

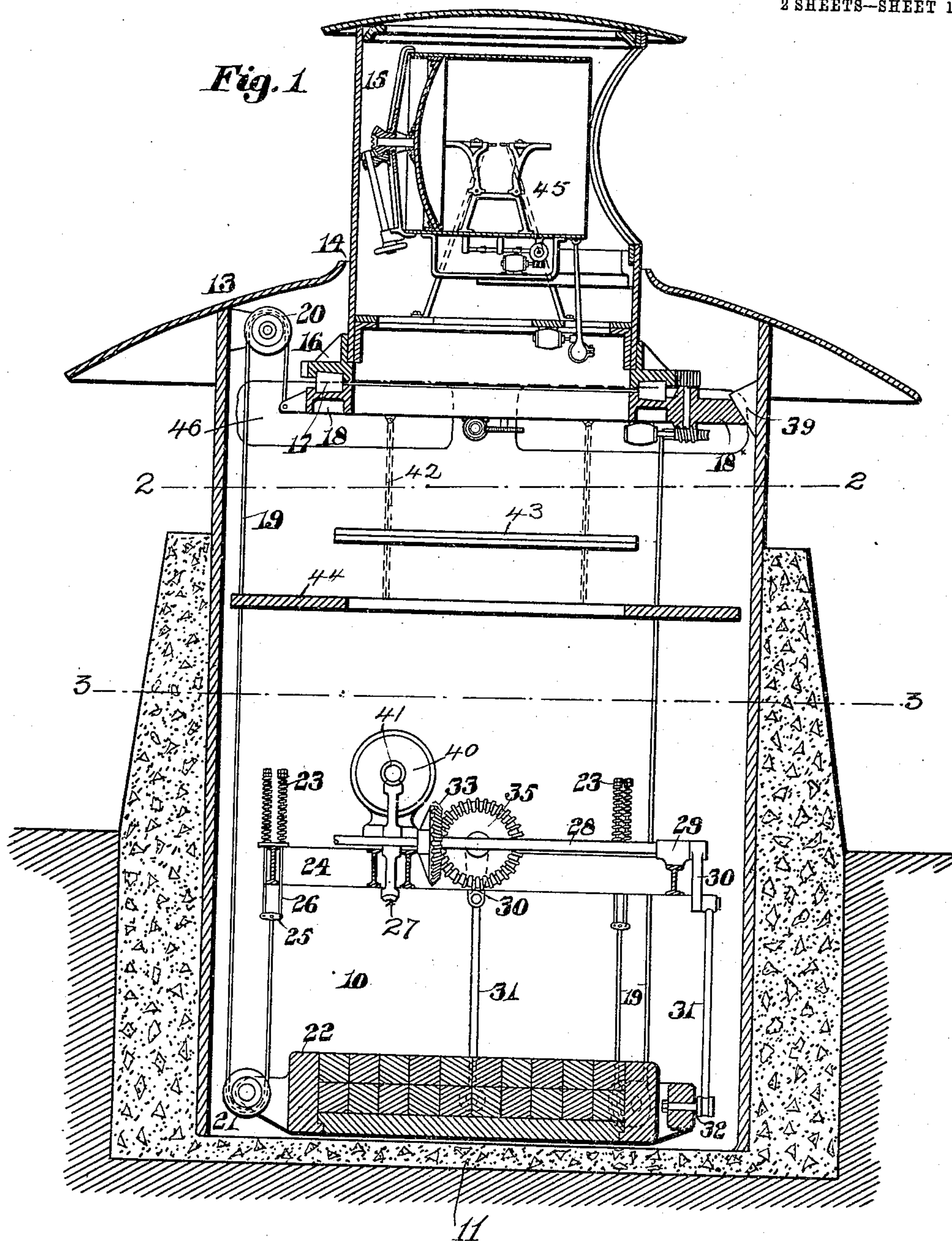
No. 782,297.

PATENTED FEB. 14, 1905.

W. O. WEBBER & J. McGEORGE.
MOUNTING FOR SEARCH LIGHTS.

APPLICATION FILED MAR. 5, 1904.

2 SHEETS—SHEET 1.



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Fig. 2.

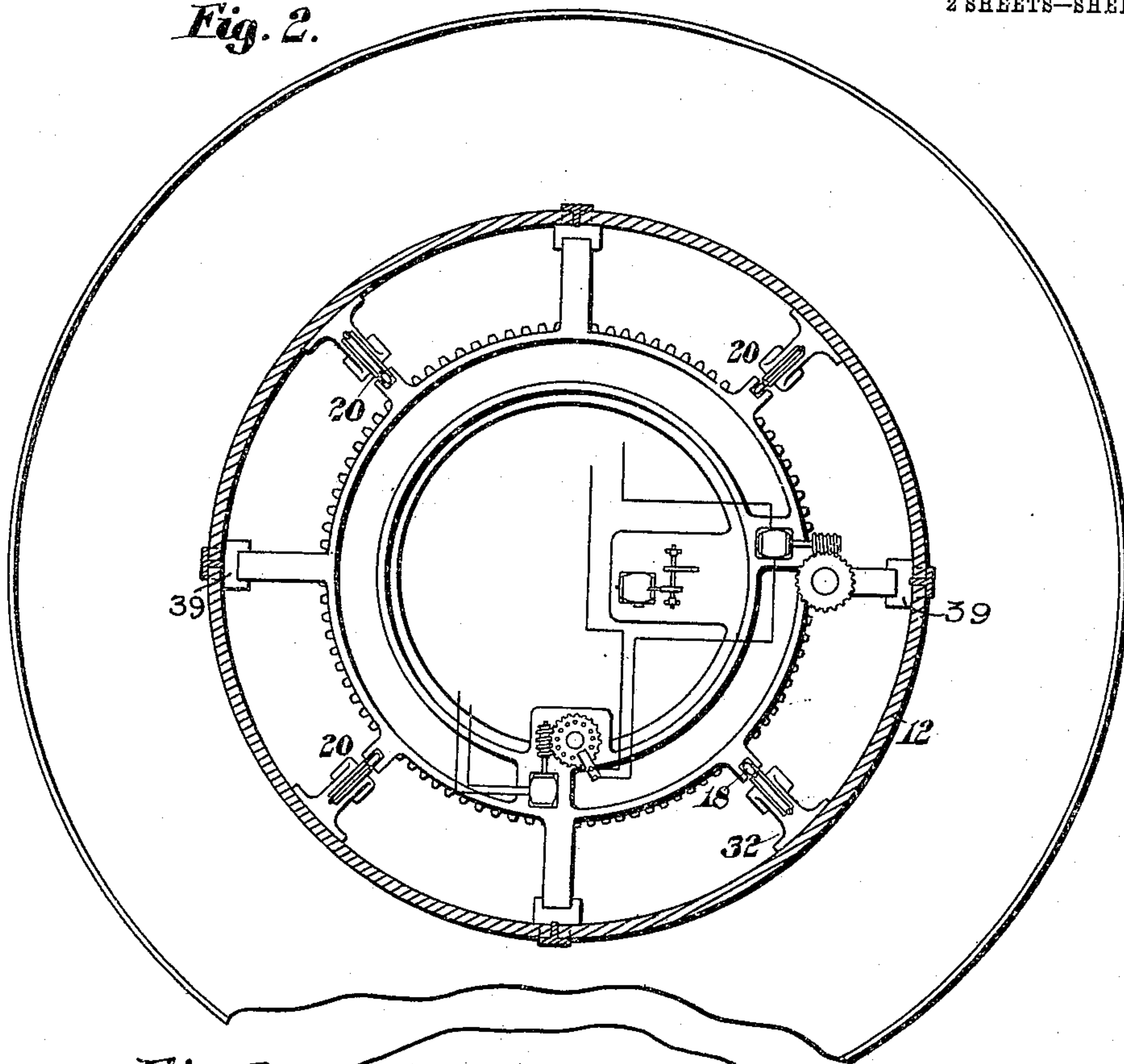
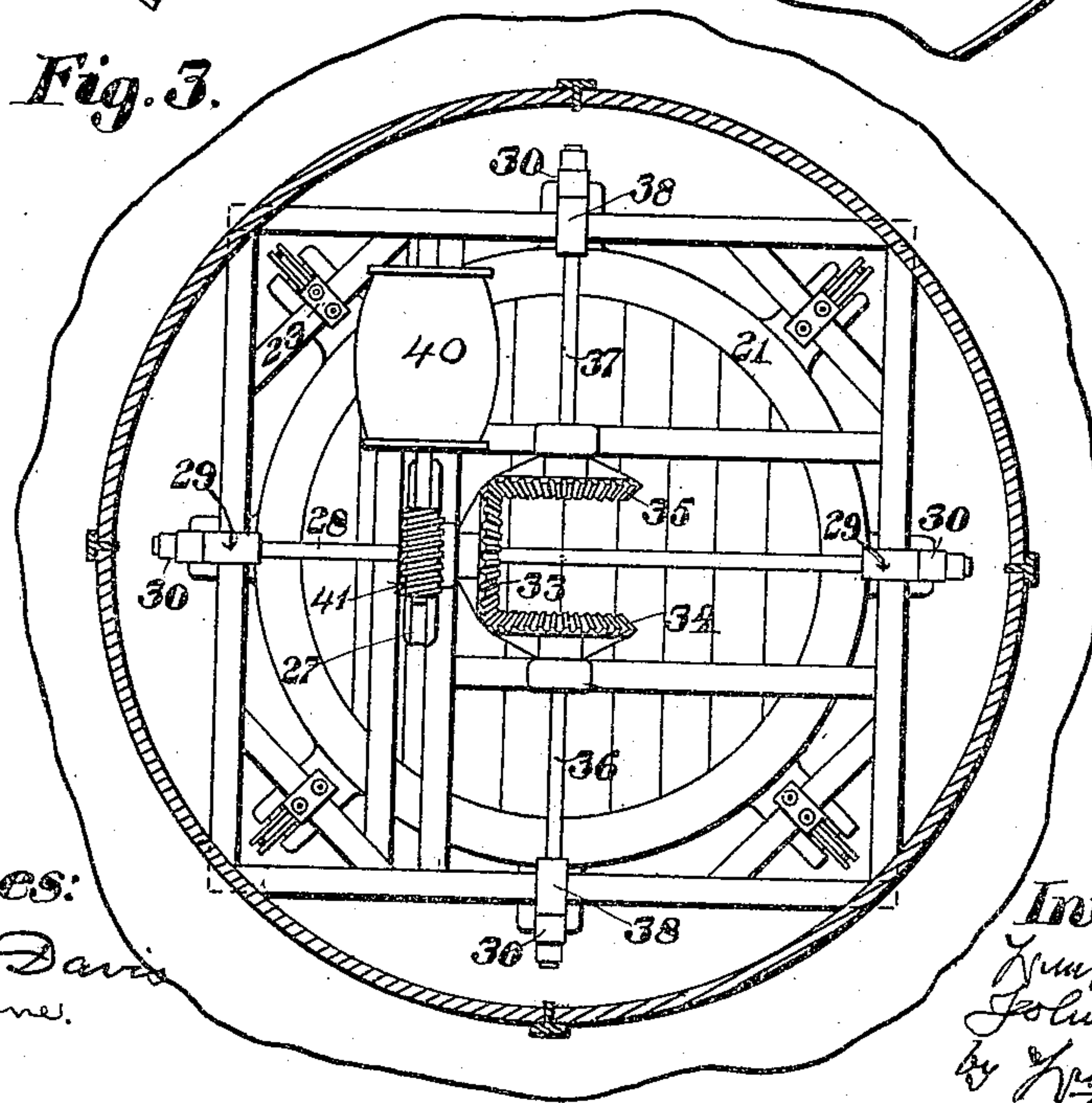


Fig. 3.



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UNITED STATES PATENT OFFICE.

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MOUNTING FOR SEARCH-LIGHTS.

SPECIFICATION forming part of Letters Patent No. 782,297, dated February 14, 1905.

Application filed March 5, 1904. Serial No. 196,778.

To all whom it may concern:

Be it known that we, WILLIAM O. WEBBER, a resident of the city of Boston, in the county of Suffolk and State of Massachusetts, and JOHN McGEORGE, a resident of the city of Cleveland, in the county of Cuyahoga and State of Ohio, citizens of the United States, have invented certain new and useful Improvements in Mountings for Search-Lights; and we hereby declare that the following is a clear, full, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which similar characters represent the corresponding parts in all the views.

This invention relates to the installation of a search-light, and has for its object an armored protection for such lights and a provision or means for quickly and instantly masking and unmasking said light, means for fixing the vertical position of said light, means for counterbalancing the light and the operating mechanism therefor, and means for accelerating the vertical movement of the light due to masking and unmasking.

It consists in certain novel features of construction and arrangement of parts, which will be readily understood by reference to the description of the drawings and to the claims to be hereinafter given.

Of the drawings, Figure 1 represents a central vertical section through an apparatus embodying the features of this invention. Fig. 2 represents an inverted sectional plan on line 2 2 on Fig. 1. Fig. 3 represents a sectional plan on line 3 3 on Fig. 1.

In the drawings, 10 represents a pit formed in a bed 11 of concrete or similar material. In the sides of said pit 10 are secured upright plates 12, on the upper ends of which is mounted an armored conning-top 13, provided with a central opening 14, through which projects a turret 15. The turret 15 is secured to a traversing ring 16, mounted on conical rolling members 17, running in a groove in a supporting-ring 18. Attached to said supporting-ring 18 are a plurality of chains or other flexible connectors 19, passing over pul-

leys 20, supported by the upright plates 12, then over pulleys 21, operatively supported by the counterweights 22, and finally attached to springs 23, which are supported by the platform 24 by means of equalizers 25 and rods 26. The platform 24 is fixedly supported by the upright plates 12, before mentioned. On this platform 24 is mounted a motor 40, operating a worm 41, which meshes with a worm-gear 27, operatively mounted upon a shaft 28. This shaft is supported by bearings 29, mounted upon the platform 24. At both ends of this shaft are cranks 30. Depending from these cranks 30 are rigid connectors 31, which are operatively connected to the counterweight 22 by pins 32. Mounted upon the shaft 28 is a beveled gear 33, meshing with other beveled gears, 34 and 35, operatively mounted upon shafts 36 and 37, which are carried in bearings 38 upon the platform 24, and attached to these shafts 36 and 37 are similar depending cranks 30, before mentioned. Depending from these cranks are connectors 31, attached to the weight 22, already described.

Integral with the supporting-ring 18 are beveled projections 18*. Fixed to the upright plates 12 are beveled stops 39, so situated vertically as to come into contact with the beveled face 18* upon the supporting-ring 18 when at or near its highest vertical position. From the under side of the supporting-ring 18 depend chains or other flexible connectors 42, supporting platforms 43 and 44.

In the turret 15 is mounted a search-light 45, with its necessary operating mechanism. Between the armored conning-top 13 and the top of the pit-walls 11 are openings 46 in the upright plates 12 for sighting. The traversing mechanism of the light 45 is also similar to a previous description in application previously filed. The operation of the special construction embodying the spirit in this invention is as follows:

The motor 40 being set in operation transmits motions through the worm 41 and worm-gear 27 and beveled gears 33, 34, and 35 to the shafts 28, 36, and 37, and thus through the cranks 30 and rigid connectors 31 and pins

32 to the weight 22, causing it to descend. In the descent the weight 22 exerts traction on the flexible connectors 19 at double the velocity of motion of the weight 22, and consequently causing the vertical movement of the supporting-ring 18 and the search-light and mechanism carried thereby at twice the velocity of and through twice the distance traversed by the weight 22. On reaching its highest point the supporting-ring 18, coming in contact with the beveled stops 39, causes the ring to center itself in the tower and determine its altitude. The strain brought upon the flexible connectors 19 by the contact of the ring 18 and the stops 39 is taken up by the compression of the springs 23, and thus the supporting-ring 18 is held steadily and firmly fixed in position against the stops 39.

Having fully described the construction and operation of this invention, what we desire to claim and secure by Letters Patent is as follows:

1. A search-light mounting consisting of a vertically-moving supporting part, operatively connected to a counterbalance-weight, a series of cranks operatively connected to said weight, and means for operating said cranks in unison to maintain said supporting part in a true horizontal plane.

2. A search-light mounting consisting of a vertically-moving supporting part operatively connected to a counterbalance-weight, by flexible connectors passing over pulleys, and means for operating said connectors to produce a multiple movement of the support-

ing part over that of the counterbalance-weight.

3. A search-light mounting consisting of a vertically-moving supporting part, operatively connected to a counterbalance-weight by flexible connectors passing over pulleys carried by vertical supports, equalizing-levers attached to said flexible connectors, and springs carried by said supports attached to said equalizers to produce a strain upon said connectors.

4. A search-light mounting consisting of a vertically-moving supporting part provided with beveled faces, a casing enveloping said supporting part and provided with beveled stops upon the upper part thereof, means to force said supporting part against said stops and exert a constant strain against said stops.

5. In a search-light mounting, the combination of an armored casing, a search-light therein, means for elevating the search-light vertically through the roof of said casing, stops carried by said casing determining the maximum vertical elevation of said light, and springs carried by said casing operatively connected to maintain a strain against said stops.

In testimony whereof we have hereunto affixed our signatures in the presence of two subscribing witnesses.

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Witnesses:

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