(No Model.)

C. B. LONG.

SPIRIT-LEVEL.

No. 372,921. Patented Nov. 8, 1887.

Fig. 1.

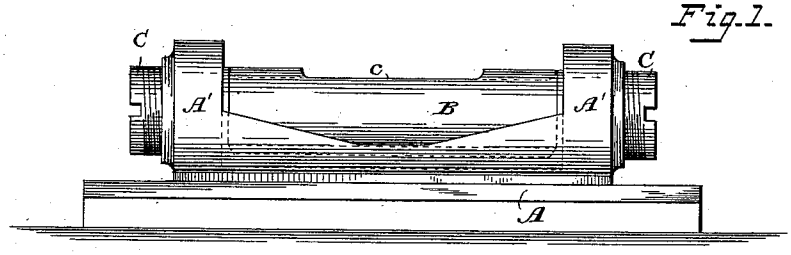


Fig. 2.

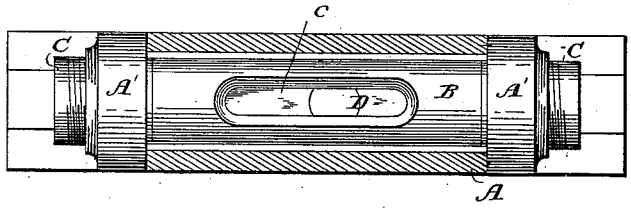


Fig. 3.

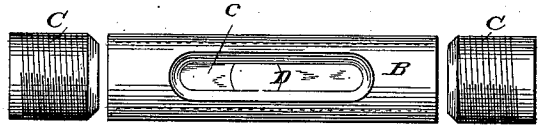
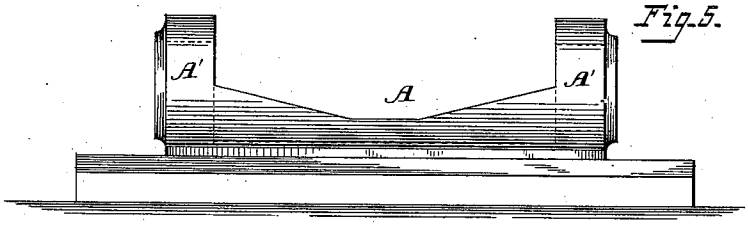


Fig. 4.



Fig. 5.



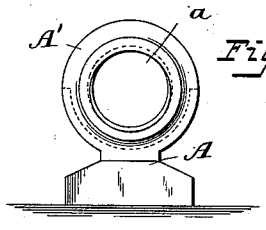


Fig. 6.

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UNITED STATES PATENT OFFICE.

CHARLES BENJAMIN LONG, OF WORCESTER, MASSACHUSETTS.

SPIRIT-LEVEL.

SPECIFICATION forming part of Letters Patent No. 372,921, dated November 8, 1887,

Application filed May 11, 1886. Serial No. 201,885. (No model.)

To all whom it may concern:

Be it known that I, CHARLES BENJAMIN LONG, a citizen of Worcester, county of Worcester, and State of Massachusetts, have invented new and useful Improvements in Spirit-Levels, of which the following is a specification.

This invention relates to spirit-levels in which the glass spirit-bulb is carried in a slotted metallic tube, which is adapted to be rotated to bring the glass spirit-bulb into exposed position when the level is in use and to cover and protect said bulb when the device is not in use.

In the accompanying drawings, Figure 1 is a side elevation of this improved spirit-level. Fig. 2 is a plan or top view thereof. Fig. 3 is a detail view of the metallic inclosing-tube and the screws for holding said tube in the body or frame. Fig. 4 is a longitudinal view of the glass spirit-bulb. Fig. 5 is a side elevation of the body or frame of this improved spirit-level with the spirit-tube and inclosing-tube removed. Fig. 6 is an end view of said body.

The body A of this improved spirit-level is provided with upright heads A′ A′ near its opposite ends, said heads having screw-threaded openings *a* through them. A metallic tube, B, countersunk at its opposite ends, is supported between said heads and held in position by the screws C C, which pass through the holes *a* in said heads, and are tapered at their inner ends to fit the countersunk ends of the tube and center the latter. This metallic inclosing-tube is provided with a slot, *c*, at or near its center on one side. A glass spirit-bulb, D, is inserted in the metallic tube B, and can be seen through the slot in the latter. When the spirit-level is in use, the metallic tube B is in the position shown in Figs 1 and 2, with its slotted face uppermost to expose the bulb. When the level is put away, the inclosing-tube B is rotated a half-revolution on the screws C C, whereby its slotted face is covered by the body of the structure and the glass bulb protected.

The parts described constitute a protected spirit-level, which is very simple in its construction and not liable to get out of true, as the tapering screws, in connection with countersunk ends, have a constant tendency to preserve the proper alignment of the bulb.

I claim—

A protected spirit-level comprising the body A, having the perforated screw-threaded heads A′, the slotted rotary inclosing-tube B, having countersunk ends, the glass bulb D within said inclosing-tube, and the screws C C, passing through said screw-threaded heads and having tapered inner ends which engage the countersunk ends of the inclosing-tube, substantially as described.

CHARLES BENJAMIN LONG.

Witnesses:

CHARLES MOEN RICE,

ROBERT ADEN KNIGHT.