July 19, 1932. A. L. LEMAN 1,867,574

ROD LINE WEIGHT

Filed Aug. 27, 1931

Fig. 1

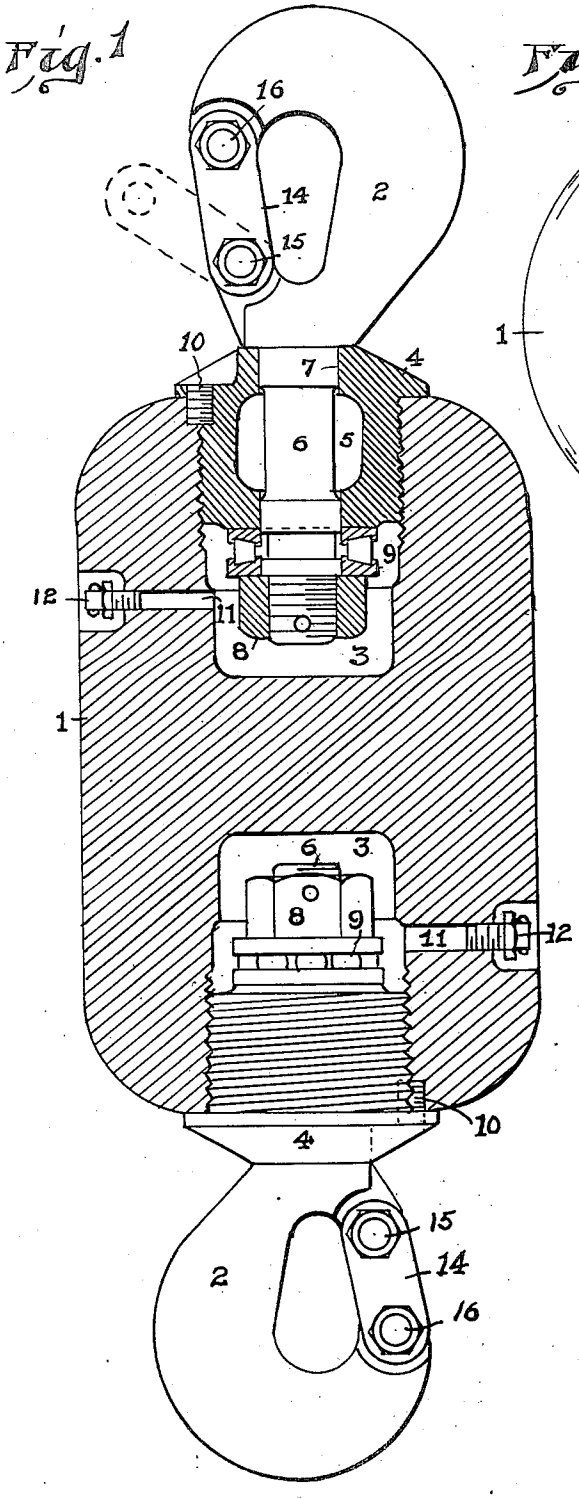



Fig. 2

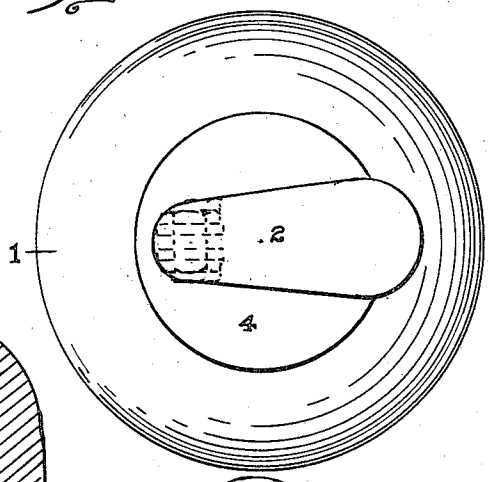
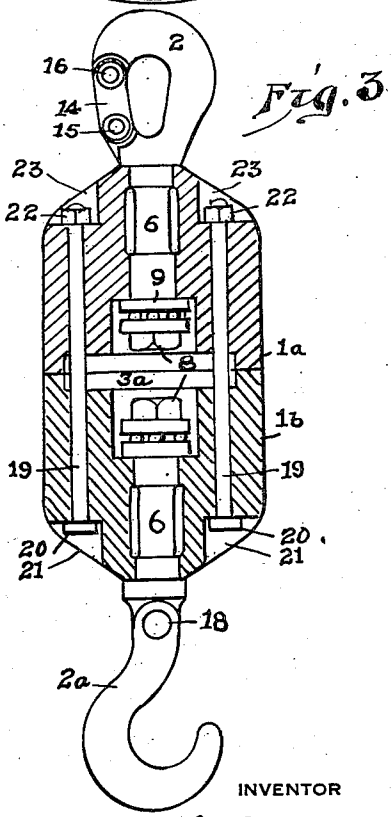



Fig. 3




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# UNITED STATES PATENT OFFICE

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## ROD-LINE WEIGHT

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This invention relates to rod-line weights. In handling strings of sucker rods in oil wells it is customary to raise and lower the rods in a derrick by means of a hoisting line connected at the upper end of a string of rods and running over a pulley at the top of the derrick and thence down to a power operated reel. Sucker rod strings are comparatively light in weight and the hooks and other tackle used with the hoisting line for connection with sucker rods are relatively small. It has been found that hooks of small weight retard the operation of handling the sucker rods because they will not descend at a sufficiently high speed or perhaps not at all. In order to speed up the downward travel of the hoisting hooks rod-line weights have been introduced. These weights used in connection with the hooks should be so constructed that their connections will be free to allow the weights to swivel or rotate because the rods have a tendency to spin or rotate when hoisting. These weights may weigh as much as five hundred pounds. Accordingly when they are rotating due to the twisting action of the hoisting cable they have a large momentum which can not be destroyed by the operators without liability of their being injured. Furthermore the rotating or spinning weights may by engagement with the operators or structures associated with the derrick cause more or less injury. Furthermore it is necessary that when each stand of rods is hoisted in the derrick their connecting joints be unscrewed which would be prevented or interfered with in case the heavy weights were spinning.

Referring to the accompanying drawing, Fig. 1 is a central vertical section of one form of a weight with the hooks and their shanks shown in side elevation.

Fig. 2 is a top plan view of Fig. 1.

Fig. 3 is a view similar in character to Fig. 1 but showing a modification.

Referring first to Figs. 1 and 2, 1 is the body of the weight which is made of metal and 2 are hooks connected to the upper and lower ends of the weight.

As the structures at the opposite ends of the weight are identical the same reference numerals are used for the corresponding parts at the opposite ends of the weight. The ends of the weight have the open-ended recesses 3 having their axial centers in alinement with the axial center of the weight 1. A plug 4 is screwed into each recess 3 but does not reach to the bottom thereof. The hooks have shanks or stems 6 having their longitudinal axes in the central longitudinal axis of the weight and extending into the recesses 3 where they are provided with the nuts 8 between which and the inner ends of the plugs are positioned roller bearings 9. The plugs are prevented from rotation by means of the screws 10 located partly in the plugs and partly in the wall of the weight.

The weight is provided with oil passages 11 leading from the periphery of the weight to the recesses 3. The outer ends of the passages 11 are provided with Alemite or other suitable fittings, their outer ends not extending out to the periphery of the weight.

The opening in each hook 2 is closable by the link or closure 14 secured to the hook at the opposite ends of the opening by the bolts 15 and 16. In order to open a hook the bolt 16 may be removed and the link 14 swung outwardly as shown in dotted lines in Fig. 1.

Referring now to Fig. 3, the weight is composed of two members 1*a* and 1*b* united on a transverse plane preferably midway between the ends of the weight. The assembled members 1*a* and 1*b* resemble the integral weight 1 shown in Fig. 1. The recesses 3*a* have their inner ends open while the shanks of the hooks 2 are mounted in the body of the members 1*a* and 1*b*. The said members are held together by the bolts 19 extending longitudinally through the members and having their heads 20 in recesses 21 in the member 1*b* and the securing nuts 22 in the recesses 23 in the member 1*a*. The heads 20 and the nuts 22 as well as the upper ends of the bolts 19 do not reach the surface of the weight.

In both forms of my invention the ends of the weight are inclined outwardly toward the center portion of the weight. These ends are substantially dome-shaped or frusto-conical in order that the weights may not en-

gage any object and be stopped thereby or do damage thereto. The ends of the weight will either move laterally when they engage an object or the object will itself move laterally with no tendency of the weight being blocked by the object or carrying it along therewith.

In Fig. 3 the hook 2*a* has been modified from that shown in Fig. 1. The hook in Fig. 3 is carried by the transverse pivot 18.

I claim:

1. A weight having oppositely disposed openings at its ends, removable bushings in the openings, hooks having axially-rotatable shanks extending through the bushings and into the openings beyond the bushings, enlargements on the inner ends of the shanks, and antifriction bearings between each bushing and the adjacent enlargement.

2. A weight divided transversely and having recesses at their meeting ends, hooks having axially-rotatable shanks in axially-alined openings in the members of the weight and extending into the recesses, means in the recesses for retaining the shanks in the openings, and means for securing the members of the weight together.

3. For hoisting hooks, a weight having bushings screwed into its ends, swiveled members rotatable in the bushings and supported by the inner ends of the same, a screw engageable by each bushing and the adjacent portion of the weight to prevent the bushings from rotation, hoisting hooks carried by the swiveled members, and openings in the weight to transmit lubricant to the frictionally engaged surfaces between the bushings and the swiveled members.

In testimony whereof, I hereunto affix my signature.

ARTHUR L. LEMAN.