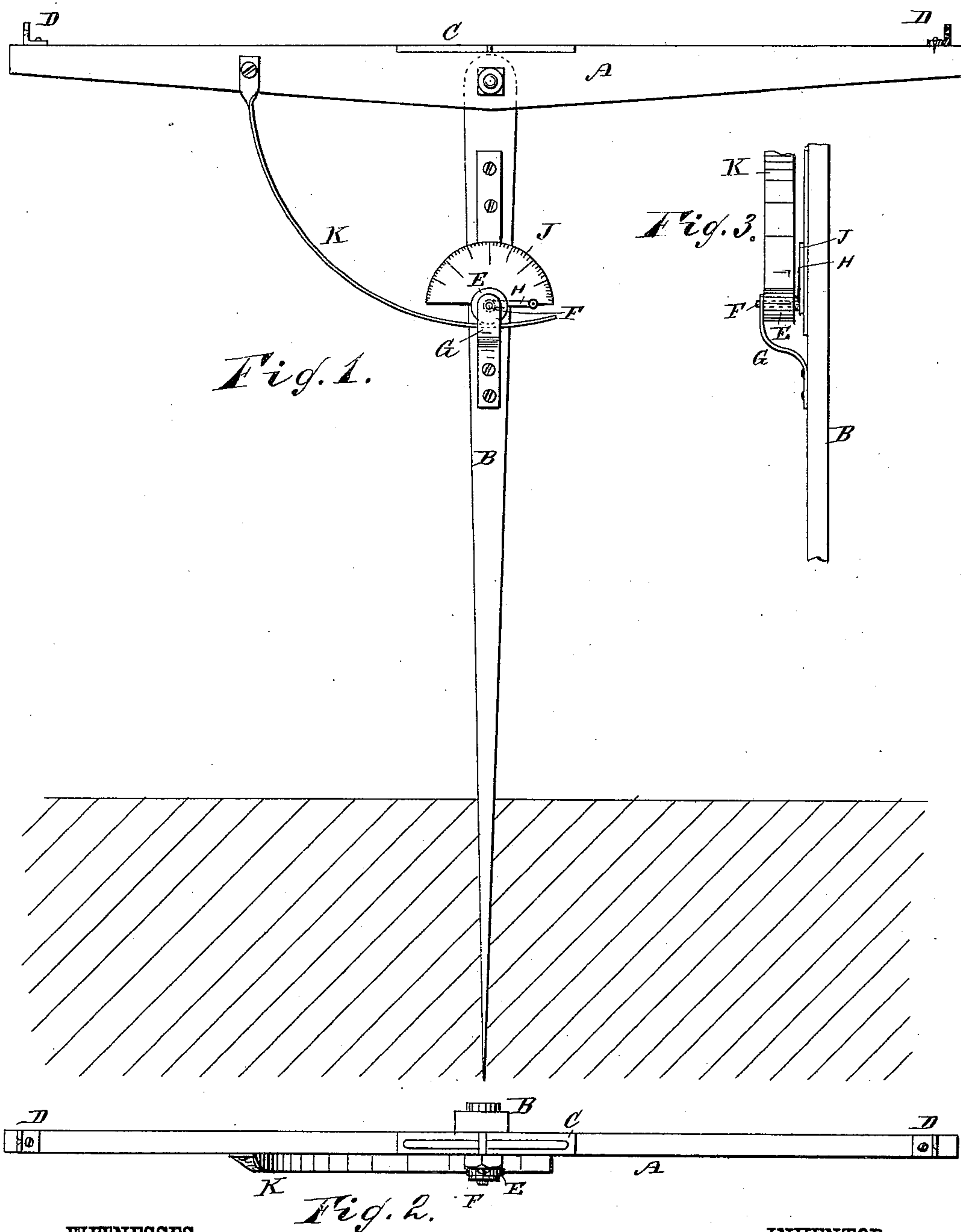


(Model.)

F. PARTEE.
GRADING INSTRUMENT.

No. 262,109.

Patented Aug. 1, 1882.



WITNESSES:

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UNITED STATES PATENT OFFICE.

FRANK PARTEE, OF DEFIANCE, OHIO.

GRADING-INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 262,109, dated August 1, 1882.

Application filed April 28, 1882. (Model.)

To all whom it may concern:

Be it known that I, FRANK PARTEE, of Defiance, in the county of Defiance and State of Ohio, have invented a new and Improved Grading-Instrument, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved instrument for facilitating the taking of grades, &c.

10 The invention consists in a grading-instrument formed of a bar pivoted to the upper end of a stake on which an indicator-dial is attached, in front of which a roller provided with a pointer-hand is journaled, against which roller
15 a quadrant-arm rests which projects from the lower edge of the pivoted bar, whereby when the pivoted bar is tipped or inclined the quadrant-arm rotates the roller and turns the hand which indicates the fall per rod, or furlong, or
20 any other length, inches, or fractions thereof, on the indicator-dial.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

25 Figure 1 is a longitudinal front elevation of my improved grading-instrument. Fig. 2 is a detail longitudinal side elevation of the same. Fig. 3 is a plan view of the same.

30 A bar, A, is centrally pivoted on the upper end of a stake, B, which is pointed at its lower end so that it can be driven into the ground. A spirit-level, C, is fastened in the middle of the upper edge of this bar, and a sight-vane, D, is attached to each end of the upper edge
35 of the bar A. A small roller or cylinder is journaled on a shaft, F, held on the stake B, and in a bracket-arm, G, of the same, on the inner end of which roller a pointer-hand, H, is
40 secured, which hand passes over a semicircular graduated indicator dial-plate, J, secured on the stake. A quadrant-arm, K, secured to the lower edge of the bar A, passes under the roller E and rests against the same, the distance from

the pivot of the bar A to the inner edge of the curved arm K being equal to the distance from this pivot to the lower edge of the roller E.

The stake B is driven into the ground and the bar A is adjusted to be level, and is then tilted or inclined to be parallel with the grade. By this tilting movement of the bar A the curved arm K rotates the roller E and moves the pointer H over the indicator-dial J and indicates the fall or grade per rod in inches and fractions thereof.

This instrument is to be used in ascertaining and determining grades, and will be found to be of great service in view of its accuracy and simplicity, and is of special service in laying tiles.

The quadrant-arm K may be arranged for contact with the roller E either above or below its center.

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

1. In a grading-instrument, the combination, with a pivoted bar, of a quadrant-arm projecting from the lower edge of the same, a dial fixed on the stake, a roller, and a pointer-hand, which curved arm rests against the roller and rotates the same when the pivoted bar is inclined more or less, substantially as herein shown and described, and for the purpose set forth.

2. In a grading-instrument, the combination, with the stake B and the bar A pivoted thereon, of the indicator-dial J, secured on the stake, the journaled roller E, the hand H, the quadrant-arm K, projecting from the lower edge of the bar A, and the sight-vanes D on the ends of the upper edge of the bar B, substantially as herein shown and described, and for the purpose set forth.

FRANK PARTEE.

Witnesses:

JNO. STORCK, Jr.,
FRANK C. CULLEY.