P. H. MAYES.

SPIRIT LEVEL.

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1,126,548.

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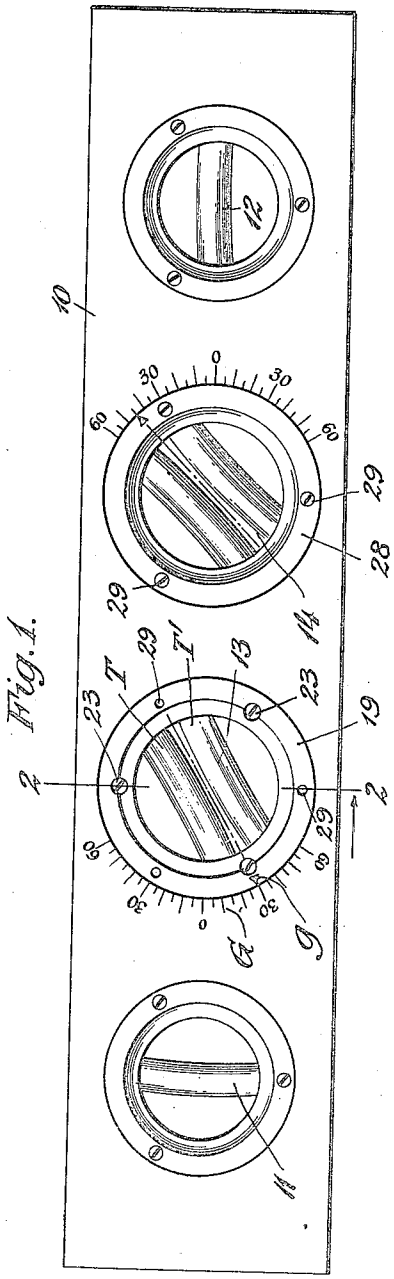


Fig. 1.

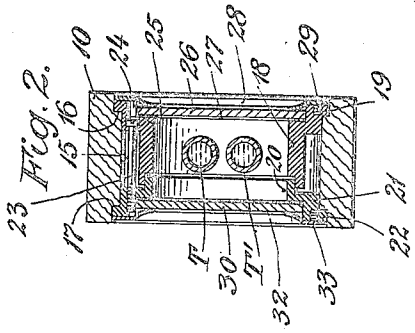


Fig. 2.

WITNESSES:

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SPIRIT-LEVEL.

1,126,548. Specification of Letters Patent. Patented Jan. 26, 1915.

Application filed September 6, 1913. Serial No. 788,371.

To all whom it may concern:

Be it known that I, PETER H. MAYES, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Spirit-Levels, of which the following is a specification.

This invention relates to spirit levels, and it has for one of its objects the provision of an implement of this character in which the liquid-containing devices are held in a member which may be adjusted or variably positioned relatively to a working face of the implement so as to inclose any desired angle. In other words: when the bubble in the sight-glass is in its central position in the tube, the working face of the implement has a certain inclination relatively to the horizontal line as well as to the vertical or plumb line.

The invention has, furthermore, for its object the provision of a rotatable casing which contains one or more sight-tubes and which may be clamped in any desired position in conformity with certain angular deflections, at the option of the workman.

Other objects of the invention will hereinafter appear and be particularly defined in the claim.

The invention has been clearly illustrated in the accompanying drawings in which similar characters denote similar parts, and in which—

Figure 1 is a side view of the implement embodying my invention. Fig. 2 is a central vertical section on line 2—2 of Fig. 1.

Referring to the drawings, the numeral 10 denotes the body of the spirit level which contains a sight-glass 11 for determining perpendiculars, and also a sight-glass 12 for determining horizontals, these two sight-glasses being practically permanent features, that is to say: non-adjustable within body 10, while on the other hand they may be removed for renewal when expedient.

In addition to the pair of sight-glasses just mentioned, the body 10 comprises one or more additional adjustable sight-glasses, as for instance, indicated by groups 13 and 14 respectively. Inasmuch as the construction of the holding device for these additional sight-glasses is substantially alike in all cases, the following description will apply to both of those shown.

By referring to Fig. 2, it will be noted that the body 10 of the implement is bored out, as shown at 15, so as to leave shoulders 16 and 17 at each end thereof. Mounted for rotation within this bore, and seated against the shoulder 16, is a member 18 shown herein as a barrel which is provided with a flange 19 seated against the shoulder 16, while the other end of said barrel is bored to receive the annular flange 20 of a clamp ring 21 which is also seated within the bore 15 and has a flange 22 resting against the shoulder 17 of the main body 10. The member 18 is provided with a pair of sight-tubes T and T′ which comprise the group 13 and are slightly curved in opposite directions as clearly shown in Fig. 1 and which may be held within said barrel in any desired manner. Binding screws 23 are in engagement with the clamp ring 21 and have their heads seated in counterbores 24 of the barrel, so that the heads will not project beyond the face 25 of the latter which constitutes a seat for a protecting glass 26 which is forced against the packing ring 27 made of rubber or similar material, by a washer 28, the latter being drawn in a firm contact with the glass by screws 29 in engagement with the barrel flange 19 above mentioned. In a similar manner a protecting glass 30 carried by the clamp ring 21, the glass 30 being held in position by a washer 32 secured to the clamp ring 21 by screws 33. It will be understood that when the protecting glasses 26 and 30 have been removed from the holder member 18 and the binding screws 23 have been slightly loosened, the clamp ring may be rotated within the main body 10 of the implement to bring the same into any desired angular inclination relatively to the working face of the implement. In order to facilitate the adjustment as above mentioned, I preferably provide on the face of the body 10 graduations G which correspond to standard angular degrees, and an index mark *g* carried either by the barrel 18 or the washer 28 will serve to locate the barrel member as desired. By providing a plurality of these variably positionable members, the workman is enabled to save a great deal of time because the several sight-glasses may be set according to the different angles which his work demands. Furthermore, the several sight-glasses are contained within the same implement, so that the present device is eco-

nomical not only as far as expense but also as far as the room required in the tool-chest is concerned.

Changes may be made in the particular construction as well as in the general organization of my improved implement without departing from the spirit of the invention, and also in the manner for adjustably holding the barrel in its various positions.

I claim:—

The combination with a body having a transverse bore, and a barrel entering said bore and having at one end thereof a flange seated against said body, of a clamp ring cooperative with said barrel and having a flange seated against the opposite side of said body, means for drawing said flanges together to clamp said body between them, protector glasses seated against the outer faces of said barrel and clamp ring, respectively, and independent extraneous means for holding said glasses in position on their respective members.

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

PETER H. MAYES.

Witnesses:
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