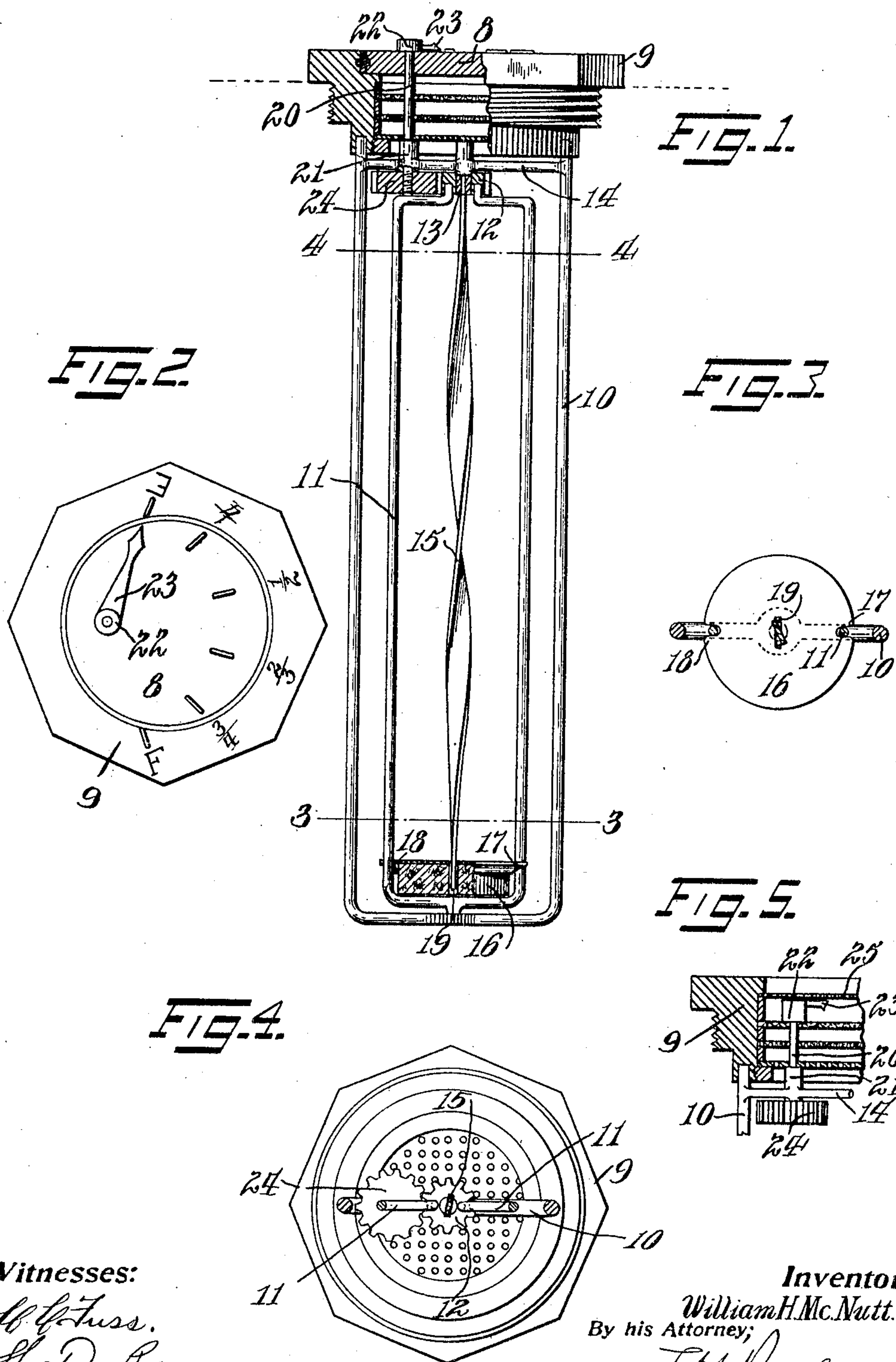


No. 843,166.

PATENTED FEB. 5, 1907.

W. H. McNUTT.  
INDICATOR FOR TANKS.  
APPLICATION FILED NOV. 19, 1906.



Witnesses:

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# UNITED STATES PATENT OFFICE.

WILLIAM H. McNUTT, OF NEW YORK, N. Y.

## INDICATOR FOR TANKS.

No. 843,166.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed November 19, 1906. Serial No. 343,990.

*To all whom it may concern:*

Be it known that I, WILLIAM H. McNUTT, a citizen of the United States, residing in New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Indicators for Tanks, of which the following is a specification.

This invention relates to fluid-level-indicating devices, and has for its object to provide an improved form of such device that will be simple and economic in construction and operation.

One of the objects of the invention is to provide indicating means that are located out of alinement with the member operated by the float and also means whereby the swing of the indicating-arm will be at a reduced speed compared with the member rotated by a float.

In the accompanying drawings, representing embodiments of my invention, Figure 1 is a side elevation, partly in section, of a float applied to a cap member for a tank or other vessel. Fig. 2 is a top plan view of the same. Fig. 3 is a section on the line 3 3 indicated in Fig. 1. Fig. 4 is a section on the line 4 4 indicated in Fig. 1 looking upward, and Fig. 5 shows in fragmentary section the modification.

The invention is shown as applied to a safety closure device especially adapted for tanks used to contain explosive fluid, such as gasoline or naphtha, which device forms the subject-matter of an application, Serial No. 343,991, filed by me on the 19th day of November, 1906.

The top member 9 of a tank or vessel is provided with a frame 10, extending downward into the tank. A frame 11 is pivoted at its lower portion in the frame 10 and at its upper portion is secured to a gear 12, rotatable on a pin 13, projecting downward from the top member 14 of the frame 10. A flat strip 15, bent in the form of a long spiral, has its upper end secured in the pin 13, and thereby held stationary. A float 16 has forked arms 17 and 18 engaging the side members of the frame 11, by which the float is slidable up and down through the tank, but prevented from rotating relative to the frame 11. The float contains a slot 19, sufficiently large to permit passage therethrough of the spiral bar 15. As the float 16 rises upon the liquid being poured into the tank its engagement with the spiral strip will cause it to rotate,

since the strip is held from rotation at its upper portion, and the float will also be rotated, carrying around the gear 12. A spindle 20 is rotatable in the cover 8 and also in a bearing 21 in the top member 14 of the frame 10, the spindle passing through suitable apertures in the apertured plates. On the top member 9 is a head 22 and an indicator-arm 23. On the lower end of the spindle 20 is secured a gear 24, meshing with the gear 12 on the frame 10. From this construction it follows that as the float moves up and down, causing rotation of the frame 11, the gear 12, fast to the frame, will rotate the gear 24, causing movement of the spindle and indicator-arm 23. The gear 24 being larger than the other gear will reduce the speed, and the parts are proportioned whereby the complete travel of the float will cause the arm 23 to only travel a part of a revolution, as from the indication E around to the indication F. Suitable fractions between these limits may be indicated, showing the amount of the capacity of the tank—such a fraction of the full capacity as shown.

In the modification shown in Fig. 5 the cover 8 of the closure is replaced by a glass plate or cover 25. The indicator in this structure has the spindle of reduced length whereby the indicator operates below the glass plate 25, being visible through the plate. The indicating-marks are placed on the glass plate in the same manner.

Having thus described my invention, I claim—

1. In a fluid-level indicator, the combination of a support, an indicating-arm pivoted on the support, a spindle for the arm, a gear on the spindle, a rotatable frame carrying a gear meshing with said gear, a float vertically guided in said frame to move up and down by the level of the liquid, and means for causing the reciprocation of the float to oscillate the frame.

2. In a fluid-level indicator, the combination of a support, a spindle rotatable in the support carrying an indicator on its end, a frame secured to the support, a spiral member secured to the support, a second frame rotatably carried by said frame, a float member arranged to reciprocate vertically in the second frame, the float having an apertured portion engaging the spiral member whereby the rise and fall of the float by the liquid will cause the float to rotate on the spiral member and oscillate the second frame, and



means for operating the indicator-spindle by the rotatable frame.

3. In a fluid-level indicator, the combination of a support, a spindle rotatable in the support, an indicator-arm on the outer end of the spindle, a gear secured on the inner end of the spindle below the support, a frame secured to the support and projecting downward, a second frame rotatable in the first frame and carrying a gear meshing with said gear to rotate the spindle at a reduced speed, a float carried by the rotatable frame and reciprocable thereon, and a spiral member projecting downward from the support and secured thereto, the float having an apertured portion engaging the fixed spiral member whereby the rise and fall of the float will cause its rotation and thereby rotate the movable frame and swing the indicating-arm.

4. In a fluid-level indicator, the combination of a support member, a spindle rotatable in the support, an indicator-arm on the outer

end of the spindle, a gear secured on the inner end of the spindle below the support, a frame secured to the support and projecting downward, a second frame rotatable in the first frame and carrying a gear meshing with said gear on the spindle to rotate the spindle at a reduced speed, a float having side portions engaging the second frame to reciprocate thereon, and a bent spiral bar projecting downward from the support member and secured thereto, the float having a slotted portion engaging the spiral bar whereby the rise and fall of the float will cause its rotation and thereby rotate the movable frame and operate the indicating-arm.

Signed at Nos. 9-15 Murray street, New York, N. Y., this 2d day of July, 1906.

WILLIAM H. McNUTT.

Witnesses:

FRED. J. DOLE,

WILLIAM H. REID.