J. A. Borgart,

Pile Driver,

No. 83,687. Patented Nov. 3, 1868.

Fig. 1

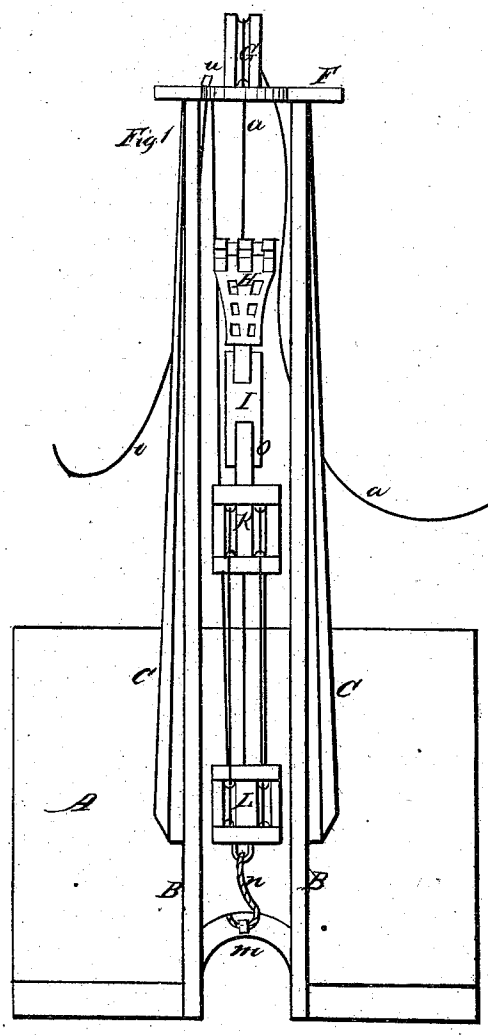
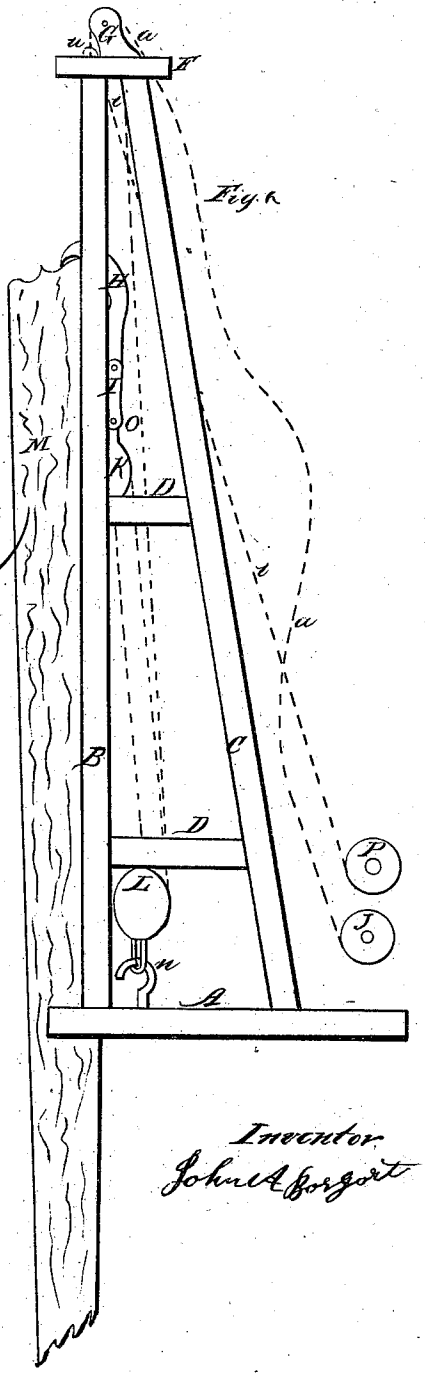


Fig. 2



Witnesses.

John L. Thornton

Inventor.

John A. Borgart

United States Patent Office.

JOHN A. BORGORT, OF HUDSON CITY, NEW JERSEY.

Letters Patent No. 83,687, *dated November* 3, 1868.

IMPROVED PILE-DRIVER.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN A. BORGORT, of Hudson City, in the county of Hudson, and State of New Jersey, have invented a new and useful Machine for Driving Piles; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings.

The nature of my invention consists in the combination and arrangement of a grappling-hook with pulleys, located and attached to a suitable frame, for the purpose of drawing piles into the ground by a continuous or steady draught, produced by any of the well-known powers, so that it will not be splintered or split, nor the bark knocked off, and it will thus be made more durable, while much loss, from injury to the upper end of the pile by repeated blows from a heavy hammer, is avoided.

The advantages of my invention over the ordinary or common pile-driving machine are very great, from the well-known fact that the mud in the bottom of the North or Hudson river is from sixty to one hundred and fifty feet deep, and the docks are built on piles driven from fifty to eighty feet into the mud, which is so soft that, by my invention, a pile may be readily drawn to the required depth.

With the ordinary steam pile-driver, and its complement of five men, from thirty to forty-five piles are a good day's work, while, with my machine, with the same number of men, from one hundred to one hundred and twenty are driven, in and around the New York and Jersey City harbors, in the same time.

In a commercial point of view, my machine has a decided advantage, when it is estimated that it costs three dollars apiece, on the average, to drive piles by the ordinary method of the hammer pile-driver, so that the difference in the expense of driving piles with my machine may be readily estimated.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction, and the mode of its operation, reference being had to the accompanying drawings, forming part of this specification, and to the letters of reference marked thereon.

Figure I is a front elevation of my improved pile-driver.

Figure II is a side elevation of the same, with a pile in position to be driven.

Letters of like kind indicate like parts in each of the figures.

A is the bottom or base, upon which I erect the derrick or frame-work of my improved machine, which is rectangular in form, and which may be made of either wood or metal, and of suitable dimensions.

The machine, when at work, is placed upon a float or raft, about twenty-five feet wide, and fifty feet long, composed of timbers twenty-two inches square, to support the machine when at work in dock-building.

Upon or at one end of the said base or foundation A, I erect two upright posts, B B, of suitable dimensions, about fifty feet long, more or less, as may be desired, while nearly in rear of the posts B B are two inclined posts, C C, which correspond to the size and length of the posts B B, all of which go to constitute the frame of my machine. This frame is of the ordinary kind, except that it is without gibs or guides for a hammer.

The posts B B and C C are secured together and strengthened by means of suitable ties, D D.

At the top of the frame is a cross-piece or cap, F, upon which is a pulley, G, over which the rope *a* passes, and connects with the grapple-hook H, the other end passing around the pulley or drum J, for the purpose of elevating the said grapple-hook.

This grapple-hook H is made of strong wrought-iron, for the purpose of drawing the pile into the ground.

The lower end of this grapple-hook H is connected, by means of a knuckle or other suitable joint, to a suitable link, I, which is also connected, by means of a knuckle or other suitable joint, *o*, to a fall-block, K, which is a mate or forms a pair with another block, L, which is secured, by means of a hook, *n*, or other suitable device, to the platform or bottom, A, the said hook *n* being located in the cavity or hollow space *m* in the edge of the bottom, A.

M represents a pile in position, and ready to be drawn into the ground. The lower end is represented as being broken off.

The operation of my invention is simple, easy, and effective, and consists in lowering the grappling-hook H, and detaching the rope *a* therefrom, and hitching a chain round the pile, when it is drawn up, by the drum J, to its position between the two uprights B B. The grappling-hook H is then placed over the top of the pile, and the machine is set in motion, when the rope *i*, passing over the pulley *u*, and working in connection with the blocks K and L, is wound around a drum, P, driven by steam or other power, and the pile is drawn into the ground, when the machine is moved along for another pile, and the operation repeated rapidly from one to another, thus making the most rapid and successful pile-driver known.

I hereby disclaim forcing piles into the earth by the repeated blows of a descending weight, as this forms no part of my invention; but, having thus described my invention,

What I claim, and desire to secure by Letters Patent of the United States, is—

The combination and arrangement of a grappling-hook, H, pulleys K and L, with the frame, composed of the uprights B and C, and base, A, substantially as herein shown and described, and for the purposes set forth.

JOHN A. BORGORT.

Witnesses:

IRA WRIGHT,

JOHN S. THORNTON.