W. J. CASSITY.

SPIRIT LEVEL.

APPLICATION FILED FEB. 28, 1914.

1,108,134. Patented Aug. 25, 1914.

Fig. 1.

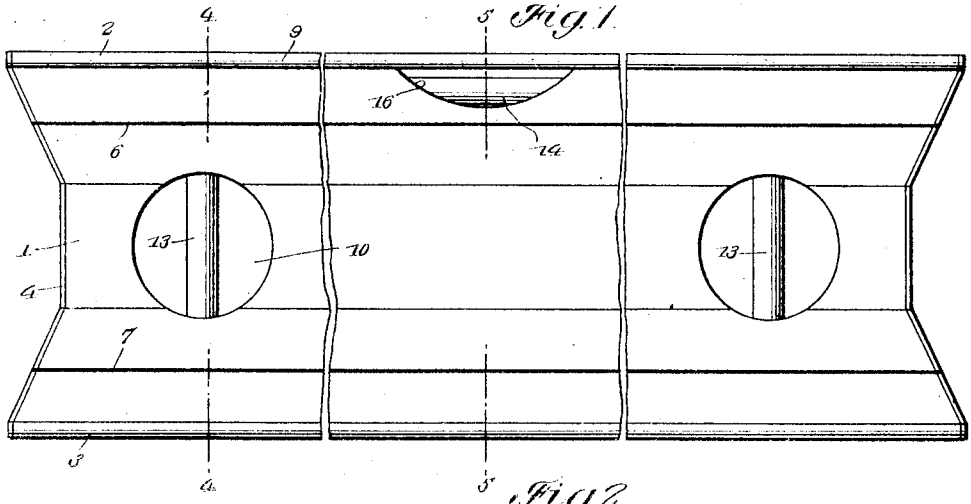


Fig. 2.

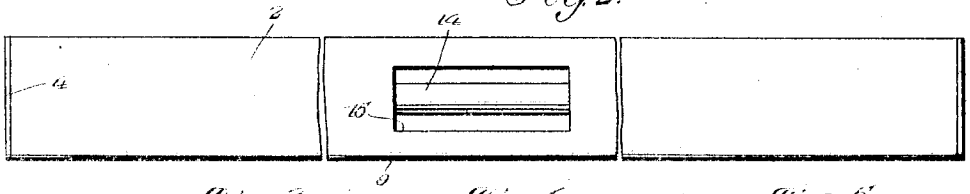


Fig. 3.

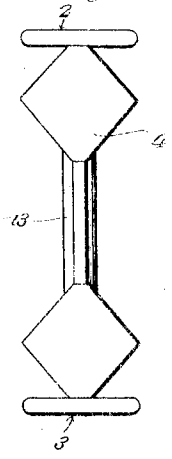


Fig. 4.

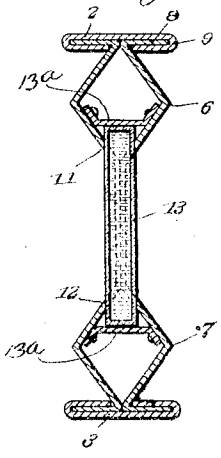
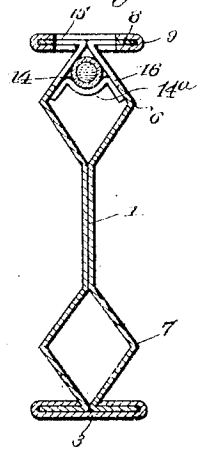


Fig. 5.



Inventor

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Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM J. CASSITY, OF GUTHRIE, OKLAHOMA.

SPIRIT-LEVEL.

1,108,134. Specification of Letters Patent. Patented Aug. 25, 1914.

Application filed February 26, 1914. Serial No. 821,323.

To all whom it may concern:

Be it known that I, WILLIAM J. CASSITY, a citizen of the United States, residing at Guthrie, in the county of Logan and State of Oklahoma, have invented new and useful Improvements in Spirit-Levels, of which the following is a specification.

This invention relates to spirit levels, the primary object being to provide a level device whose stock is constructed of pressed sheet metal, unlike the usual wooden or cast iron stock.

A further object of the invention is to construct the sheet metal stock in such a manner that it will be extremely strong and durable, and wherein the spirit tubes for leveling and plumbing are mounted in a novel and efficient manner, whereby they are protected against injury and are at the same time visible to the operator.

The invention consists in the features of construction, combination, and arrangement of parts, hereinafter fully described, and claimed, reference being had to the accompanying drawing, in which:

Figure 1 is a fragmentary side elevation of the level; Fig. 2 is a top plan view of the same; Fig. 3 is an end view thereof; Fig. 4 is a transverse sectional view on line 4—4 of Fig. 1; and Fig. 5 is a similar view on line 5—5 of Fig. 2.

The elongated stock of the level is constructed of very few parts which include the side plates 1, the top and bottom strips 2 and 3 and the end plates 4, all of which are to be pressed from sheet steel, or the like. The medial portions of the side plates are arranged substantially parallel, whereas their upper and lower portions are bulged outwardly to provide longitudinal ribs 6 and 7 respectively. The extreme upper edges of the plates 1 are bent laterally at right angles to the medial portions of the said plates to provide the oppositely extending flanges 8. The top strip 2 is adapted to overlie these flanges and has its longitudinal edges crimped as at 9 so as to embrace the edges of the flanges 8. Correspondingly arranged, lateral flanges are provided by the lower edges of the side plates 1, and the longitudinal edges of the bottom strip 3 are crimped around the same. The active outer faces of the top and bottom strips of the stock are therefore arranged parallel to each other and at right angles to a plane passing vertically through the longitudinal axis of the stock. The top and bottom strips 2 and 3 are constructed equal in width and have their longitudinal edges parallel. The ends of the stock are sealed by the end plates 4, which are cut to conform in shape to the transverse sectional configuration of the stock, and are preferably soldered thereto.

The stock is provided adjacent to each end with a transverse opening 10 in its medial web portion, this opening being constructed of such diameter that it opens into the compartments formed between the bulged portions 6 and 7 of the side plates as at 11 and 12 respectively. A spirit tube 13 is mounted within each opening thus formed in the stock and is arranged at right angles to the longitudinal axis of the stock with its ends projecting into and secured within the compartments just referred to by means of the attaching members 13^a which may be soldered or riveted to the walls of the compartment. These spirit tubes are adapted for use in plumbing vertical surfaces. A third spirit tube 14 for use in leveling operations is secured by means of attaching members 14^a in similar manner medially within the upper compartment of the stock in close proximity to the top strip 2, and the latter is provided with a short longitudinal slot 15 through which the glass may be viewed from above. The side openings 16 are also provided in the upwardly converging parts of the bulging side plate portions 6 substantially coextensive with the spirit tube for the same purpose.

From the foregoing description, taken in connection with the accompanying drawing, it should be apparent that I have provided a simply constructed and efficient level device which may be manufacutred cheaply and will withstand the severe usage to which such an instrument is ordinarily subjected, with comparatively little danger of injury to the spirit tubes or the stock itself, owing to the specific formation of the latter and the arrangement of the spirit tubes therein.

What is claimed is:

1. In a spirit level, a sheet metal stock comprising side plates having their medial portions closely abutting and their upper and lower portions bulged outwardly to form longitudinal compartments, the extreme longitudinal edges of the side plates being bent laterally to form flanges arranged at right angles to the vertical plane of the longitudinal axis of the stock, top and bot-

tom strips of metal secured to the outer faces of the said flanges, the said stock being provided in its medial web portion with a transverse opening communicating with the upper and lower compartments, and a spirit tube mounted within the said opening with its ends projecting into the said compartments and being arranged at right angles to the longitudinal axis of the stock.

2. In a spirit level, a sheet metal stock comprising side plates having their medial portions closely abutting and their upper portions bulged outwardly to form a longitudinal compartment, the extreme longitudinal edges of the side plates being bent laterally to form flanges arranged at right angles to the vertical plane of the longitudinal axis of the stock, top and bottom strips of metal secured to the outer faces of the said flanges, and a spirit tube mounted within the longitudinal compartment of the stock, the top strip and the bulging portions of the side plate being provided with longitudinal view openings to expose portions of the said tube.

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

WILLIAM J. CASSITY.

Witnesses:
ELMER A. FERGUSON,
F. PARTENHEIMER.