No. 777,641. PATENTED DEC. 13, 1904.

C. J. KNIGHTON.

PLUMB AND LEVELING GLASS.

APPLICATION FILED MAR. 30, 1904.

NO MODEL.

Fig. 1.

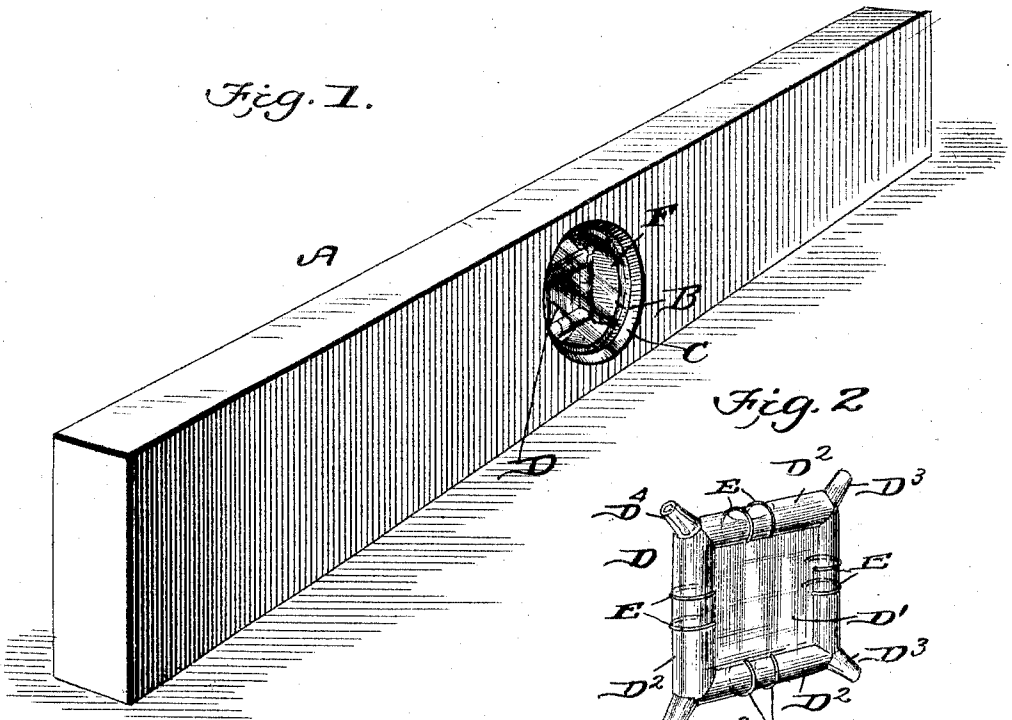


Fig. 2.

Fig. 3.

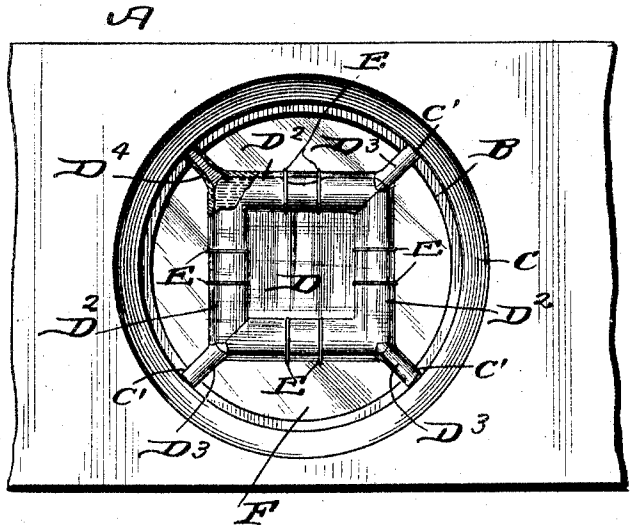
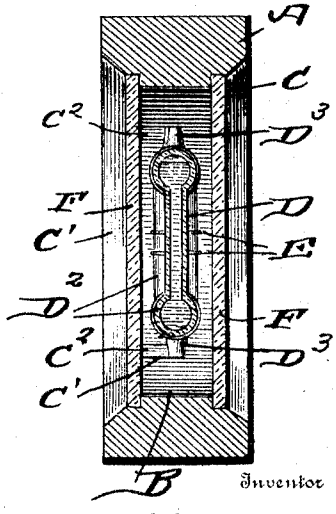


Fig. 4.



Witnesses

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No. 777,641. Patented December 13, 1904.

UNITED STATES PATENT OFFICE.

CHARLES JOHN KNIGHTON, OF BIRMINGHAM, ALABAMA.

PLUMB AND LEVELING-GLASS.

SPECIFICATION forming part of Letters Patent No. 777,641, dated December 13, 1904.

Application filed March 30, 1904. Serial No. 200,848. (No model.)

To all whom it may concern:

Be it known that I, CHARLES JOHN KNIGHTON, a citizen of the United States, residing at Birmingham, in the county of Jefferson and State of Alabama, have invented a new and useful Plumb and Leveling-Glass, of which the following is a specification.

My invention relates to certain new and useful improvements in spirit-levels for carpenters' use or other persons having occasion to determine vertical and horizontal planes, with sufficient accuracy for all ordinary purposes.

The object of my invention is to provide a simple and cheap spirit-level, one which is so constructed that a clear view of the spirit-glass can be obtained in all positions.

My invention also comprises certain details of construction and novelties of arrangement of parts, as will be fully described in the following specification and pointed out in the claims, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a perspective view of a level embodying my improvements. Fig. 2 is a similar view of the spirit-glass detached. Fig. 3 is a plan view of the spirit-level with one of the crystals removed and the spirit-glass partly in section. Fig. 4 is a transverse section of the spirit-level.

Referring to the drawings, A is the stock or body, preferably made of wood, which is provided with a transverse aperture B, having its outer faces beveled, as shown at C. On the inner wall of the opening are recesses C′ for the purpose hereinafter described.

The spirit-glass D consists of a flat body portion D′, having an enlarged margin D^2, which is preferably rounded, as shown. The glass is substantially square, and from the four corners project the lugs D^3 D^4 for spacing the spirit-glass from the wall of the aperture so that a clear view of the bubble in the glass can be obtained when used in close places. The lug D^4 is provided with an opening extending into the spirit-glass, so that the glass can be filled after it is molded, the opening being closed by a stopper or the like. The lugs D^3 D^4 of the spirit-glass D fit in the recesses of the inner wall of the aperture B and are secured therein by the blocks C^2.

Upon each of the enlarged margins of the spirit-glass and upon each side of the center thereof is arranged a marker E, the space between which indicates the center of the glass, and when the bubble attains its position between the markers it enables one to see at a glance that the object being leveled has attained that position. The markers preferably consist of spring-clips which are sprung over the enlarged margins of the glass and are capable of longitudinal movement, so that that the device can be made accurate should the slots C^2 not be correctly cut, as will be readily understood. Crystals F are secured in opposite sides of the apertures in order to protect the spirit-glass. One of the crystals also serves as means for holding the blocks C^4 in the recesses of the stock.

The spirit-glass being filled, as described, is so adjusted and secured within the stock that the four sides of the glass will be parallel with the sides and ends of the stock, so that the sides and ends can be used with the same facility.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a level, a spirit-glass comprising a flat hollow body portion, having enlarged margins, and lugs projecting from said margins, as described.

2. In a level, a spirit-glass comprising a flat hollow body portion, having enlarged margins and lugs projecting from said margins, one of said lugs being tubular, as described.

3. In a level, a spirit-glass comprising a flat hollow body portion, having enlarged margins, lugs projecting from said margins and markers detachably and slidably arranged upon the enlarged margins of the glass, as described.

4. A spirit-level comprising a stock having a transverse opening and a rectangular-shaped spirit-glass in the opening, and spaced from the wall therein, as described.

5. A spirit-level comprising a stock provided with a transverse opening and with recesses in the wall of the opening, and a rectangular-shaped spirit-glass provided with lugs projecting from its corners and fitting in the recesses of the stock, as described.

6. A spirit-level comprising a stock provided with a transverse opening and with recesses in the wall of the opening, rectangular-shaped spirit-glass having lugs projecting from its corners and into the recesses of the stock, blocks secured in said recesses and crystals in the opening of the stock on opposite sides of the level, as described.

7. In a level, a spirit-glass comprising a flat hollow body portion having enlarged rounded margins which are of a greater diameter than the body portion in cross-sections, and lugs projecting from said margins, as described.

CHARLES JOHN KNIGHTON.

Witnesses:
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