G. C. POWELL.

LEVEL.

APPLICATION FILED DEC. 12, 1917.

1,308,765. Patented July 8, 1919.

Fig. 1.

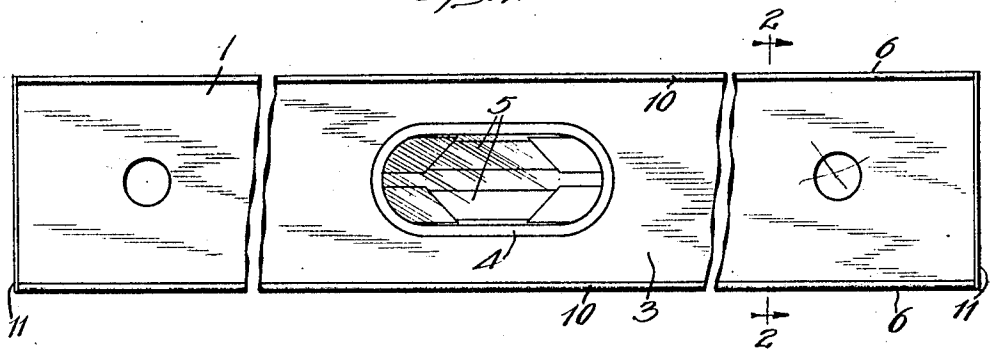


Fig. 2.

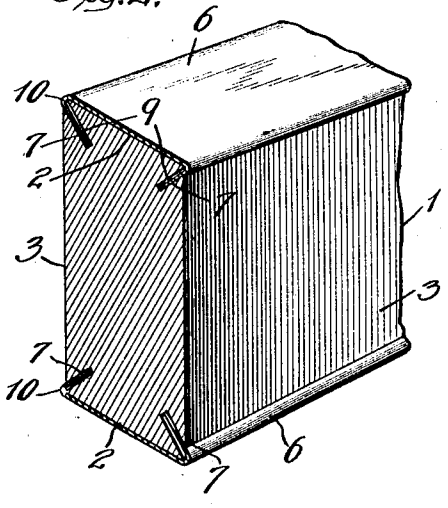


Fig. 4.

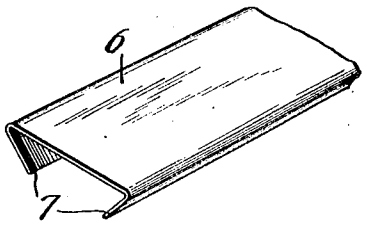
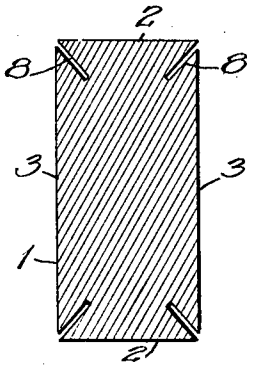


Fig. 3.



Witnesses:
W. F. Kilroy
Harry R. L. White

Inventor:
George C. Powell
By Edward Jay Wilson
Atty.

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE C. POWELL, OF CHICAGO, ILLINOIS.

LEVEL.

1,308,765. Specification of Letters Patent. Patented July 8, 1919.

Application filed December 12, 1917. Serial No. 206,757.

To all whom it may concern:

Be it known that I, GEORGE C. POWELL, a citizen of the United States, and resident of Chicago, Cook county, and State of Illinois, have invented a certain new, useful, and Improved Level, of which the following is a specification.

My invention relates to improvements in spirit levels and has special reference to spirit levels particularly designed for the use of masons.

The object of my invention is to provide a level which shall remain in accurate straight condition regardless of the rough usage to which such tools are commonly subjected; to provide an improved edge guard which will not be distorted even though the body of the level absorbs moisture; and generally to provide a mason's level which shall be better and cost less to manufacture than those formerly made and used.

My invention consists in a level body, preferably made of wood and provided with metallic edge guards formed of sheet metal and so arranged that they are not distorted by the expansion and contraction of the wooden body, but remain practically straight and flat.

My invention also consists in a metallic guard for the edge of levels and such like implements, which is flat on its outer surface and is provided with oppositely inclined reentrant edge flanges for mounting it upon the level body.

My invention also consists in the features of construction and in the combinations of parts by means of which I am enabled to attain the above mentioned and other objects and all as hereinafter described and particularly pointed out in the appended claims.

My invention will be more readily understood by reference to the accompanying drawings forming part of this specification and in which:—

Figure 1 is a fragmentary side elevation of a level made in accordance with my invention:

Fig. 2 is a fragmentary perspective sectional view of the level on the line 2—2 of Fig. 1;

Fig. 3 is a vertical section of the body of the level as it appears before the metal edges are applied; and

Fig. 4 is a fragmentary perspective view of one of the metal guards or edges.

My improved level consists of a body 1 of usual shape and cross-section. That is, it is an elongated body of rectangular cross-section having two narrow edges 2, 2 and two flat wider side faces 3, 3.

The body is provided with a sight opening 4 at the middle of its length and extending from side face to side face, and in which the spirit glasses, 5, 5 are mounted.

In use, a mason's level is exposed constantly to very rough usage, being used mainly upon rough brick and stone work, it is subjected to much dampness both upon the work and from the weather; it is also subjected to a great deal of wear and tear owing to the rough materials with which it is constantly contacted.

All of these conditions tend to throw the level out of its desired true condition and tend quickly to destroy its accuracy and usefulness.

To prevent this rapid destruction of the level I provide continuous flat guards 6 for the narrow edges 2 of the level body.

Preferably I make these guards of sheet metal and form their longitudinal edges into inwardly inclined straight, narrow flanges 7. These flanges preferably extend inwardly at substantially 45 degrees. To receive these flanges I provide the body of the level with saw cuts or slots 8 extending inwardly from the corners of the body and at an angle of 45 degrees to the sides thereof. The saw cuts extend the whole length of the body and are of a size or thickness to receive the flanges 7. Preferably I make the saw cuts slightly wider than the thickness of the metal of which the guards 6 are made so as to provide a slight clearance 9 between the flanges 7 and the inner walls of the slots, as best illustrated in Fig. 2. That is, I provide a clearance within or between the flanges 7 so that any ordinary swelling of the wood between the flanges, due to the absorption of moisture by the stock or body, will not tend to buckle, distort or twist the metal edges.

The guard strips are thin and light, hence do not cost much for material; they are in channel form and hence are very rigid and stiff in reference to the quantity of material used; they protect and guard the whole of each narrow edge of the body and hence best preserve the accurate condition of the level body.

The outer corners or bends 10 of the guard strips project laterally beyond the side faces 3 of the body of the level and hence are in position best to protect the side faces of the level against wear.

In applying the guard strips to the body of the level, I first apply glue to the inner flat surface of the guard strip, and also to the outer flat edge 2 of the body, and then I force the strip endwise into position until the two ends of the strip coincide with the two ends of the body. I prefer that there shall be no glue in the slots 8 or upon the flanges 7 in order to leave the flanges and the contacting walls free for expansion and contraction.

To finish the level I prefer to secure flat plates 11 upon the ends which project over the ends of the strips 6 and prevent their movement on the body even if the glue joints between the strips and the body should be destroyed.

The guards are very cheaply and quickly produced and applied and by their means I produce a level which is substantially permanent in its accuracy.

As many modifications of my invention will readily suggest themselves to one skilled in the art, I do not limit or confine my invention to the specific structures herein shown and described.

I claim:—

1. A mason's level or the like, having a wooden body provided with a straight edge, a metallic guard of substantially uniform thickness for said edge completely covering said edge and provided with inwardly inclined narrow longitudinal flanges entering like inclined corner slots provided in the level body.

2. A mason's level having in combination a wooden body, and sheet metal guards protecting the narrow edges of the body, said guards provided at their lateral edges with inwardly inclined narrow longitudinal flanges, said body provided with like inclined corner slots receiving said flanges, the portion of the body between said flanges being of less width than the space between the flanges to permit expansion of the body without distortion of the guards.

3. In a mason's level, an elongated wooden body having narrow edges and wider side faces, channel shaped guards embracing the side edges of the body, the flanges of the guards entering slots provided in the body of the level, and the lateral edges of the guards extending beyond the side faces of the body as and for the purpose specified.

4. In a mason's level, a wooden body having a narrow straight edge, a metallic guard for said edge, comprising a strip of sheet metal having its longitudinal edges bent to form inwardly inclined narrow flanges, the body of the level provided with like inwardly inclined slots at its longitudinal corners for receiving said flanges.

5. In a mason's level, a wooden body having a narrow straight edge, a metallic guard for said edge, comprising a strip of sheet metal having its longitudinal edges bent to form inwardly inclined narrow flanges, the body of the level provided with like inwardly inclined slots at its longitudinal corners for receiving said flanges, said guard adapted to be entered into place longitudinally of the body and to be held in place by adhesive material in said slots.

In witness whereof I have hereunto set my hand this 10th day of November, 1917, in the presence of one subscribing witness.

GEORGE C. POWELL.

Witness:
E. F. WILSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."