

L. L. Davis.
Spirit-Level

Nº 75533

Patented Mar. 17, 1868

Fig-1.

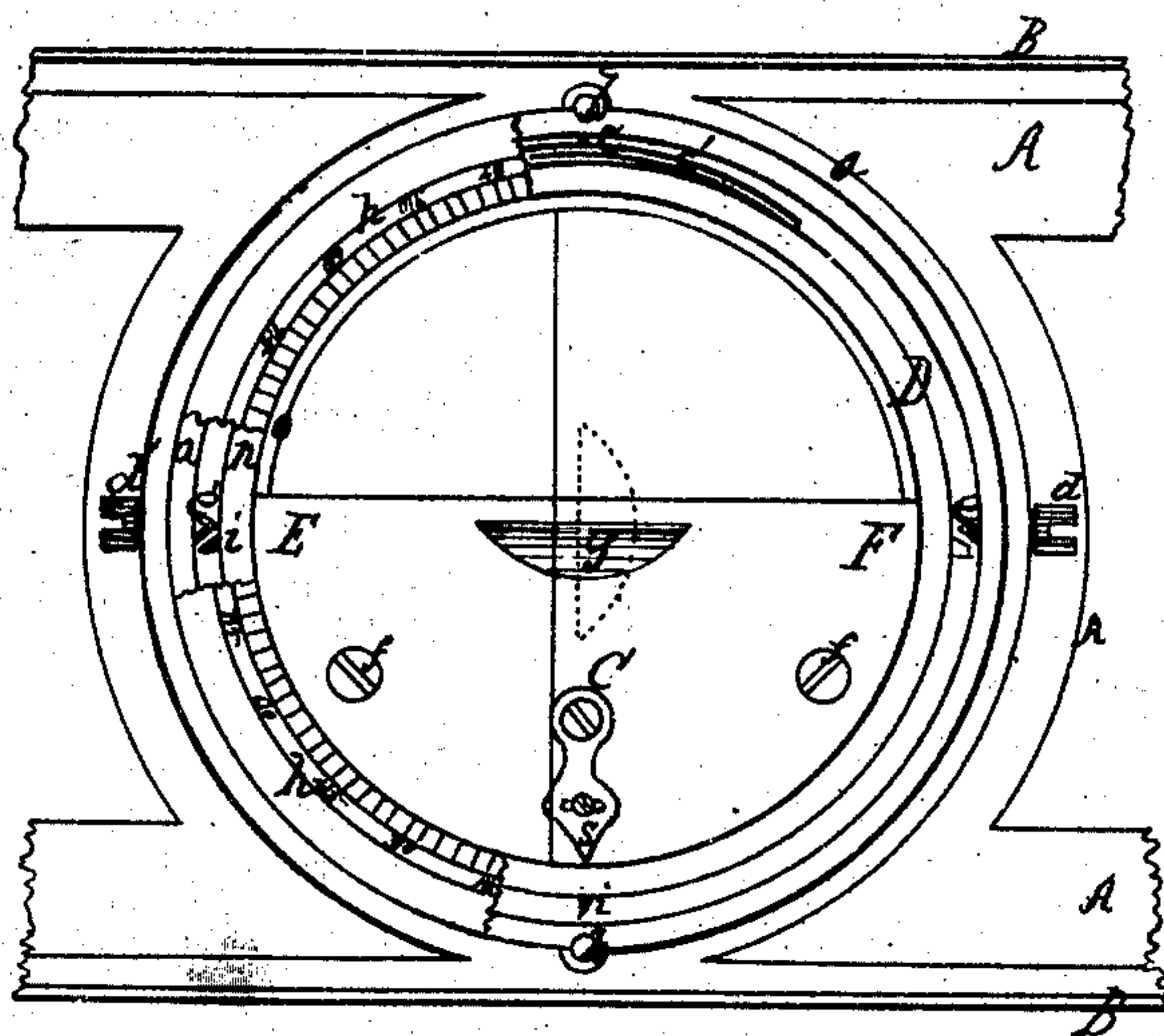
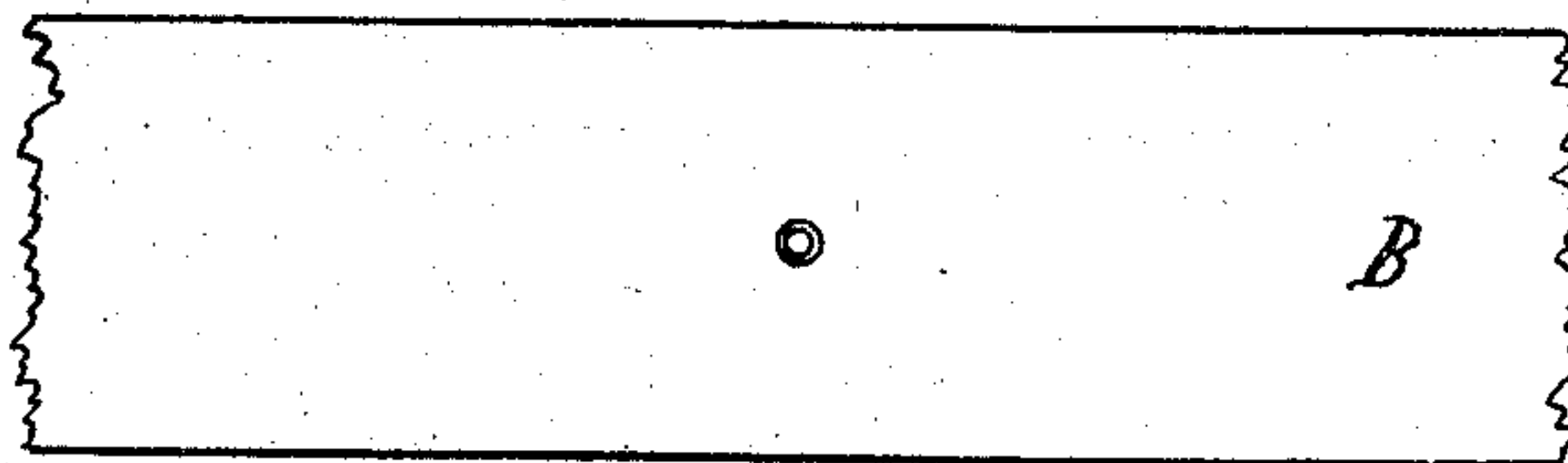


Fig-2.



Witnesses.

J. A. Curtis
J. P. Buckland.

Inventor.

L. L. Davis

United States Patent Office.

L. L. DAVIS, OF SPRINGFIELD, MASSACHUSETTS.

Letters Patent No. 75,533, dated March 17, 1868.

IMPROVEMENT IN SPIRIT-LEVELS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, L. L. DAVIS, of Springfield, in the county of Hampden, and Commonwealth of Massachusetts, have invented a new and useful Improvement in Spirit-Levels; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a side elevation of that portion of a spirit-level to which my invention is applied, and with part of the graduated ring broken away, to show the details of the adjusting-arrangement.

Figure 2 is a plan view of the same portion of said spirit-level.

The nature of my invention consists in the construction and arrangement of portions of a spirit-level having a revolving bubble-case, whereby the bubble-glass may be put in adjustment with reference to the outer frame or base of the level, without removing the bubble-glass from its case; and which construction also obviates the necessity of any particular care in first introducing and securing said bubble-glass in its said case; and my said invention may be considered as an improvement upon the invention set forth and described in Letters Patent granted to me, September 17, 1867, and numbered 68,961.

That others skilled in the art may be able to make and use my invention, I will proceed to describe its construction and operation.

In the drawings, *a* represents the socket or receptacle, into which is inserted and in which revolves or oscillates the ring *D*, having therein the bubble-case *C*. The ring *a* is perforated on each side, said perforations having screw-threads cut therein, and the screws *d d'* having the conical or tapered points *e e'* are turned into the said threaded perforations, their points *e e'* protruding beyond the inner surface of the ring *a*, exactly opposite each other. Into the ring *D* are placed the studs *i i'*, which may be secured in place by any convenient and proper method, and so placed that when the ring *D* is in place in its socket *a*, the studs *i i'* shall be in the same vertical line with the screws or points *e e'*. The stud *i'* is bevelled upon that side which is towards the point *e'*, and in such manner that the bevelled surface of the stud *i'* shall be parallel to the outline of the cone *e'*. The stud *i* is set into the ring *D*, at a distance from the stud *i'*, equal to one-fourth of the whole circumference of the ring *D*, and is likewise bevelled upon the side towards the point *e*, having the same bevelled inclination as the outline of the cone *e*, and they are so arranged that when the bubble-case *C* is in one position, the stud *i'* impinges against the cone or point *e'*, and if the bubble-case *C* or ring *D* be turned one-quarter of a revolution, the stud *i* impinges against the cone or point *e*, as shown in red lines. A screw, *c*, having a conical point, is turned into a threaded perforation in the top of the frame *B*, its point protruding beyond the inner surface of the ring *a*, and the spring *e'*, having a slight indentation at the place where the point of the screw *c* impinges against it, is placed between the said screws *c*, and the ring *D*, the ends of the said spring resting upon the outer surface of the ring *D*, and thus causing more or less pressure to be exerted upon the ring *D*, as the screw *c* is turned in or out.

The operation of my invention is as follows: If it is found upon trial that the bubble-glass is not in perfect adjustment with the base of the frame *B'*, and it should be necessary to depress the side *E* of the bubble-case *C*, the screw *d'* is turned in, and the cone *e'*, in its contact with the bevelled stud *i'*, forces it downwards, which action elevates the other side, *F*, of the bubble-case *C*, and the screw *d* may be correspondingly turned out if desirable. The studs *i i'* might be straight instead of bevelled, as shown, and still be operative, but I prefer them bevelled, as they operate more perfectly, and with a greater degree of nicety.

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

In combination with the screws *d d'*, having the conical points *e e'*, the studs *i i'*, placed in the ring *D*, which has a reciprocating rotary motion, all constructed and arranged substantially as herein described and set forth.

Witnesses:

J. P. BUCKLAND,
N. B. SMITH.

L. L. DAVIS.