

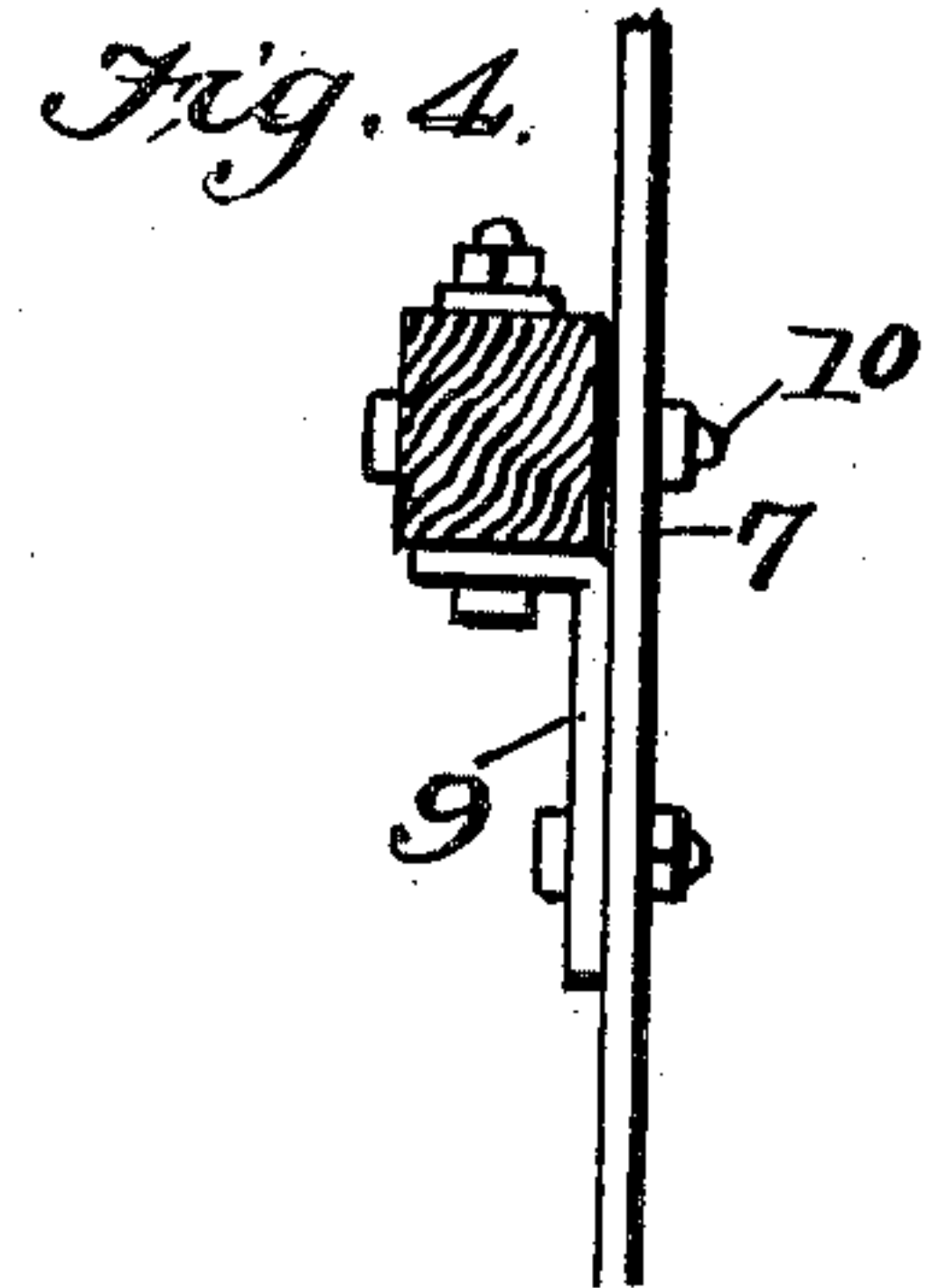
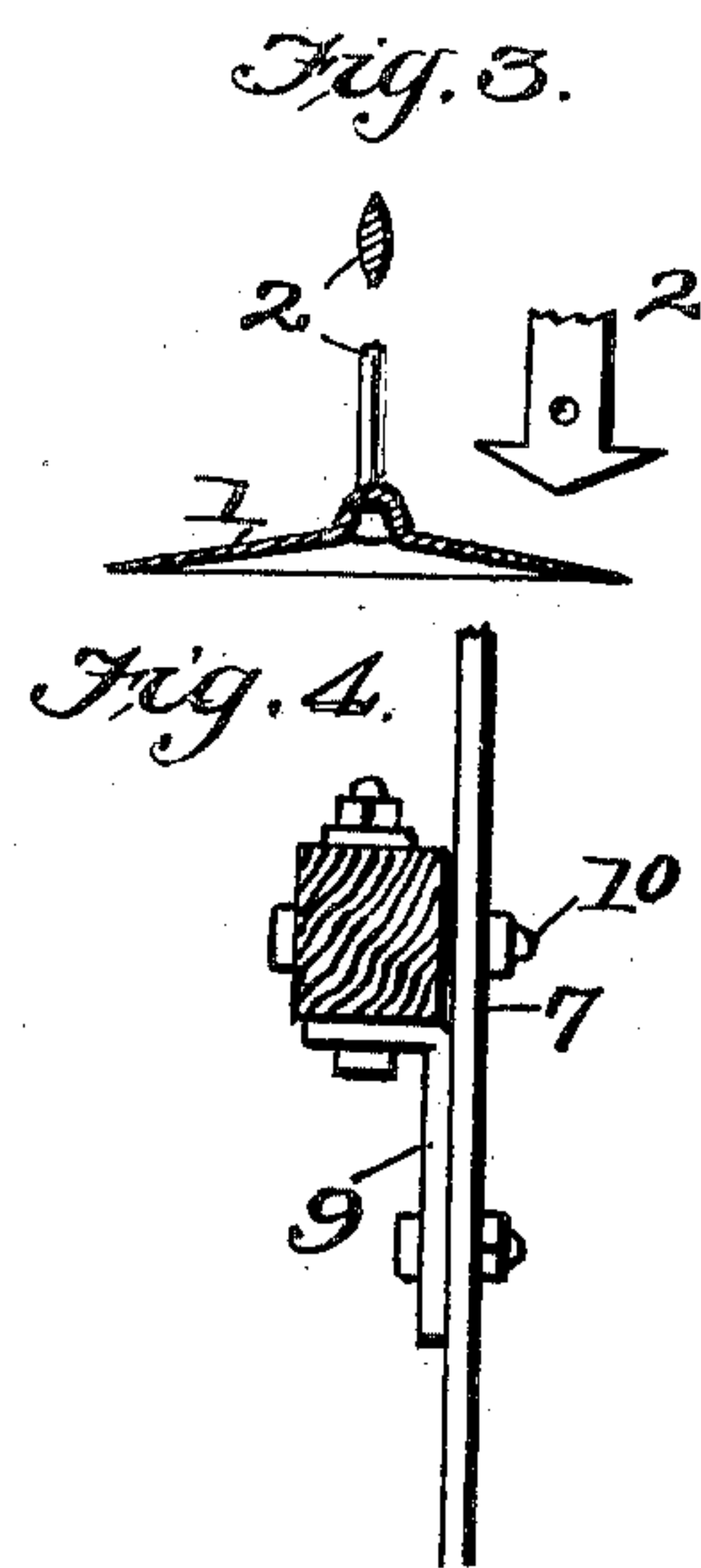
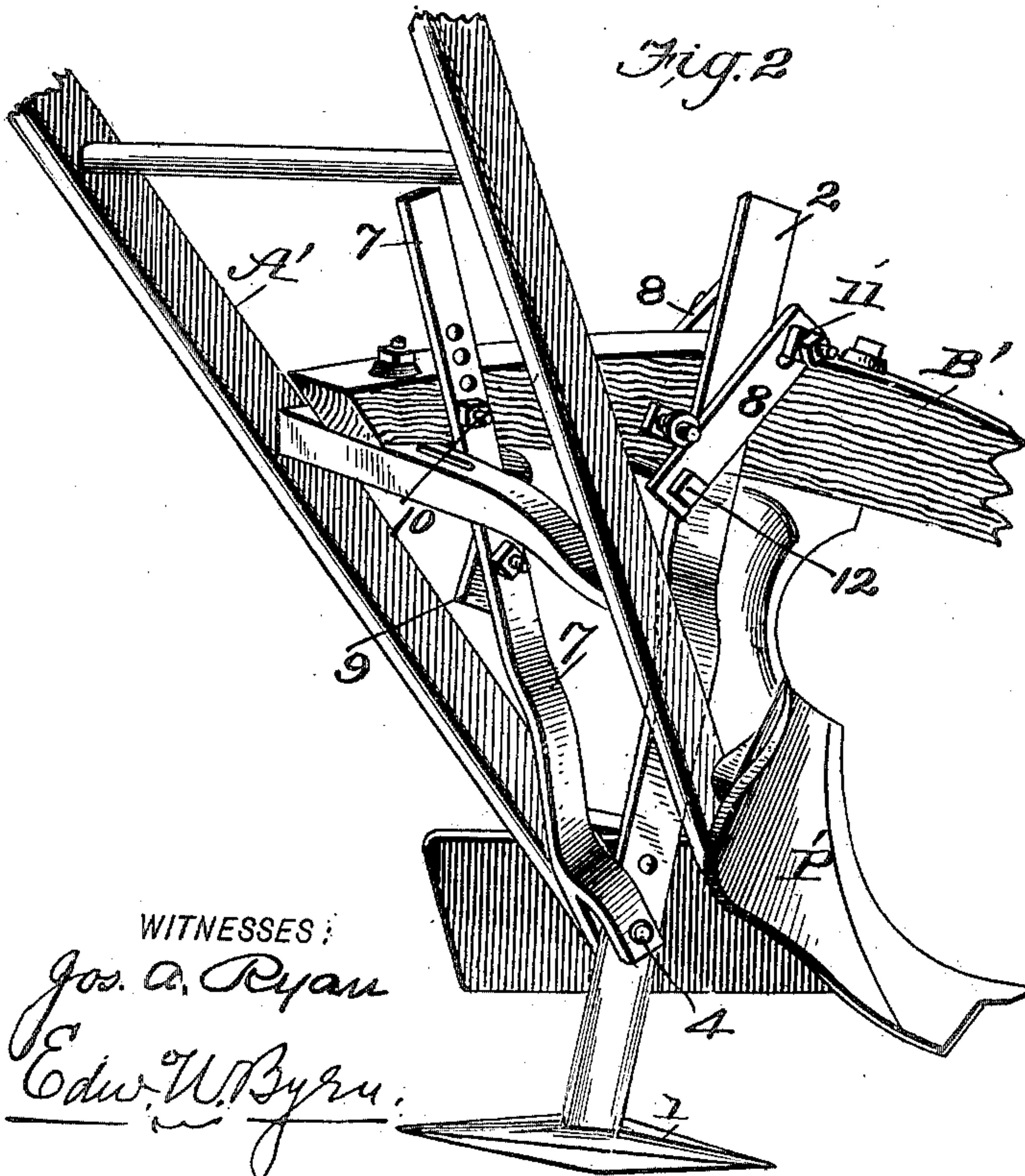
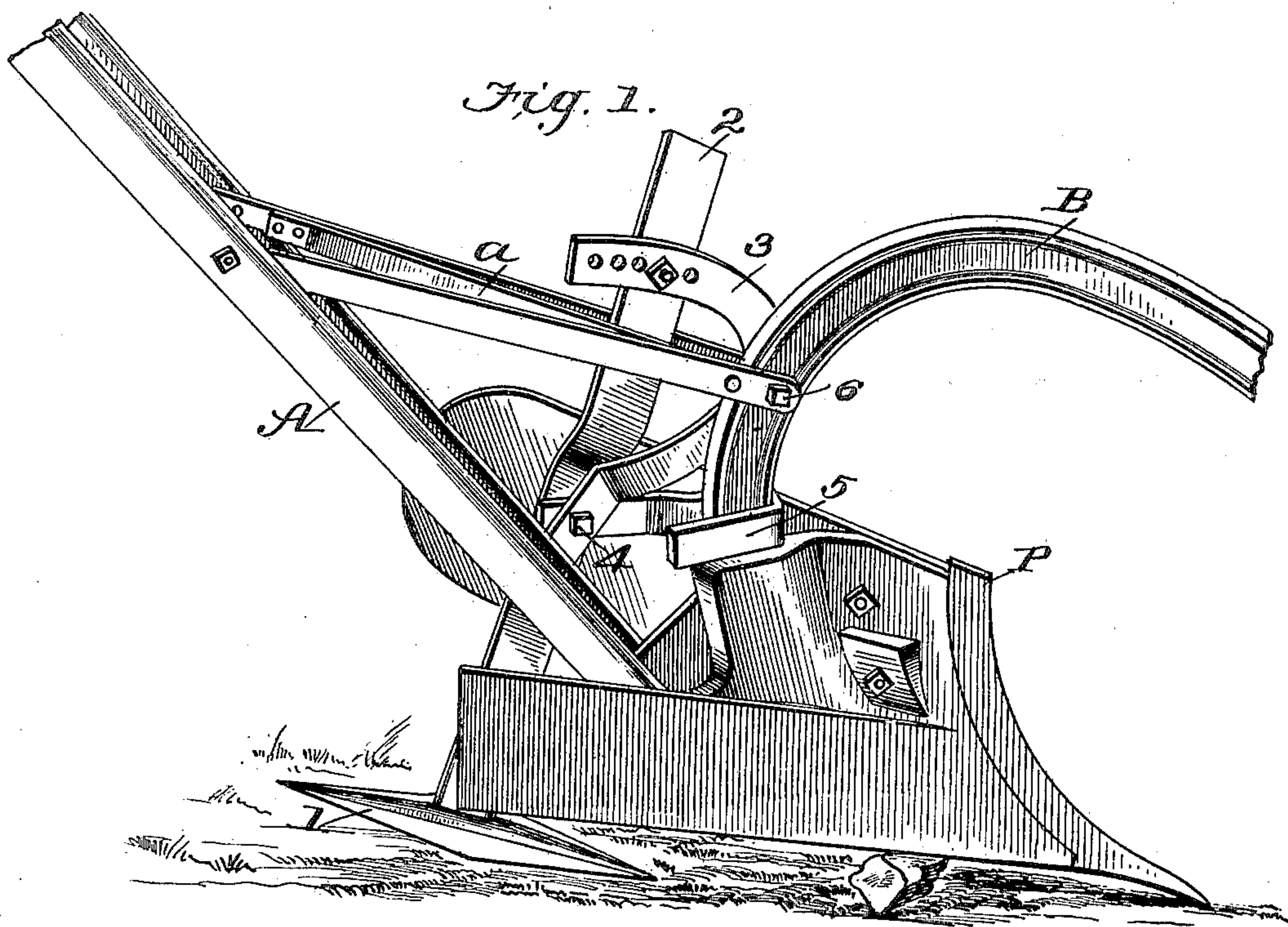
No. 668,113.

Patented Feb. 12, 1901.

R. T. MILLER.
SUBSOIL ATTACHMENT FOR PLOWS.

(Application filed June 2, 1900.)

(No Model.)



WITNESSES:

Jos. A. Ryan
Edw. W. Byrne.

INVENTOR

Robert T. Miller.
BY Munn & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

ROBERT TRAVER MILLER, OF DECHERD, TENNESSEE.

SUBSOIL ATTACHMENT FOR PLOWS.

SPECIFICATION forming part of Letters Patent No. 668,113, dated February 12, 1901.

Application filed June 2, 1900. Serial No. 18,873. (No model.)

To all whom it may concern:

Be it known that I, ROBERT TRAVER MILLER, of Decherd, in the county of Franklin and State of Tennessee, have invented a new and useful Improvement in Subsoil Attachments to Plows, of which the following is a specification.

My invention is in the nature of an improved subsoil-plow designed to be attached to almost any ordinary plow, whether it has an iron beam or wooden beam and whether it be a right or left hand plow, and which when detached allows the use of the plow for ordinary purposes.

It consists in the peculiar construction and arrangement of the devices, which I will now proceed to describe, with reference to the drawings, in which—

Figure 1 is a perspective view of my invention shown applied to an iron-beam left-hand plow. Fig. 2 is a perspective view of a modified form, showing it applied to a wooden-beam right-hand plow. Figs. 3 and 4 are details.

In the drawings, Fig. 1, A designates the handles, B the iron beam, P the moldboard, and *a* the braces, of a left-hand iron-beam plow.

My subsoil attachment consists of a long standard 2, which may be straight, but preferably has a slight bend in its length. To the bottom of the standard is securely attached by rivets, bolts, or otherwise a diamond-shaped plow point or blade 1, the standard being connected to the middle of the same in right-angular position and said blade being made of steel and slightly raised along the middle longitudinal line. The plow-blade is made of this shape and is connected to the standard in the middle, so that either end of the blade may be used or the standard turned around when one point of the blade becomes worn out.

The standard 2 is fixed and adjusted in relation to the other parts of the plow with the blade or point 1 in proper position below the bottom of the plow, as follows: A curved brace 3 is bolted at 6 to the iron plow-beam and is bolted at 4 to the standard 2. At the upper end the standard is bolted through one of a series of holes in the upper end of the rearwardly-curved brace 3. A hooked bar 5 is

connected to the same bolt 4 of the standard and hooks around the curved portion of the plow-beam, so as to carry the draft strain. To change the inclination of the standard 2, it may be adjusted about the bolt 4 by having its upper end bolted in any one of the series of holes in the curved upper end of the brace 3. The bolt 4 thus forms a rocking bearing by which the standard may be adjustably inclined in a vertical plane to cause the subsoil-blade 1 to draw itself down into the ground to a greater or less extent.

When the subsoil-plow is to be attached to a wooden-beam plow, as in Fig. 2, its lower bolt 4 connects it to the lower forked end of a brace 7, which latter extends upwardly and is bolted to the wooden beam B' at 10 by means of a series of holes in the upper end of the said brace. The upper end of the standard is embraced within a yoke composed of two plates 8 8, connected by two bolts 11 and 12, which clamp both the wooden beam and the standard 2 together. The yoke-plates 8 8 have holes at one end and slots at the other to adapt them to beams of different width and also to permit a change in the inclination of the standard and also accommodate its vertical adjustment as provided for by the holes in the upper end of said standard.

For a short distance above the subsoil-plow point 1 the standard 2 is sharpened at its front and rear edges in order to cut through small roots and to lighten the draft.

To better resist the upward thrust of the brace 7, a right-angular bracket 9 is bolted to the brace 7 and bears against the under side of the plow-beam.

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

1. A subsoil attachment consisting of a bent standard 2 having a blade fixed at its lower end at right angles, a bent brace 7 pivotally connected at its lower end to the lower part of the subsoil-standard and extended up in the rear of the same and provided with a series of holes, and a right-angular bracket 9 bolted to the brace and to the lower side of the plow-beam substantially as shown and described.

2. A subsoil plow attachment consisting of a standard 2 having a blade fixed to its lower

end at right angles, a curved brace 3 with a bolt-hole at its middle to connect it to the plow-beam, a bolt at its lower end to connect it to the lower part of the standard, and having its upper end turned rearwardly and provided with a series of holes and adjustably bolted to the upper end of the standard, substantially as shown and described.

3. A subsoil plow attachment consisting of a standard 2 having a blade fixed to its lower end at right angles, a curved brace 3 with a bolt-hole at its middle to connect it to the plow-beam, a bolt connecting its lower end to the lower part of the standard, said brace having

its upper end turned rearwardly and provided with a series of holes and adjustably bolted to the upper end of the standard, and a hook 5 hung around the plow-beam and secured to the same bolt that connects the standard to its brace substantially as and for the purpose described.

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

ROBERT TRAVER MILLER.

Witnesses:

E. A. BEST,
FRANCIS BASS.