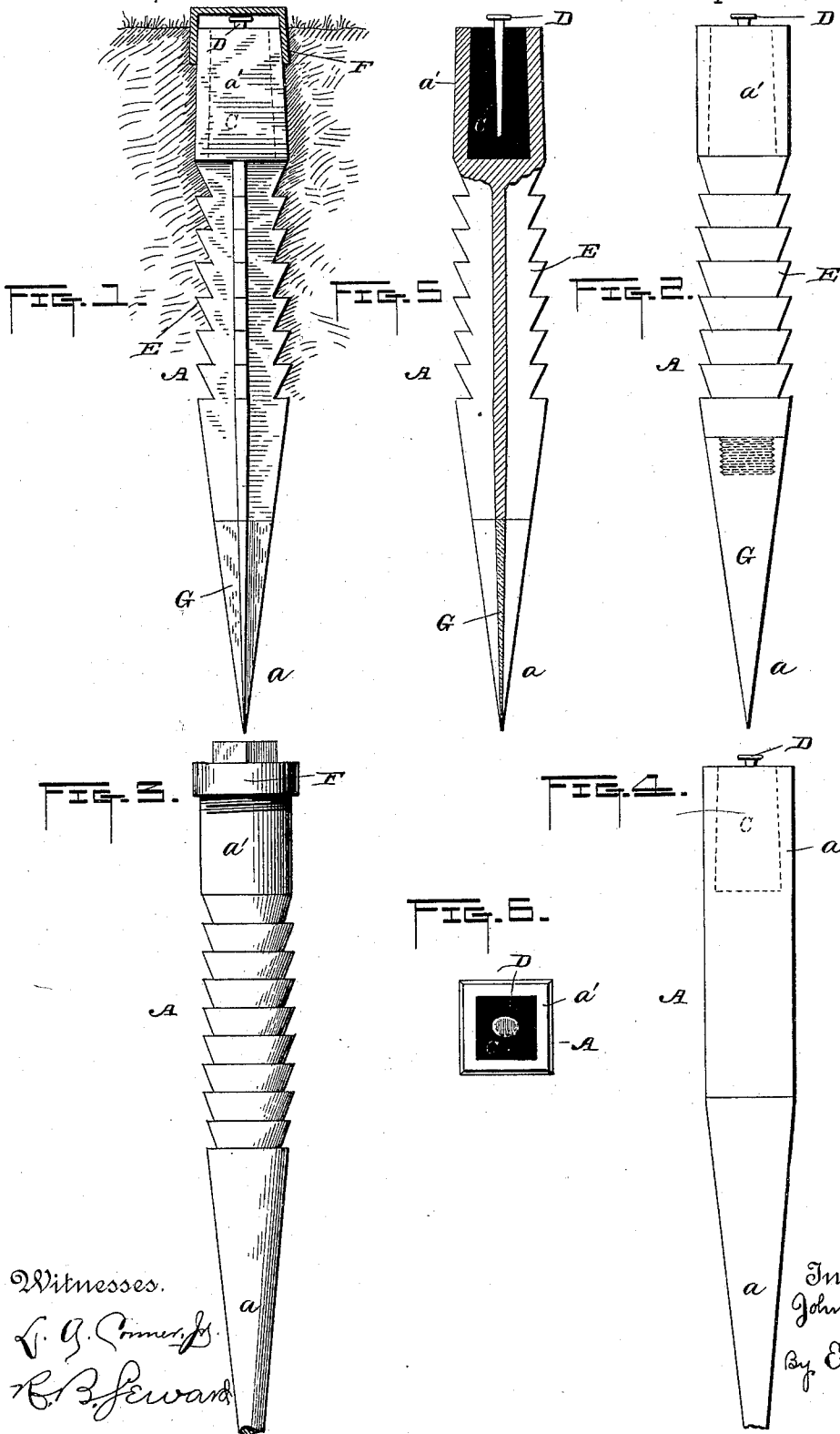


(No Model.)

J. H. HOWLETT.
SURVEYOR'S CORNER STAKE.

No. 401,782.

Patented Apr. 23, 1889.



Witnesses.

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JOHN H. HOWLETT, OF WASHINGTON, DISTRICT OF COLUMBIA.

SURVEYOR'S CORNER-STAKE.

SPECIFICATION forming part of Letters Patent No. 401,782, dated April 23, 1889.

Application filed January 14, 1888. Serial No. 260,715. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. HOWLETT, of Washington, in the District of Columbia, have invented certain new and useful Improvements in Surveyors' Corner-Stakes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in surveyors' corner-stakes.

Hitherto in laying out town-lots, roads, sewers, &c., it has been the custom for surveyors to employ wooden stakes or pins provided with substantially flat heads to mark the angles or directions of the lines. These stakes or pins have been driven with their longitudinal axes as nearly as possible, without an undue waste of time, in line with the point denoting the angle, or with points on the line being run, and the point has then been located with greater exactness by driving a nail into the head of the stake at the proper point, which, because of the displacement of the stake in driving, may vary an inch, more or less, from the center of the head of the stake. The objection has been that the wooden stakes or pins have been liable to decay, and the positions of boundaries have repeatedly become unintelligible, necessitating a resurvey, with, in many instances, expensive litigation.

The object of my present invention is to provide a stake or pin which shall be practically indestructible, and which shall admit at the same time of having a nail driven into its head to locate the exact point.

A further object is to provide a stake of the above character which cannot be easily withdrawn after being driven, and which shall be quite inexpensive.

With these ends in view my invention consists in certain features of construction and combinations of parts, as will be herein-after described, and pointed out in the claims.

In the accompanying drawings, Figures 1, 2, 3, and 4 represent some of the numerous practical forms of stakes embodying my invention. Fig. 5 is a vertical central section through Fig. 1, and Fig. 6 is a top plan view of the same.

A represents the body of the stake or pin, having its lower end sharpened, as shown at *a*. Its upper end or head, *a'*, is preferably flat on top, and is provided with a recess, B, filled with some imperishable material, C, which will admit of a nail, D, being driven therein, and which will retain the nail against accidental displacement.

The body of the stake is preferably composed of iron and the filling of lead, as these metals are quite inexpensive and may be conveniently manipulated to form the stake. For example, the body of the stake may be cast and the recess then filled with melted lead.

The shape of the head of the stake in cross-section may be square, circular, polygonal, or other approved shape, and the body portion may be formed T or X shape in cross-section, or may be square, circular, polygonal, or other desired shape.

For the purpose of economizing material and making the stakes as light as may be consistent with the desired strength, I prefer to make it of the general X shape, as shown in Fig. 1, and to provide it with a square head. I also find it advantageous to provide the sides of the stakes with under-cuts, transverse grooves, or corrugations E, which will tend to retain the stake in the ground, and will not materially interfere with driving it. To guard against any possible displacement of the soft-metal filling, the recess in the head may be made a trifle larger at the base than at the top.

The stake may be made of any dimensions to suit the purposes for which it is intended. In general, for the marking of town or city lots, it is found convenient to make it about eighteen inches long and its head about one and one-half inch in diameter and the filling about one inch in diameter.

To further provide against any waste of the stake by rust when made of iron, it may be galvanized. This will add but a trifle to the expense, and will be found advantageous when the soil is very damp.

The stake, where employed to mark the corners of public squares, may be advantageously provided with a cap, F, to protect the nail and filling from mutilation. Where the

stake is round, the cap may be screwed on, as shown in Fig. 3.

The stake, when required to be driven in very hard or stony ground, may be steel-pointed, as shown at G, Fig. 1.

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

1. A surveyor's stake consisting of a metallic body provided with a head filled with an imperishable substance adapted to receive and retain a nail at any point within its limits, substantially as set forth.

2. A surveyor's stake consisting of a metallic body provided with a head filled with soft metal exposed on its upper surface to receive and retain a nail, substantially as set forth.

3. A surveyor's stake consisting of a metallic body provided with exterior longitudinal grooves, and further provided with a head filled with soft metal exposed at its upper surface to receive and retain a nail, substantially as set forth.

4. A surveyor's stake consisting of a metallic body provided with peripheral grooves extending laterally thereto and having a head filled with an imperishable substance adapted to receive and retain a nail at any point within its limits, substantially as set forth.

5. A surveyor's stake consisting of a metallic body provided with exterior longitudinal grooves and provided with laterally-extending grooves and having a head filled with soft metal to receive and retain a nail, substantially as set forth.

6. A surveyor's stake having a filled head, the filling in the head being larger at the base than at the top and exposed at the top to receive and retain a nail, substantially as set forth.

7. A surveyor's stake provided with a head filled with an imperishable substance to receive a nail, in combination with a cap to protect the filling and nail in the head, substantially as set forth.

8. A surveyor's stake consisting of a metallic body provided with a steel point and having a head filled with soft metal, the soft-metal filling being exposed to receive and retain a nail, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOHN H. HOWLETT.

Witnesses:

E. C. SEWARD,

GEO. H. PARMELEE.