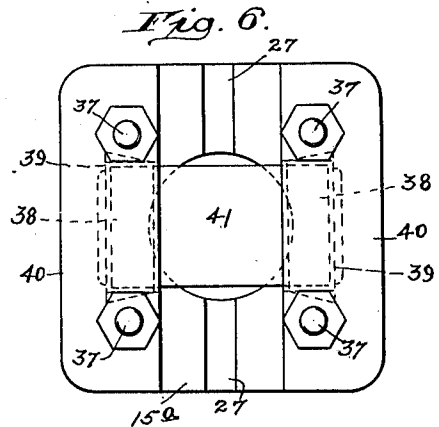
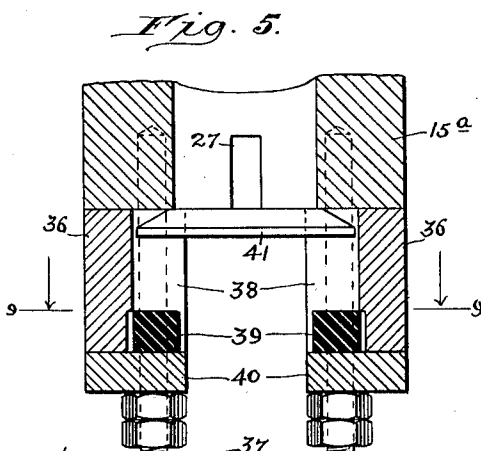
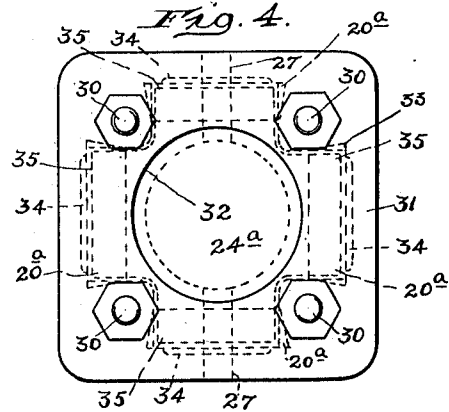
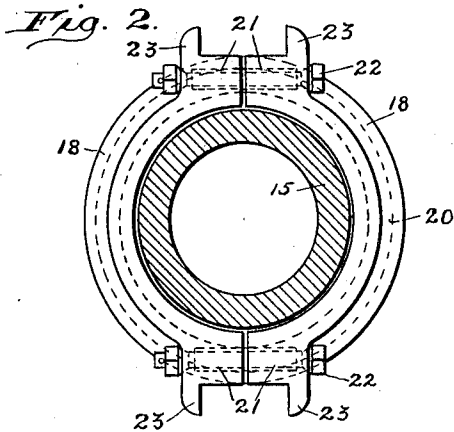
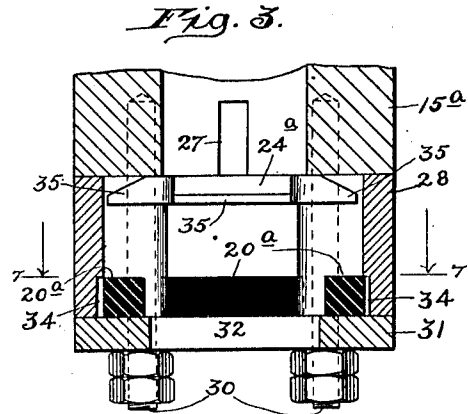
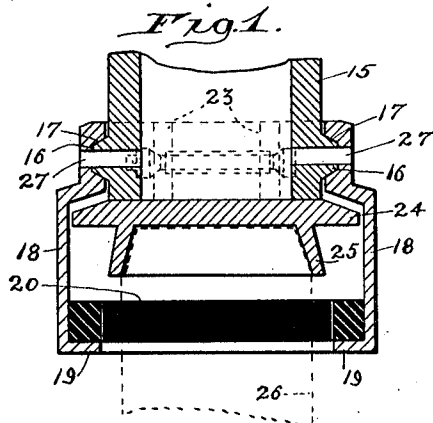


J. N. WARRINGTON.
HOOD OR CAP FOR PILES.
APPLICATION FILED AUG. 31, 1911.

1,020,467.

Patented Mar. 19, 1912.

2 SHEETS—SHEET 1.



Witnesses:

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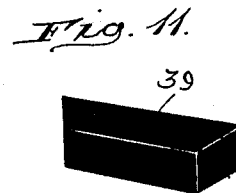
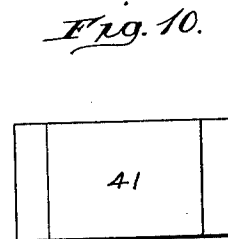
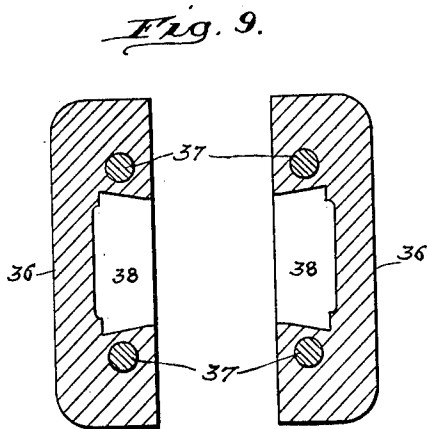
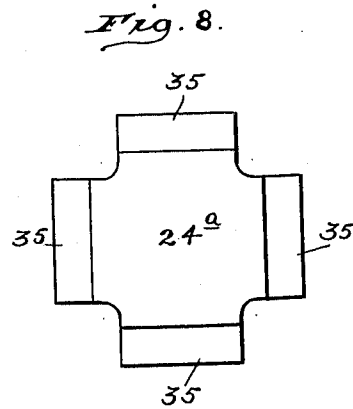
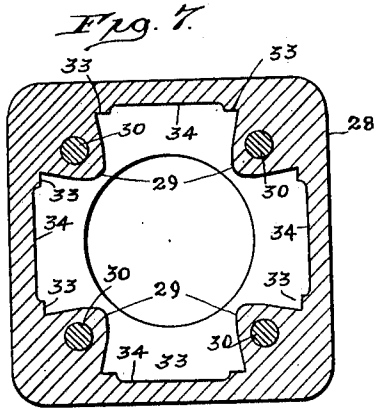
By *Chas. A. Newman*
Att'y.

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2 SHEETS—SHEET 2.



Witnesses:
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Inventor:
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Atty.

UNITED STATES PATENT OFFICE.

JAMES N. WARRINGTON, OF LOS ANGELES, CALIFORNIA.

HOOD OR CAP FOR PILES.

1,020,467.

Specification of Letters Patent.

Patented Mar. 19, 1912.

Application filed August 31, 1911. Serial No. 646,958.

To all whom it may concern:

Be it known that I, JAMES N. WARRINGTON, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Hoods or Caps for Piles, of which the following is a specification.

This invention relates to improvements in means for driving piles of various forms in cross section, and is more especially intended for use in that class of pile driving machinery where leaders or guides are employed for the hammer, yet is applicable for use on such machines where the hammer is suspended without guiding leaders, and it consists in certain peculiarities of the construction, novel arrangement, and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The main object of the invention is to provide a hood or cap for piles, which shall be simple and inexpensive in construction, strong, durable, and efficient in operation, and so made that it can be readily attached to the guide or frame for the hammer of the machine, so as to embrace or engage the upper portion of the piles, thereby affording a constant guide therefor, or can be easily detached in the case of breakage of any of its parts, or in the event the work should require the substitution of a special form of the hood or cap.

Another object of the invention is to provide means for restricting the destructive effect incident to the operation of driving the piles to parts which are readily removable and renewable.

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 the 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 central vertical sectional view of a hood or cap for piles, embodying one form of the invention, showing it attached to the lower portion of the guide cylinder or frame for the hammer of the pile driver, and illustrating by dotted lines the upper portion of a pile in place within the hood or cap ready to be driven. Fig. 2, is a sectional plan view thereof. Fig. 3, is

a central vertical sectional view of a hood or cap showing it attached to the lower portion of the guide frame or cylinder for the hammer and illustrating a modification in its construction, the impact plate of the hood being shown in the position it will occupy when resting on the upper end of a pile, but said pile being omitted. Fig. 4, is a bottom plan view thereof. Fig. 5, is a central vertical sectional view illustrating another modification in the construction of the hood or cap, which is particularly designed for use in driving piles which are rectangular in cross section. Fig. 6, is a bottom plan view thereof. Fig. 7, is a plan sectional view taken on line 7—7, of Fig. 3, looking in the direction indicated by the arrows. Fig. 8, is a detached plan view of the impact plate used with the modified form of cap or hood illustrated in Figs. 3, and 4, of the drawings. Fig. 9, is a plan sectional view taken on line 9—9, of Fig. 5, looking in the direction indicated by the arrows. Fig. 10, is a detached perspective view of the impact plate used in connection with the modified form of hood or cap illustrated in Figs. 5, 6, and 9, and Fig. 11, is a detached perspective view of a portion of the cushion or buffer employed in the last named modified form of the hood or cap.

Corresponding numerals of reference refer to like parts throughout the different views of the drawings.

Referring now to Figs. 1, and 2, of the drawings, the reference numeral 15, designates a guide or frame, for the hammer of the machine, not shown, which guide or frame, in the present instance is shown as being cylindrical in shape and provided on its lower portion with an annular projection 16, which is preferably conoidal in section, as shown, and is for the purpose of engaging recesses 17, of a corresponding shape, formed in the upper inner portions of the members 18, which in the present instance form the hood or cap proper. Each of the members 18, is hollow and semi-circular in shape, as shown, and has at its lower portion an inwardly extended flange 19, which flanges form when the members 18, are connected together, a floor or support for a buffer or cushion 20, which is herein shown as being made of rubber, but may be made of any suitable resilient or cushioning material. Each of the members 18, is provided at each of its ends with a thickened portion

or lug 21, each of which is provided with one or more transverse openings for the reception of bolts 22, used for securing the members 18, together, in position on the guide or frame 15, for the hammer of the machine. Extending outwardly from each of the lugs 21, is a projection 23, which, as is clearly shown in Fig. 2, of the drawings, are spaced apart and form guideways for the leaders of the machine. Movably located within the cap formed by the members 18, is an impact plate 24, which in the present instance is shown as being circular in shape to correspond with the shape of the cavity provided by the members 18, but when said members are of other form, it is obvious that the impact plate may be made of a corresponding form. On its lower surface the impact plate 24, is provided with a socket 25, which may be of any suitable shape to receive the upper portion of the pile 26, which is extended through an opening in the buffer 20, and an opening between the flanges or supports 19, for said buffer, and into the cap as shown by dotted lines in Fig. 1, of the drawings, in which position, it is apparent that the plate 24, will lie on the upper portion of the pile so as to receive the blow of the hammer, and in such a way that the socket 25, will act as a constant guide for the pile.

The above described construction illustrated in Figs. 1, and 2, of the drawings, is especially intended for use in driving piles which are circular in cross section, and in Figs. 3, and 4, a modified form of the hood or cap is shown, which is also intended for piles which are circular in cross section and in this modification 15^a, designates the guide or frame for the hammer, which may be made of somewhat thicker material than that of the first described construction and has in its lower portion diametrically disposed vent openings 27, to permit of the escape of compressed air in the downward movement of the hammer. In the modified form now under consideration, the hood or cap includes a casing 28, of any suitable shape and material which is provided with a series of inwardly extended portions 29, each of which has a vertical opening through which are extended bolts 30, which engage suitable openings in the lower end of the hammer frame 15^a, and are used for securing the casing 28, thereto, as well as for securing a floor plate 31, which has a central opening 32, through which the pile may be extended, to said casing. The casing 28, is provided on the inner surface of its walls with dove-tailed recesses 33, for the reception of blocks 20^a, of rubber or other cushioning material, which blocks are of sufficient size to fit snugly within said recesses. Each of the recesses 33, is provided with an enlargement or outwardly disposed cavity

34, to permit of the expansion of the blocks 20^a, or buffers, which lie on the upper surface of the floor plate 32, outwardly of the opening therein. Movably located within the casing 28, is an impact plate 24^a, which has a number of lateral extensions 35, see Fig. 8, to extend into the recesses 33, of the casing. This impact plate 24^a, is adapted to rest on the upper end of the pile as in the other construction, and to receive the blow of the hammer.

In Figs. 5, 6, and 9, is shown another modification in the construction of the hood or cap, which is particularly intended for use on sheet piling, or piles which are rectangular in cross section, and it consists of a pair of jaws 36, which are secured by means of bolts 37, to the lower end of the guide or frame 15^a, for the hammer, which guide or frame may have one or more vent openings 27, in its lower portion, as in the last described construction, and for the same purpose. Each of the jaws 36, is provided on its inner surface with a dove-tailed recess 38, for the reception of correspondingly shaped blocks 39, of rubber or other cushioning material which rest on the upper surface of floor plates 40, which are secured to the lower surface of the jaws 36, by means of the bolts 37, and so as to close the lower ends of the recesses 38, in said jaws. By this arrangement it is apparent that the sheet piling or rectangular piles may be extended between the jaws 36, which in the present instance constitute the hood or cap, when an impact plate 41, movably located between the jaws 36, and within the recesses 38, thereof will rest on the upper end of the pile so as to receive the blow from the hammer.

From the foregoing and by reference to the drawings, it will be readily understood and clearly seen, that by employing a hood or cap constructed according to any of the forms of the invention, the parts may be readily attached to or removed from the hammer guide or frame, for repairs in case of breakage or for substitution of a special form of cap or hood when the nature of the work requires the same and that in the operation of driving the piles the destructive effect incident to the operation of the machine will be confined to parts which can be readily removed and replaced.

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

1. In a device of the character described, the combination with a hood having means to secure it to the guide for the hammer of a pile driver and provided with an open space to receive a portion of a pile, of an impact plate movably located in said space, and a buffer supported on the hood below said plate.

2. In a device of the character described,

the combination with a hood having means to detachably secure it to the guide for the hammer of a pile driver and provided with an open space to receive a portion of a pile, of inward extensions on the lower portion of the hood, an impact plate movably located in said space, and a buffer supported on said inward extensions.

3. In a device of the character described, the combination with a hood consisting of a plurality of members, of means for securing said members at their upper portions to the lower portion of a guide for the hammer of a pile driver, said members being arranged so as to provide an open space therebetween, an impact plate movably located in said space, and a buffer supported on the hood below said plate.

4. In a device of the character described, the combination with a hood consisting of a plurality of members, of means for securing said members at their upper portion to the lower portion of a guide for the hammer of a pile driver, said members being arranged so as to provide an open space therebetween to receive the upper portion of a pile, inward extensions on the lower portion of said members, yielding material located on the upper surface of said extensions, and an impact plate movably located in said space.

5. In a device of the character described, the combination with a hood consisting of a pair of members arranged so as to provide an open space therebetween to receive the upper portion of a pile, of means for securing said members at their upper portions to the lower portion of a guide for the hammer of a pile driver, an impact plate movably located in said space, and a buffer supported on the hood below said plate.

6. In a device of the character described, the combination with a hood consisting of a pair of substantially semi-circular hollow members each having on its inner surface at its upper portion a groove to engage a projection on the outer surface of the lower portion of a guide for the hammer of a pile driver, of means to detachably hold said

members together on said guide, an impact plate movably located in the cavity between said members, and a buffer supported on the lower portion of said members below the impact plate.

7. In a device of the character described, the combination with a hood consisting of a pair of hollow members each having at its upper portion means to engage the lower portion of a guide for the hammer of a pile driver and each provided on its lower portion with an inwardly extended flange, of means to detachably hold said members together on said guide, an impact plate movably located in the cavity of said members, and a buffer supported on the upper surface of said flanges.

8. In a device of the character described, the combination with a hood consisting of a pair of hollow members each having at its upper portion means to engage the lower portion of a guide for the hammer of a pile driver, of means to detachably hold said members together on said guide, an impact plate located in the cavity of said members and having on its lower surface a socket to receive the upper portion of a pile, and a buffer supported on the lower portion of said members below the impact plate.

9. In a device of the character described, the combination with a hood having means to secure it to the guide for the hammer of a pile driver and provided with an open space to receive the upper portion of a pile, of an impact plate movably located in said space and having on its lower surface a socket to receive the upper portion of a pile, and a buffer supported on the hood below said plate.

10. In a device of the character described, the combination with a hood provided with an open space to receive the upper portion of a pile, of an impact plate movably located in said space, and a buffer supported on the hood below said plate.

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Witnesses:

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