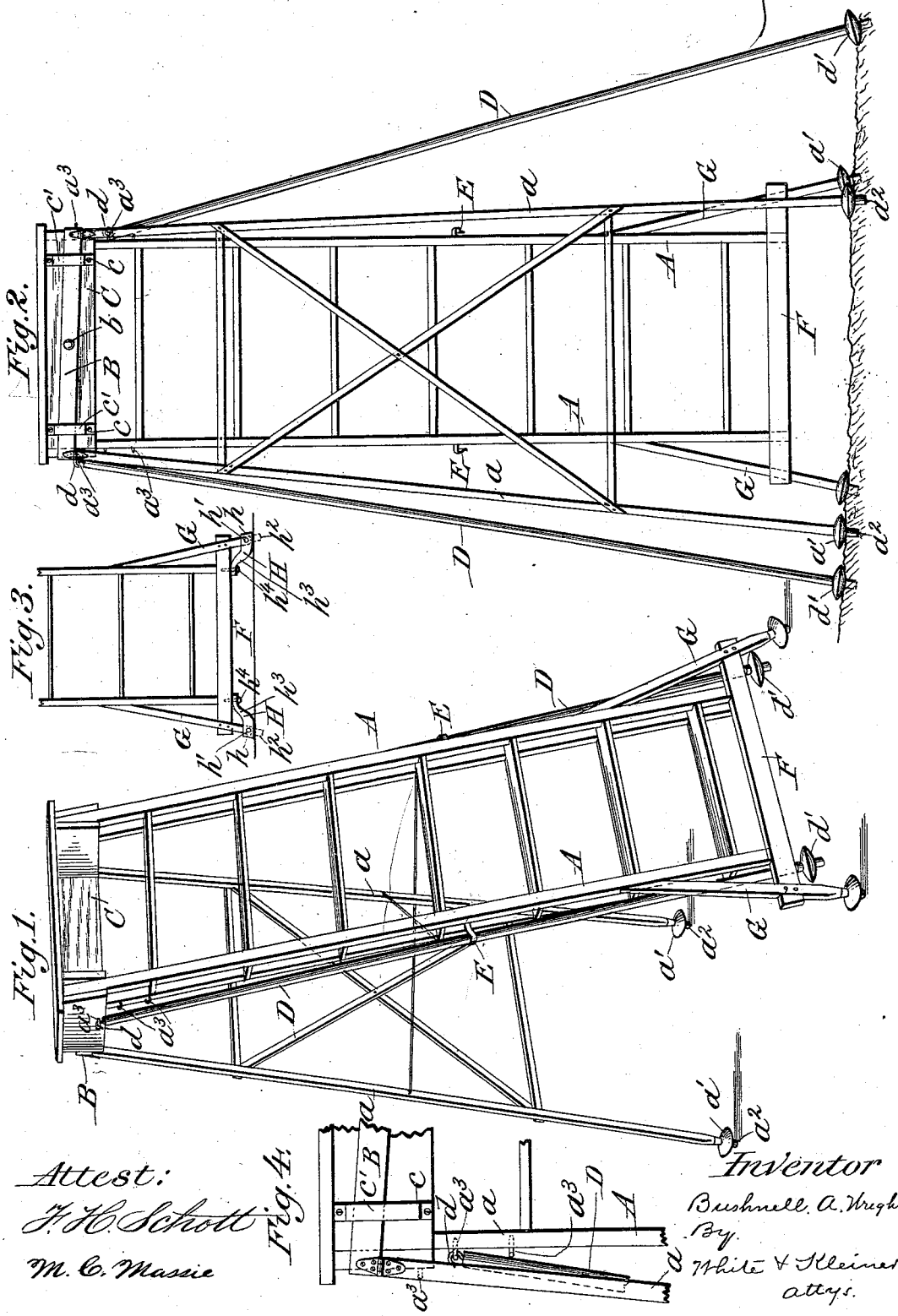
(No Model.)

B. A. WRIGHT.

STEP LADDER.

No. 522,444. Patented July 3, 1894.



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BUSHNELL A. WRIGHT, OF SAN JACINTO, CALIFORNIA.

STEP-LADDER.

SPECIFICATION forming part of Letters Patent No. 522,444, dated July 3, 1894.

Application filed February 28, 1894. Serial No. 501,868. (No model.)

To all whom it may concern:

Be it known that I, BUSHNELL A. WRIGHT, a citizen of the United States, residing at San Jacinto, in the county of Riverside and State of California, have invented certain new and useful Improvements in Step-Ladders; 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 improvements in step ladders.

The object of my invention is to produce a step ladder which may be used on rough or hill-side ground, without danger of tipping sidewise, and which may be readily and firmly braced against lateral movement.

Another object of my invention is to prevent the legs of the ladder from sinking too deeply into the ground, where the same is of a yielding, sandy or spongy character.

With these objects in view, my invention consists in such features, details and combinations of parts, as will first be described in connection with the accompanying drawings, and then particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a ladder embodying my invention, the guy-poles being in their folded or closed position. Fig. 2 is a rear elevation of the same, showing the guy-poles in their open or extended position. Fig. 3 is a detail view. Fig. 4 is a detail view, on an enlarged scale, illustrating the manner of attaching the legs.

Referring to the drawings, A is a ladder preferably of the same width at the top as it is at the bottom, in order that a person, in using the ladder, will have plenty of room in which to stand, when at the top of the ladder.

The ladder has the usual legs, *a*, which, however, instead of being hinged directly to the ladder, are hinged to a pivot-board, B, pivoted centrally by a bolt, *b*, secured in a back-board, C, fixed to the back of the ladder, a pair of guide-irons, *c*, being secured to the back-board, one at each end of the pivot-board, the central portion, *c'*, of these guide-irons being larger than the width of the pivot-board, in order that the latter may play up and down in the guide-irons, thereby permitting the legs to adjust themselves to uneven ground, each leg being provided with a preferably lenticular or disk-shaped shoe, *a'*, preferably of metal, and having a spud or point, a^2, below the shoe to prevent the leg from slipping, the disk serving to keep the leg from sinking into the ground.

To each side of the ladder is attached a guy-pole, D, each pole having a hook, *d*, in its upper end, which may be inserted into any one of a series of staples or eyes, a^3, secured to its respective side of the ladder. The lower end of each guy-pole is provided with a shoe, *d'*, similar to those on the legs of the ladder, and for a similar purpose.

To hold the guy-poles to the sides of the ladder, when in their closed position, a pair of spring-hooks, E, are provided, one attached to each side of the ladder, each having its inner end loose, so that the guy-poles may be placed between the loose ends of their respective spring-hooks and the sides of the ladder. By means of the series of eyes or staples, a^3, the guy-poles may be set at different angles, when the ladder is on sloping ground.

To the bottom of the ladder proper is secured a cross-rail, F, which is extended a short distance on each side and has its ends attached to side-braces, G, which are fixed to the ladder near the second step and slope downward, as shown, the lower ends of the side-braces being provided with shoes. These shoes may be made similar to those, *a'*, on the legs of the ladder, as shown in Figs. 1 and 2, or they may be of the form shown in Fig. 3, wherein the shoes, H, serve the purpose of the disks previously described, and also act as corner irons or braces, to strengthen the connection between the cross-rail, F, and the side braces, G. In this construction, each shoe has a socket portion, *h*, into which the end of the side-brace, G, enters, and is attached to said side-brace by a bolt, *h'*. The shoe also has a downward-extending spur, h^2, which enters the ground and prevents the ladder from slipping, while the other end of the shoe extends upward and is provided with a lug, h^3, which is secured to the under side of the cross-rail, F, by a screw or bolt, h^4.

It will be seen that, by my construction, the

ladder may be placed on hill-side ground, as shown in Fig. 2, and still not be in danger of upsetting. Moreover, the various shoes will prevent the ladder from sinking into soft earth.

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

1. A shoe for ladders, consisting of a disk rounded on its lower surface and provided with a point, the latter being arranged to enter the ground, and the former to rest on the surface of the ground, substantially as set forth.

2. The combination, with a ladder, of a back-board secured to the ladder, a pivot-board, a bolt passing through the pivot-board and securing it to the ladder, a pair of legs hinged to the pivot-board, and a pair of guide-irons secured to the back-board over the ends of the pivot-board, substantially as set forth.

3. The combination, with a ladder, of a cross-rail secured to the bottom of the ladder, a side-brace attached to each side of the ladder and to each end of the cross-rail, and a shoe on the lower end of each side-brace, substantially as set forth.

4. The combination, with a ladder, of a cross-rail secured to the bottom of the ladder, a side-brace attached to each side of the ladder and to each end of the cross-rail, and a shoe for each side-brace, each shoe having a socket into which the lower end of the side-brace enters, a downward-projecting spur, and an upward-extending end bolted to the cross-rail, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

BUSHNELL A. WRIGHT.

Witnesses:
WM. VAWTER,
JNO. C. DALY.