

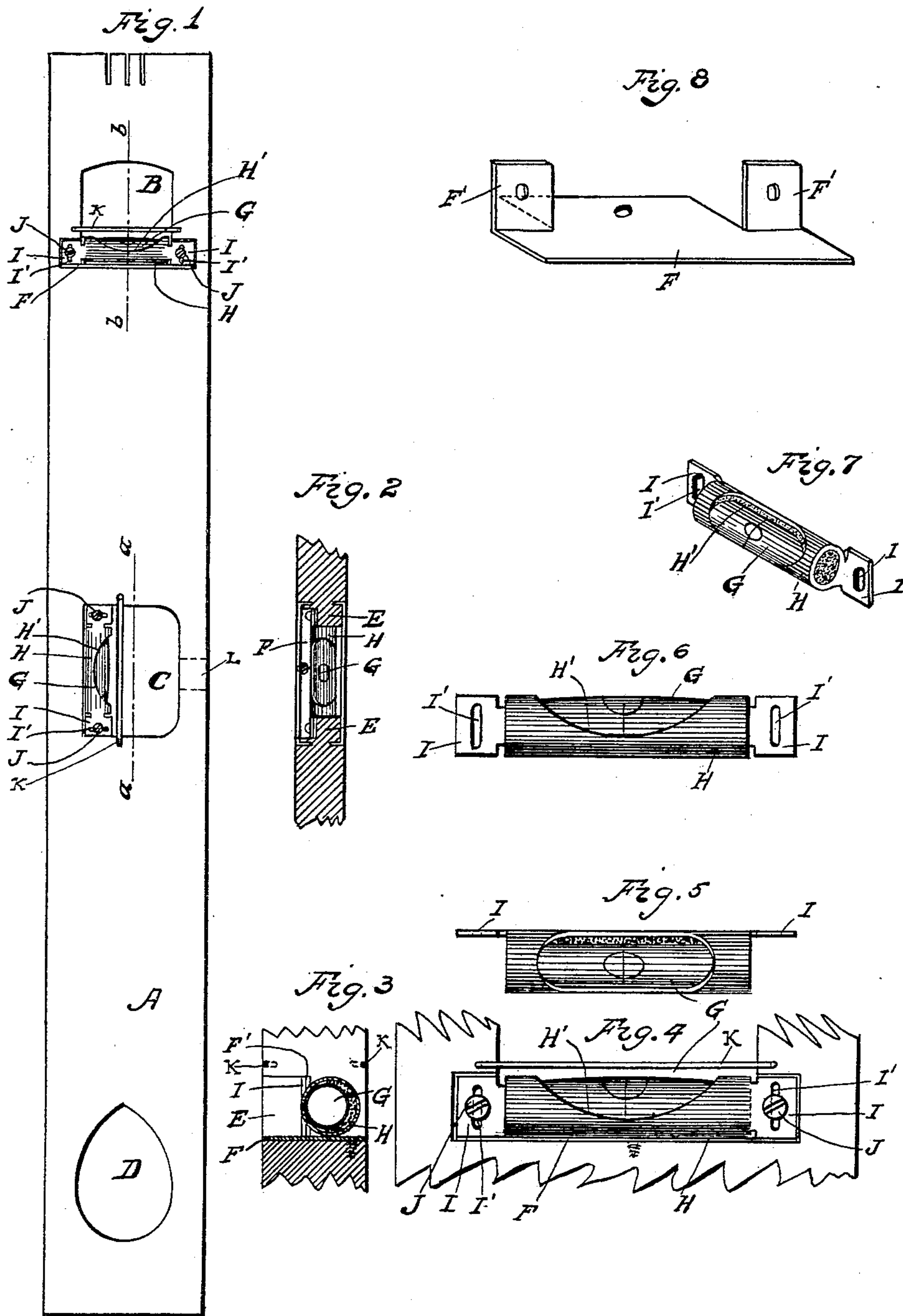
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Patented Jan. 24, 1899.

J. MORRISON.
PLUMB RULE AND LEVEL.

(Application filed Feb. 1, 1898.)

(No Model.)



WITNESSES:
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JOHN MORRISON, OF PITTSBURG, PENNSYLVANIA.

PLUMB RULE AND LEVEL.

SPECIFICATION forming part of Letters Patent No. 618,254, dated January 24, 1899.

Application filed February 1, 1898. Serial No. 668,700. (No model.)

To all whom it may concern:

Be it known that I, JOHN MORRISON, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented new and useful Improvements in Plumb Rules and Levels, of which the following is a specification.

This invention relates to plumb rules and levels; and the primary object of the same is to provide a spirit vial case or holder of improved form adapted for mounting in any desired form of rule or level and adjustable therein, whereby the rule or level may be trued or corrected at any time. The vial cases or holders being of uniform size are rendered interchangeable for the various positions in which used. The vial and case, of itself, and entirely independent of a stock, constitutes a convenient pocket-level.

A further object of the invention is to provide an improved facing-plate for the stock-opening.

The invention consists in the novel features of construction and in the combination and arrangement of parts hereinafter fully described and claimed and illustrated by the accompanying drawings, in which—

Figure 1 is an elevation of a plumb rule and level embodying my invention. Fig. 2 is a vertical sectional view taken on line *a a* of Fig. 1. Fig. 3 is a similar view on line *b b* of the same figure. Fig. 4 is an enlarged view of the vial and case at the upper end of the stock, a part only of the latter being shown. Figs. 5, 6, and 7 are detail views of the vial and case. Fig. 8 is a detail view of the face-plate.

The stock A here shown for the purpose of illustrating the invention is of the form used by bricklayers and masons, having the usual top opening B for the plumb-glass, the center opening C for the leveling-glass, and bottom opening D for the bob. Openings B and C are formed with depressions on their opposite edges coincident with their base-lines to provide shoulders E, and the bases of said openings, also the shoulders, are fitted with the facing-plate F, (clearly shown in Fig. 8,) the ear-like projections F' of said plate being apertured to permit the passage of securing-screws into shoulders E.

Spirit-vial G is secured by plaster-of-paris

or other means in tubular case H, the latter being formed with the oval top incision H' to clearly expose the bubble on both sides of the case and at its ends provided with the flat extensions or ears I, slotted at I' to permit the passage of securing-screws J to and through apertures in ears F' of the face-plate and into shoulders E, thus serving the double purpose of securing the plate and the vial-case. I preferably form the case and the flat slotted ears of a section of brass or other tubing, with the ears formed of portions of the tube-sections, as shown; but I do not desire to limit myself to forming the case in this specific manner, as the same may be cast or manufactured in other ways without departing from the spirit of the invention. By means of slots I', through which the securing-screws pass, the case may be raised or lowered at either or both ends, upon loosening the screws as may be necessary for truing or placing the instrument in proper adjustment, after which the screws are again tightened and securely hold the case in set position.

I preferably construct the cases of the same size, thus rendering them interchangeable, so that should a vial become broken or a case damaged the latter may be readily removed and a new one inserted at small cost.

U-shaped guards K traverse openings B and C on both sides of the stock and at points slightly above or away from the case and vial for protecting the latter against falling objects. It is a common practice to use said openings B and C, or at least one of them, for hanging the instrument upon a nail or hook when not in use, and the guards referred to prevent the nail or hook from coming in contact with and breaking the glass when hanging the level.

In order that the bubble may be seen from the top edge of the stock as well as from either side, I provide sight-opening L. (Shown in dotted lines in Fig. 1.)

By referring to Fig. 6 it will be noted that the bottom of case H and the lower edges of ears I aline, the latter serving to sustain the case in upright position, and in its detached form, as seen in Figs. 5, 6, and 7, the device constitutes a perfect pocket-level.

When mounted in a stock, as shown in Fig. 1, the leveling mechanism is entirely within

the longitudinal edges thereof, so that the same may be planed whenever necessary for truing.

The devices and constructions here shown and described constitute a most complete and accurate leveling mechanism and are of such simple character that they may be manufactured at comparatively small cost, while the adjustment and interchangeable features add materially to their usefulness.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An improved instrument of the character described, consisting of a stock, a spirit-vial, a vial-casing substantially circular in cross-section, and end ears coincident with a longitudinal edge of the casing for securing to a stock, the lower edges of the ears being in the bottom plane of the casing to sustain the casing in upright operative position when

detached from the stock, substantially as shown and described.

2. In an improved level, the combination of a stock formed with an opening having countersunk ends, plate F secured to the opening bottom, the plate having right-angle ears F' extending over the countersunk ends of the opening, a spirit-vial, a vial-holding case located within the opening, the case having end extensions which lap over ears F' of plate F, and screws passing through the case extensions and ears F' into the stock for securing all said parts together, substantially as shown and described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN MORRISON.

Witnesses:

J. M. NESBIT,

CHAS. C. LEAN.