

No. 848,166.

PATENTED MAR. 26, 1907.

H. GEE.
PILE DRIVING MACHINE.
APPLICATION FILED NOV. 24, 1906.

Fig. 1.

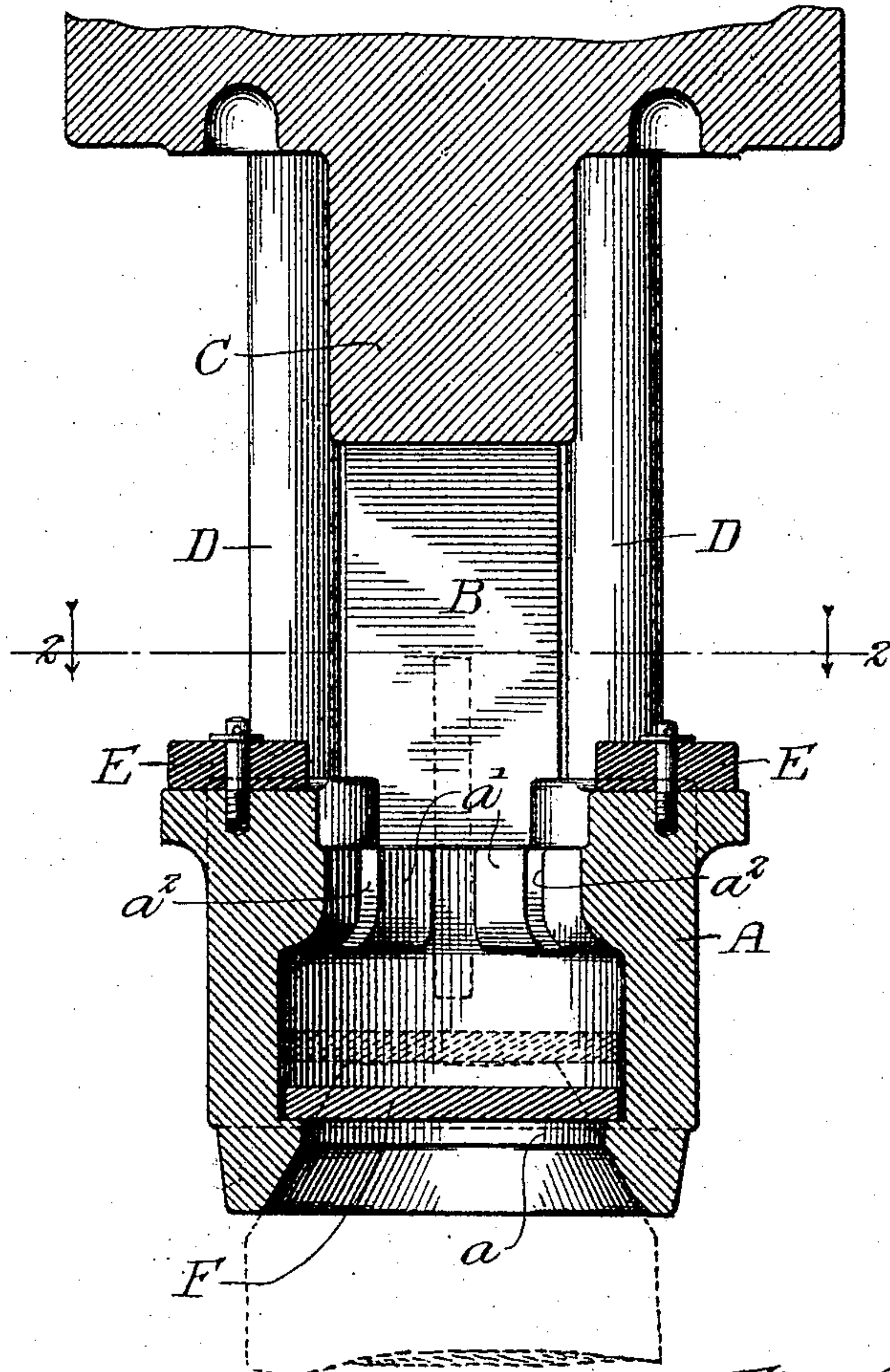
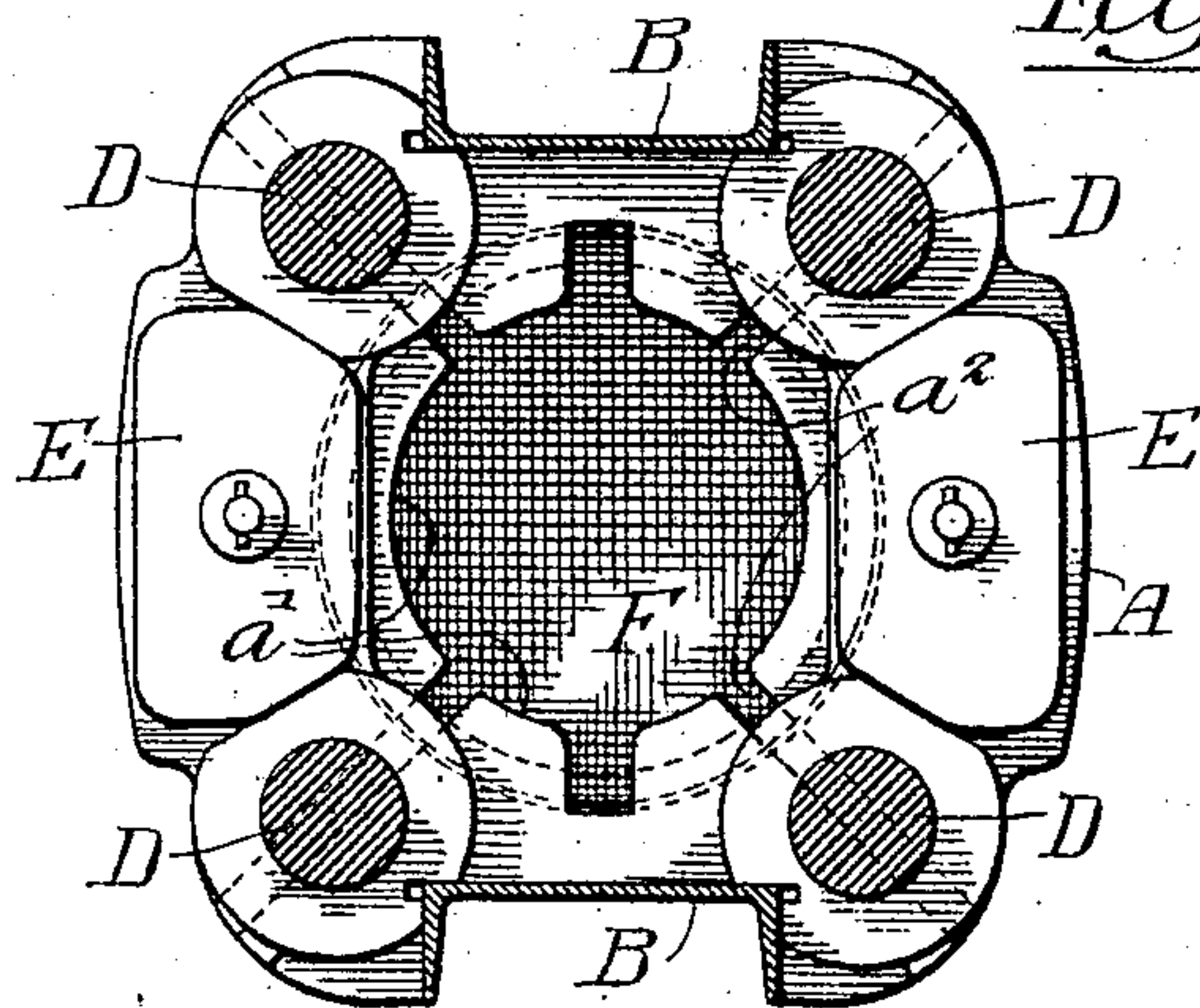


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

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PILE-DRIVING MACHINE.

No. 848,166.

Specification of Letters Patent.

Patented March 26, 1907.

Application filed November 24, 1906. Serial No. 344,804.

To all whom it may concern:

Be it known that I, HAROLD GEE, a citizen of the United States, residing at Kenilworth, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Pile-Driving Machines, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification.

The present invention relates more particularly to the construction of the movable follower-head, which is adapted to rest upon and form a socket for the upper end of the pile to be driven and which serves to prevent the pile from being split or crushed by the repeated concussions of the drop or hammer.

It has long been a common practice in pile-driving and other machines, in which the blows of a drop or hammer are given to the object to be driven, to provide a movable "drift" or impact block or plate to receive the direct blow of the hammer. This drift or impact block or plate has been movably held in place in a variety of ways; and the object of the present invention is to provide a simple and effective construction which will enable the drift or impact plate of the head of a pile-driving machine to be securely held in place, so that it shall receive the direct blows from the drop or hammer.

I am well aware that among other ways for inserting an impact-plate within the follower-head of the pile-driving machine it has been heretofore proposed to form an opening in the wall of the follower-head, so that the impact-plate might be slipped into the chamber of the follower-head. This provision of an opening in the wall of the follower-head is, however, objectionable, not only in that it entails expense in manufacture and requires the provision of a door or plate to close said opening, but for the further reason that it weakens that part of the follower-head subjected to the greatest strain, and for the still further reason that if the edge of the impact-plate lodges upon the inner edge of the wall-opening the plate does not set horizontal and when struck by the hammer it is apt to be injured and to injure the wall of the follower-head. By my present invention the necessity for providing the wall of the follower-head with an opening to receive the impact-

plate is obviated and the construction is simplified and improved.

Figure 1 is a view in central vertical section through the follower-head of a pile-driving machine embodying my invention. Fig. 2 is a view in horizontal section on line 2 2 of Fig. 1.

The follower-head A may be of the usual or any suitable construction. As shown, this follower-head A is connected at opposite sides to channel-bars B, that extend vertically to a suitable overhead support, and along these channel-bars B moves the drop or hammer C. Guide-rods D, extending upward from the follower-head A, may also be employed to direct the movement of the drop or hammer C. The top of the follower-head A is shown as provided with buffers E, of rubber or other suitable material, but these form no part of the present invention.

The follower-head A is chambered, as shown, and adjacent its bottom is provided with an annular projection or flange *a* and adjacent its top is provided with projections or circular flanges *a'*. Within the chambered head A is arranged the drift-plate F, that is adapted to rest upon the upper end of the pile to be driven. In dotted lines in Fig. 1 is illustrated a pile having the follower-head set over its upper end, and in such view there is also shown in dotted lines the position that will be occupied by the drift-plate when the follower-head is upon the end of the pile. It will be seen that the interior projections in the upper and lower portions of the follower-head A will serve to retain the drift-plate against displacement when said plate is in horizontal position, while allowing the plate a limited extent of movement in vertical direction. In order to permit the drift-plate to be inserted into the head, this plate will be turned to the vertical position shown by the dotted lines in Fig. 1, when it may be passed between the projections *a'* adjacent the top of the follower-head A. When the drift-plate is thus passed between the projections *a'*, the plate will be turned to a horizontal position and, while in this position will be retained against displacement by the projections or flanges adjacent the top and bottom of the follower-head.

As shown, the follower-head is provided

with a series of slots a^2 , through which will be passed wedges or keys that serve to connect the follower-head to the lower ends of the guide-rods D, through holes in which the
5 keys or wedges will also pass.

From the foregoing description it will be seen that by my present invention the drift or impact plate may be readily inserted into the chamber of the follower-head without
10 the necessity of forming an opening in the walls of said head, and when in position the plate will be movably retained against dislodgment by the projection adjacent the upper and lower portions of the chamber of
15 the follower-head.

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

1. A pile-driving machine comprising a
20 chambered, open-ended follower-head and a

drift or impact plate within the chamber of said follower-head, said head being provided adjacent its top and bottom with interior projections arranged to permit the drift-plate to be inserted into the head when said plate
25 is in vertical position and to retain said plate against displacement when turned to horizontal position.

2. A pile-driving machine comprising a chambered, open-ended follower-head pro-
30 vided with upper and lower interior projections to retain a drift-plate in position, the projections in the upper part of said follower-head being arranged at a distance apart to permit the drift-plate to be inserted into the
35 chamber of the follower-head.

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Witnesses:

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