

Spirit Level.

Patented Feb. 13, 1855.

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UNITED STATES PATENT OFFICE.

HAMPTON W. EVANS, OF PHILADELPHIA, PENNSYLVANIA.

SPIRIT-LEVEL.

Specification of Letters Patent No. 12,384, dated February 13, 1855.

To all whom it may concern:

Be it known that I, HAMPTON W. EVANS, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Revolving Spirit-Levels; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification, in which—

Figure 1, is a plan view. Fig. 2, is a longitudinal vertical section, taken in the line *x, x*, Fig. 3. Fig. 3, is a plan of the level stock or block, with the revolving plate and adjustable devices detached. Fig. 4, is a detached inverted plan view of the revolving disk or plate. Fig. 5, is a detached view of the ring. Fig. 6, is a detached plan view of the crescent shaped sliding or adjustable stop. Fig. 7, is a side view of ditto.

The nature of my invention consists in constructing a revolving adjustable spirit level, in such a manner, that it can be used for leveling, plumbing, grading, and battering.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A, is the stock or block.

B, is a metallic plate which is secured to the stock as shown in the drawings. This plate is cast with a circular opening, said opening having its center at (*a*) Fig. 3, on the inner edge of said opening is formed a flange (*b*) Figs. 2 and 3.

C, C, C, C, are supporters which extend from the lower extremity of flange (*b*) to the center of said opening for the purpose of supporting the conic center (*a*). Said plate flange, supporters, and conic center are all cast solid together.

D is the disk plate which is provided with a cylindrical projection Y which extends downward from the center of the under side of said disk plate, and have its lower end formed in such a manner as to admit the conic center (*a*) and is secured thereto by means of a screw as clearly shown in Fig. 2. This latter arrangement forms the bearings upon which the disk plate revolves. Said disk plate is also provided with a V shaped

groove (*c*) Fig. 1, and (*c, c,*) Fig. 2, (*d*) is the tube or vial which contains the spirit. Said tube is secured to the revolving disk, as seen in Figs. 1, 2, and 4.

E, E, E, E, Fig. 1, are crescent shaped sliding or adjustable stops, formed in the shape as seen in Figs. 6 and 7, the points on said crescent take into the groove (*c*) as seen in Figs. 1 and 2.

Fig. 5, is a detached view of a ring. This ring is placed in a position as seen at (*f*) Fig. 2, and in dotted lines Fig. 1. Between this ring and the disk I place the crescent shaped sliding or adjustable stops as seen at E, E, Fig. 2, and secure it at any desired point by means of set screws (*g, g*), Fig. 2, and *g, g, g, g*, Fig. 1.

H, is a catch which takes into the back of the stops as seen in dotted lines Fig. 1, also at E, Fig. 2, said catch is thrown forward into the notch in the back of the stop by means of the spring (*h*) as seen in dotted lines Fig. 1, and is pressed back out of said notch by the thumb of the operator.

Operation: The letters stamped on the revolving plate are L, P, G, and B, which stand for the names enumerated in the nature. By turning the letter L, toward the spring catch it will be set for a level; and the round headed screw at L, is used to adjust the level, by turning the screw once around, you loosen a small crescent shaped catch or stop with the extreme points turned up to fit in a V shaped groove on the under side of the revolving plate, and is held in its place by a ring into which the screw forces and holds the catch block permanently. When the letter P, is turned next to the spring catch, it is then set for a plumb rule and is adjusted by the screw at P, as above described, there being a catch block under every screw and letter. When the letter G, is turned toward the spring catch it can be set to any grade, as it has a free motion of one fourth of a circle when the screw at G, is loose.

When B, is turned toward the spring catch it can be adjusted by the screw at B, to any required batter, and by graduating the circle, it makes a very efficient slope for mining purposes.

Having described my invention, I do not claim the disk plate or conic center upon

which it revolves as new. But in connection therewith

I claim as new and desire to secure by Letters Patent—

- 5 The crescent shaped sliding or adjustable stops, and spring catch, in combination with the grooved disk and set screws or their

mechanical equivalents the whole being arranged and constructed in the manner and for the purposes herein described.

HAMPTON W. EVANS. [L. s.]

Witnesses:

W. H. McNAMEE,
JOHN P. CHESTON.