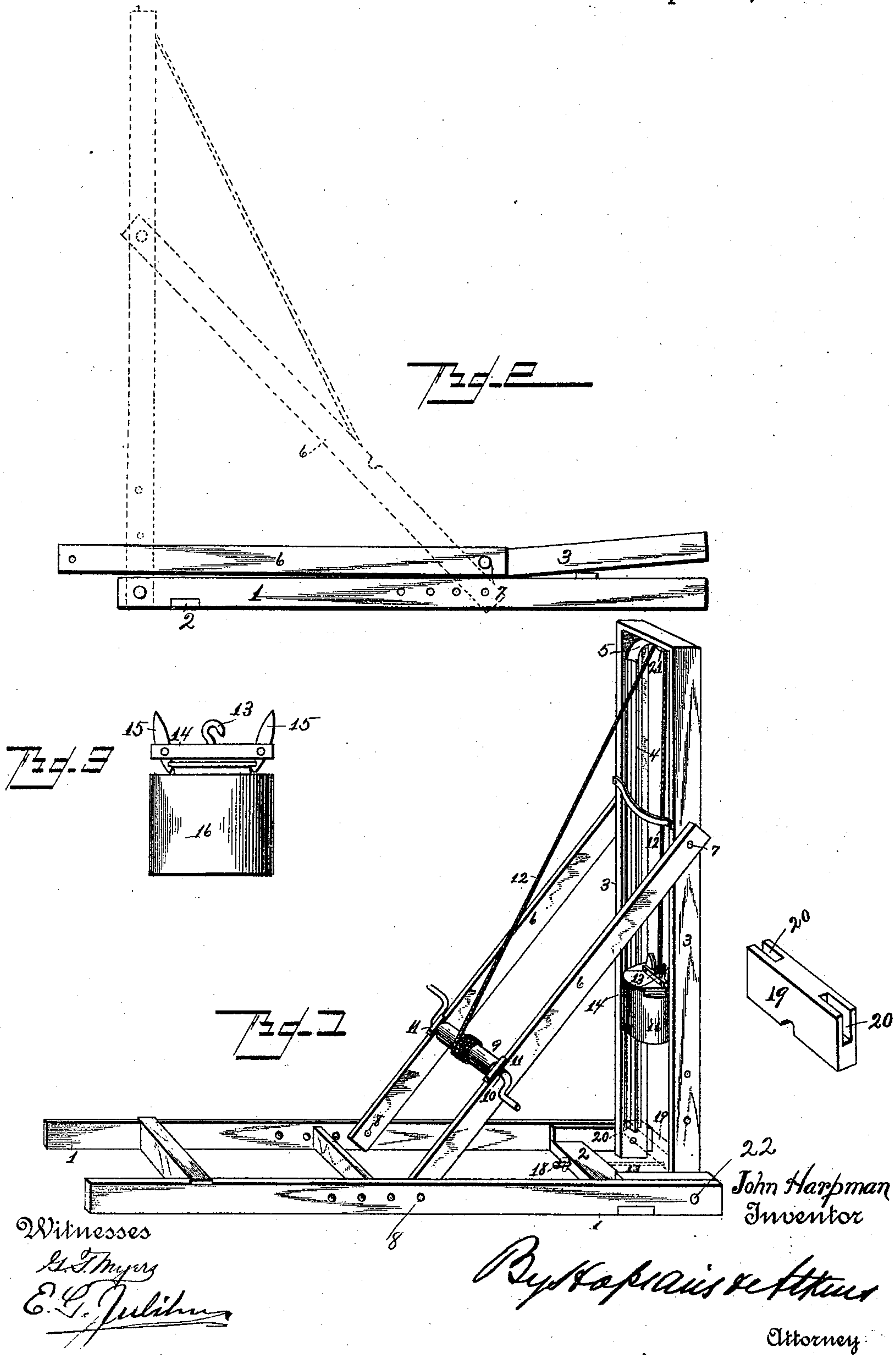


(No Model.)

J. HARPMAN.
PILE DRIVER.

No. 496,306.

Patented Apr. 25, 1893.



UNITED STATES PATENT OFFICE.

JOHN HARPMAN, OF VICTORIA, ILLINOIS.

PILE-DRIVER.

SPECIFICATION forming part of Letters Patent No. 496,306, dated April 25, 1893.

Application filed December 14, 1892. Serial No. 455,196. (No model.)

To all whom it may concern:

Be it known that I, JOHN HARPMAN, of Victoria, county of Knox, and State of Illinois, have invented certain new and useful Improvements in Pile-Drivers, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to produce a pile driver which may be conveniently folded into small compass for transportation, and which is, therefore, particularly adapted for light bridge construction, in localities where the difficulty of transporting the pile drivers in ordinary use would prohibit their employment.

My invention also relates to an improved means for raising and lowering the track of the driver.

In the accompanying drawings: Figure 1, is a side elevation of my driver, showing it set up for use, showing also in dotted lines the arrangement for raising and lowering the track supports; and Fig. 2, shows the machine folded as for transportation. Fig. 3 is a side elevation of the block.

Referring to the figures on the drawings 1 indicates the horizontal frame of my machine, and 2, a cross piece in the forward end thereof.

3, indicates a track support pivotally united to the forward end of the horizontal frame, and joined together at the upper end by a top cross piece.

4, indicates the iron track secured to the opposite inner sides of the track supports.

5, indicates a tripping head.

6, indicates braces pivotally secured to the track supports, as indicated at 7, and adapted to be fastened, as by bolts 8, to the horizontal frame pieces.

9, indicates a windlass, adapted to be detachably secured in bearings 10, which have movable covers 11, for securing the windlass in place, or for opening the bearings for its removal.

12, indicates a rope fastened at one end to the windlass, and at the other end provided with a hook, 13, by which it may be secured to the grapple 14.

15, indicates grappling hooks, carried upon the grapple, and adapted by gravity to hold

the block 16, and to automatically release the same upon being brought in contact with the tripping head.

18, indicates a pin for securing the hook upon the end of the rope to the cross piece 2, for raising and lowering the track supports.

19, indicates a block provided with notches 20, for fitting upon the lower ends of the track, and to be used in raising and lowering the track support. Suppose the machine to be in the position illustrated in Fig. 2, of the drawings. If now it is desired to erect the driver for use the track supports are raised to a position nearly at right angles to the horizontal frame. The braces are turned upon their pivots reversely until their ends are brought opposite the holes for the bolts 8. Thereupon the bolts are inserted in place, and the frame is rigidly united together. Next, the bearing coverings are opened and the windlass set in place. The rope is then strung in place through the pulley 21, and fastened to the grapple. The machine is then ready for use in the ordinary manner.

In order to vertically adjust the track support, the grapple and driving weight are removed. The block is then placed over the ends of the track 4; the rope passed underneath it, the hook on the rope fastened to the pin upon the inner side of the cross piece 2, and the bolts 22 are then removed. Then by operating the windlass the track supports may be conveniently lowered, as desired.

Suitable holes in the sides of the track supports may be provided for the reception of the bolt, when the supports have been properly lowered and the machine is ready to be set up for use again.

What I claim is—

1. In a pile driver, the combination with a horizontal frame and vertically adjustable track supports, of braces united at their opposite ends to the track supports and to the horizontal frame, and a removable windlass upon the braces, substantially as specified.

2. In a pile driver having a horizontal frame, track supports pivotally united to the horizontal frame by braces, a windlass secured upon the braces, a cross piece uniting the ends of the horizontal track, a pulley at the upper end of the track supports, a re-

movable block adapted to be fitted over the lower end of the track supports, and a pin upon the cross piece for fastening the rope on the windlass in position for the purpose
5 of raising and lowering the track supports, substantially as and for the purposes specified.

In testimony of all which I have hereunto subscribed my name.

JOHN HARPMAN.

Witnesses:

E. N. SEVERIN,
N. T. YOUNGDAHL.