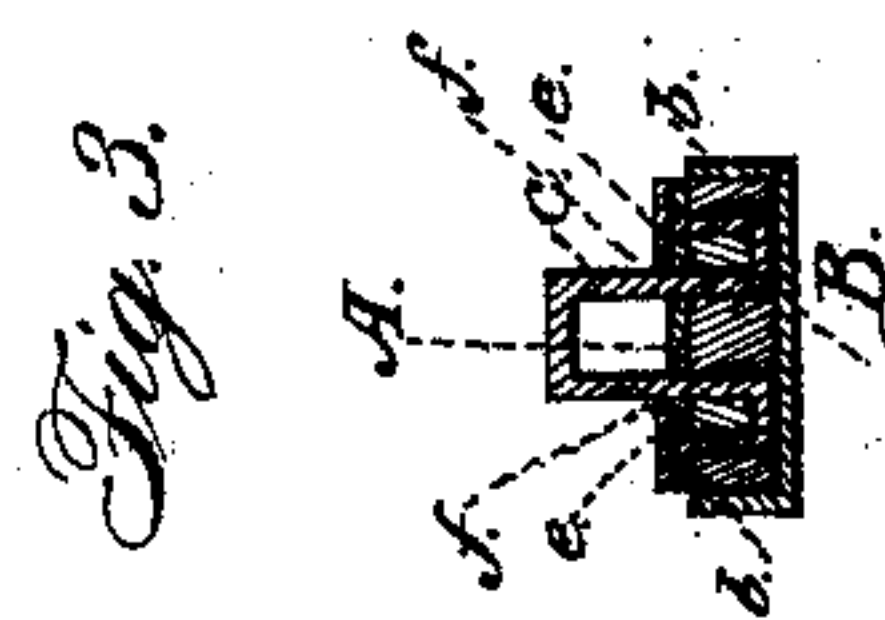
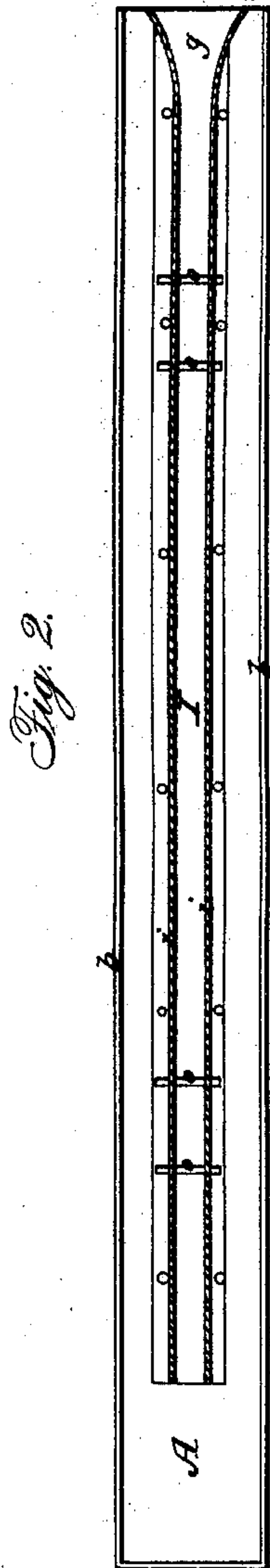
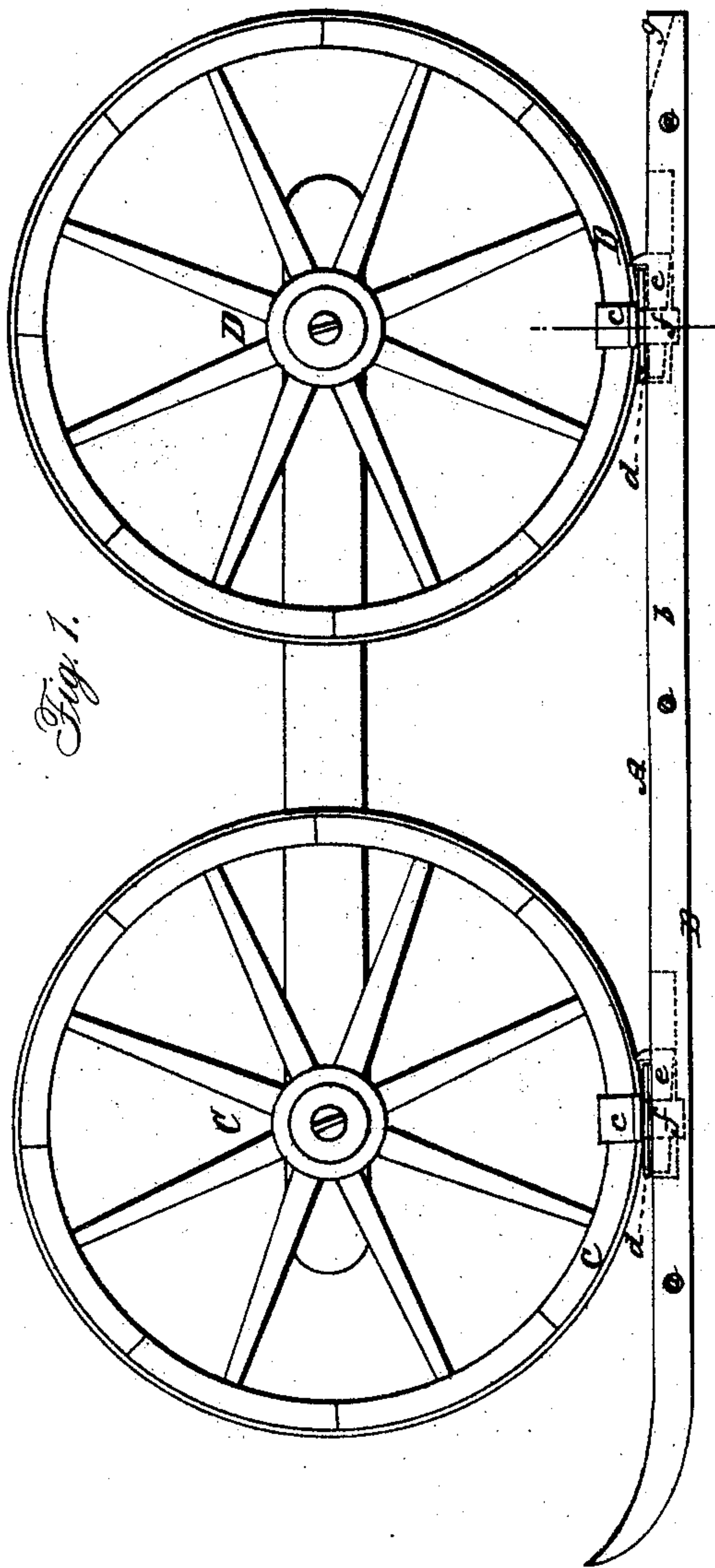


J. DU BOIS.
Gun-Carriage Sled.

No. 38,571.

Patented May 19, 1863.



Inventor:

John Du Bois
By Attorney J. B. Woodruff.

UNITED STATES PATENT OFFICE.

JOHN DU BOIS, OF WILLIAMSPORT, PENNSYLVANIA.

IMPROVEMENT IN METAL-PLATED SHOES FOR CARRIAGES.

Specification forming part of Letters Patent No. **38,571**, dated May 19, 1863; antedated May 15, 1863.

To all whom it may concern:

Be it known that I, JOHN DU BOIS, of Williamsport, in the county of Lycoming, in the State of Pennsylvania, have invented a new and useful metal-plated shoe for the purpose of moving ordnance-carriages and heavy wagons over soft and miry places; and the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 shows a side elevation of two wheels with the runner and shoe attached. Fig. 2 is a top view of runner, with elevated flanges or ribs to guide in and secure the wheels to the runner and shoe. Fig. 3 is an end view of the shoe and runner, showing a section through the fastenings.

My invention consists in the construction of a broad flat runner, plated with sheet metal, turned up at right angles on both sides, of sufficient width to cover the thickness of the runner, the same forming ribs or flanges to support and strengthen the shoe, furnishing facilities for securing the same by riveting horizontally through the runner, thus leaving the bottom surface smooth, unobstructed by bolts, rivets, or any other fastenings; also, in the application of and the mode of securing carriage-wheels to the shoe.

To enable others skilled in the art to make and use my invention, I will proceed to describe it more fully, referring to the drawings, and to the letters of reference marked thereon.

For the purpose of easily conveying heavy transportation on wheels over soft, marshy, miry, or muddy places, I make a flat wide runner, A, of hard-wood plank, the forward end being curved or turned up sufficient to raise it over any ordinary obstruction; and in order to give so light a structure great strength, durability, and to make it run or pass over the soil as smooth and easy as possible, I make and fit to the runner A a metallic shoe, B, the sides *b b* being turned up at right angles, the width being equal to the thickness of the plank which forms the runner A, so that not only the bottom but also the sides or edges of the runners are shielded with the metal, which protects the wood from wear, and at the same time stiffens and supports the plank by forming ribs or flanges *b b*, through

which the plate-metal shoe and wood runner are firmly fastened together by rivets *a a a*, put through horizontally or edgewise, so that there are no holes or bolts through the bottom of the structure, which will enable the runner to pass over more smoothly, and the bottom of the shoe can be worn entirely off without meeting any obstructions. Runners thus made and shod with sheet-steel, (which may be tempered to a considerable degree of hardness,) and secured to the wood in the manner above described, may all be comparatively very light, and yet possess the requisite strength. They will be easily packed together and carried under caissons or wagons, when the earth is sufficiently hard for running on wheels.

For the convenience of placing the runner A under the wheels C D, I make an inclined recess or guide, G, on the runner at the rear end, the runners A being placed on the ground in line in front of the wheels, the carriage is easily mounted on them, and when in their proper places the shoe is secured to the wheels C D by placing the clamps *c c* over the fellies and inserting the keys *e e* into the staples *f f* under the plates *d d*, which are securely riveted to the top of the plank A; or the clamps *c c* may be secured by screw-bolts put in from the top, turning into stationery nuts, or a plate forming the nuts in the under side of the plank or runner A.

In making slides or runners for very heavy siege-guns, &c., I would further strengthen them without adding much additional weight by making flanged plates I to go on the top of the plank, and extend the whole length of the shoe, having ribs *i i* of such height as to form substantial guides, between which the wheels C D are secured, as seen in Fig. 2, the shoe being held to the wheels by pins or bolts *o o o o*, passing through both ribs *i i* over the fellies.

By the arrangement above described wheeled carriages can be transformed into a sled in a very short time, the runners having so much bearing that they will not press or sink into marshy land. The shoe being hard and smooth, and the soil or substance underneath being wet and usually slimy, the wear or friction will not be very great, so as to require much if any additional power to draw them; and, moreover, the road or place of

travel being frequently passed over, the soil will become settled and pressed together, so as to improve it rather than otherwise.

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

The flanges *b b* and their fastenings, clamps *e e*, and keys *e e*, when combined with a

broad runner, and constructed to operate substantially as described, and for the purposes set forth.

JOHN DU BOIS.

Witnesses:

J. B. WOODRUFF,
WM. F. BROWN.