, the rim of which is rough, non-homogeneous and weak so that it is apt not only to chafe the line, but also to break away under the stress imposed by the jerk when catching fish.

In order to illustrate the reality and seriousness of this problem, the best solution up to the present time is found in the sinker disclosed in the patent to Chester hereinbefore referred to in which the eyes are separately formed of wire loops, inserted in the body at the time of casting the latter. This sinker has been universally adopted as the standard of its type.

The present invention as stated in the foregoing objects contemplates producing a sinker similar in shape to that of Chester, by substituting for the separately inserted wire eyes,

eyes integrally cast with the body of the sinker.

Referring now in detail to the several figures, the numeral 1 represents the body which in general may be said to have a shape generated by the revolution of a lenticular section about its axis. The body is provided with eye extensions 2 at the opposite ends and the convergent shape of the body defines necks between the body and the eye extensions.

In order to preserve the stream line advantages of the sinker, the eyes 2 are relatively small and the rims of said eyes have a cross section considerably smaller than the necks between the eye extensions and body.

The sinker including the eye extensions is cast integrally under pressure in a manner hypothetically shown in Figure 4 in which the numerals 3 and 4 represent matching die parts, defining the space 5 having the shape of the sinker and being trans-sected adjacent the ends by pins 6, which pins define the annular channel to be filled by the molten material which forms the eyes of the sinker.

The arrow 7 directed toward the sprue 8 indicates that the casting is done under pressure, and this is the essential step which imparts practicability and patentable novelty to the sinker.

Were it not that the molten material is applied under pressure, it would not run easily and uniformly around the eye channel, but on the contrary, it would cool prematurely, forming a rough, non-homogeneous and more or less granular loop which would have the drawbacks referred to earlier in the specification. By applying pressure to the molten metal within the die, it uniformly fills every interstice, displacing all the air which escapes through the joint between the die parts, and the metal quickly, and before cooling fills the eye channels with a smooth, dense and homogeneous mass, forming a smooth and strong loop, equal in all respects to the inserted wire loops shown in the construction of which the Chester patent is typical.

By contrasting the sinker of the present invention as shown in Figure 5, with the known "bank" sinker, shown in Figure 6, both of which sinkers have integrally cast eyes, it will be evident that the sinker of the present invention being double eyed, is designed to be subjected to tensile stresses which may rise to a great force, depending upon the pull of the fish or the intensity of the jerk imparted to the line by the fisherman. On the other hand, the "bank" sinker, having an eye at one end only is designed to depend from the end of the line where it will not be in the line of transmitted force between the fish and fisherman. It therefore, is required to bear at the most, a comparatively small stress.

Furthermore, since there is no attempt in the manufacture of the "bank" sinker to give it a stream line shape or slenderness or delicacy of construction, the material forming the rim of the eye may be made sufficiently massive to resist breakage, by ordinary casting methods. It is obvious therefore, that the sinker following the principles of the present invention exhibits new and patentable advantages over the old "bank" sinker and is not suggested by the construction of the "bank" sinker.

While I have in the above description disclosed my invention in relation to a sinker for fish lines, it is obvious that it is equally adapted for the construction of weights of any nature having eyes at the opposite ends integrally cast where the eyes must be of such delicate and slender nature as to be impractical of production by ordinary methods of casting.

What I claim is:

Sinker comprising an elongated body convergent toward the ends and having eye extensions at both ends, said body and eye extensions being integrally cast under pressure whereby the density and homogeneity and consequently, the tensile strength of the eye rims is enhanced.

In testimony whereof I affix my signature.

LOUIS ALOYSIUS DOCKMAN.