No. 777,459. PATENTED DEC. 13, 1904.

W. H. WARRINGTON.

PILE DRIVER.

APPLICATION FILED OCT. 15, 1904.

NO MODEL.

Fig. 1.

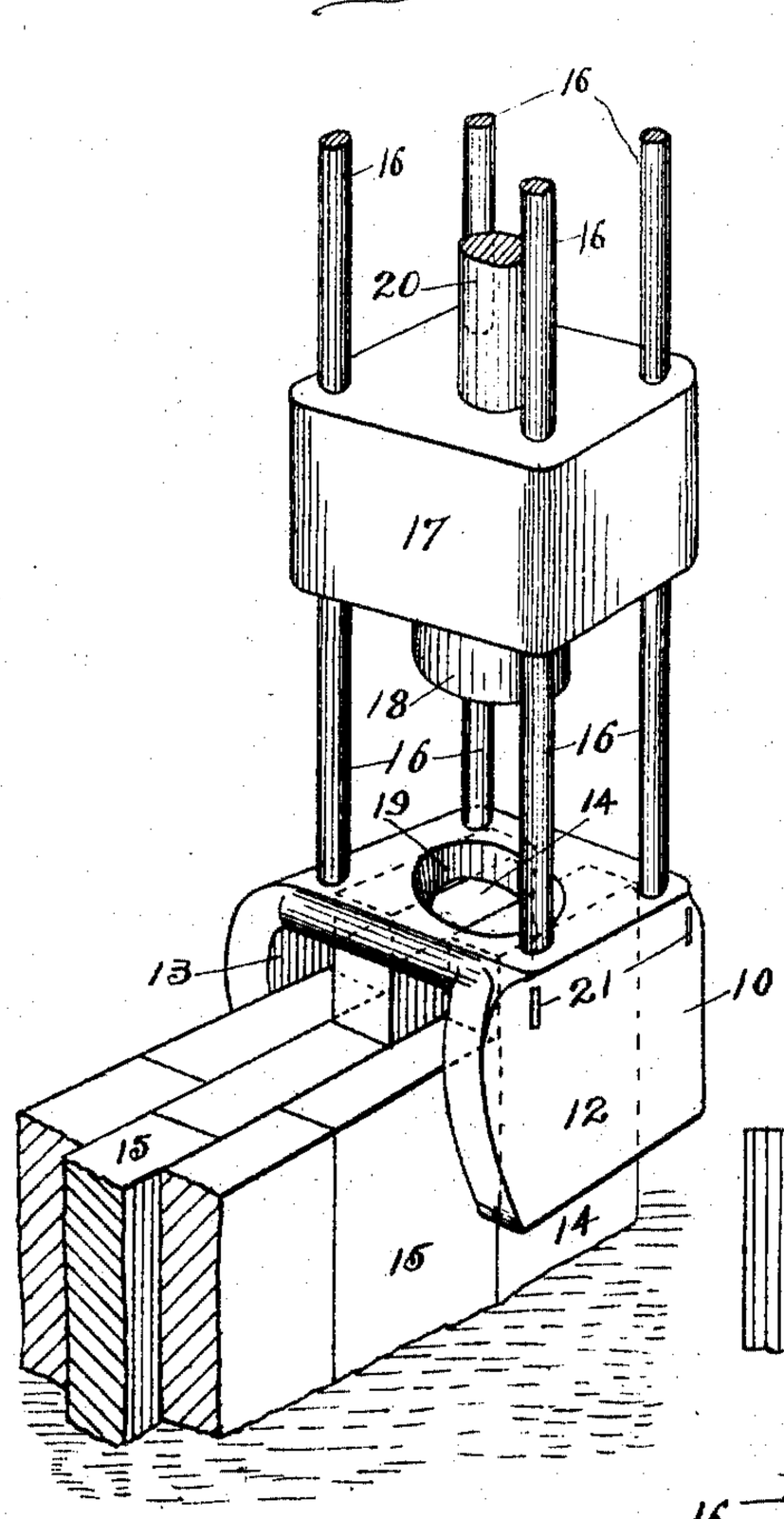


Fig. 2.

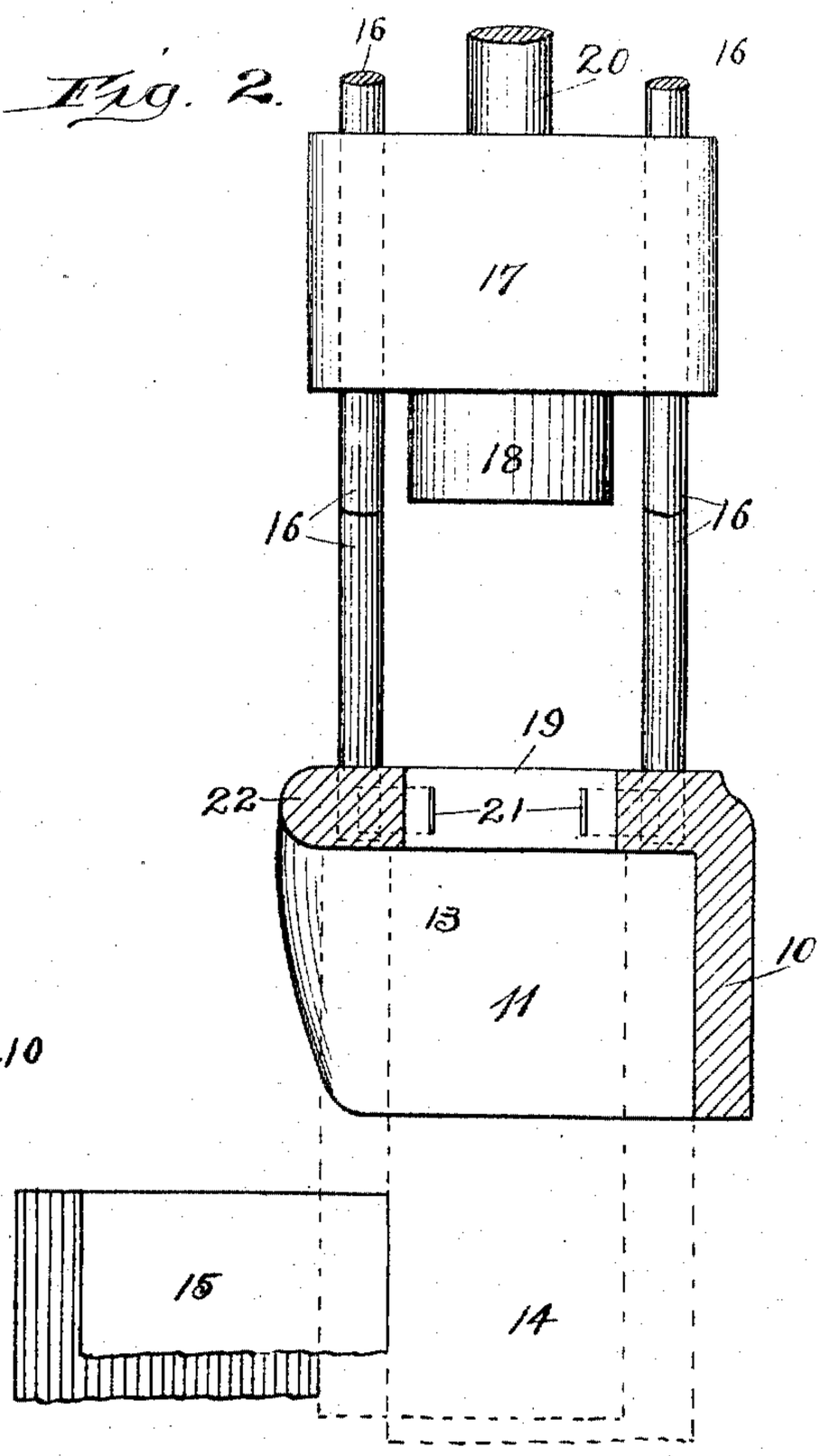
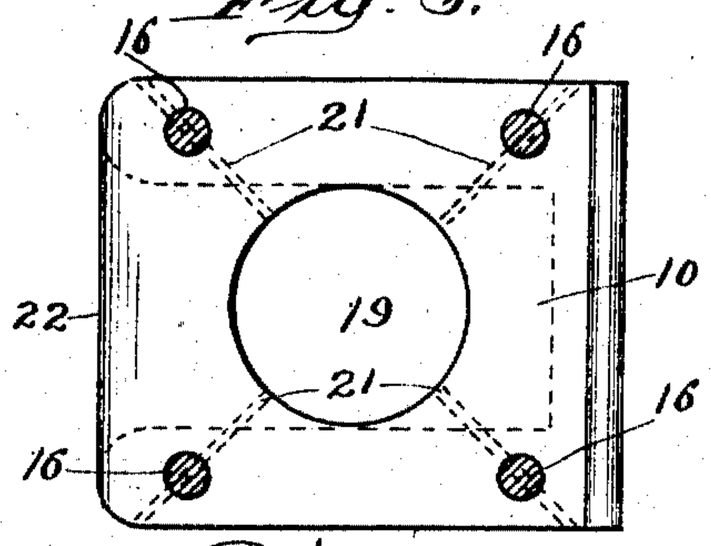


Fig. 3.



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No. 777,459. Patented December 13, 1904.

UNITED STATES PATENT OFFICE.

WILLIAM H. WARRINGTON, OF CHICAGO, ILLINOIS.

PILE-DRIVER.

SPECIFICATION forming part of Letters Patent No. 777,459, dated December 13, 1904.

Application filed October 15, 1904. Serial No. 228,503. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. WARRINGTON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Pile-Drivers, of which the following is a specification.

This invention relates to improvements in pile-drivers, and while it is more especially designed for and intended to be used in connection with that class of such machines known as "steam pile-hammers," yet it is applicable to other forms or styles of pile-driving machines; and it consists, essentially, in the peculiar construction of the base or follower which embraces and holds the upper ends of the piles or planking while they are being driven and in the novel combination thereof with other elements of the machine, as will be hereinafter more fully set forth and specifically claimed.

In driving that type of piles known to the trade as "Wakefield planking," each of which consists of three pieces placed side by side, so that the middle one will project at one of its edges beyond the corresponding edges of the other two pieces to form a tongue and so that its other edge will be located inwardly from the other edges of the side pieces to form a groove for the tongue of the adjacent pile, it is desirable that their upper ends shall be flush with one another when the process of driving is completed. It is also desirable when driving other types of piles in a line or row or close to each other to leave their upper ends flush with one another and uninjured.

It is therefore the principal object of my present invention to provide a simple and efficient base or follower for embracing and holding the upper ends of the piles in the operation of driving the same, whereby they may be driven in succession to the proper depth and flush with one another at their upper ends without injury thereto or any interference by means of the base.

Other objects and advantages of the invention will be disclosed in the subjoined description and explanation.

In order to enable others skilled in the art to which my invention pertains to make and use the same, I will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of a pile-driver of the type known as "steam pile-hammers" embodying my invention and showing it in the act of driving that class of piles known as "Wakefield planking." Fig. 2 is a view, partly in side elevation and partly in section, of the hammer and base or follower, illustrating by full lines one of the piles as having been driven to the proper depth and by dotted lines another pile in the act of being driven; and Fig. 3 is a plan view of the base or follower.

Like numerals of reference refer to corresponding parts throughout the different views of the drawings.

The reference-numeral 10 represents the base or follower, which is rectangular in shape and may be made of any suitable size and material. As shown in the drawings, the base 10 is formed with a rectangular cavity 11 and has its front wall cut away to permit the sides 12 and 13 of the base to stride or embrace the pile 14, which is being driven, as well as a portion of one of the piles 15, which has been previously driven to the proper depth. Located at their lower ends in suitable openings in the top of the base near each of its corners are guide rods or columns 16 for the hammer 17, which in the present instance I have shown as being a steam-operated hammer and as having on its lower portion a peen 18 to pass through an opening 19 in the top of the base, so as to strike the upper ends of the piles. These rods or columns pass through vertical openings in the hammer 17 near its corners and have their other ends connected to the steam-cylinder (not shown) of the driver. Extending from the upper surface of the hammer 17 is a piston-rod 20, which is operatively connected at its other end to the steam-cylinder. The lower ends of the rods or columns 16 are firmly held in position on the base 10 by means of keys 21, which are preferably arranged radially, as shown in Figs. 2 and 3 of the drawings. The front edge of the top of the base 10 and the front edges of its sides 12 and 13 are formed with a reinforcing-rib

22 to strengthen the base at its front part in order to compensate for the weakening effect incident to the cutting away or removal of its front wall.

While I have shown and described my invention in connection with a hammer designed to be operated by steam-power, yet it is evident that I may employ other means for raising and lowering or driving the hammer or may employ other means than the guide-rods shown for movably supporting the hammer above the base or follower without departing from the spirit of my invention.

From the foregoing and by reference to the drawings it will be seen and clearly understood that by placing the base or follower 10 on the upper end of the pile it may be driven to the proper depth and that in the operation of driving the hollow base will embrace and hold the upper portion of the pile being driven and as the front portion of the base is recessed or cut away that it will permit of the piles being driven flush at their upper ends in a line or row or close to one another without any interference by means of the base on the piles previously driven.

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

1. In a pile-driver, a base or follower having its bottom and front wall removed to permit it to embrace the pile being driven and a portion of the pile previously driven, substantially as described.

2. A hollow base or follower for steam pile-hammers having its bottom removed and its front wall recessed to permit the front portion of the sides of the base to pass a previously-driven pile without interference, substantially as described.

3. In a pile-driver, the combination with a hollow base having an opening in its top, its bottom removed and its front wall recessed, of a hammer movably supported above the base and having a portion adapted to pass through the opening in the top of the base, substantially as described.

4. In a pile-driver, the combination with a hollow base having an opening in its top, its bottom removed and its front wall recessed, of guide-rods vertically secured to the top of the base, a hammer movable vertically on said rods and having a peen on its lower portion to pass through the opening in the top of the base, and means to raise and lower the hammer, substantially as described.

WILLIAM H. WARRINGTON.

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