A. W. KIBLER & J. J. PENNINGTON.

SPIRIT LEVEL.

APPLICATION FILED JAN. 10, 1914.

1,098,039. Patented May 26, 1914.

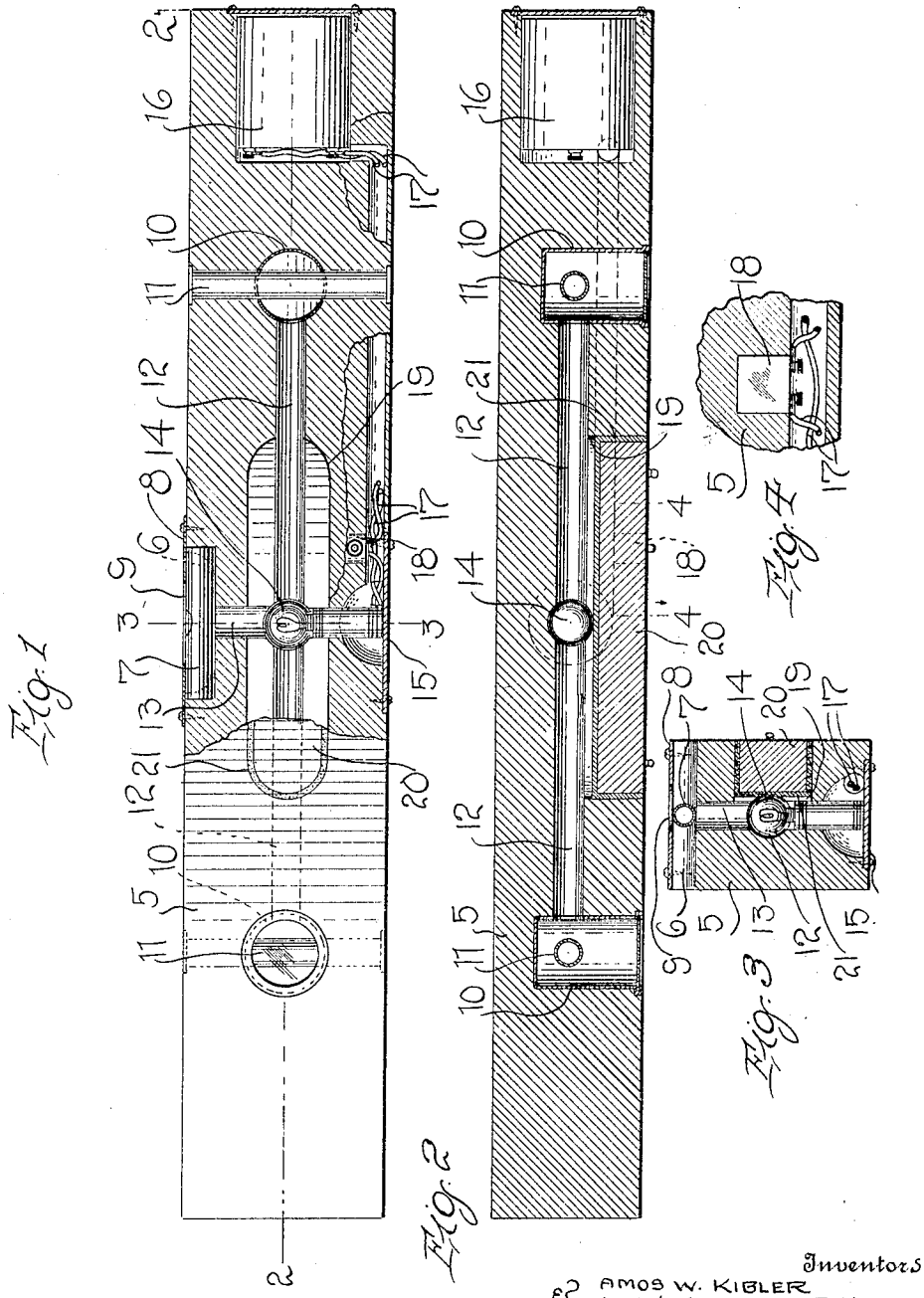


Fig. 1

Fig. 2

Fig. 4

Fig. 3

Witnesses
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UNITED STATES PATENT OFFICE.

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SPIRIT-LEVEL.

1,098,039. Specification of Letters Patent. Patented May 26, 1914.

Application filed January 10, 1914. Serial No. 811,407.

To all whom it may concern:

Be it known that we, AMOS W. KIBLER and JOHN J. PENNINGTON, citizens of the United States, residing at Butte, in the county of Silverbow and State of Montana, have invented certain new and useful Improvements in Spirit-Levels, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to certain new and useful improvements in levels of that character commonly used by plasterers, carpenters, machinists, and other mechanics, the invention having for its primary object to provide means for illuminating a level glass whereby the position of the spirit bulb may be readily discerned when the device is used in dark corners and other places where the natural light is imperfect.

Our invention has for another and more specific object to provide a level of the above character provided with a plurality of bulb tubes, a battery mounted in the body of the level, electric light bulbs located contiguous to the several tubes and in electrical connection with said battery, and a push button to close the battery circuit.

The invention has for another object to produce a device of the above character which is comparatively simple in its construction, may be inexpensively manufactured and is of great convenience and serviceability in practical use.

With the above and other objects in view as will become apparent as the description proceeds, the invention consists in certain constructions, combinations and arrangements of the parts that we shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawing, in which—

Figure 1 is a side elevation partly in section of a spirit level embodying the present invention in its preferred form; Fig. 2 is a section taken on the line 2—2 of Fig. 1; Fig. 3 is a section taken on the line 3—3 of Fig. 1; Fig. 4 is an enlarged fragmentary section taken on the line 4—4 of Fig. 2.

Referring in detail to the drawing, 5 designates the body of the level which is constructed of wood and is provided in one edge with a recess or cavity 6. The glass tube 7 in which the mercury bulb is disposed, is arranged over this cavity, the ends of said tube being suitably secured in the body 5. A metal plate 8 retains said tube in place and is secured at its ends to the wood body of the level, said plate being provided with a sight opening 9.

The body of the level is further provided adjacent its opposite ends with the circular recesses 10 in which the glass tubes 11 are mounted in any usual or preferred manner, said tubes extending at right angles to the plane of the tube 7.

12 indicates a longitudinally extending bore or passage, the opposite ends of which communicate with the respective recesses 10. A central bore or passage 13 is also formed in the level body and bisects the passage 12. One end of the passage 13 communicates with the cavity or recess 6 hereinbefore referred to while the other end thereof opens upon the opposite edge of the level body as clearly shown in Fig. 1 of the drawing. An electric light bulb 14 is located at the intersection of these passages, said bulb being mounted upon the plate 15 which is countersunk in the edge of the body 5. In one end of the body 5 of the level, an electric battery 16 is arranged and secured.

17 designates the positive and negative circuit wires which are connected to the corresponding poles of the battery 16, and to the filament of the electric light bulb 14 in the usual manner. The positive circuit wire is interrupted by a push button switch 18 mounted in one side of the body of the level.

The body 5 of the level is centrally provided with an elongated longitudinally extending slot or groove 19 through the medium of which access may be had to the passages 12 and 13 at their point of intersection, so that the light bulb 14 may be removed and a new one provided when necessary. This slot is normally closed by a plug 20 provided upon its edge with suitable friction packing material 21, whereby the plug is tightly held in place.

From the foregoing description of the construction and arrangement of the several parts of the invention, its several advantages in practical use are thought to be obvious.

When the level is employed in dark corners or other places where the natural light is very poor, the operator simply presses the push button 18 and closes the circuit of the

battery 16, thereby illuminating the light bulb 14, and this light is conveyed through the passages 12 and 13 and diffused through the recesses 6 and 10 and upon the spirit level tubes 7 and 11 which are arranged therein. Thus the mechanic may clearly discern and instantaneously observe the position of the mercury bulbs in the several tubes.

It will be obvious that in view of the extremely simple construction of the invention, that the same can be embodied in spirit levels at comparatively small manufacturing cost while at the same time we have produced a highly serviceable, convenient and desirable instrument.

It will of course, be obvious that the level may be made in various sizes and additional bulb tubes mounted therein, the body of the level being also provided with additional light transmitting passages.

While we have above described the preferred form, construction and arrangement of the several parts of our invention, it will also be obvious that the device is susceptible of many modifications and we therefore reserve the right of resorting to all such legitimate changes as may be fairly embodied within the spirit and scope of the invention, as claimed.

Having thus described the invention, what is claimed is:

A device of the character described comprising a body provided with a longitudinal bore and having recesses in communication with such bore at the opposite extremities thereof, said body having a second bore therethrough and intersecting the first bore at a point intermediate the recesses, level tubes of transparent material positioned within the recesses and intersecting the first bore, a similar tube disposed across one extremity of the second bore, a plate for closing the opposite extremity of such second bore, a lamp socket carried by such plate and directed inwardly of such second bore and terminating within the intersecting portion of the longitudinal bore and the second bore, a source of electrical supply carried by the body and electrically connected with the socket, such body in a side thereof being provided with a recess registering with the intersecting portion of the bores, a lamp engaged with such socket and adapted to illuminate such bores, and a block for closing the recess in the side of the body.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

AMOS W. KIBLER.
JOHN J. PENNINGTON.

Witnesses:
BURTON H. CLARK,
ARTHUR D. CLARK.