J. Dubois.

Pile Driver.

No. 38,570. Patented May 19, 1863.

Fig. 1.

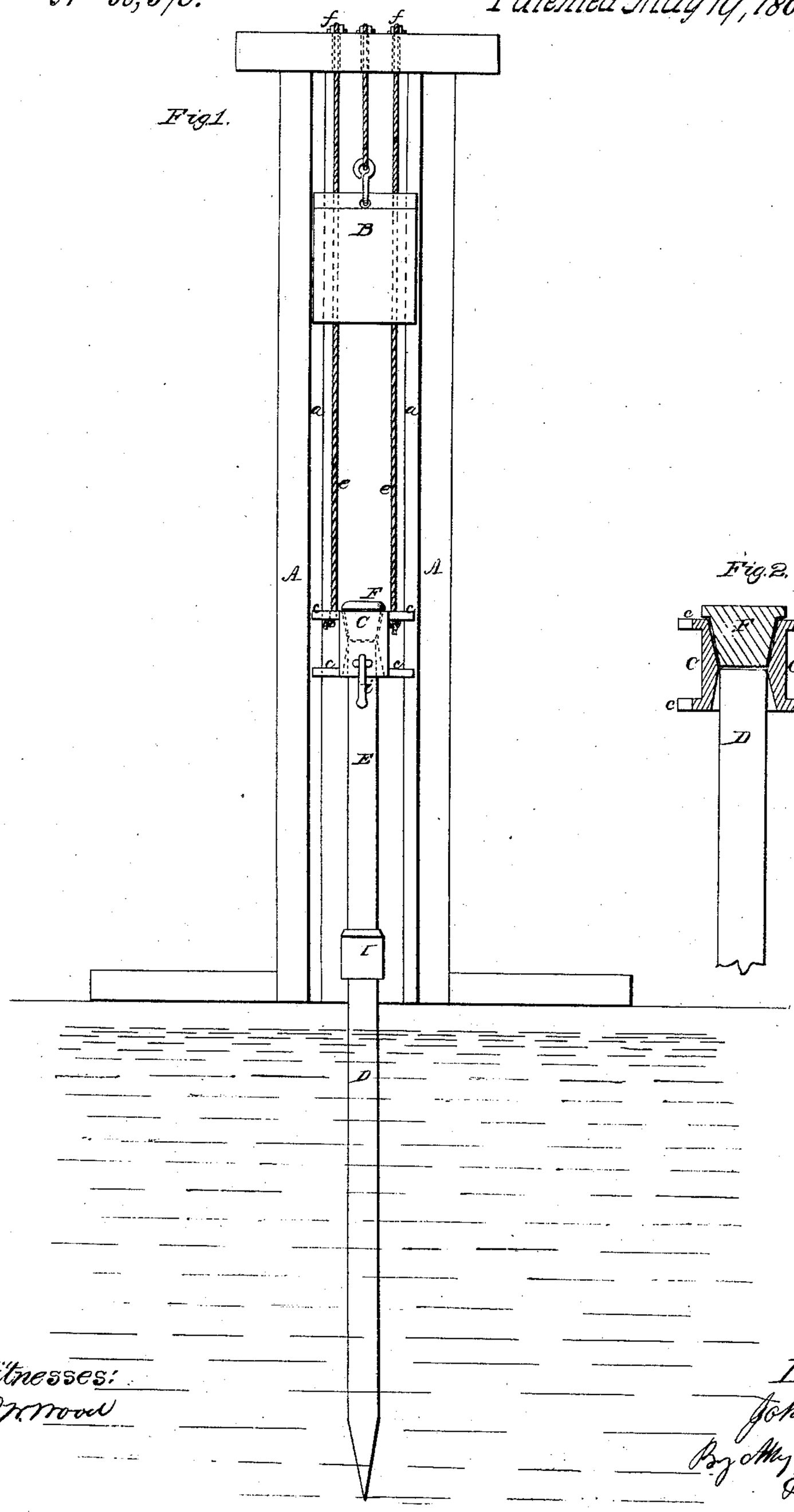

Fig. 2.

Witnesses:
S. N. Wood

Inventor:
John Du Bois.
By Atty J. B. Woodruff

UNITED STATES PATENT OFFICE.

JOHN DU BOIS, OF WILLIAMSPORT, PENNSYLVANIA.

IMPROVEMENT IN MACHINES FOR DRIVING PILES.

Specification forming part of Letters Patent No. **38,570**, dated May 19, 1863; antedated May 13, 1863.

To all whom it may concern:

Be it known that I, JOHN DU BOIS, of Williamsport, in the county of Lycoming and State of Pennsylvania, have invented new and useful Improvements in Machinery for Guiding and Driving Piles, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 represents a front elevation, and Fig. 2 a vertical cross-section, of the sliding head and socket.

Like letters indicate similar parts in all the figures.

To enable others skilled in the art to make and use my improved pile-driver, I will proceed to describe the same in detail.

My invention consists in the construction of a movable head, which forms a socket to receive and hold the top end of the pile to prevent it from being split or crushed by the force of the drop, as also a guide to keep the pile in a perpendicular position while being driven; also, in the construction and application of a socket-punch to place on the head of the pile and in the movable head and socket to splice out, so that the pile may be driven to any considerable depth under water.

My frame is constructed in the usual manner by having two vertical timbers, A A, placed parallel with each other, and having ribs *a a*, which form ways or guides for the drop B, as also the head and socket C to slide in. The drop B is constructed and operated in the usual manner. The socket C is made of wrought metal, with flanges *c c c c* upon its two opposite sides, and is fitted to and slides upon the ways or ribs *a a*, extending the entire length of the timbers A. The socket being conical shaped from both ends—*i. e.*, tapering in from the under side toward the center, Fig. 2, so as to freely admit the head of the pile D in the socket-punch, or to admit the splice E. The top part of the socket C has a head of hard wood, F, fitted into it and extending to about the center, so that the upper end of the pile D, or the punch E, will come in contact with it. This head F receives the blow from the drop B, so that the end of the pile, being incased in the socket, will not be split or upset by the repeated concussions, and at the same time the pile is held firmly in position and cannot be inclined out of the line of the guides of the machine. This method of protection will insure the driving of the pile without the banding of the top of each, and when driven as far as the drop can follow in its guides the socket C is liberated and raised off the pile by means of the ropes *e e*, which pass up through the drop B and over pulleys *f f*, arranged for the purpose. When the pile is to be driven below the surface of the earth or water, punches E, made of hard-wood timber with a socket, I, to place on the top of the pile D, the top end fitting into the socket I, and held in place by means of hooks or dogs *i i*. By this means the splice or punch can be raised after the pile is driven and held by the pulleys and ropes connected with the machine in a convenient and easy manner. The pile can also be secured to the socket C by the hooks or dogs *i i*, to be placed in the same manner. The advantages to be derived from my invention are that there will be no necessity of fitting heavy iron hoops or bands on the top of each timber used for a pile, which is the only way they can be driven with any certainty when subject to the blows direct from the drop; and another important advantage is that they are firmly held from being driven out of perpendicular, and may be driven to any desired depth.

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

1. The double conical-shaped socket and head to protect and guide the pile while being driven, in the manner and for the purpose specified.

2. The arrangement, mode of securing, and operating the socket-punch E for driving piles below the surface, substantially in the manner as herein set forth.

JOHN DU BOIS.

Witnesses:

S. W. WOOD,

J. B. WOODRUFF.