

W. J. NEIDL.
LEVEL STOCK.

APPLICATION FILED DEC. 24, 1919,

1,362,814.

Patented Dec. 21, 1920.

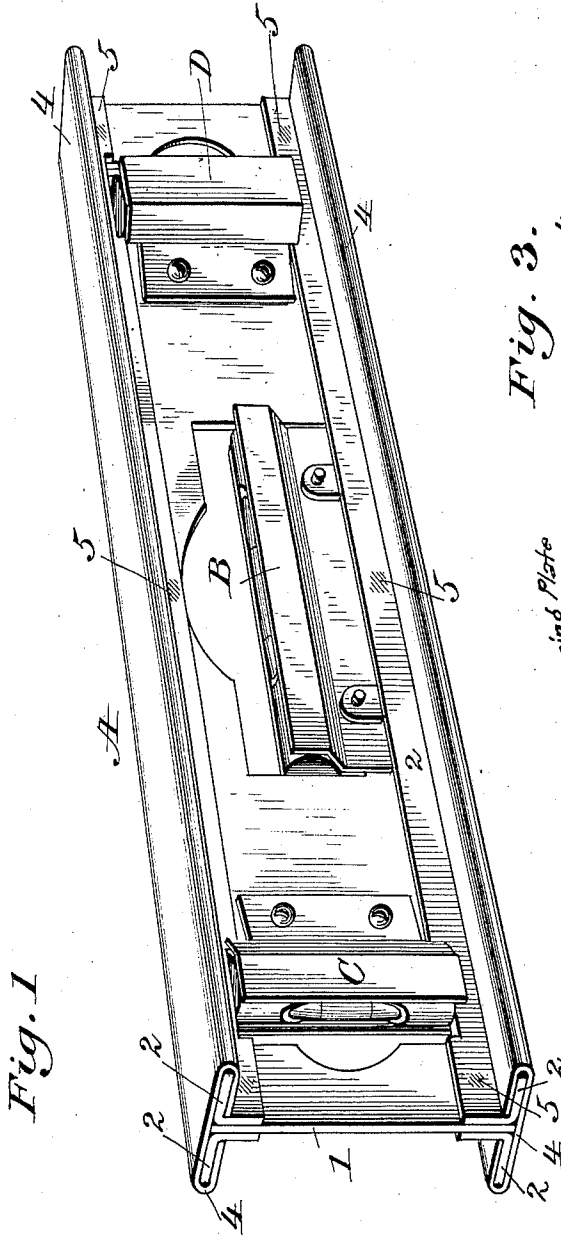


Fig. 1

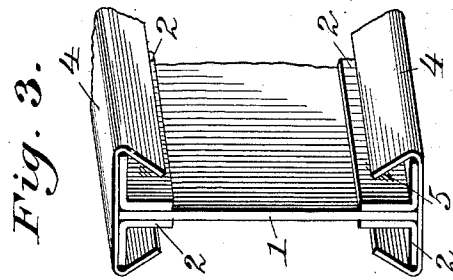


Fig. 3.

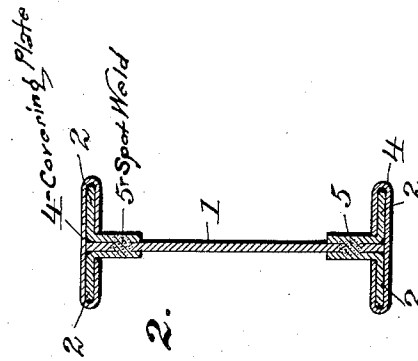


Fig. 2.

William J. Neidl

INVENTOR

WITNESSES

Charles H. Curand

J. P. Smith.

BY

E. J. Sigg

ATTORNEY

UNITED STATES PATENT OFFICE.

WILLIAM J. NEIDL, OF NEW BRITAIN, CONNECTICUT.

LEVEL-STOCK.

1,362,814.

Specification of Letters Patent.

Patented Dec. 21, 1920.

Original application filed April 12, 1919, Serial No. 289,538. Divided and this application filed December 24, 1919. Serial No. 347,055.

To all whom it may concern:

Be it known that I, WILLIAM J. NEIDL, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented a new and useful Level-Stock, of which the following is a specification.

This invention relates to a level stock or beam, designed to be used for spirit levels and plumbs, and is a division of an application filed April 12, 1919, Serial Number 289,538.

The primary object of the invention is to construct the beam or stock by making it of cold rolled steel instead of wood or cast iron, thereby providing a practically unbreakable structure and lightening the weight thereof.

The invention consists in certain novel features of construction and combination of parts hereinafter set forth in the description and particularly pointed out in the claims, it being understood that while the drawing shows the preferred embodiment of the invention, that changes in the form, size, proportion and minor details of construction may be made without departing from the spirit or scope of the invention as defined in the appended claims.

In the drawings:—

Figure 1 is a perspective view of a spirit level or plumb, embodying the novel construction of beam or stock;

Fig. 2 is a vertical transverse section; and

Fig. 3 is a detail view showing how the flanges of the I-beam or stock are formed.

Like reference characters designate corresponding parts in the several figures of the drawing.

The spirit level and plumb comprises generally a body A, a centrally disposed level glass B, and two plumb glasses C, D, at the ends of the body. As the present application is concerned solely with the construction of the body or beam, and the aforesaid application contains claims for the other features of the level and plumb, it is deemed unnecessary to refer in detail to the construction of the level glass and plumb glasses. Reference is hereby made to the aforesaid application for a full description of the said features.

The body of the level, which is often designated as the stock or beam, is made I-shaped in cross section; and will be referred

to hereinafter as the "I-beam." It is made of cold, rolled steel throughout. I have selected this material because of its lightness and tensile strength, in this respect being superior to wood because of its durability, and superior to cast iron owing to its less weight and freedom from breakage.

The stock or beam comprises a web 1, of suitable length and width to accord with the size of the tool being constructed. Appropriately sized openings are cut in the web to provide for the central level glass B, and the end plumb glasses C, D. Applied to each side face of the web at the longitudinal edges thereof, are two pairs of reinforcing plates 2, 2, which are co-extensive in length with the web and of right angular shape in cross section. These angular plates when combined with a covering plate 4, constitute the top and bottom flanges of the stock or beam. The reinforcing plates are placed with their vertical flanges flat against the opposite faces of the webs, and are then spot-welded to the web, as indicated at 5, thereby uniting the angular plates 2, to the web. The horizontal flanges extend outwardly from the web, and have their outer faces substantially flush with the longitudinal edges of the web.

The covering plates 4, which are coextensive in length with the web and angular plates, and which form the outer facing plates for the flanged edges of the body, each extend from the vertical flange of one reinforcing plate along the inner side of the horizontal flange thereof, then around the outer edge of said horizontal flange; then over the outer face of said horizontal flange, across the outer longitudinal edge of the web to and across the angular plate on the other side, the edge of which it embraces in a manner similar to the first-mentioned angular plate, and is then turned inwardly and along the inner side of the horizontal flange of the second-named angular plate terminating at the vertical flange thereof, the covering and facing plates fitting the faces and edges of the angular plates tightly and snugly.

In Fig. 3 of the drawings, I have shown how the covering plate is bent around the faces and edges of the horizontal flanges of the two angular plates, it being understood, of course, that bending of the covering plate is done by appropriate machinery.

When the covering plates are applied in position, they combine with the two angular plates and the web to form the flanges of the I-beam, which are as rigid and service-
5 able as though they were made out of cast iron, but having none of the objections of cast iron, since the structure of the flanges made in accordance with my invention may be considered practically unbreakable. So
10 perfect is the union between the several elements, namely, the covering plates, web and flanges, that except when viewed at the ends, the beam or stock has the appearance of being made of one piece. This is a distinctive
15 and new feature in level stock.

What is claimed is:—

1. In a level, a stock or I-beam comprising a web and flanges along the opposite longitudinal edges of said web, said web consisting
20 of a plate of uniform thickness, and the flanges each consisting of a pair of angular plates with each plate arranged alongside one of the longitudinal edges of said web, the vertical flanges of each plate bearing flat
25 against the web and welded thereto and the horizontal flanges extending outwardly and flush with the edges of the web, and covering plates each extending across said horizontal flanges and the outer edge of the web
30 and having its longitudinal edges bent inwardly around the outer edges of said horizontal

flanges and along the inner faces thereof and extending to and abutting the inner vertical flanges of said angular plates.

2. In a level, a stock or I-beam composed
35 of a web of cold rolled steel, angular plates of similar material arranged in pairs alongside each edge and on opposite faces of the web, with the inner flange of each plate placed flat against the web, means uniting
40 the web to said inner flanges of said plates, and a covering plate also of cold rolled steel embracing the outer flanges of said plates and bent inwardly to the inner flanges thereof.

3. In a level, a stock or I-beam consisting
45 of a sheet metal web, angular plates applied in pairs to the faces of the web alongside the longitudinal edges thereof, a covering plate for each pair of said angular plates, 50 said covering plates forming the facing plates for the flanges of the I-beam, and means for securing the angular plates to the web.

In testimony, that I claim the foregoing
55 as my own, I have hereto affixed my signature in the presence of two witnesses:

WILLIAM J. NEIDL.

Witnesses:

JULIUS F. PRESCHES,
FLOSSIE K. CHRISTESEN.