

No. 773,284.

PATENTED OCT. 25, 1904.

McCLELLAND FULLENLOVE.

SPIRIT LEVEL.

APPLICATION FILED MAY 28, 1904.

NO MODEL.

Fig. 1.

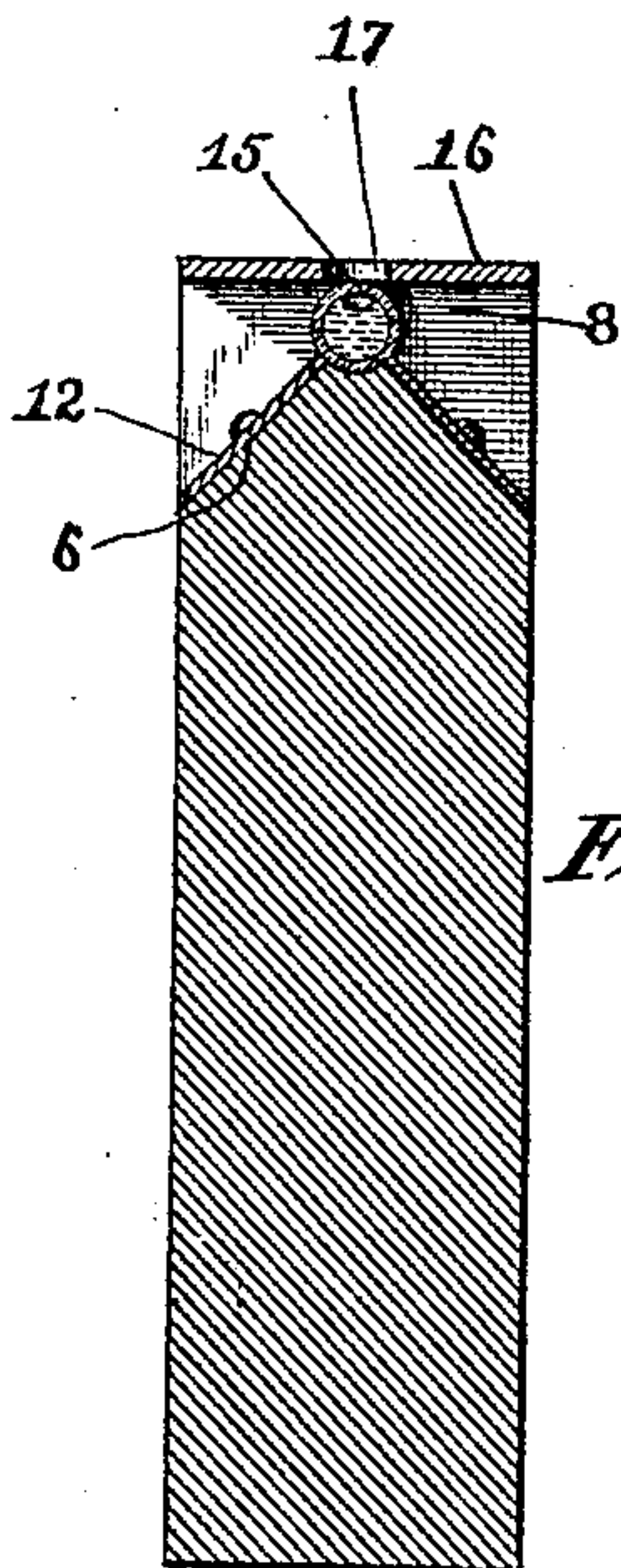
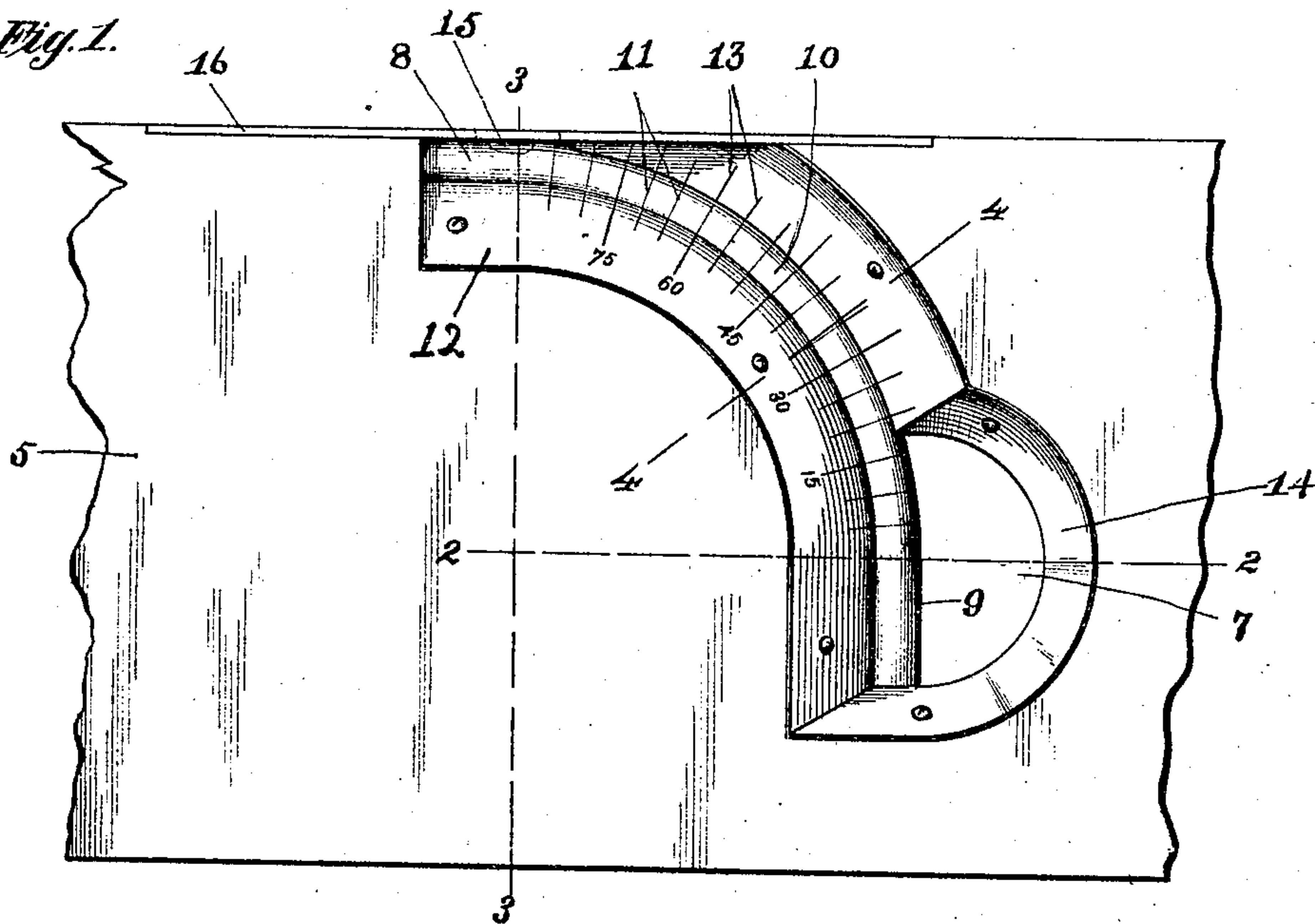


Fig. 3.

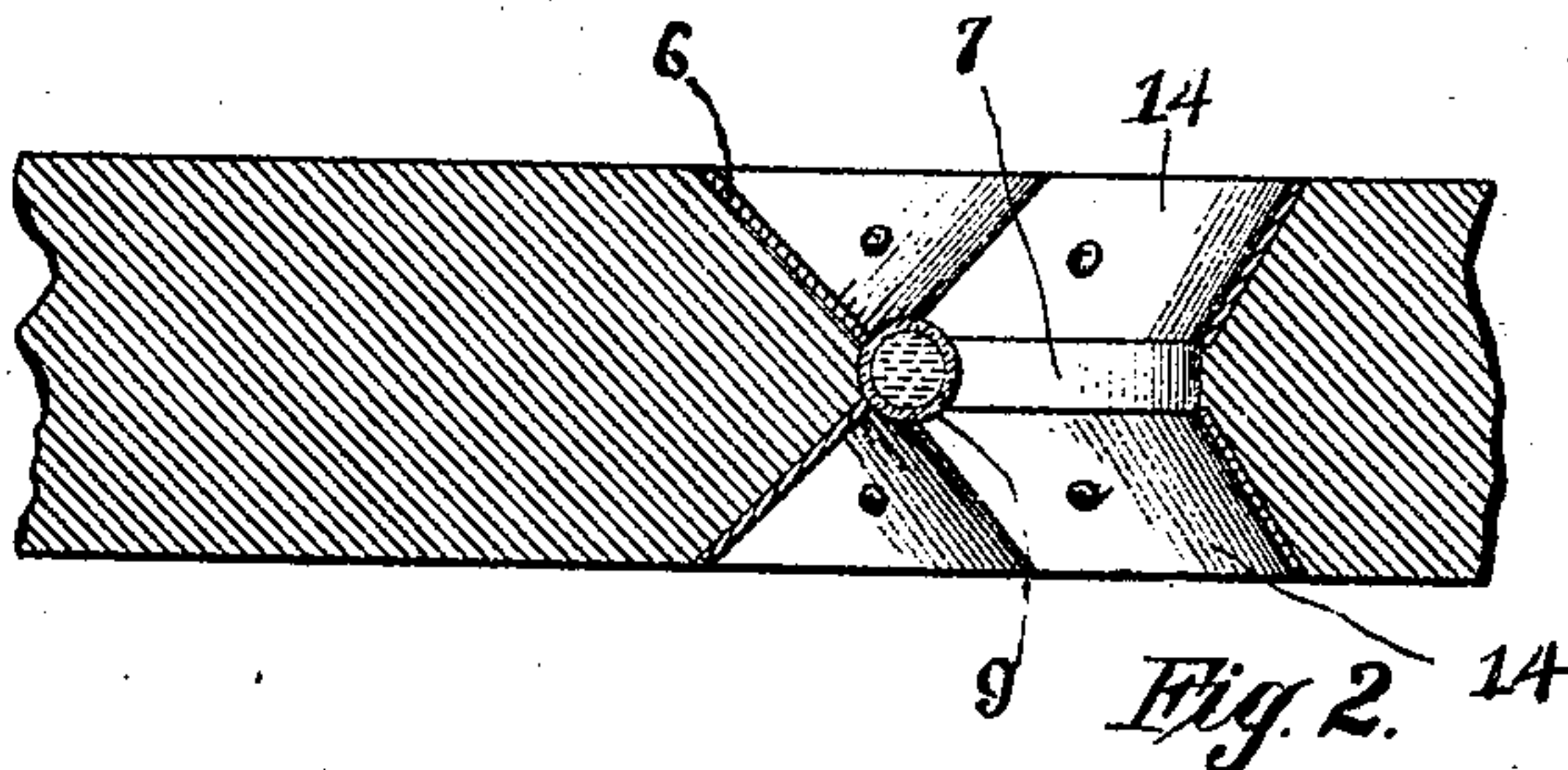


Fig. 2.

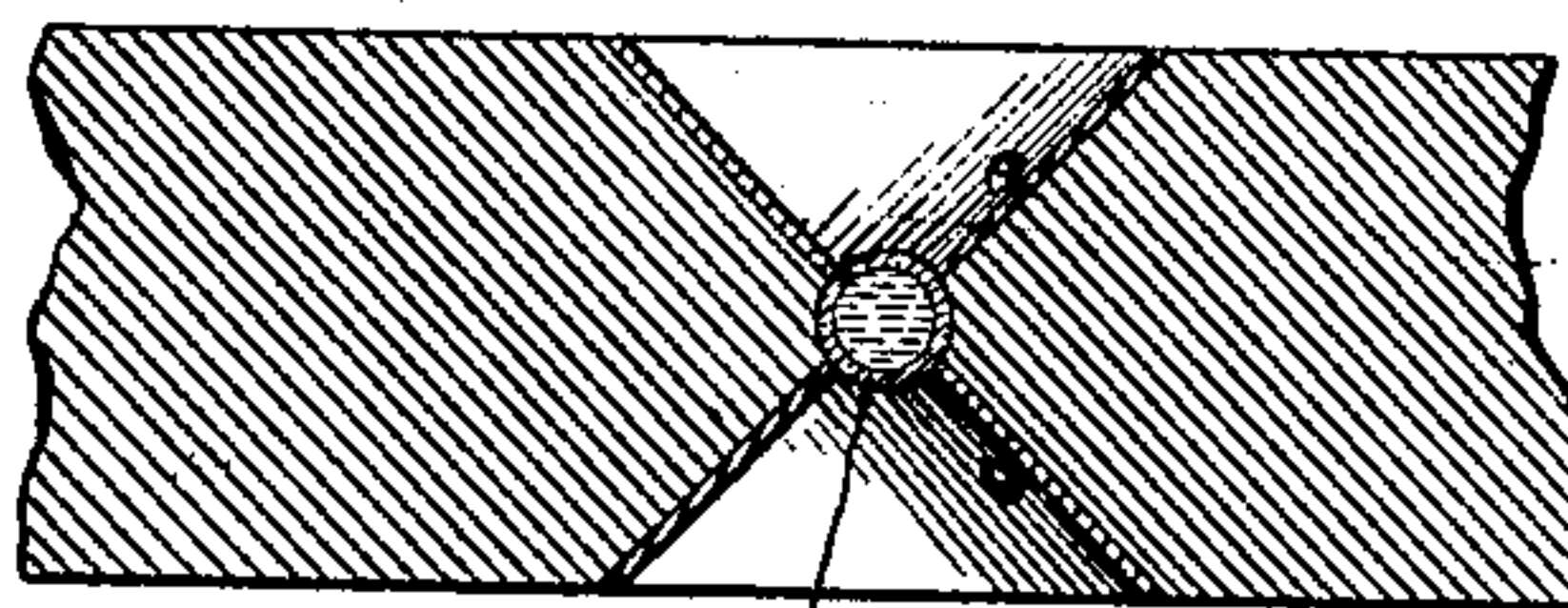


Fig. 4.

WITNESSES:

J. R. Adams
O. Knight, Jr.

INVENTOR

McClelland Fullenlove
BY
Knight Bros
ATTORNEYS

UNITED STATES PATENT OFFICE.

McCLELLAND FULLENLOVE, OF LOUISVILLE, KENTUCKY, ASSIGNOR OF
ONE-HALF TO HORATIO S. FULLENLOVE, OF LOUISVILLE, KENTUCKY.

SPIRIT-LEVEL.

SPECIFICATION forming part of Letters Patent No. 773,284, dated October 25, 1904.

Application filed May 26, 1904. Serial No. 209,937. (No model.)

To all whom it may concern:

Be it known that I, McCLELLAND FULLENLOVE, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Spirit-Levels, of which the following is a specification.

This invention has for its object to provide an improved level with a tube having a longitudinal and a transverse leg, whereby the level serves for horizontal as well as vertical surfaces. These legs are connected by means of a curve or arc, whereby the instrument can be used for determining angular positions of surfaces.

In the drawings, Figure 1 is a side elevation of the level embodying my invention, the level-body being broken away. Fig. 2 is a section on the line 2 2, Fig. 1. Fig. 3 is a section on the line 3 3, Fig. 1; and Fig. 4 is a section on the line 4 4, Fig. 1.

5 represents the body of a level of any approved construction in which is cut an arcuate transverse slot through the side wall substantially the quarter of a circle, the edges of each wall of said slot being beveled, as at 6. One end of the slot is enlarged, as at 7, to provide a sight-space for vertical measurements, while the other end opens at one side edge of the body 5 to provide sight for horizontal measurements.

The spirit-tube comprises a substantially horizontal section 8 and a substantially vertical section 9, connected by means of the curved portion 10. This tube is provided with degree-marks 11, extending throughout its curved portion.

The beveled edges of the walls of the slot in the body of the level are faced with metallic plates 12, said plates being also provided with degree-marks 13, which register with the degree-marks 11 upon the tube. The tube is fitted between and in engagement with opposite side walls of the slot and is embedded

by the metallic plates 12 to the extent of about one-half of its diameter, the edges of the plates resting snugly against the tube, so that the degree lines or marks upon the tube and the plates accurately register. The enlarged portion 7 of the slot is faced with a metallic plate 14.

The bubble is indicated in dotted lines in Fig. 1, as at 15, and may be either an air-bubble or other float. 16 is a face-plate provided with a sight-opening 17 and secured upon the top edge wall of the body 5 over the open end of the slot.

When it is desired to ascertain whether or not a vertical surface is plumb, the level is placed lengthwise upon said surface and the indication will be read in the portion 9 of the tube—that is to say, the bubble or other float will be positioned within that portion of the tube which is located in the enlargement 7. To ascertain the horizontal, the level is laid lengthwise in a horizontal position upon the surface and the level of the surface is indicated by the position of the bubble or other float through the sight-opening 17 in the plate 16. If the level is placed upon a vertical surface and said vertical surface is out of plumb or the perpendicular, the degree is indicated by the position of the bubble or other float by reference to the degree-lines 11 and 13 on the curved or arc portion of the tube 10 and the plates, and by calculation the degree of the surface from the vertical can be accurately ascertained.

It will thus be seen that by my invention I have produced a level wherein by the same instrument the horizontal, the vertical, and the angular positions of surfaces can be readily ascertained by means of a single instrument.

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

In a spirit-level, the combination of the body of the level having an arcuate slot cut

through its side walls, opening at one edge
wall of said body, and having the two edges
of each wall of the slot beveled, an arcuate
spirit-tube fitted in the slot between the two
5 opposite walls, plates secured to the beveled
edges of each wall of the slot and holding the
spirit-tube in position, and a face-plate pro-
vided with a sight-opening and fitted to an

edge wall of the body over the open end of the
slot. 10

The foregoing specification signed this 2d
day of May, 1904.

McCLELLAND FULLENLOVE.

In presence of—

LAWRENCE S. LEOPOLD,
E. K. PLENNEBAKER.