Nov. 25, 1952 H. G. FRAZEE 2,618,994

SHOT SPLITTING PLIERS

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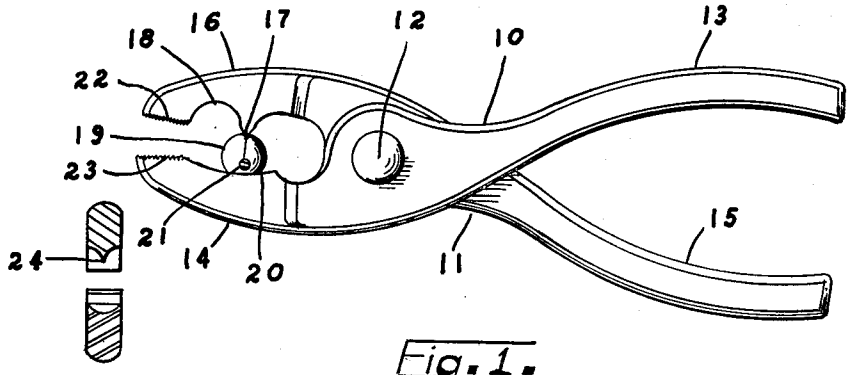


Fig. 1.

Fig. 4.

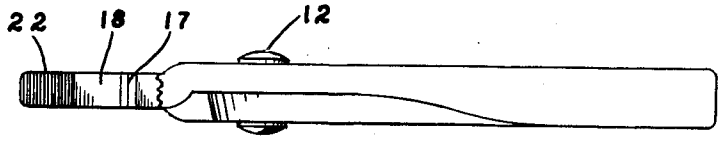


Fig. 2.

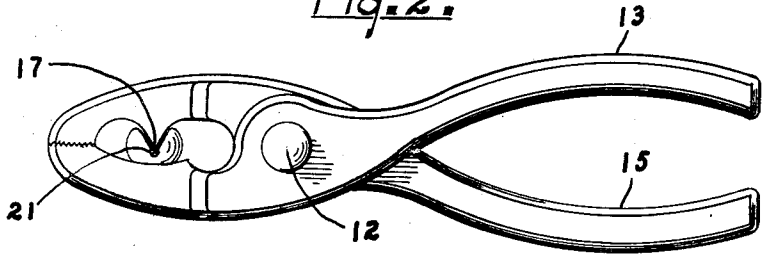


Fig. 3.

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SHOT SPLITTING PLIERS

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1 Claim. (Cl. 81—15)

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This invention provides a tool for applying split-shot sinkers to a fish line, and removing the same therefrom. In appearance, a tool embodying the present invention roughly resembles a pair of pliers. A pair of handles are provided which are to be grasped by the user for the application of the required force to operate the jaws of the device. These jaws are equipped with means for separating a split shot along the parting line to remove it from a position in which it has been clamped on the fish line. Means are also provided on the jaws for facilitating the clamping of the shot in position as required. This general type of device is not new, but the action of the jaws and the construction of a device embodying the present invention present advantages which are not to be found in the prior art.

Similar to the usual pair of pliers, each jaw member of a tool embodying the preferred form of the present invention is associated with a handle. The two components of the tool thus formed (each having a jaw and a handle portion) are pivoted together so that the torque applied by the user is transmitted to the jaw members causing the same to come to the fully closed position. One of the jaw members is provided with an entering edge adapted to engage the split shot at the parting line, and force the same open as the jaws are brought to the closed position. The action of this edge is very similar to the action of a wedge driven into a split in a log, and is not to be confused with a cutting action. The opposite jaw member is provided with a receiving surface against which the shot is placed during the closing action of the tool. Preferably, this receiving surface is so formed as to have a natural tendency to locate the shot approximately under the entering edge to avoid the necessity of carefully positioning the shot manually during the operation of the tool.

In the preferred form of this invention, the entering edge is disposed transversely to the general plane of rotation of the jaw members. This arrangement provides for the maximum of clearance in the jaw members for the construction of other surfaces which will be discussed hereinafter. It is possible, however, to arrange the opening edge in a direction generally parallel to the plane of the rotation of the tool components, but this construction results in a somewhat larger tool necessary for performing the same functions with a given force and range of travel of the moving members. The receiving surface noted above may be arcuate in a plane parallel to the plane

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of articulation of the tool, and may also be arcuate in a plane perpendicular thereto. The curvature, of course, is concave in both places in order to generate the tendency to locate the shot in the position required.

The various portions of the jaw members noted above are so disposed relative to each other that the tool will not completely sever the shot when brought to the fully closed position. Preferably, a set of stops are provided which limit the movement of the jaws toward the closed position. Such stops may be most conveniently provided by a set of auxiliary clamping surfaces disposed at the front end of the pliers which may be serrated in the conventional manner so as to make this fisherman's tool also usable to perform the conventional functions of a pair of pliers. This arrangement enables the device to be used for the extraction of fish hooks, the repair of tackle, and so forth.

At one side of the entering edge discussed above (with respect to the pivoting point of the tool) and arcuate recess is preferably provided which has the dual function of providing clearance for the action of the edge and also providing a secondary receiving surface adapted to cooperate with the principal receiving surface opposite the opening edge in order to facilitate the clamping of the shot to the closed position. This arcuate recess is preferably approximately the same curvature as that of the shot, and renders the holding of the shot in position during the closing action a very simple matter.

The various features of the present invention will be discussed in detail by an analysis of the particular embodiments illustrated in the accompanying drawings. In these drawings,

Figure 1 is a view taken in elevation of a tool embodying the present invention, with a split shot in position under the entering edge at the beginning of the opening operation.

Figure 2 is a view taken in projection with respect to Figure 1, with a portion of the lower jaw of Figure 1 broken away to show the opening edge.

Figure 3 is a view of the same tool illustrated in Figure 1, with the components in the fully closed position. This view illustrates the action of the tool as it opens the shot along the parting line thereof.

Figure 4 is a section through the jaw components of a modified form of the present invention.

Referring to Figure 1, the tool is shown generally composed of the two components desig-

nated as 10 and 11. These components are pivoted at 12. The component 10 comprises the handle portion 13 and the jaw portion 14; while the component 11 comprises the handle portion 15 and the jaw portion 16.

The jaw portion 16 is provided with the entering edge 17 adapted to enter the parting line of the shot and cause the same to open sufficiently to release the fish line as shown in Figure 3. Disposed forwardly of the edge 17 is the arcuate recess 18 providing clearance for the shot as the edge 17 moves to the closed position, and also providing a holding recess in which an open shot may be received as it is being forced into a closed position on the fish line.

The split shot designated as 19 is shown received on the arcuate surface 20, the curvature of which tends to hold the shot in position for the operation of the edge 17. In the view shown in Figure 1, the shot 19 is securely clamped upon the fish line 21. The curvature of the receiving surface 20 is such that the forward portion thereof is adapted to cooperate with the recess 18 in order to provide the clamping action necessary to close the shot into the position noted in Figure 1. The serrated gripping surfaces 22 and 23 perform the dual function of limiting stops preventing the jaws from closing to a point which would cause the complete separation of the split shot, and also the function of providing the usual clamping surface to be found on conventional pliers.

The view shown in Figure 4 presents a modified form of the present invention in which the opening edge 24 performs the same function as the edge 17 shown in Figure 1. The edge 24, however, is disposed generally in a plane parallel to the plane of articulation of the tool. The arrangement shown in Figure 4 requires a slight increase in the length of the jaw member of the tool, and therefore results in a less compact device than that shown in Figure 1. The Figure 4 arrangement is preferably provided

with a recess similar to the recess 18 shown in Figure 1 in order to facilitate the clamping of the shot to the line. A tool constructed according to Figure 4 should preferably be provided with the clamping surfaces 22 and 23, and other structure similar to that shown in Figure 1.

The particular embodiments of the present invention which have been shown in the accompanying drawings and described herein are for illustrative purposes only. It is the intent of the inventor to claim the entire scope of the invention to which he is entitled in view of the prior art.

I claim:

A tool for opening split shot, said tool comprising: a first jaw member; a portion extending from said first jaw member and having an engaging edge; a second jaw member pivotally connected to said first jaw member for rotation in one plane, and having an arcuate receiving surface of a curvature substantially smaller than that of the spherical surface of said shot at a point opposite said engaging edge, the center of curvature of said receiving surface at said point being substantially on a line tangent to said pivotal connection at said point; and handle means associated with each of said jaw members for closing and opening the same.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
285,910	McLennan	Oct. 2, 1883
675,058	Elliot	May 28, 1901
753,456	Weidinger	Mar. 1, 1904
1,290,331	Partlow	Jan. 7, 1919
1,300,495	Shank	Apr. 15, 1919
1,389,584	Goodridge	Sept. 6, 1921