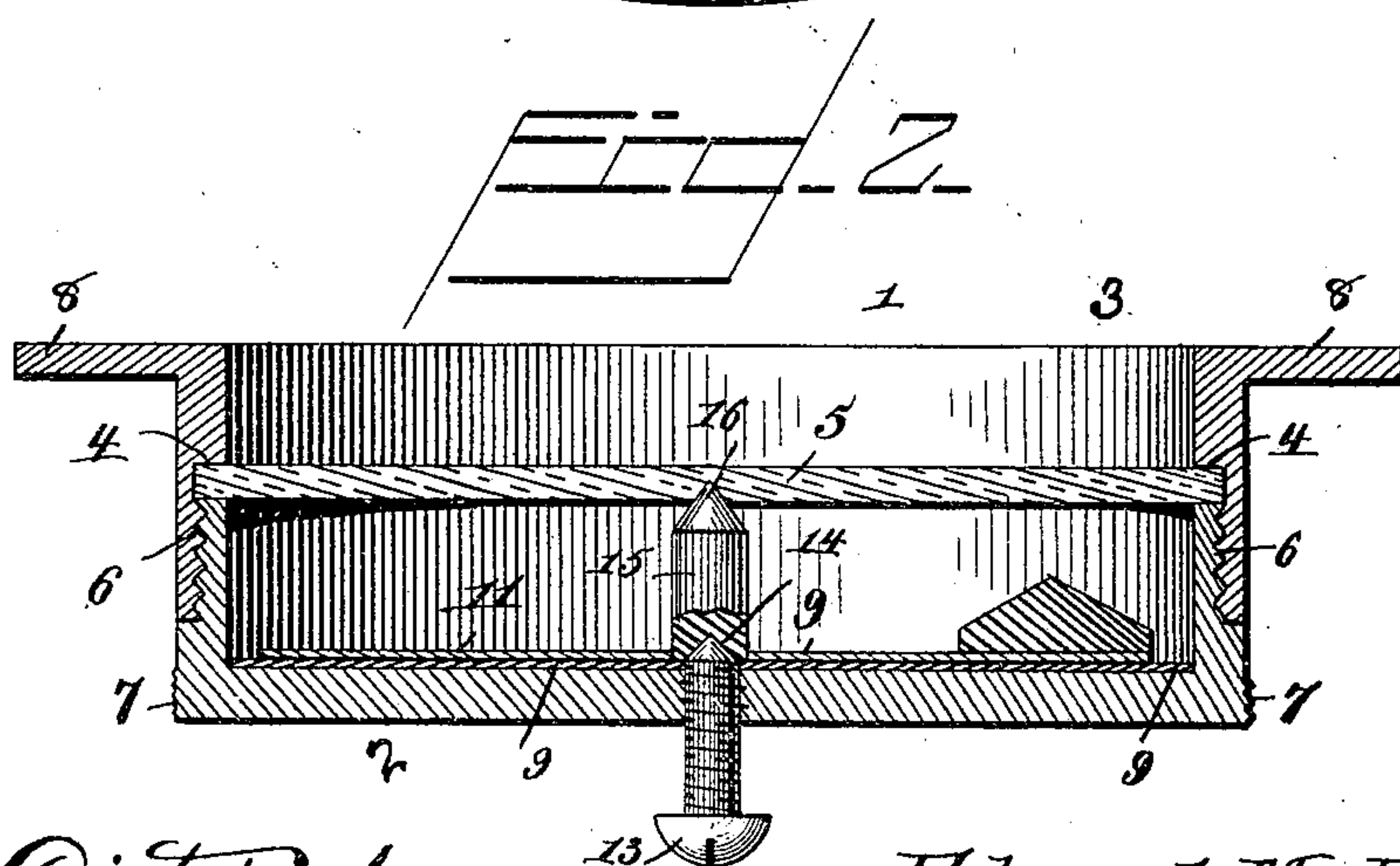
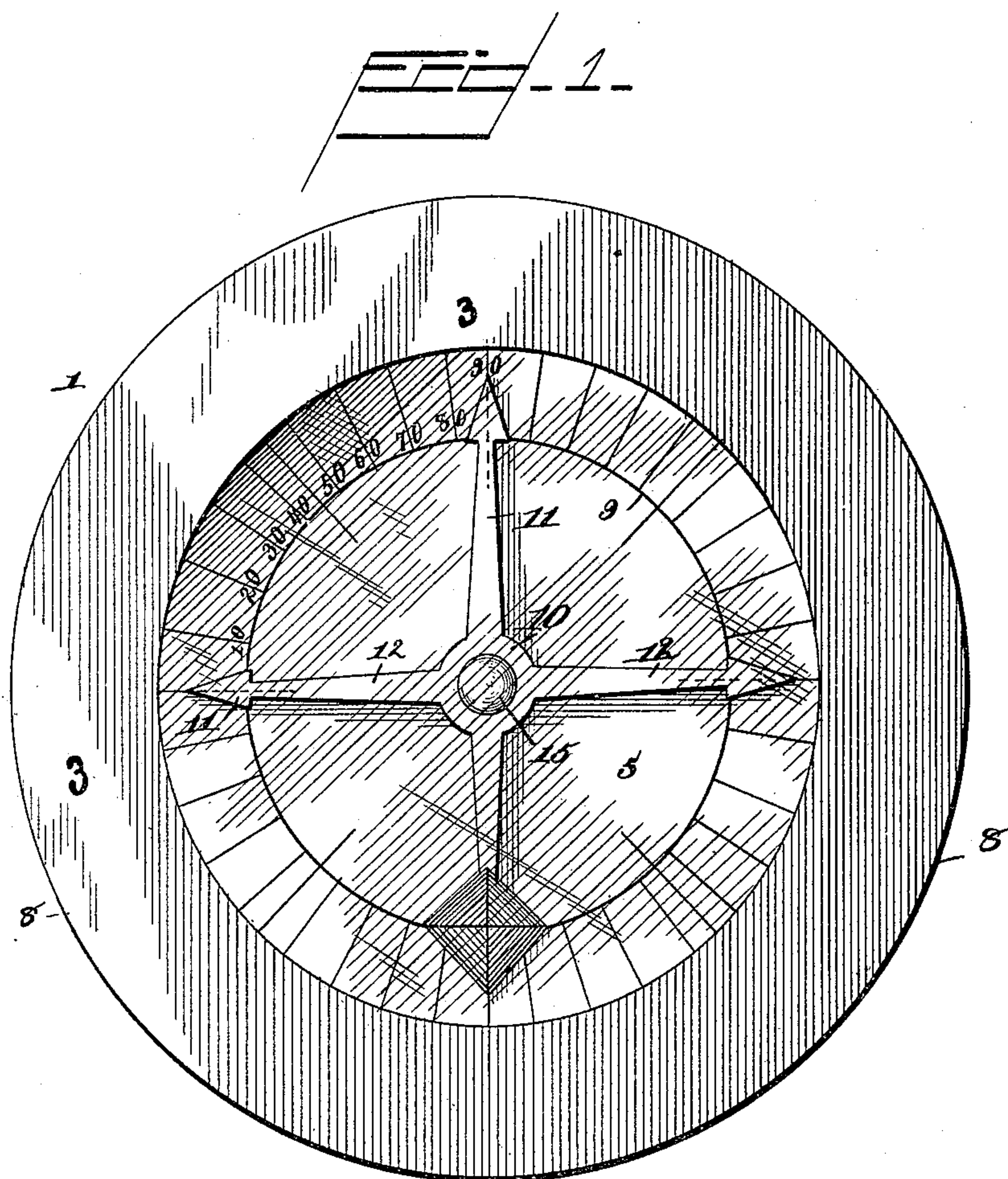


(No Model.)

E. M. KEAGLE & W. L. FOLLMER.
PLUMB LEVEL.

No. 460,749.

Patented Oct. 6, 1891.



Witnesses

H. G. Dieterich

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UNITED STATES PATENT OFFICE.

EDWARD M. KEAGLE AND WILLIAM L. FOLLMER, OF MILTON,
PENNSYLVANIA.

PLUMB-LEVEL.

SPECIFICATION forming part of Letters Patent No. 460,749, dated October 6, 1891.

Application filed March 4, 1891. Serial No. 383,741. (No model.)

To all whom it may concern:

Be it known that we, EDWARD M. KEAGLE and WILLIAM L. FOLLMER, citizens of the United States, residing at Milton, in the county of Northumberland and State of Pennsylvania, have invented a new and useful Level, of which the following is a specification.

The invention relates to improvements in levels.

10 The object of the present invention is to provide a simple and inexpensive level which will be strong and durable and adapted to be readily employed in grading and the like, and which will readily indicate the degree of inclination.

15 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

20 In the drawings, Figure 1 is a front elevation of a level constructed in accordance with this invention. Fig. 2 is a central transverse sectional view.

25 Referring to the accompanying drawings, 1 designates a casing constructed of metal and composed of two sections 2 and 3, one of which has its outer edge threaded, and the front section 3 is circumferentially rabbeted and interiorly threaded and adapted to screw on the section 2, and secured at the inner end of the recess 4, formed by rabbeting, is a glass face-plate 5. The rear section 2 is circumferentially rabbeted at its exterior to provide a recess 6 to enable the outer faces of the sections to be flush, and the rear section is checkered at 7 to prevent the hands slipping when screwing or unscrewing the sections. The front section is provided with a circumferential flange 8, which presents a large face to the level and facilitates attachment to a bar, in which the device is designed to be attached, as will be well understood.

45 Arranged on the inner face of the back of the section 2 is a graduated dial-plate 9, which is divided into four equal parts by diametrical lines, and the spaces between the lines are divided into degrees from 0 to 90, and operating on the dial-plate 9 is an indicator 10. The indicator 10 consists of a vertical hand 11, two horizontal hands 12, and a rigid plumb-bob, all formed integral and arranged

to indicate the degree of inclination of a grade or surface, and the lower end of the rigid plumb-bob is pointed and is adapted to indicate the degrees at the bottom of the level. The said indicator is centrally mounted on a set-screw 13, which is arranged in a central opening of the section 2 and has its head arranged outside the casing and is adapted to readily take up any wear and regulate the stiffness of the indicator. The set-screw has its inner end pointed and engages a central conical cavity 14 of a pin 15, which is secured in a central opening of the indicator and has its front end 16 pointed and centered in the glass plate 5.

It will be seen that the indicator is delicately mounted and is adapted to be readily adjusted by the set-screw and that the casing may be readily separated when it is desired to remove the indicator or examine the interior.

What we claim is—

1. In a level, the combination of the casing comprising the rear section 2, having its outer face circumferentially recessed and threaded, and the section 3, having its inner face circumferentially recessed and threaded and adapted to engage the section 2, the glass plate 5, secured in the recess of the section 3 and held between the two sections, the graduated dial-plate, and the indicator arranged within the casing, substantially as described.

2. In a level, the combination of the glass plate, the casing consisting of two sections threaded and adapted to receive and clamp the glass plate, the graduated dial-plate, the set-screw centrally mounted in the casing, the indicator provided with the vertical and horizontal hands and having the rigid plumb-bob, and the pin centrally secured to the indicator and having its front end centered in the glass plate and its rear end provided with a recess to receive the set-screw, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

EDWARD M. KEAGLE.
WILLIAM L. FOLLMER.

Witnesses:

ANDREW FOLLMER,
GEO. STRAYER.