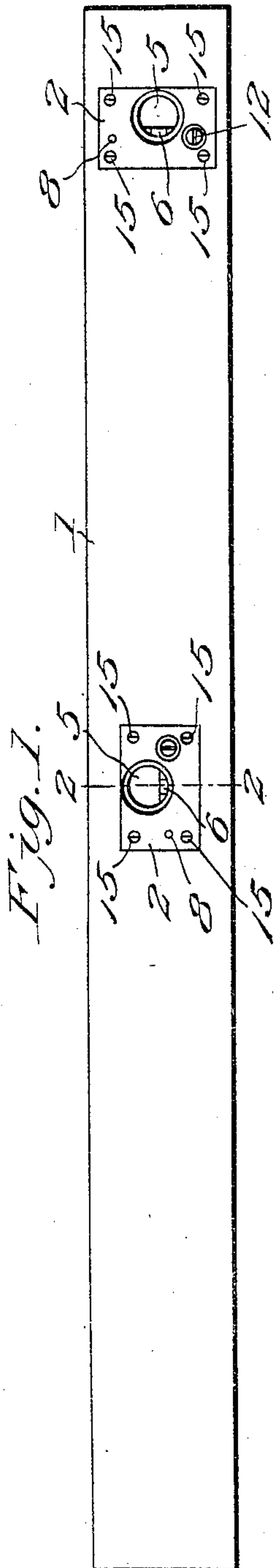


No. 837,059.

PATENTED NOV. 27, 1906.

C. A. HARDING.
LEVEL.

APPLICATION FILED JUNE 13, 1905.



Witnesses

Edwin G. McKee
Frank W. Fough

Fig. 2.

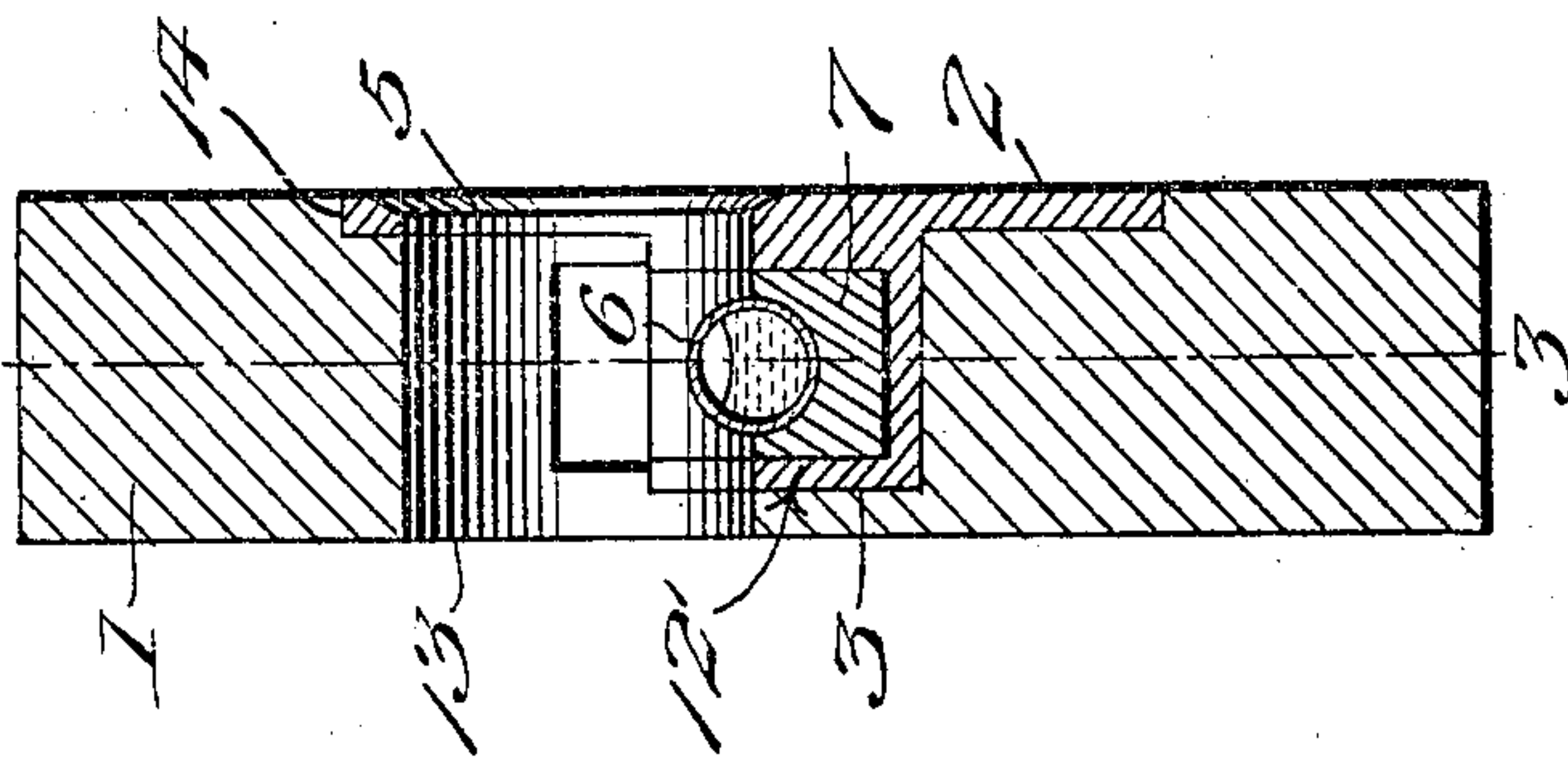
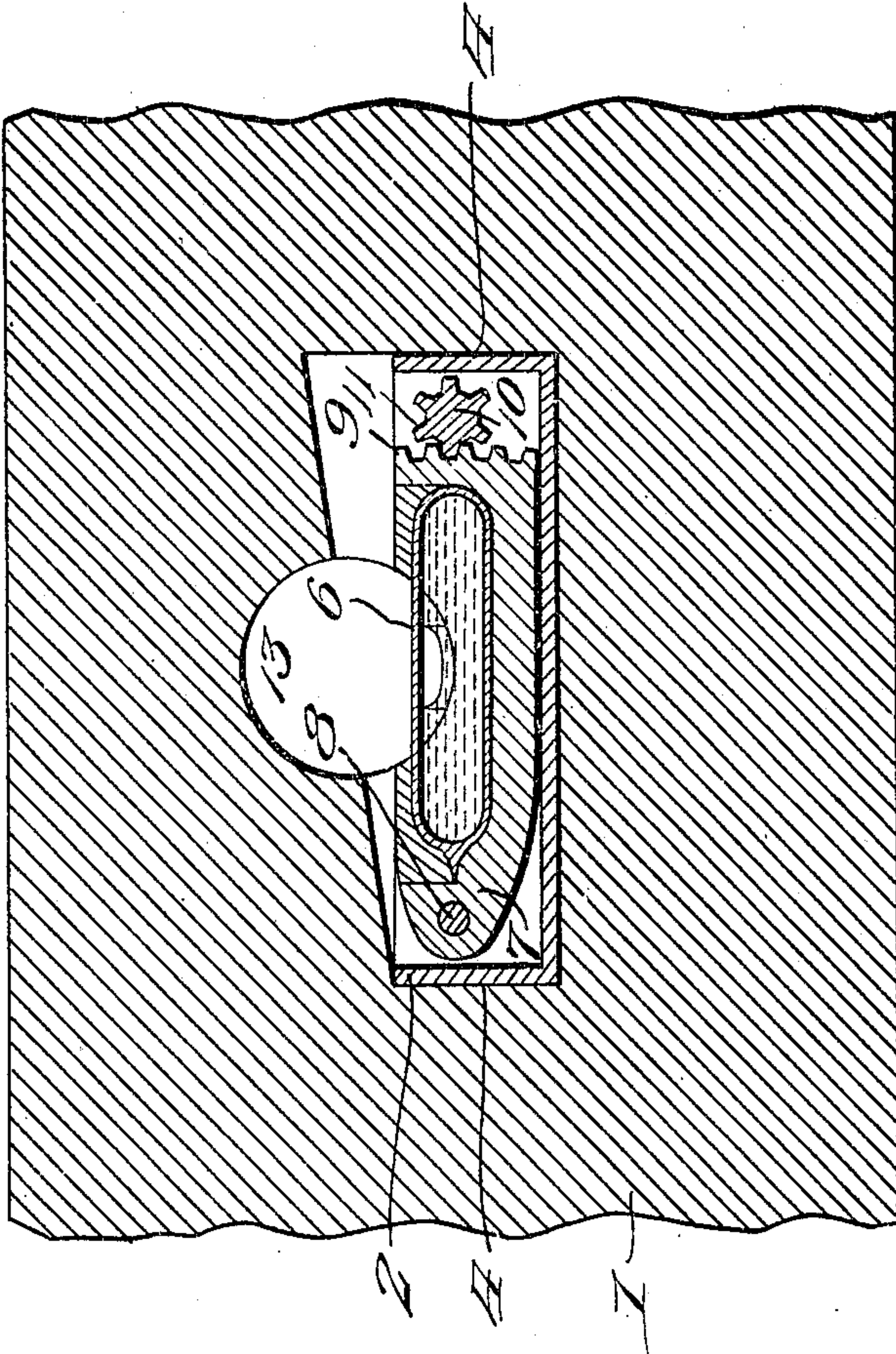


Fig. 3.



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CHARLES A. HARDING, OF TERRE HAUTE, INDIANA.

LEVEL.

No. 837,059.

Specification of Letters Patent.

Patented Nov. 27, 1906.

Application filed June 13, 1905. Serial No. 265,027.

To all whom it may concern:

Be it known that I, CHARLES A. HARDING, a citizen of the United States, residing at Terre Haute, in the county of Vigo and State of Indiana, have invented new and useful Improvements in Levels, of which the following is a specification.

The invention relates to an improvement in levels, and particularly to a dial and spirit-level adapted for use with the usual plumb-rules.

The main object of the present invention is the production of means whereby the level may be adjusted to provide for various inclinations of the rule.

The invention in its preferred form will be described in the following specification with particular reference to the accompanying drawings, in which—

Figure 1 is a plan view of the plumb-rule illustrating the application thereto of my improved level. Fig. 2 is an enlarged section on the line 2 2 of Fig. 1, and Fig. 3 is an enlarged broken section taken longitudinally of the rule to illustrate the operation of my improved level.

Referring to the drawings, wherein like reference-numerals indicate the like parts throughout the several views, 1 represents the plumb-rule, which may be of any dimensions desired and in which, as illustrated, I secure my improved level for service as a leveling device, wherein the level is arranged longitudinally of the rule and preferably centrally thereof, and also a similar level arranged transversely near one end of the rule to adapt the same for service as a plumb-rule.

It is to be understood that in both instances the level is identical, and a detail description of one will suffice for both.

The level of my invention comprises a face-plate 2, from which projects the level-holder, comprising a lower wall 2, a side wall 3, and end walls 4. By preference the level-holder is formed integrally with the face-plate and located near the lower edge thereof, preferably immediately below a circular sight-opening 5 formed in said face-plate. The level proper comprises the usual bulb 6, containing the spirit, and supported within a box-like structure 7, a suitable filling, as 8', being used to secure the bulb within the box. The box 7 is pivotally supported within the holder through the medium of the pivot 8, extending transversely thereof and passing

through one end of the box 7. The opposite end of the box 7 is formed with a plurality of teeth 9 to provide a vertically-arranged rack. An operating-shaft 10 is pivotally supported transverse the level-holder, being formed within the holder with teeth 11 in engagement with the teeth 9. One terminal of the shaft projects through the face-plate 2 and is headed therebeyond and is preferably formed with a kerf 12, whereby to conveniently operate the shaft.

The rule 1 is cut away or recessed at 12' to receive the level-holder and formed with an opening 13 entirely through the rule in alignment with the side opening 5 in the face-plate, whereby the spirit-bulb may be inspected from either side of the rule. The surface of the rule is preferably recessed at 14 to duly receive the face-plate 2, whereby the latter is held flush with the surface of the rule and secured by screws 15.

In the use of the invention the spirit-bulb may be adjusted to alter its angle with relation to the side or end of the plumb-rule by turning the shaft 10 and through the medium of the teeth 9 and 11 elevating or lowering the free end of the bulb-box 7. This adjustment is highly desirable in many uses of the plumb-rule, particularly in building where it is desirable to give a definite and fixed inclination to the wall or stack, in which event the level may be adjusted so that when the vertical edge of the plumb-rule is in the desired inclination the spirit-bulb will indicate a level position thereof. In this use, having once set the spirit-bulb, the user can maintain the same inclination under all conditions of work.

The spirit-level is capable of a range of adjustment to provide for practically all adjustments necessary, though it is to be understood that, if desired, the adjustment may be limited or increased as may be found desirable in the particular instance. Furthermore, by forming the face-plate and level-holder and pivotally securing the level-box in the latter I am enabled to readily and conveniently remove these parts as a whole and by a single operation when it is desirable to reverse the parts or to renew any particular feature thereof.

Having thus described the invention, what is claimed as new is—

A plumb-rule formed with a recess, a face-plate to be secured to the rule overlying the recess, a level-holder formed integral with

the face-plate and seating within the recess,
a level-box containing a spirit-level pivotally
mounted within the holder at one end, the
forward end of the box being formed with
5 transversely-arranged teeth, and a shaft hav-
ing a circumferential row of teeth to coop-
erate with the teeth on the box.

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

CHARLES A. HARDING.

Witnesses:

HARRY J. McMILLAN,

JOHN L. HUGHES.