May 7, 1957 L. B. DU LANEY 2,791,019

MOLD

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Fig. 1

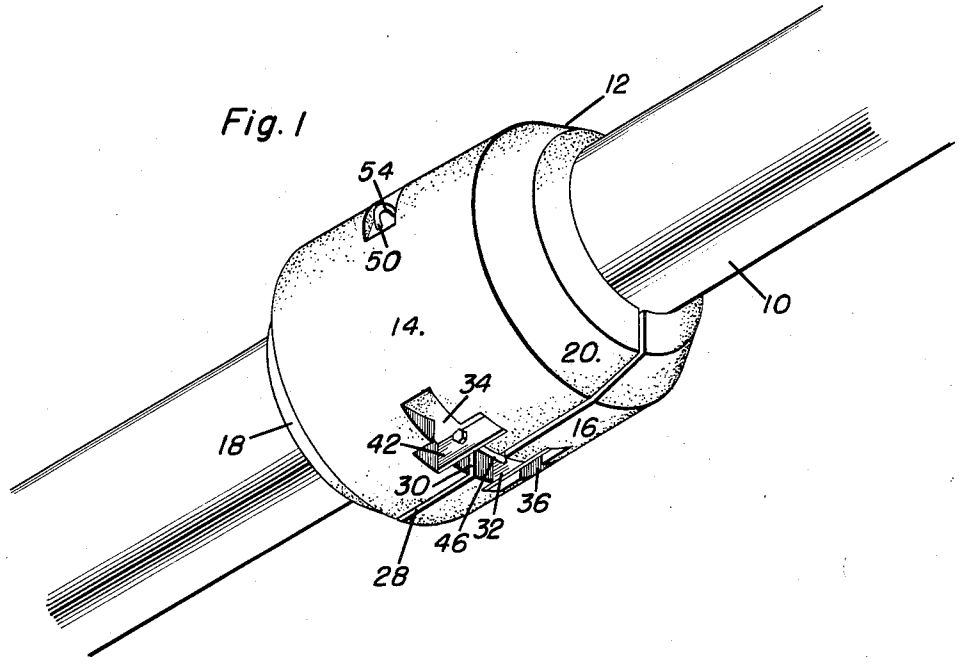


Fig. 2

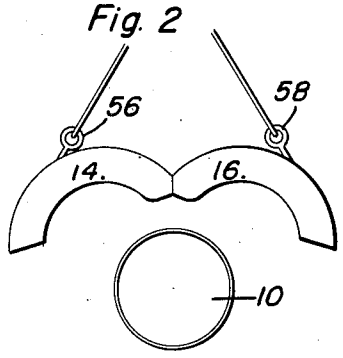


Fig. 3

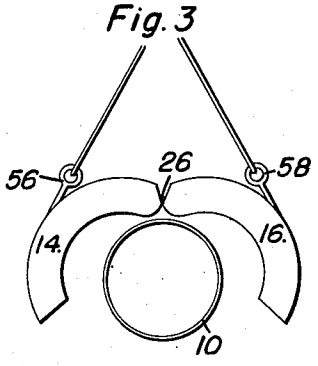
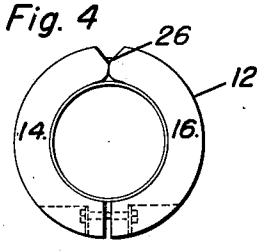


Fig. 4



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Fig. 5

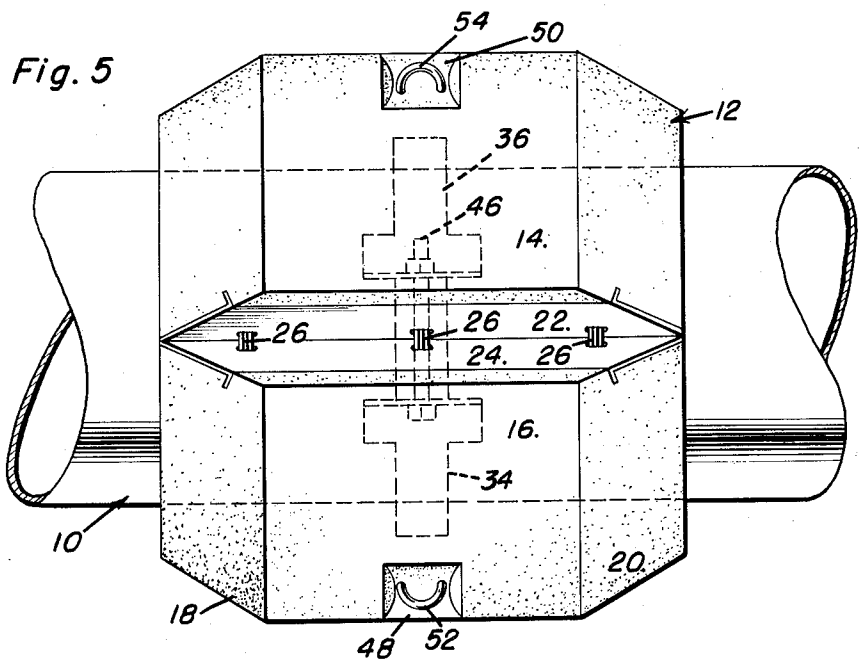
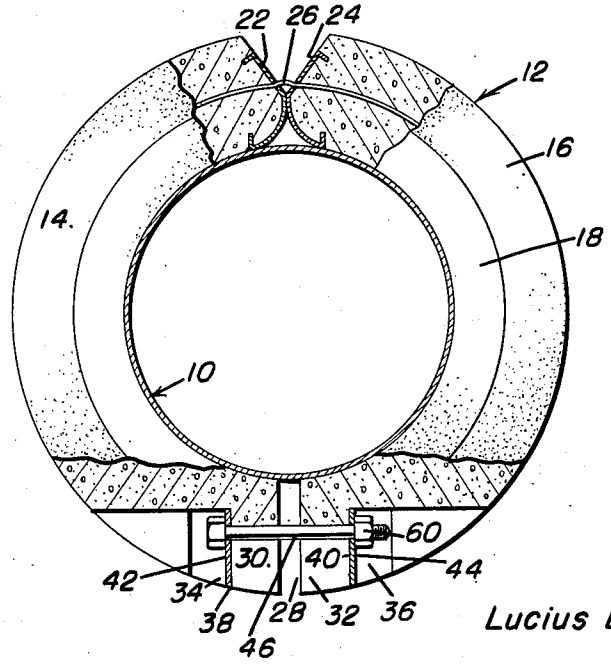


Fig. 6



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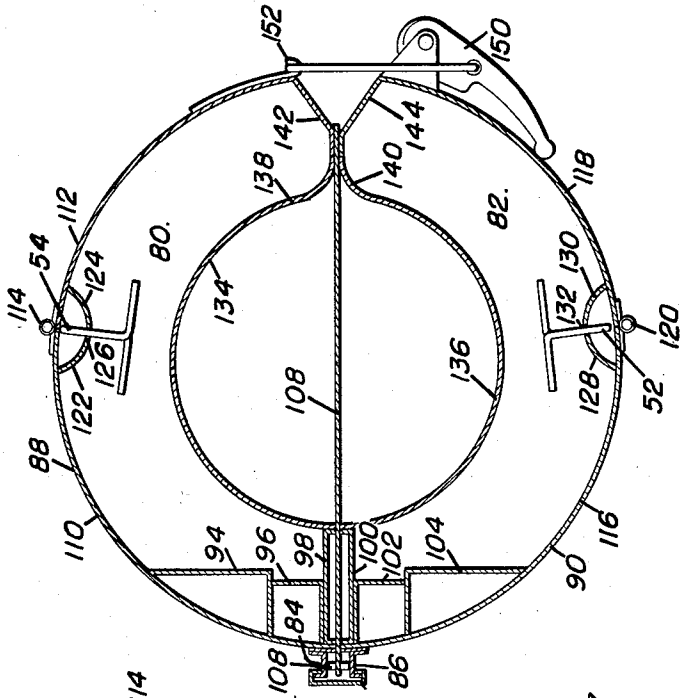


Fig. 8

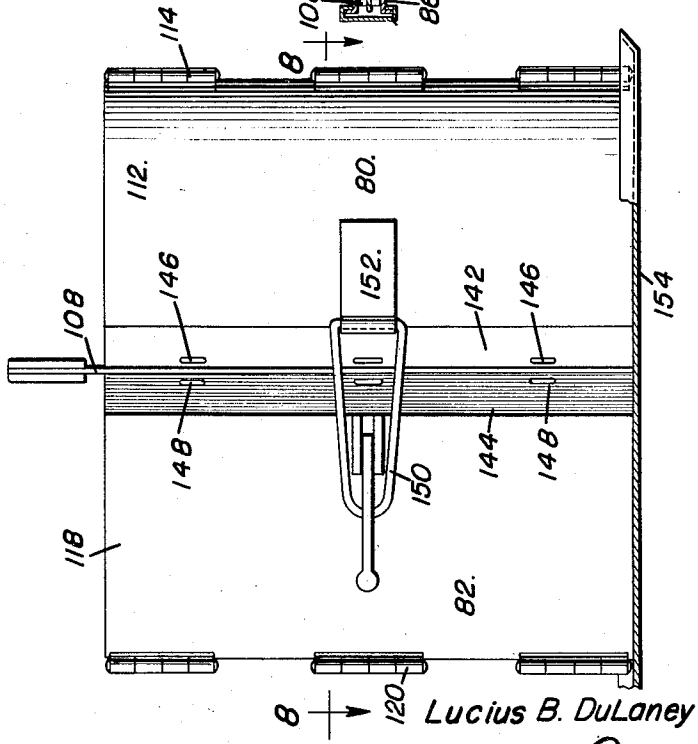


Fig. 7

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United States Patent Office 2,791,019 Patented May 7, 1957

2,791,019

MOLD

Lucius B. Du Laney, Bellaire, Tex.

Application March 1, 1954, Serial No. 413,031

1 Claim. (Cl. 25—118)

This invention relates to pipe weights, such as are used to properly anchor pipes and conduits in the bottom of streams and other bodies of water and also to a novel mold for use in manufacturing the pipe weights.

The primary object of the present invention resides in the provision of a pipe weight of such construction as to eliminate the time and effort usually required in the placing of two halves of conventional pipe weights on the top and bottom of the conduit or pipe and also eliminating the numerous bolts previously required to hold the conventional pipe weights together on the pipe.

The construction of this invention features a pipe weight which is formed in two halves hingedly secured together with wires embedded therein when the weights are cast. Then, the halves of the concrete weight are picked up with a boom, the sections of the pipe weight opened wide so that they can be loaded onto the pipe without difficulty.

Another object of the invention resides in the provision of a mold for forming pipe weights that may be used to form both sections of the pipe weight simultaneously, while also providing means for forming the means for embedding the means hingedly securing the sections of the pipe weight together in the sections when they are cast.

Still further objects and features of this invention reside in the provision of a pipe weight that is strong and durable, simple in construction and manufacture, capable of being constructed from various readily available materials, and which is very effective and practical in use. These, together with the various ancillary objects and features of the invention which will become apparent as the following description proceeds, are attained by these pipe weights and by the mold for casting the pipe weights, a preferred embodiment of the pipe weight and of the mold being shown in the accompanying drawings, by way of example only, wherein:

Figure 1 is a perspective view of a pipe weight shown as secured on a pipe or conduit;

Figure 2 is a schematic diagram illustrating the manner in which the two halves of the pipe weight open wide when they are hoisted, using a boom or the like;

Figure 3 is a schematic diagram illustrating the position of the sections of the pipe weight after the weight has come to rest on the pipe when lowered;

Figure 4 is a schematic diagram illustrating the position of the pipe weight as secured over the pipe;

Figure 5 is a plan view of the pipe weight;

Figure 6 is an end elevational view of the pipe weight, with parts thereof being broken away to show other parts in section;

Figure 7 is an elevational view of the mold for casting the pipe weight; and

Figure 8 is a sectional detail view as taken along the plane of line 8—8 in Figure 7.

With continuing reference to the accompanying drawings wherein like reference numerals designate similar parts throughout the various views, reference numeral

10 generally designates a pipe or conduit which is to be weighted by means of the pipe weight generally designated by reference numeral 12 which comprises the present invention. The pipe weight 12 is formed from a pair of substantially cylindrical sections 14 and 16 having frustro-conical ends, as at 18 and 20. The pipe weight 12 may be cast from concrete, cast iron or any other suitable substance, but is preferably formed of concrete since such material is of satisfactory weight and comparatively inexpensive.

Embedded in the upper portions of the sections 14 and 16 are a pair of wear plates 22 and 24 which diverge outwardly so as to permit the sections 14 and 16, which are hinged by means of a plurality of wires 26 embedded in the sections, to open wide apart, as is shown in Figure 2. The upper portions of the wear plates 22 and 24 thus reinforce the edges of the concrete sections 14 and 16 against crumbling when they are in the open position, while the lower portions of the wear plates 22 and 24 reinforce the concrete sections 14 and 16 when the opened plate is lowered into engagement with the pipe, as is shown in Figure 3. It is to be noted that the sections 14 and 16 are not quite completely semi-cyclindrical, but at the base of the sections 14 and 16, they terminate short of abutting each other, forming a space, as at 28, therebetween. Aligned recesses 30 and 32 are formed in the lower portions of the sections 14 and 16 and recessed portions 34 and 36 of greater dimensions than the recesses 30 and 32 are in communication with the recesses 30 and 32. The recessed portions 34 and 36 are of substantial T-shape and the recessed area of the lower sections 14 and 16 which include the recesses 30 and 34, and 32 and 36 are thus substantially cruciform in shape, forming shoulders as at 38 and 40 against which metallic plates, as at 42 and 44 can bear when the sections 14 and 16 are clampingly held together over the pipe 10 by means of a single bolt 46. Embedded in the sections 14 and 16 in recesses 48 and 50 are a pair of eye members 52 and 54 which are adapted to be engaged by hooks or other suitable tackle 56 and 58 attached to a boom or other lifting apparatus.

The weights 12 are applied over the pipe 10 as follows. The weight 12 is attached to suitable cables carried by a boom or other lifting apparatus utilizing the eyes 52 and 54. The two halves of the weight 12 are hinged together with the wires 26 and thus open wide. They are then lowered over the pipe 10 and when the weight 12 comes to rest on the pipe, the two halves automatically fold around it until they are in a position so that the single bolt 46 may be secured. It is to be recognized that the bolt is in a loosened position with the plates 42 and 44 optionally positioned thereon, and all that is necessary is to slide this bolt assembly into position where the plates 42 and 44 bear against the shoulders 38 and 40, at which time the nut 60 may be tightened. This eliminates the necessity of aligning holes in the various weight sections which must be done in conventional pipe weights.

Referring now to the mold for forming the concrete weights as is illustrated in Figures 7 and 8, it will be noted that the mold is formed from a pair of mold sections 80 and 82 which have substantially U-shaped members 84 and 86 welded to the outer shells 88 and 90 thereof in such manner that a channel-shaped member 92 can be used to hold the mold sections 80 and 82 together at those parts where the sets of core pieces 94, 96, 98, 100, 102 and 104 are located. It is to be noted that the core pieces 94 and 104 are utilized to form the recesses 34 and 36, while the core pieces 96 and 102 are utilized to form the recesses 30 and 32. Thus, the combination of the core pieces 96 and 98 and 102 and 104 form the cruciform-shaped recessed portions of the mold

sections. The core pieces **98** and **100** combine to form the space **28**.

Between the mold sections **80** and **82** is a spacing plate **106** which has a guide **108** received between the U-shaped members **84** and **86**. The spacing plate **106** is used for alignment of the mold sections **80** and **82**. The outer shells **88** and **90** are each formed in parts, the shell **88** being divided into parts **110** and **112** hingedly secured to each other, as at **114**, while the outer shell **90** is formed of parts **116** and **118** hingedly secured, as at **120**.

The outer mold shell parts **110** and **112** have core pieces **122** and **124** therein which are provided for the formation of the recess **50**, and adapted to form a slot **126** for reception of the eye piece **54** which becomes embedded in the weight **12** once the fill has been poured into the mold. Likewise, core pieces **128** and **130** are welded or otherwise attached to the outer mold shell parts **116** and **118** and form a slot **132** for reception of the eye member **52**.

Inner semi-cylindrical core pieces **134** and **136** are welded to the core pieces **98** and **100** or otherwise suitably positioned within the outer mold shells **88** and **90** and are contoured as at **138** and **140** to form the arcuate inner surfaces of the upper portions of the weight.. The outermold shell parts **112** and **118** are inwardly convergent, as at **142** and **144** to form the divergent surfaces on the upper portions of the weight sections **14** and **16**. The wear plates **22** and **24** can be positioned within the mold against the surfaces **138**, **142**, and **140**, **144** prior to the mix being poured into the mold. Additionally, the convergent portions **142** and **144** have aligned apertures, as at **146**, **148** therein through which the hinge wires **26** can be inserted so that they may become embedded in the mix when poured. A cam type clamping latch **150** is provided for engaging a hook-like member **152** mounted on the outer shell part **112** so that the entire mold may be clampingly secured in a closed position. The mold is mounted on a suitable base **154**, and a mix, preferably of concrete, but possibly of cast iron or other suitable material is poured into the confines. As soon as the mix has fully set, it may be removed from the mold and then allowed to cure as necessary.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, 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 shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claim.

What is claimed as new is as follows:

A mold for forming pipe weights comprising a pair of mold sections each including a substantially semi-cylindrical outer mold shell and a substantially semi-cylindrical inner core, means detachably securing said mold sections to each other, said means including U-shaped members secured to said mold sections and a channel-shaped member engaging said U-shaped members, substantially cruciform-shaped sets of core pieces secured to said outer shell, each of said outer mold shells being formed in parts hingedly secured to each other, said mold shells having converging end portions, aligned slots in said end portions, and a divider plate extending between said mold sections.

References Cited in the file of this patent

UNITED STATES PATENTS

925,009	Millam	June 15, 1909
1,036,867	Mach	Aug. 27, 1912
1,138,454	Chapman	May 4, 1915
1,227,824	Pelton	May 29, 1917
1,292,010	Monrath	Jan. 21, 1919
1,486,414	Brier	Mar. 11, 1924
2,163,261	Norton	June 20, 1939
2,180,422	Lindsay	Nov. 21, 1939
2,453,804	McDearmon	Nov. 16, 1948
2,518,981	Edwards	Aug. 15, 1950
2,662,552	Rowe et al.	Dec. 15, 1953