C. M. WALTON.

SPIRIT LEVEL.

APPLICATION FILED DEC. 4, 1912.

1,067,158.

Patented July 8, 1913.

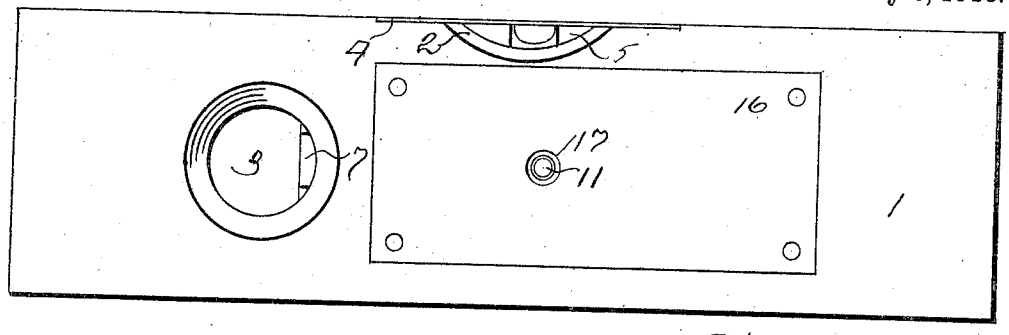
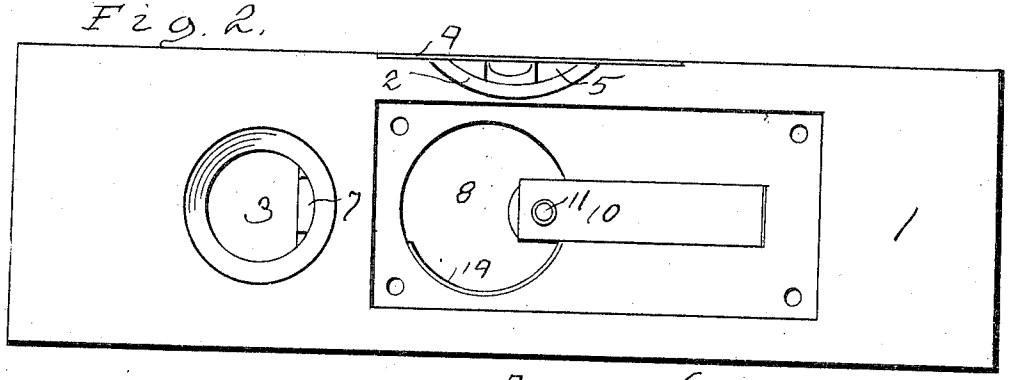


Fig. 1.

Fig. 2.



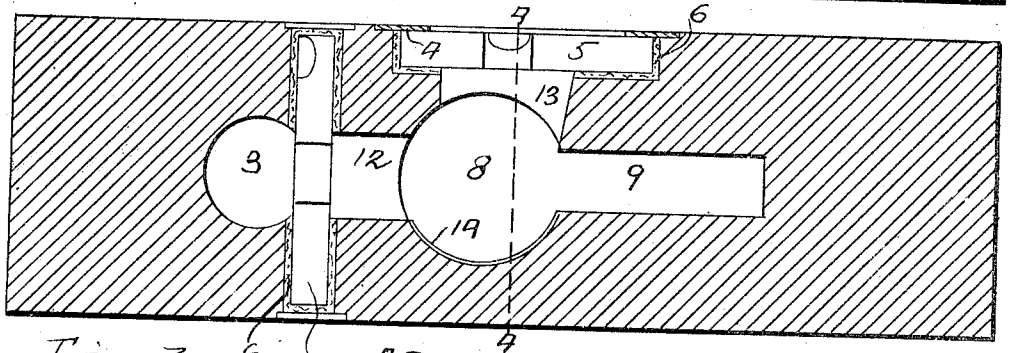


Fig. 3.

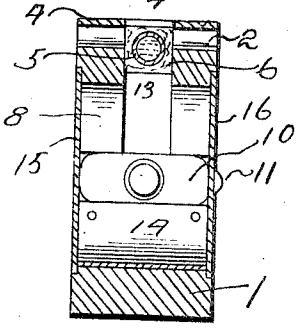


Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

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SPIRIT-LEVEL.

1,067,158. Specification of Letters Patent. Patented July 8, 1913.

Application filed December 4, 1912. Serial No. 734,943.

To all whom it may concern:

Be it known that I, CHRISTOPHER M. WALTON, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Spirit-Levels, of which the following is a specification.

This invention relates to levels of that class in which a bubble containing tube is mounted in a stock, and the object of the invention is to provide means for illuminating the tube in order that the position of the bubble may be readily ascertained when the device is being used in a poorly lighted place.

A more specific object of the invention resides in the provision of a spirit level having a stock provided with a pocket adapted to receive a storage battery and lamp, said lamp being so positioned as to illuminate the bubble tubes.

The invention also aims to generally improve devices of this nature to render them more useful and commercially desirable.

With these and other objects in view, as will become more apparent as the description proceeds, the invention consists in certain novel features of construction, combination and arrangement of parts as will be hereinafter fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawings, in which,

Figure 1 is a side elevation of my improved spirit level; Fig. 2, a similar view of one of the cover plates removed; Fig. 3, a longitudinal sectional view; and Fig. 4 is a transverse sectional view taken upon the plane of line 4—4 of Fig. 3.

Referring in detail to the drawing by numerals 1 designates a stock formed preferably of wood and having the sight openings 2 and 3, the former being covered by a slotted plate 4. A bubble tube 5 is positioned under the plate 4 and retained in suitable recesses by a plastic material 6. A bubble tube 7 extends transversely of the stock 1 through a suitable opening and projects partly into the sight opening 3. This tube is also held in place by any suitable plastic material such as plaster of Paris or cement.

The stock 1 is formed with a centrally positioned transversely extending chamber 8, said chamber being circular in cross section and extending entirely through the stock. A longitudinally extending recess or pocket 9 is formed in the stock and communicates at its inner end with the chamber 8, said pocket being adapted to receive a flash-light 10 of any common or preferred type, said light being flashed by pressing upon the button 11. A longitudinal channel 12 and a transverse channel 13 connect the tube holding recesses respectively with the central chamber 8. It will be noted that these channels terminate at their outer ends directly under the central portions of the tubes 5 and 7 so that when light is reflected through said channels the bubbles contained in the tubes may be clearly seen when they are in their central positions. A concavo-convex reflector 14 is secured in the bottom of the chamber 8 between the channel 12 and pocket 9, said reflector serving to direct a portion of the light coming from the flashlight through the channel 13. Cover plates 15 and 16 are secured to opposite sides of the stock 1 for the purpose of closing certain of the openings formed therein. The cover plate 16 is formed with a circular opening 17 through which the push button 11 of the flash-light projects.

When the spirit level is being used in a dark place and it is desired to throw a light upon either of the bubble tubes the button 11 is pressed inwardly causing a current to flow from the storage battery of the flash-light through the incandescent light bulb and thus a ray of light is thrown into the chamber 8. A portion of this light travels through the channel 12 and illuminates the tube 7 while the other portion of the light is deflected upwardly by the reflector 14 so as to illuminate the tube 5.

It is to be understood that while I have shown and described the preferred embodiment of my invention, I do not wish to be limited to this exact construction and arrangement of parts but may make such changes as will fall within the scope and spirit of the invention.

Having thus described my invention what I claim is:—

1. A spirit level comprising a stock having a sight opening in one edge and a sight opening extending transversely through the stock, sight tubes positioned in said openings, the stock being formed with a centrally positioned transversely extending

chamber and a pocket communicating with said chamber, a flash-light in said pocket, the stock being also formed with channels communicating with said chamber and sight openings.

2. A spirit level comprising a stock having one edge formed with a sight opening, the stock being also formed with a transversely extending sight opening, bubble tubes positioned within said openings, the stock being formed with a transversely extending centrally positioned chamber, channels communicating at their inner ends with said chambers and at their outer ends with said sight openings and a longitudinally extending pocket communicating at its inner end with said chamber; a flash-light positioned within said pocket, a reflector in the bottom of the chamber and cover plates positioned upon each side of said stock, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHRISTOPHER M. WALTON.

Witnesses:
FREDERICK E. WALTON,
WALTER M. HUMMEL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."