

No. 817,467.

PATENTED APR. 10, 1906.

N. D. CHASE.
SPIRIT LEVEL.

APPLICATION FILED AUG. 4, 1905.

Fig. 1.

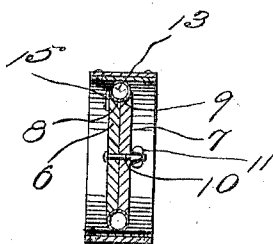
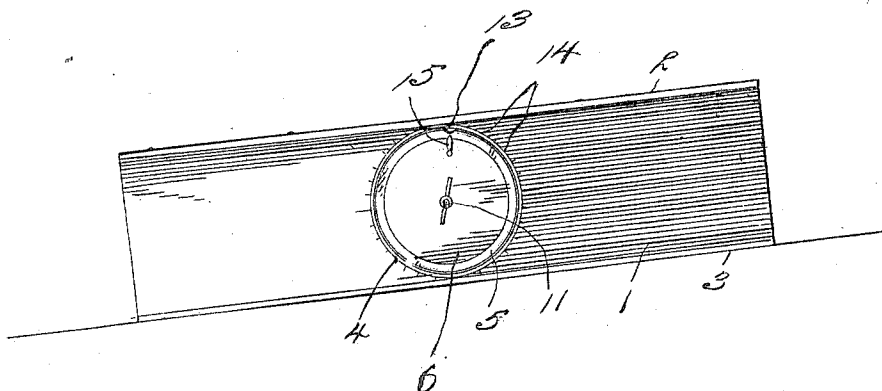


Fig. 2.

Witnesses
W. H. Simpson
C. M. Alford

Inventor
N. D. Chase
Chandler Chandler
Attorney

UNITED STATES PATENT OFFICE.

NEWTON D. CHASE, OF HENLEY, CALIFORNIA, ASSIGNOR OF ONE-HALF
TO WILLIS H. ROBERTS, OF HENLEY, CALIFORNIA.

SPIRIT-LEVEL.

No. 817,467.

Specification of Letters Patent.

Patented April 10, 1906.

Application filed August 4, 1905. Serial No. 272,676.

To all whom it may concern:

Be it known that I, NEWTON D. CHASE, a citizen of the United States, residing at Henley, in the county of Siskiyou, State of California, have invented certain new and useful Improvements in Spirit-Levels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to spirit-levels.

One object of the invention is to provide a level for carpenters or others embodying such characteristics that any angle or plumb may be determined.

Another object of the invention resides in the provision of an exceedingly simple, inexpensive, durable, accurate, light, and efficient device of the character stated.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a side elevation of my invention, illustrating the same upon an incline. Fig. 2 is an enlarged transverse sectional view through the stock, tube, and dial-plate.

Referring now to the drawings, the present invention comprises a stock 1, having its upper and lower edges provided with metal or other strips 2 and 3, respectively, and with a transverse central opening intermediate its ends between said strips, which opening is lined with a circular strip of material 4. Cemented or otherwise secured within this circular strip of material 4 is a circular transparent tube 5, whose periphery is disposed against the inner face of the circular strip 4 midway of its edges, and which tube supports the dial 6 and the backing-plate 7, the dial 6 and backing-plate 7 being circular in form and each provided with a grooved periphery 8 and 9, respectively, adapted to register with each other to form a semicircular groove to effectually embrace the inner periphery of the aforesaid circular tube 5. The dial 6 and

backing-plate 7 are secured together by means of a screw-threaded bolt 10, with which is engaged a thumb-nut 11.

It will be now understood that the circular tube 5, together with the dial and backing-plate 7, are arranged within the opposite edges of the aforesaid transverse opening of the stock 1, and consequently the tube may be seen from either side of the stock. In order to ascertain whether or not a plane is level, the stock is placed thereupon, causing the bubble 13 to assume such position within the circular tube as to indicate, in connection with the graduations 14, arranged at the edge of the aforesaid transverse opening, the angle at which the level rests upon said plane.

I provide the dial-plate 6 with an indicator 15, which, together with the dial-plate, may be turned with respect to the circular tube so as to predetermine the degree of angle desired. In other words, by loosening the thumb-nut 11 the dial 6 and its indicator 15 may be moved with respect to the backing-plate 7 and the circular tube 5—say, for instance, at a forty-five-degree angle—so that when the instrument is used for determining whether or not the proper level has been obtained there can be no mistake, for the reason that the indicator-finger in its co-operation with the graduated scale surrounding the tube will accurately give the proper angle.

It is obvious that the lining 4 may be eliminated from the structure and that the circular tube 5 may be disposed directly against the transverse opening of the stock.

What is claimed is—

An instrument of the character described comprising a stock provided with a transverse opening intermediate its ends and edges, a lining for said opening, a circular tube arranged within the opening midway of its edges, a backing-plate and a dial-plate detachably secured together with their peripheries engaging the inner periphery of the circular tube, the said stock having a graduated scale surrounding its transverse opening and the dial having an indicator-finger for coöperation with said scale.

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

NEWTON D. CHASE.

Witnesses:

B. RICHARDSON,
E. R. GREIVE.