

J. SCOTT & N. B. McGRATH.
SPIRIT LEVEL.
APPLICATION FILED NOV. 11, 1912.

1,061,638.

Patented May 13, 1913.

Fig.1 Fig.2. Fig.3.

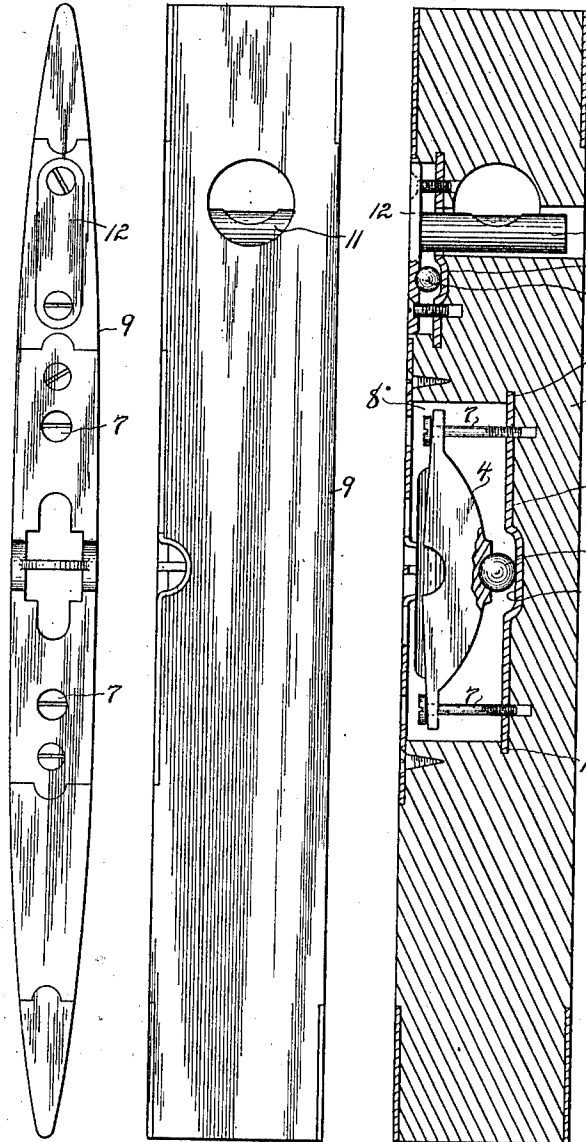


Fig. 4.

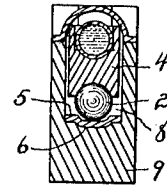


Fig. 6.

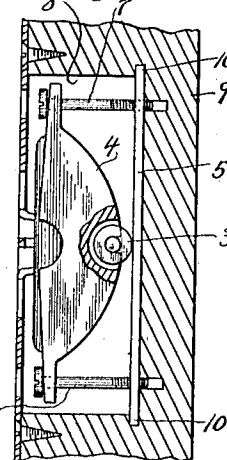
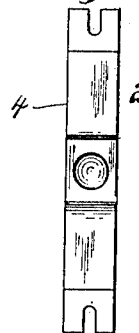


Fig. 5.



Witnesses
M. P. Nichols
C. L. Reed

Inventors
John Scott
and Nicholas B. McGrath
by Seymour & Carle
Atty.

UNITED STATES PATENT OFFICE.

JOHN SCOTT AND NICHOLAS B. McGRATH, OF SOUTHTON, CONNECTICUT.

SPIRIT-LEVEL.

1,061,638.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, JOHN SCOTT and NICHOLAS B. McGRATH, citizens of the United States, residing at Southington, in the county of Hartford and State of Connecticut, have invented a new and useful Improvement in Spirit-Levels; and we do hereby declare the following, when taken in connection with the accompanying drawings and the characters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this application, and represent, in—

Figure 1 a top or plan view of a level constructed in accordance with our invention. Fig. 2 a side view of the same. Fig. 3 a vertical sectional view. Fig. 4 a transverse sectional view. Fig. 5 an underside view of the bubble-carrier detached. Fig. 6 a sectional view showing the roller bearing for the bubble tube.

This invention relates to an improvement in spirit levels, the object being to provide for accurate adjustment of the bubble tubes, and the invention consists in the construction hereinafter described and particularly recited in the claims.

In carrying out our invention, we locate a ball 2 as shown in Fig. 3 of the drawings, or a roller 3 as shown in Fig. 6 of the drawings, between a bubble-carrier 4 and a bearing-plate 5. If a ball is employed, as shown in Fig. 3 of the drawings, this bearing-plate will be provided with an elongated notch 6 in which the ball may ride back and forth as the ends of the bubble-tube carrier are raised or lowered, these ends being raised or lowered by screws 7 extending through the ends of the carrier 4 and through the plate 5. Preferably and as a convenient means for securing the plate 5 in a wood level, the plate will be primarily bowed so as to readily enter the recesses 8 formed in the upper edge of the body 9. Then when entered into this recess, the plate will be straightened so that the ends 10 will bite into the wood of the body so as to permanently locate the plate therein. As the bubble-tube

carrier is rocked in adjusting, the ball or roller will move back and forth on the plate and so form a moving fulcrum on which the bubble-tube carrier turns. The bubble-tube for the plumb level is mounted in a tubular carrier 11 which projects inward from a plate 12 secured in the edge of the body and between this plate, which is a part of the bubble-tube carrier and a bearing plate 13 mounted below the bubble tube carrier plate 12 we locate a ball or roller 14, which, like the ball 2 or roller 3, forms a longitudinally movable fulcrum on which the bubble-tube carrier may be turned.

While we have shown the body of the level formed from wood, it is apparent that the bearings may be applied with equal success in level bodies formed from metal.

By the term "roller" as herein used, we wish to be understood as including either a ball or a roller.

We claim:—

1. In a level, the combination with a body formed with a bubble tube opening, a plate located in the bottom of said opening, said plate being longer than the said opening, the ends of the plate entering the body at the ends of the opening, whereby the plate is secured in the opening, a bubble carrier entering said opening, and a longitudinally movable roller between the said carrier and the plate and on which the carrier rests.

2. In a level, the combination with the body thereof formed with a bubble tube opening, a plate secured in the bottom of said opening and formed with a centrally arranged longitudinal groove, a bubble tube carrier mounted in said opening, and a roller bearing longitudinally movable in said groove and forming a fulcrum on which the bubble tube carrier may rest.

In testimony whereof, we have signed this specification in the presence of two subscribing witnesses.

JOHN SCOTT.

NICHOLAS B. McGRATH.

Witnesses:

EMERY W. DOOLITTLE,
THOMAS F. WELCH.