Oct. 23, 1962 S. R. HAMMACK 3,059,732

TURNING POINT AND PRELIMINARY SURVEY PIN

Filed March 17, 1961

FIG. 3.

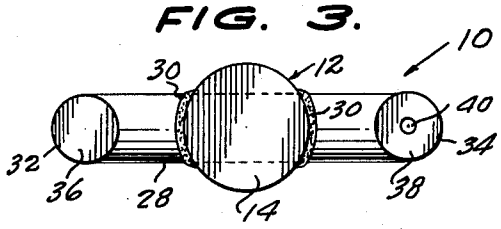


FIG. 2.

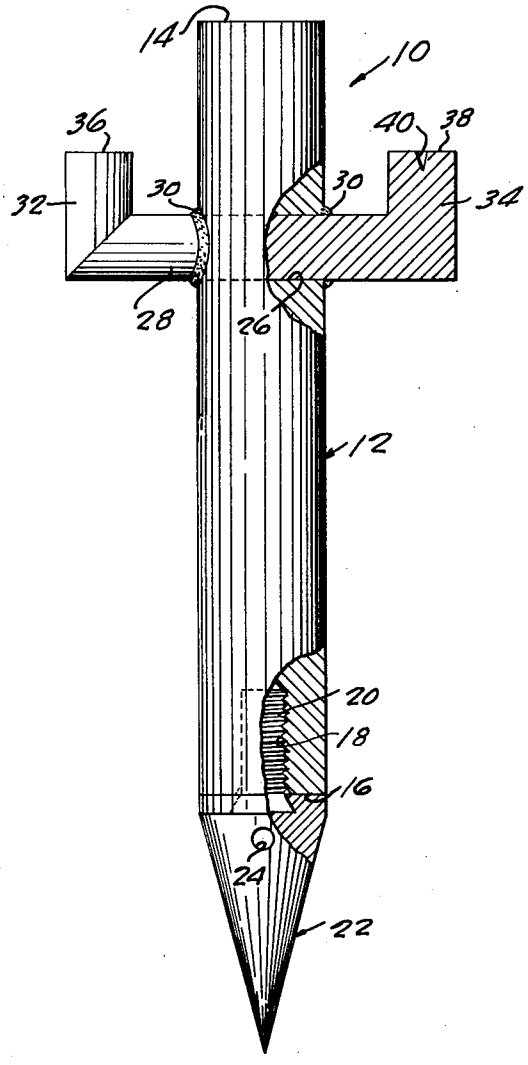
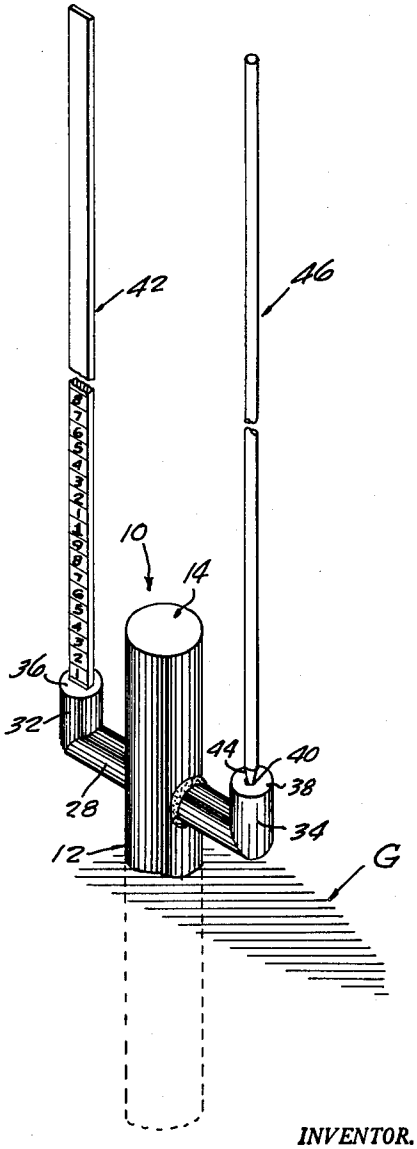


FIG. 1.



INVENTOR.
SELDON R. HAMMACK,
BY

McMorrow, Berman + Davidson
ATTORNEYS.

United States Patent Office 3,059,732 Patented Oct. 23, 1962

3,059,732

TURNING POINT AND PRELIMINARY SURVEY PIN

Seldon R. Hammack, 47 Mitchell Hill Drive, Madisonville, Ky.; Theda Ward Hammack, executrix, of said Seldon R. Hammack, deceased

Filed Mar. 17, 1961, Ser. No. 96,534
4 Claims. (Cl. 189—21.3)

This invention relates to a novel turning point and preliminary survey pin.

The primary object of the invention is to provide a simple, efficient, and durable device of this kind which provides, in a single unit, means for use in association with an elevation rod and a vertical range pole, for running turning points for elevation, and running preliminary surveys, to determine final location of a survey line, at one setting of the pin, or pins.

Another object of the invention is to provide a more rugged device of the character indicated above which has arms, for supporting an elevation rod and a range pole, which are located below the upper end of the pin, so that the arms are harmlessly out of reach of a hammer applied to the upper end of the pin for driving the same into the ground; and which has a removable hardened ground-entering point on the lower end of the pin, which is readily replaceable when worn or broken, so that replacement of the entire device is unnecessary due to such causes.

Other important objects and advantageous features of the invention will be apparent from the following description and the accompanying drawings, wherein, for purposes of illustration only, a specific form of the invention is set forth in detail.

In the drawings:

FIGURE 1 is a schematic perspective view, showing a device of the invention set in the ground, with an elevation rod and a range pole severally supported thereon;

FIGURE 2 is an enlarged side elevation of the device per se, portions thereof being broken away and in section; and

FIGURE 3 is a top plan view of FIGURE 2.

Referring in detail to the drawings, wherein like numerals designate like parts throughout the several views, the illustrated device, generally designated **10**, comprises a preferably round and solid pin element **12**, having a flat upper end **14**, and a substantially flat lower end **16** in which is provided an axial threaded socket **18** to removably receive a threaded axial stud **20** fixed on the upper end of a removable, inverted conical ground entering point **22**, which is preferably of hardened steel, and can be readily replaced when desirable. The point **22** has therethrough a transverse bore **24** to accept a turning implement, used for tightening and loosening the point relative to the pin element **12**.

Extending normally and diametrically through the upper part of the pin element **12**, at a point near to and spaced downwardly from the upper end **14**, is a bore **26** through which is engaged a horizontal, preferably round cross bar **28**, which is fixed in place, as by weldings **30, 30** with its ends equally spaced from opposite sides of the pin element **12**. Upstanding on the outer ends of the bar **28** are fixed arms **32** and **34**, respectively, which are similar, except for an unindented flat upper end **36** on the arm **32**, and a flat upper end **38** on the arm **34** which is provided centrally with a tapered hole **40**, for purposes hereinafter detailed. The arms **32** and **34** extend at right angles to the bar **28**, and are parallel to and equally spaced from related sides of the pin element **12**. Further, the upper ends of the arms **32** and **34** are spaced

downwardly from the upper end **14** of the pin element **12**, so as to be out of the normal sphere of action of a hammer (not shown) when applied to the upper end **14** for driving the device into the ground.

The pin element **12** and the bar **28** and arms **32, 34** are preferably of iron, and preferred dimensions thereof, given here in a non-limiting sense, are one by six inches for the pin element **12**, one-half inch for the bar **28** and arms **32, 34**, and a setting of the bar **28** at a point about one inch below the upper end **14** of the pin element **12**, with the arms **32** and **34** spaced about one inch from the sides of the pin element, the overall length of the device, including the point **22** being about eight inches.

As indicated in FIGURE 1, the device **10** is used by driving the pin element **12** into the ground G, to the desired depth, and in a level or perpendicular position. Thereupon, the lower end of a conventional elevation rod **42**, and the pointed lower end **44** of a conventional range pole **46**, are supportably engaged with the upper ends of the arms **32, 34**, respectively, the range pole point **44** being seated in the tapered hole **40** in the upper end of the arm **34**, so that the elevation rod **42** and the range pole **46** are perpendicular and parallel to each other, and a surveying crew can then readily run, at the same time, if desired, turning points for elevations, and preliminary survey.

In order to render the arms **32, 34** distinctly visible and readily distinguishable at a distance, they are given, in suitable manner, different colorations or surfacings, and the pin element **12** is given a still different coloration or surfacing.

Although there has been shown and described herein a preferred form of the invention, it is to be understood that the invention is not necessarily confined thereto, and that any change or changes in the structure of and in the relative arrangements of components thereof are contemplated as being within the scope of the invention as defined by the claims appended hereto.

What is claimed is:

1. A surveyor's pin for simultaneously running turning points for elevations and preliminary surveys, comprising a vertically elongated pin element having a flat upper end and a lower end, a ground-entering point in said lower end, a cross bar having portions reaching laterally outwardly from opposite sides of said pin element at a location near to and spaced downwardly from said upper end, first and second arms fixed on and rising severally from said cross bar portions, said arms being parallel spaced from related sides of the pin element and positioned with their axes in a diametrical plane of the pin element, said arms having flat upper ends spaced downwardly from the upper end of the pin element and located in the same level horizontal plane, the upper end of said first arm serving as a support for the lower end of a vertical elevation rod, and the upper end of said second arm having a centered hole therein for supportably receiving the pointed lower end of a vertical range pole.

2. A surveyor's pin for simultaneously running turning points for elevations and preliminary surveys, comprising a vertically elongated pin element having a flat upper end and a lower end, a ground-entering point on said lower end, a cross bar having portions reaching laterally outwardly from opposite sides of said pin element at a location near to and spaced downwardly from said upper end, first and second arms fixed on and rising severally from said cross bar portions, said arms being parallel spaced from related sides of the pin element and positioned with their axes in a diametrical plane of the pin element, said arms having flat upper ends spaced downwardly from the upper end of the pin element and located in the same level horizontal plane, the upper end of said

first arm serving as a support for the lower end of a vertical elevation rod, and the upper end of said second arm having a centered hole therein for supportably receiving the pointed lower end of a vertical range pole, the lower end of the pin element having a threaded axial socket therein, and said ground-entering point comprising an inverted cone having a threaded axial stud on its upper end removably engaged in the socket.

3. A surveyor's pin comprising a vertically elongated pin element having a ground-entering pin on its lower end and having a striking upper end, a cross bar extending through said pin element at a point near said upper end, upstanding arms on the outer ends of the cross bar and spaced from related sides of the pin element, said arms having flat upper ends.

4. A surveyor's pin comprising a vertically elongated pin element having a ground-entering pin on its lower end and having a striking upper end, a cross bar extending through said pin element at a point near said upper end, upstanding arms on the outer ends of the cross bar and spaced from related sides of the pin element, said arms having flat upper ends spaced downwardly from the upper end of the pin element.

References Cited in the file of this patent

UNITED STATES PATENTS

1,173,036	Robidoux	Feb. 22, 1916
1,258,040	Peaslee	Mar. 5, 1918
2,981,000	Long	Apr. 25, 1961