W. Z. PULLIAM.

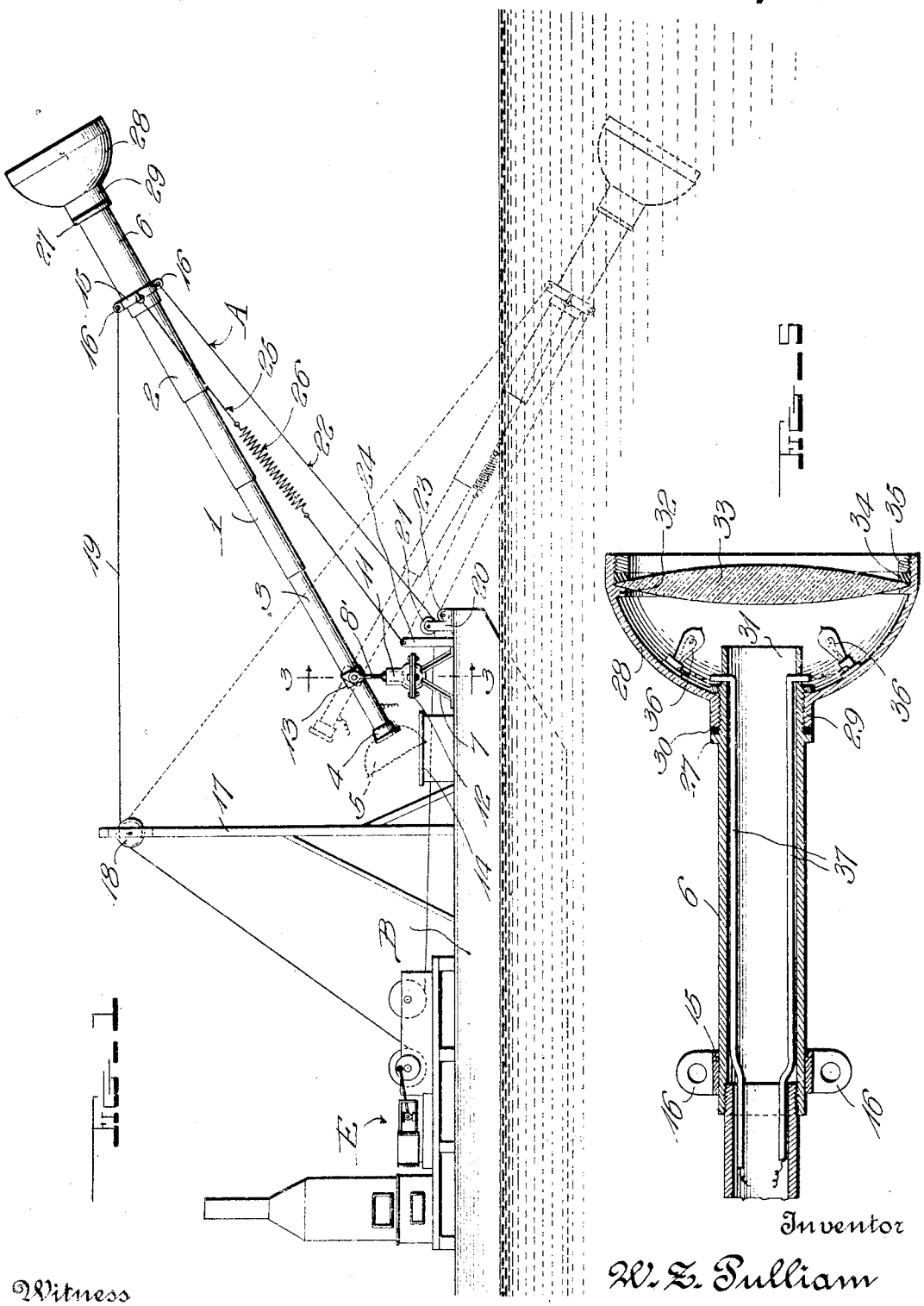
ELECTRIC LIGHT FOR INSPECTING SUNKEN VESSELS.

APPLICATION FILED JULY 12, 1917.

1,258,810.

Patented Mar. 12, 1918.

2 SHEETS—SHEET 1.



Witness

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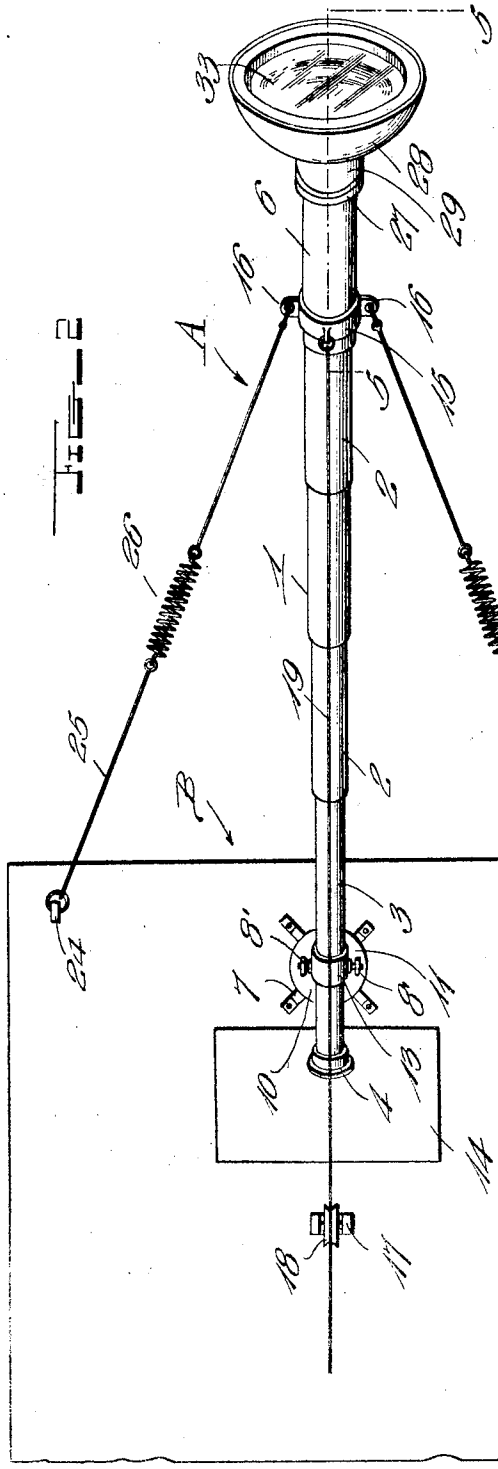


FIG. 2.

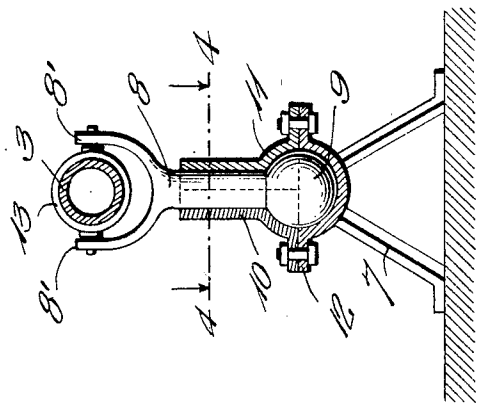


FIG. 3.

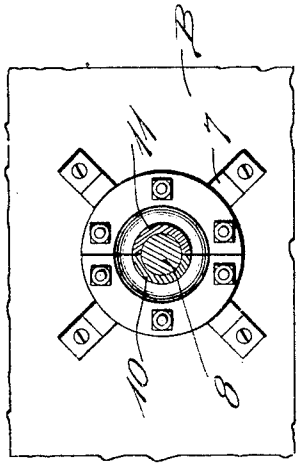


FIG. 4.

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ELECTRIC LIGHT FOR INSPECTING SUNKEN VESSELS.

1,258,810. Specification of Letters Patent. Patented Mar. 12, 1918.

Application filed July 12, 1917. Serial No. 180,177.

To all whom it may concern:

Be it known that I, WILLIAM ZACH PULLIAM, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Electric Lights for Inspecting Sunken Vessels; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to submarine telescopes employed in salvaging sunken vessels and the like and the primary object of the new invention is to provide a new and improved construction of the telescope as well as a novel manner of mounting the same upon a ship and the like.

The other object of the invention is to provide a telescope of this character having an improved form of the objective in which a more efficient use of the telescope may be obtained.

With these general objects in view and with others, which will appear from the description, my invention resides in the novel construction, combination and arrangement of parts, to be more fully hereinafter described and claimed when taken in connection with the accompanying drawings which form a part of this specification and in which Figure 1 is a side elevation of a vessel equipped with my telescope.

Fig. 2 is a top plan view of the rear portion thereof.

Fig. 3 is a vertical section on line 3—3 of Fig. 1.

Fig. 4 is a horizontal section on line 4—4 of Fig. 3.

Fig. 5 is a longitudinal vertical section through the objective of the telescope.

In the accompanying drawings in which like reference characters designate corresponding parts throughout the several views, I have illustrated my telescope A as applied to the stern of a vessel B, having a suitable hoisting engine, E, mounted thereon for raising and lowering the telescope as will be hereinafter described.

In detail the device comprises a telescope 1 consisting of a tube formed of detachably secured tubular sections 2 having a section 3 formed at one end with eye piece 4 provided with a suitable light excluding top 5 as desired. The opposite end of the telescope is provided with similar tubular objective carrying portion 6, the construction of which will be later described in detail.

Adjacent the stern of the vessel I provide a marine standard 7, adapted to form a support for a bracket 8, having a ball 9 on its lower end. The bracket 8 is disposed in vertical position by means of the cap sections 10 and 11 attached to or otherwise suitably secured to an annular shoulder 12 carried by the socket portion of the standard 7. This construction will provide a horizontal pivotal mounting for the bracket. The upper end of the bracket is bifurcated and between the furcations 8′ is journaled a suitable axle carrying collar 13 through which is positioned the eye piece carrying portion 3 of the telescope at a point adjacent the eye piece as clearly illustrated in Fig. 1. This construction is designed to provide an efficient pivotal movement of the telescope in a vertical plane so that by the combined vertical and horizontal pivoting movement thus obtained the telescope may be held in any point desired. A platform 14 is provided on the deck of the vessel adjacent the eye piece of the telescope so that an observer may stand thereon and the telescope be used as desired.

The objective carrying portion 6 of the telescope body is provided with a suitably secured collar 15 thereon having an annular series of spaced laterally extending apertured lugs 16 disposed at diametrically opposite points. A mast 17 is mounted on the vessel in any suitable manner and mounted adjacent the top thereof is a pulley 18 to receive thereover a cable 19 connected at one end with the engine mechanism and at the opposite end to one of the lugs 16. Mounted at the edge of the vessel and disposed in front of the standard is an upright 20 carrying a pulley wheel 21 at its end to receive thereover the cable 22 con-

nected at one end to the oppositely disposed lug of the collar 15, and with the other end at the engine mechanism E so that when the mechanism is actuated in one direction the cable 19 will be wound up to elevate the top of telescope and when the mechanism is actuated in an opposite direction the cable 22 will be wound to submerge the objective of the telescope.

When in submerged position in order to prevent the cable 22 from coming in contact with the edge of the vessel there is provided a pulley 23 mounted at the extreme edge of the vessel and below the pulley 21 which is in turn disposed below the standard so that the body of the telescope may be angled to submerge the objective, one phase of which is clearly illustrated in Fig. 1.

In order to prevent any undue lateral movement at the top of telescope, I provide two uprights 24 at opposite sides of the vessel and mounted at the edge thereof as best illustrated in Fig. 2. Guy cables 25 are disposed between these uprights 24 and the remaining oppositively disposed lugs 16 on the collar 15 which serve to hold the body of the telescope longitudinally in the central plane of the vessel. However in order to provide for flexibility in the telescope guy cables when desired I provide suitable track tension members 26 in the cables 25 which will serve the end desired.

The objective carrying end portion 6 of the telescope tube is provided with an annular shoulder 27, spaced inwardly from the end and the portion of the tube between the shoulder and the end thereof is threaded to receive thereover for detachable engagement thereon, a concave annular substantially semi-spherical reflector of an objective 28. The curved surface of the reflector is centrally apertured and provided with an annular flange 29 internally threaded so as to be secured on the portion 6 and abutting the shoulder 27 with suitable packing 30 therebetween.

The shoulder 27 is spaced sufficiently inward so that a portion 31 of the tube will project into the interior of the objective as indicated in Fig. 5.

The inner surface of the reflector is highly polished and disposed adjacent the outer end, the reflector is provided with an inward annular shoulder 32 against which is disposed a magnifying lens 33 with a suitable packing washer 34 retained thereagainst by a ring 35 threaded internally into the end of the reflector. This arrangement of lens and packing therefor, will provide a closure for the objective end of the telescope and the lens will be disposed in spaced relation at the end of the telescope body and directly in alinement with the eye piece 4 so that the use of mirrors is entirely dispensed with.

An annular series of incandescent lights 36 is mounted on the surface of the reflector behind the lens 33 and adjacent the projecting portion 31 of the telescope body so that direct rays from the lights will be prevented from shining upwardly through the tube and impairing the view of the observer. Conduits 37 may be extended through the body of the tube and are connected adjacent the eye piece with a suitable current supply (not shown).

While I have illustrated and described certain specific details and forms of construction employed in my invention, I desire it to be understood that I do not intend to limit myself specifically to these but that any changes may be made in the arrangement thereof and the details employed in the construction of the telescope as well as in the character and disposition of the parts as will fall within the scope of my invention as claimed.

I claim:

1. The combination with a vessel of a standard thereon adjacent one end, a vertically extending bracket horizontally pivoted in said standard and having a bifurcated end, a telescope vertically pivoted between the furcations, said telescope being mounted adjacent the eye piece, a collar on said telescope adjacent the objective thereof, a mast on said vessel, a pulley in said mast and a pulley on the deck of said vessel adjacent the standard, engine mechanism on said vessel and cable connection between said collar and mechanism over said pulleys to submerge the objective of the telescope or elevate the same as desired.

2. A device of the character described comprising a telescope formed of a tubular body having an eye piece in one end thereof, an annular shoulder on the opposite end and spaced slightly therefrom, a portion of said body between the shoulder and end being threaded, a semi-spherical reflector apertured to engage over the end of said body, a threaded annular flange on said reflector to abut said shoulder and secure said reflector on the body, a portion of said body projecting into said reflector, a magnifying lens mounted in the open portion of said reflector to close the end of said body and a series of lights on said reflector behind said lens adjacent the annular extending portion of said body.

3. In combination with a vessel, a standard on said vessel, a bracket horizontally pivoted in said standard, said bracket being provided with a forked upper end, a telescope mounted adjacent the eye piece between said forks for vertical movement, a collar on said telescope adjacent the objective, a mast on said vessel, a pulley attached to the upper end of said mast, a pulley

mounted on the deck of said vessel adjacent said standard, means to prevent undue lateral movement of the telescope, an engine on said vessel and cables between said collar and engine over said pulleys to submerge or elevate the objective of the telescope.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WILLIAM ZACH PULLIAM.

Witnesses:
S. M. WHITE,
FRANK E. STAPLES.