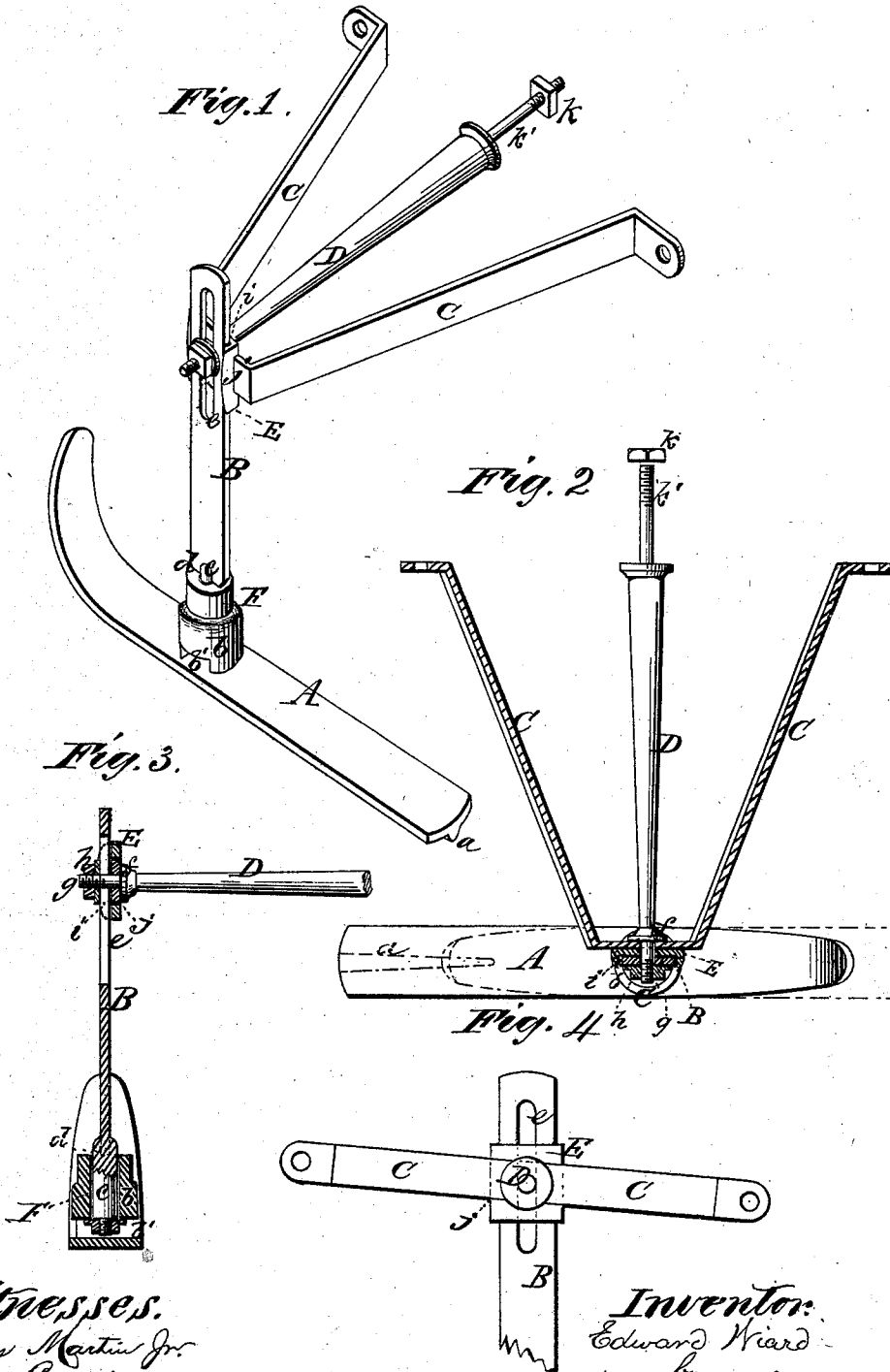


E. WIARD.

Land-Side Runners for Plows.

No. 150,450.

Patented May 5, 1874.



Witnesses.
James Martin Jr.
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UNITED STATES PATENT OFFICE.

EDWARD WIARD, OF LOUISVILLE, KENTUCKY, ASSIGNOR TO BENJAMIN F. AVERY, OF SAME PLACE.

IMPROVEMENT IN LAND-SIDE RUNNERS FOR PLOWS.

Specification forming part of Letters Patent No. **150,450**, dated May 5, 1874; application filed March 16, 1874.

To all whom it may concern:

Be it known that I, EDWARD WIARD, of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and useful Improvement in Land-Side Runners for Plows; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 is a perspective view of my improved runner. Fig. 2 is a horizontal section of the same. Fig. 3 is a vertical section of the same. Fig. 4 is an inner elevation.

The present invention which I have made relates to the runner patented by me on the 11th of November, 1873. The nature of the invention here presented consists, first, in constructing the runner with a swivel-connection; second, in constructing the standard with a vertically and horizontally grooved box or block connection between its braces and supporting spindle or arm.

By these improvements the plow can adjust itself horizontally without turning the runner out of its track whenever a serious obstruction comes in its path, and a firm support for the braces, both vertically and longitudinally, is secured.

In the drawings, A represents the runner; B, the standard; C, the braces; D, the supporting spindle or bar; E, the connection-slide or box, and F the swivel-connection. The runner is made with a keel, *a*, on its bottom to hold it in the ground and prevent its turning out of its path to any great extent. About one-third the distance from the front turned-up end of the runner a vertical step, *b*, is cast upon the top of the runner. This step has a passage, *b'*, cut through it, which intersects the vertical passage of the step. The standard of the runner is constructed with a cylindrical stem, *c*, at its bottom, and with a horizontal shoulder, *d*, just at the junction of the standard with the stem. On the lower end of the stem a screw-thread is cut, and upon the screw-

thread a nut is screwed, said nut being introduced under the tubular stem through the lateral passage, as shown, before the stem of the standard is set down into the step. By this means the standard and runner are united together, and a swivel-connection is secured. The standard B is constructed with a vertical slot, *e*, near its top, and the braces C and supporting spindle or bar D are adjustably connected together by means of the sliding box E, and a shoulder, *f*, screw *g*, and nut *h* of the supporting-spindle. The sliding box is constructed with an open vertical groove, *i*, in its outer or rear side, and an open horizontal, or nearly horizontal, groove, *j*, in its front or inner side. The braces are diagonal and united by a straight flat portion which fits into the horizontal groove of the box E, while the standard B fits in the vertical groove of said box. The outer screw-threaded end *g* of the spindle passes through the flat part of the braces and through the box and also the slot of the standard, and receives a washer and the nut *h* on its outer end, as shown. By loosening the nut the runner can be raised or lowered to suit the height of the plow-standard, or the depth at which the plow is to enter the ground. The spindle and the braces are confined to the side of the plow-beam, the former being passed through the beam and fastened by a nut, K, on its screw-threaded end K', and the latter fastened, by bolts passed through the angle ends of the braces into the beam.

In practice, one arm of the bracing might be dispensed with.

I prefer to cast the runner and its step, and to make the standard-braces and spindle of wrought-iron or steel; but they may be made of malleable or cast metal.

By constructing the box with a back groove it holds the braces and standards steady longitudinally, and by making it with a horizontal groove it prevents the braces from being depressed or raised.

The box may have a horizontal and verti-

cal slot on each face, and by that means it will be adapted for either a right or left hand plow.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The land-side runner for a plow, connected by a swivel joint to its supports, substantially as described.

2. The combination of the box E, grooved

on its front and rear sides in the manner described, the standard B, connected to the land-side runner A, the braces C, and the supporting spindle or bar D, substantially in the manner and for the purpose herein set forth.

EDWARD WIARD.

Witnesses:

WM. G. MILLS,

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