

A. F. HYDE.  
Spirit Levels.

No. 154,677.

Patented Sept. 1, 1874.

Fig. 1.  
Reduced.

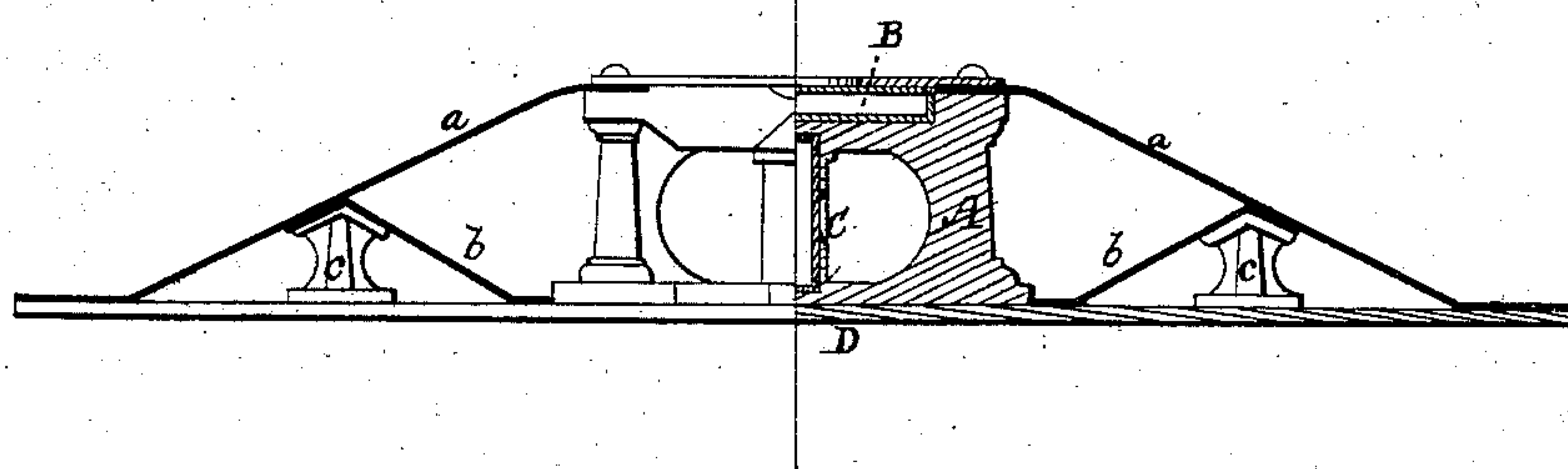
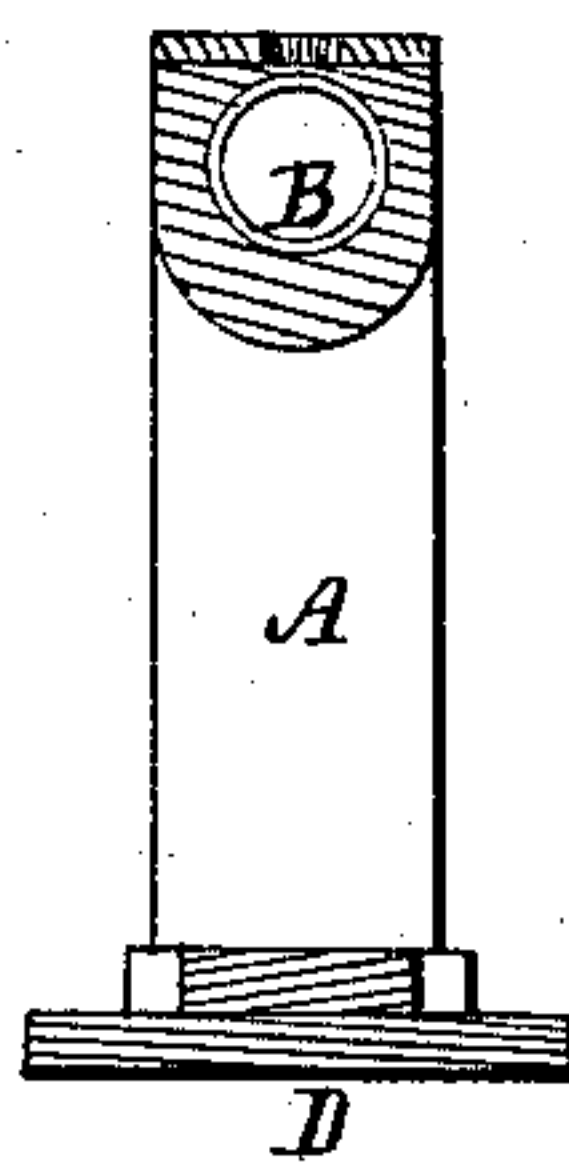


Fig. 2.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

ALBE F. HYDE, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN SPIRIT-LEVELS.

Specification forming part of Letters Patent No. **154,677**, dated September 1, 1874; application filed July 14, 1874.

*To all whom it may concern:*

Be it known that I, ALBE F. HYDE, of Boston, Suffolk county, Massachusetts, have invented certain Improvements in Spirit-Levels, of which the following is a specification:

The drawings accompanying this specification represent, in Figure 1, a longitudinal sectional elevation, and in Fig. 2 a cross-section, of a spirit-level containing my improvements.

In these drawings, A represents a cast-metal upright frame of a size and form adapted to receive the "level" and "plumb" glasses of the instrument, the former being shown at B, and the latter at C, as disposed immediately under it. To the under side of the central glass-support A, I attach, by means of screws, rivets, or in any suitable manner, a flat steel plate, D, which is the base or table of the level, and is composed, preferably, of steel, and the under side of this plate is to be planed to a true and straight surface. I furthermore truss the frame A and table D by suitable chords or braces *a a* and *b b*, and posts *c c*, substantially as shown in the drawings, by which means the entire level-frame is rendered very strong, stiff, and light.

Heretofore the frames of spirit-levels have been composed of a solid bar of wood or cast-iron, in the former instance being comparatively frail and destructible, and liable to twist

and change by changes of temperature and age, while the cast-iron frames are very heavy and unwieldy, and are easily broken.

A level constructed as herein explained possesses, among others, the following advantages: First, I am enabled to employ a much longer plumb-glass than is possible in a wooden beam-level, thus producing a more perfect instrument; second, when once properly adjusted it will remain true and correct for any length of time, as its adjustment is unaffected by moisture or variations of temperature; third, it is not liable to become scarred or fractured, as in the case of a wooden frame, or cracked or broken like one of cast-iron, and it is in fact, with reasonable care, indestructible; fourth, it is very light and convenient to use, is ornamental in appearance, and its plumb-glass is more exposed, and consequently more easily read, than in levels heretofore made.

I claim—

A spirit-level frame composed of a central glass-support, a base or table, and a truss frame or braces, substantially as and for purposes stated.

ALBE F. HYDE.

Witnesses:

FRANCIS E. FAXON,  
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