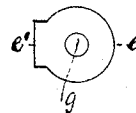
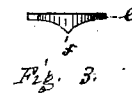
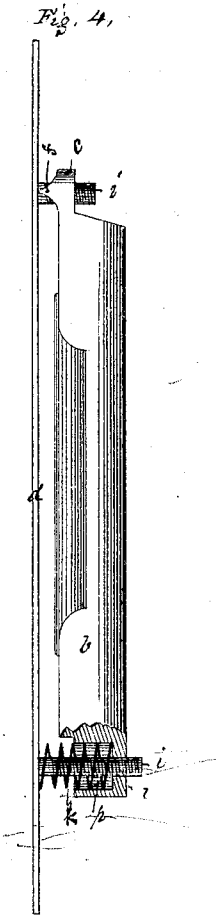
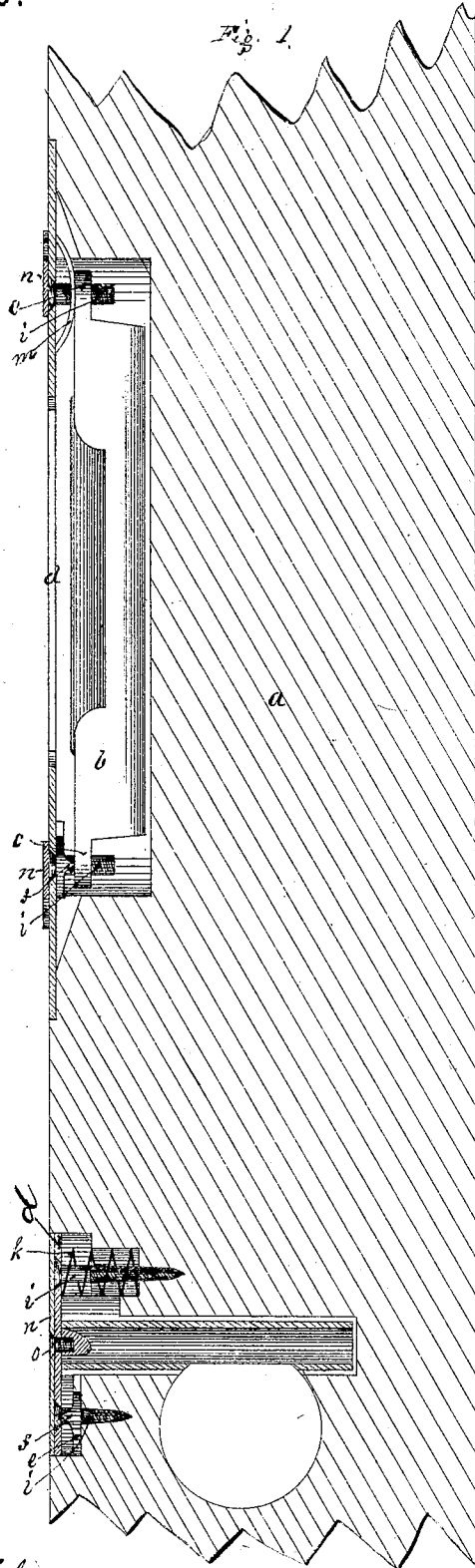
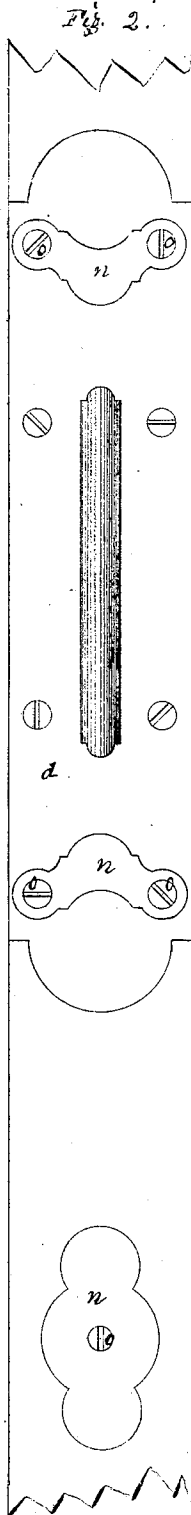


J. A. TRAUT.
Improvement in Spirit-Levels.

No. 128,513.

Patented July 2, 1872.



Witnesses

Wm. B. B.
James W. B.

Inventor.

Justus A. Traut

UNITED STATES PATENT OFFICE.

JUSTUS A. TRAUT, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO THE
STANLEY RULE AND LEVEL COMPANY, OF SAME PLACE.

IMPROVEMENT IN SPIRIT-LEVELS.

Specification forming part of Letters Patent No. 128,513, dated July 2, 1872.

To all whom it may concern:

Be it known that I, JUSTUS A. TRAUT, of New Britain, county of Hartford and State of Connecticut, have invented certain new and useful Improvements in the Manufacture of Spirit-Levels; and to enable others skilled in the art to make and use the same I will proceed to describe, referring to the drawing, in which—

The same letters indicate like parts in each of the figures.

The nature of this invention consists in securing one end of the face-plate of a spirit-vial case directly over a raised edge or fulcrum, so that the opposite adjustable end of said plate may vibrate up or down by means of a spring and screw sufficient to produce perfect accuracy of the vial with the stock without varying the fixed position of the former. It further consists in providing guard-plates, in combination with the vial-case and holding-screws of a spirit-level, for the purpose of protecting the adjustable screws from being tampered with, the turning of which would destroy the accuracy of the instrument.

In the accompanying drawing, Figure 1 is a side-sectional view of a spirit-level. Fig. 2 is a top view. Fig. 3 is a face and edge view of a fulcrum-plate. Fig. 4 is a side view of a vial-case, face-plate, and fastening-screws detached from the stock.

a is the stock of a spirit-level. *b* is a case, in which the vial is arranged in the common way. *c* are nuts or plates formed on each end of the case *b*. *d* is a face-plate and a spirit-vial case, secured together and independent from the stock, and recessed or secured, when wanted for use, into the stock *a*. *e* is a fulcrum-plate having a raised fulcrum, *f*, so constructed that the face-plate shall take bearing thereon in a line through the center of the fastening-screws. In some cases I form the fulcrum-edge *f* upon the face of the outer end of the vial-case *b* on each side of the adjusting-screw orifice; and sometimes I form a recess, *p*, in the opposite end of the case *b* to receive a spring, *q*, through which the adjusting-screw

i passes into a screw-threaded nut, *r*, in the bottom of the recess. One end of the face-plate is firmly secured upon the fulcrum *f* by a holding-screw, *i*, passing through the face-plate *d* and fulcrum-plate *e* into the nut or plate *c* or into the stock *a*, by which one end of the face and holding plate is firmly secured in a fixed position, and yet so that it (the vial-case) shall be allowed to vibrate on the fulcrum-edge *f*. *k* is a spring, arranged in an orifice formed in the face-plate *d*, through which (the orifice in the plate *d* and spring *k*) the fastening or adjusting screws pass into the stock, so that by turning the screws in or out the vial-case will become adjusted to its proper place and position. *m* is a spring arranged between the under side of the plate *d* and the nut or plate *c* of the vial-case. The fastening or adjusting screw passes through the face-plate *d* and spring *m* into the nut or plate *c*, so that by turning the screws in or out the spirit-vial case may be accurately adjusted at any time, as may be desirable. These plates *d* are secured to the stock *a* in the common way. *n* are guard-plates, which cover and protect the fastening-screws from being tampered with, and are secured in place upon the plate by screws *o* after the spirit-vial cases have been adjusted properly to their places, thereby effectually preventing tampering with the adjusting-screws, which are relied upon to secure accuracy of the instrument.

I believe I have thus shown the nature, construction, and advantage of this invention so as to enable others skilled in the art to make and use the same therefrom.

What I claim, therefore, and desire to secure by Letters Patent, is—

The fulcrum-plate *e*, in combination with a face-plate, *d*, vial-case *b*, secured together independent of the stock *a*, substantially as and for the purpose set forth.

JUSTUS A. TRAUT. [L. S.]

Witnesses:

E. W. BLISS,
JEREMY W. BLISS.