No. 811,739. PATENTED FEB. 6, 1906.

D. W. PELFREY & W. S. BIDDLE.

GRADE LEVEL.

APPLICATION FILED NOV. 16, 1905.

Fig. 1.

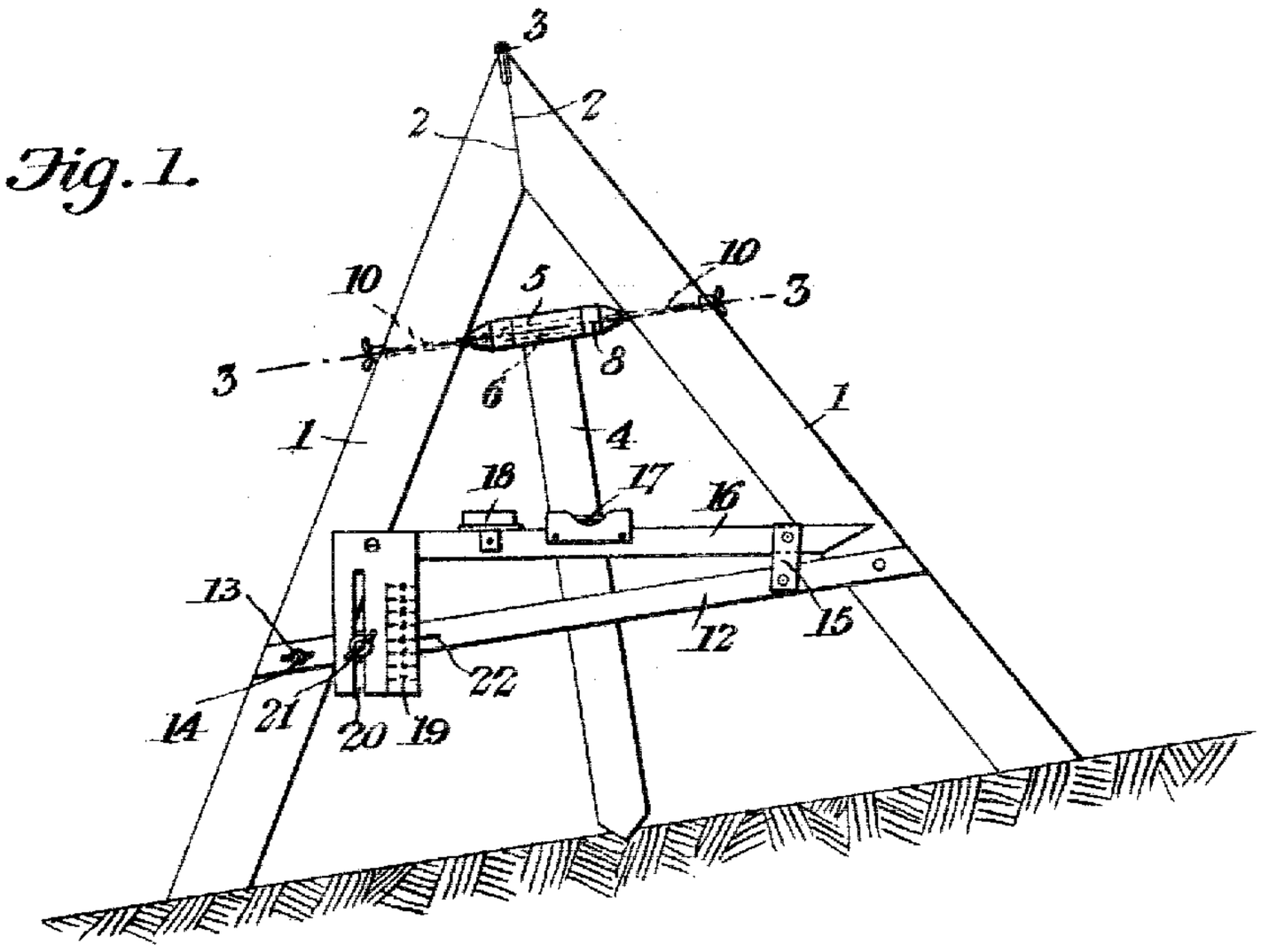

Fig. 2.

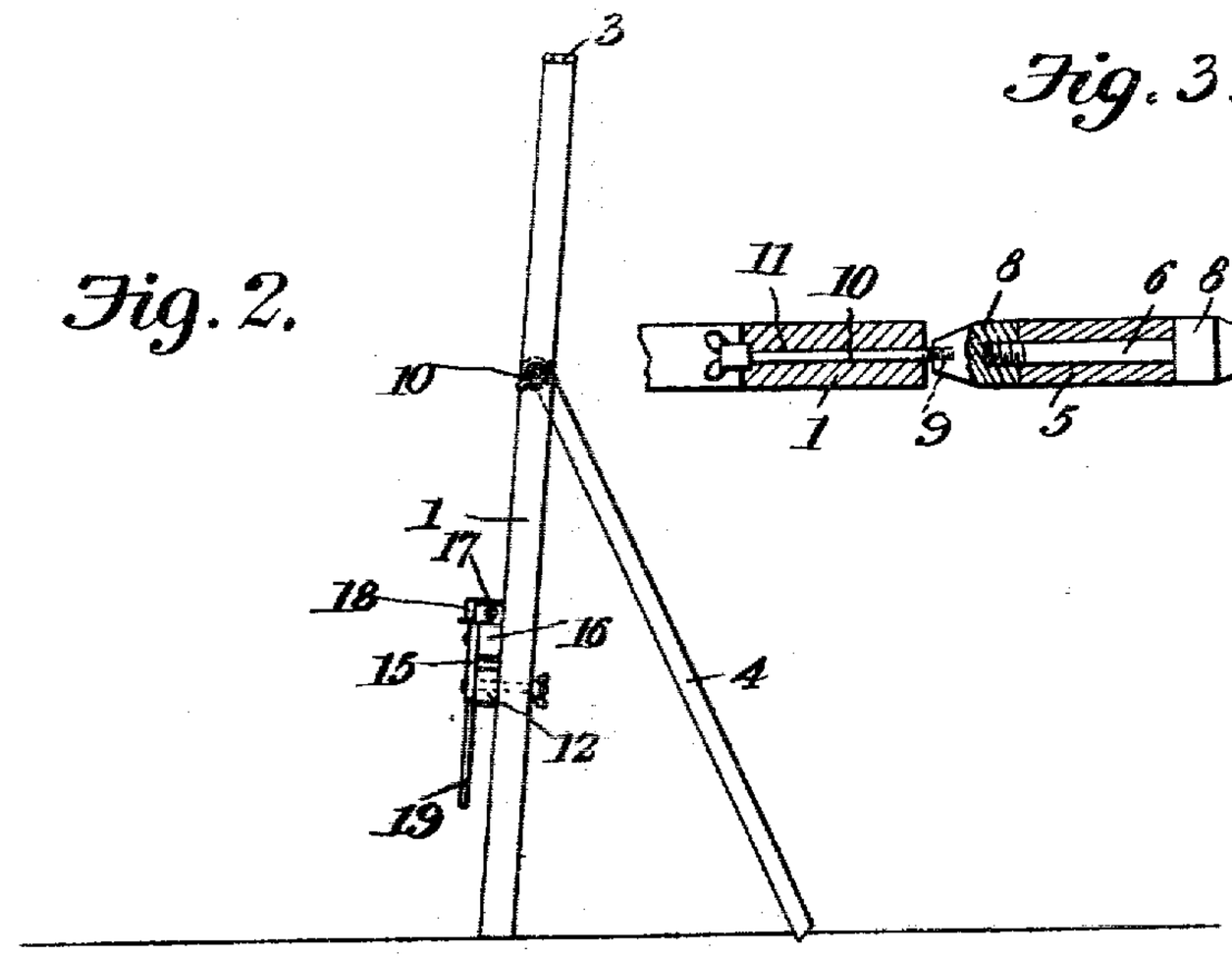

Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

DAVID W. PELFREY AND WILLIAM S. BIDDLE, OF HALEYVILLE, ALABAMA.

GRADE-LEVEL.

No. 811,739. Specification of Letters Patent. Patented Feb. 6, 1906.

Application filed November 16, 1905. Serial No. 287,715.

To all whom it may concern:

Be it known that we, DAVID W. PELFREY and WILLIAM S. BIDDLE, citizens of the United States, residing at Haleyville, in the county of Winston and State of Alabama, have invented a new and useful Grade-Level, of which the following is a specification.

This invention relates to grade-levels; and it has for its objects to simplify and improve the construction and operation of this class of devices and to present an article which may be conveniently folded in small compass for transportation.

With these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that the right is reserved to any changes, alterations, and modifications to which recourse may be had within the scope of the invention and without departing from the spirit or sacrificing the efficiency of the same.

In the drawings, Figure 1 is a front elevation of a grade-level constructed in accordance with the principles of the invention. Fig. 2 is a side elevation of the same. Fig. 3 is a sectional detail view taken on the plane indicated by the line 3 3 in Fig. 1.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

The frame of the improved grade-level is composed of two bars 1 1, having oblique ends 2 2 and connected by means of a hinge 3 at the point thereof, so as to be capable of being folded closely together for storage or transportation, while by adjusting the side members to the position shown in Fig. 1, with their oblique ends abutting upon one another, they will form an inverted V, which constitutes a part of the supporting means of the device. A third supporting member or leg 4 is formed by a bar having a tubular head 5, through which extends a bolt 6, serving to connect a pair of blocks 8 8, having tapering ends provided with recesses 9, that are interiorly threaded for the reception of bolts 10, which extend through apertures 11 in the supporting members 1 1. By tightening the bolts 10 it will be seen that the side members 1 1 will be drawn toward each other and toward the intermediate leg or supporting member 4, which latter is capable of swinging freely upon the bolt 6, thus enabling the frame to be adjusted in the manner of a tripod.

Pivotally connected with one of the supporting members 1 is a brace-bar 12, which is also adjustably connected with the opposite member 1 by means of a bolt 13, having a thumb-nut 14. The brace-bar 12 has a bracket member 15, with which is pivotally connected the level-bar 16, carrying a spirit-level 17 and a compass 18 of ordinary construction. The free end of the level-bar 16 also carries an index-plate 19, having a slot 20, adjustably engaging a fastening member 21 upon the brace-bar 12. The latter is also preferably provided with a pointer 22 to enable the position of the index-plate to be correctly ascertained.

The operation of this device will be readily understood. After the frame has been adjusted in position upon the sloping surface of the ground the level-bar is adjusted until it is in a true horizontal position, when the position of the index will indicate the deviation of the grade or slope from the horizontal.

Having thus described the invention, what is claimed is—

1. In a grade-level, a frame including legs or side members having oblique hingedly-connected ends, a third leg having a tubular head, a pivot for said head including a bolt and a pair of end members connected thereby, and tightening-bolts extending through apertures in the side members of the frame and engaging threaded recesses in the ends of the pivot member.

2. In a grade-level, a frame including a pair of side members and a third pivotally-supported member, and pivotal supporting means for said third member including means whereby the side members of the frame are drawn toward each other and toward said third member.

3. In a grade-level, a frame including side members, a brace connected pivotally with one of said side members and detachably with the other, a bracket upon said brace, a bar pivotally connected with the bracket and carrying a level, and an index-plate connected with the level-carrying bar and having a slot engaging a fastening member upon the brace-bar.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

DAVID W. PELFREY.
WILLIAM S. BIDDLE.

Witnesses:
C. L. HALEY,
A. C. DREWREY.