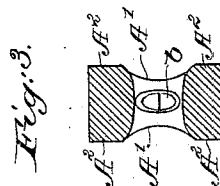
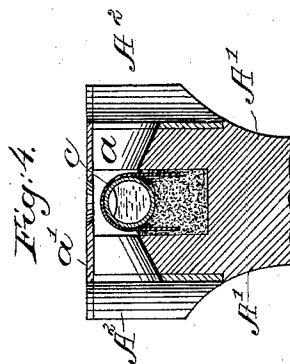
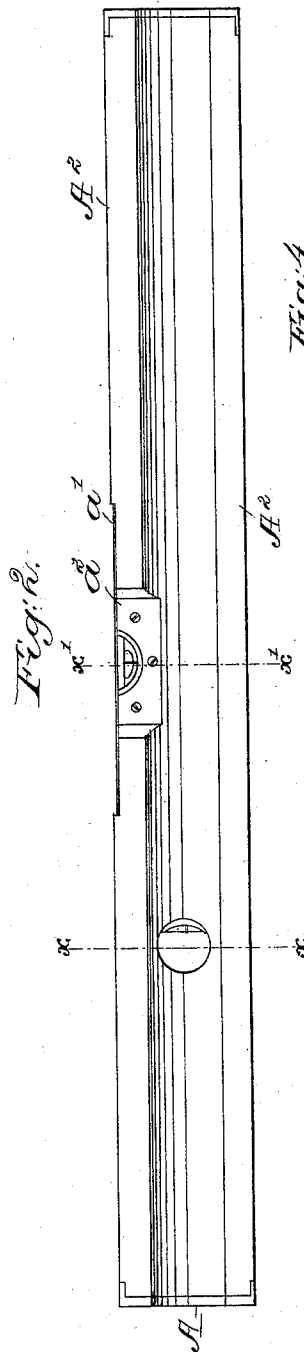
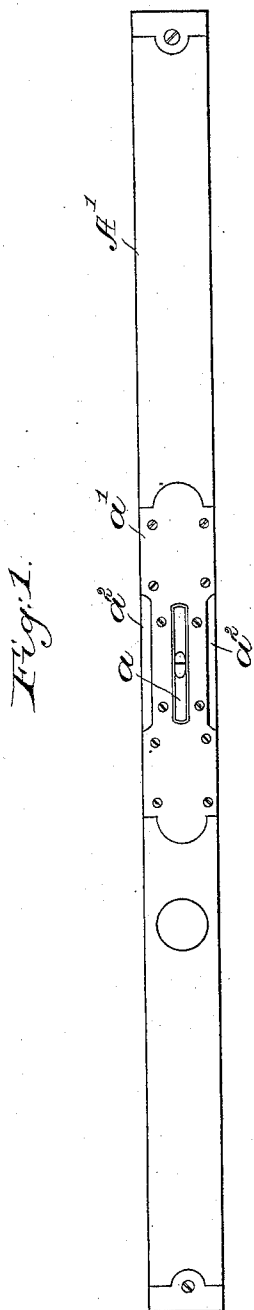


(No Model.)

W. PRADDEX.
SPIRIT LEVEL.

No. 469,451.

Patented Feb. 23, 1892.



Witnesses.

Edward F. Allen
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Inventor.

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UNITED STATES PATENT OFFICE.

WILLIAM PRADDEX, OF LAWRENCE, MASSACHUSETTS.

SPIRIT-LEVEL.

SPECIFICATION forming part of Letters Patent No. 469,451, dated February 23, 1892.

Application filed April 11, 1891. Serial No. 388,529. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM PRADDEX, of Lawrence, county of Essex, State of Massachusetts, have invented an Improvement in Levels, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

Wooden levels as now commonly constructed are rectangular in cross-section, which makes them exceedingly difficult to handle at times, particularly in cold weather, and when such a level is placed upon one end with the other end resting against a support, as levels are frequently placed by workmen when in use, it is easily caused to fall over by any slight jar or vibration incident to the work in the vicinity.

This invention has for its object to produce a level irregular in cross-section, that it may be better grasped by the workman when using it in difficult places or in cold weather, and which will better remain in a substantially vertical position, or when leaned against a fixed support.

In accordance with this invention the sides of the level are grooved longitudinally, or otherwise made to present an irregular surface, preferably in such a manner as to present longitudinal side flanges at top and bottom, which flanges may be cut away or partially removed at either side of the leveling-glass, so that when the level is violently dropped or laid down the leveling-glass will not receive the shock, thus protecting the glass from breaking. A fine wire will preferably be bent or curved about the visible portion of the leveling-glass at its central point, to aid the workmen in using the level, as will be hereinafter described.

Other features of this invention will be hereinafter described, and pointed out in the claims.

Figure 1 represents in top or plan view a level embodying this invention; Fig. 2, a side view thereof; Fig. 3, a cross-section on the dotted line xx , Fig. 1, looking to the right; and Fig. 4, an enlarged sectional detail taken on the line xx' , Fig. 2.

Referring to the drawings, the level A, as herein shown, is provided at substantially its middle at either side with a longitudinal

groove or depression A', extending throughout the entire length of the stock, and leaving at each side projecting flanges or lips A² of sufficient size to permit the level to be easily grasped or handled by the workman. The ends of the stock A, by reason of the grooves or depressions A' extending throughout the entire length of the stock, present at their opposite sides shallow depressions, which, when the level is left standing upon one end with its opposite end placed against a vertical support, as the stud of a building, will serve to retain the level in such position and prevent its being jarred to one side and permitted to fall by a slight knock accidentally given, or by the vibrations of its support caused by the operations of the workman.

The level A is provided with the usual leveling-glasses a and b , which glasses are and may be of any usual kind or construction and such as are common to levels as at present constructed. The usual face-plate a' for the glass a , together with its flange A², is cut away or removed, as at a^2 , (see Fig. 1,) for a distance substantially equal to or somewhat greater than the length of the leveling-glass a , so that if the level should be dropped or otherwise violently handled the flanges A' will receive the shock, the cut-away portions a^2 protecting the leveling-glass from the shock and greatly lessening the liability of breaking the same.

Referring particularly to Fig. 4, the leveling-glass a at its middle or central point is represented as partially surrounded by a fine wire c , which wire, surrounding, as it does, the visible portion of the leveling-glass a , will assist the workman in using the level.

I am aware that the leveling-glasses of levels have heretofore been engraved or otherwise marked at their upper sides, or in such a manner as to be useful when viewing the level from above; but in some classes of work it is necessary to view the level from the side, as shown in Fig. 2, in which case a mark upon the top of the leveling-glass would not be visible, but the wire c , surrounding the visible portion of the glass, may be detected from any side or position, thus making it equally convenient to use the level upon its bottom or top side.

I am aware that protecting-plates for the leveling-glasses have been stamped out in

such manner as to leave a band running across the top; but such bands must necessarily be wider or thicker than is desirable, in order to permit them to be stamped out; 5 but by employing a wire, as shown, such may be made as fine as desired and at the same time may be accurately and firmly placed in position.

I do not desire to limit this invention to the 10 particular form of groove A' shown.

I claim—

1. The herein-described level having a continuous longitudinal groove cut in its opposite sides and extending throughout their entire length, leaving flanges A² at each side of 15 sufficient size to permit the level to be easily grasped and handled, and forming depressions extending from one to the other flange in the opposite edges of each end of the level 20 to sustain the level in an inclined or elevated position when resting against a support, substantially as described.

2. The herein-described wooden level, shaped in cross-section to present longitudinal flanges cut away or removed at either side 25 of the leveling-glass, substantially as described.

3. The herein-described wooden level, shaped in cross-section to present longitudinal flanges, and the face-plate having a portion cut away or removed at either side of the 30 leveling-glass, substantially as described.

4. In a level, the combination, with the leveling-glass, of a wire c, surrounding the visible portion of said glass at its central point, 35 substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM PRADDEX.

Witnesses:

ROSCOE G. WINSLOW,
HENRY W. CALDWELL.