No. 637,728. Patented Nov. 21, 1899.

M. GOLDBERGER.

CAST METAL PILE.

(Application filed Sept. 27, 1899.)

(No Model.)

Fig. 1.

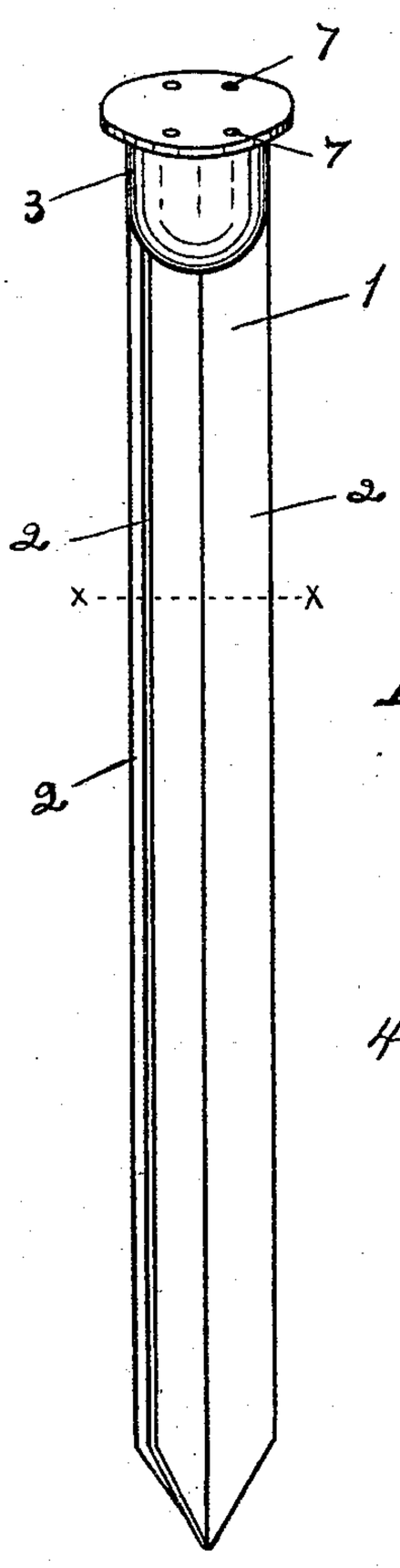


Fig. 2.

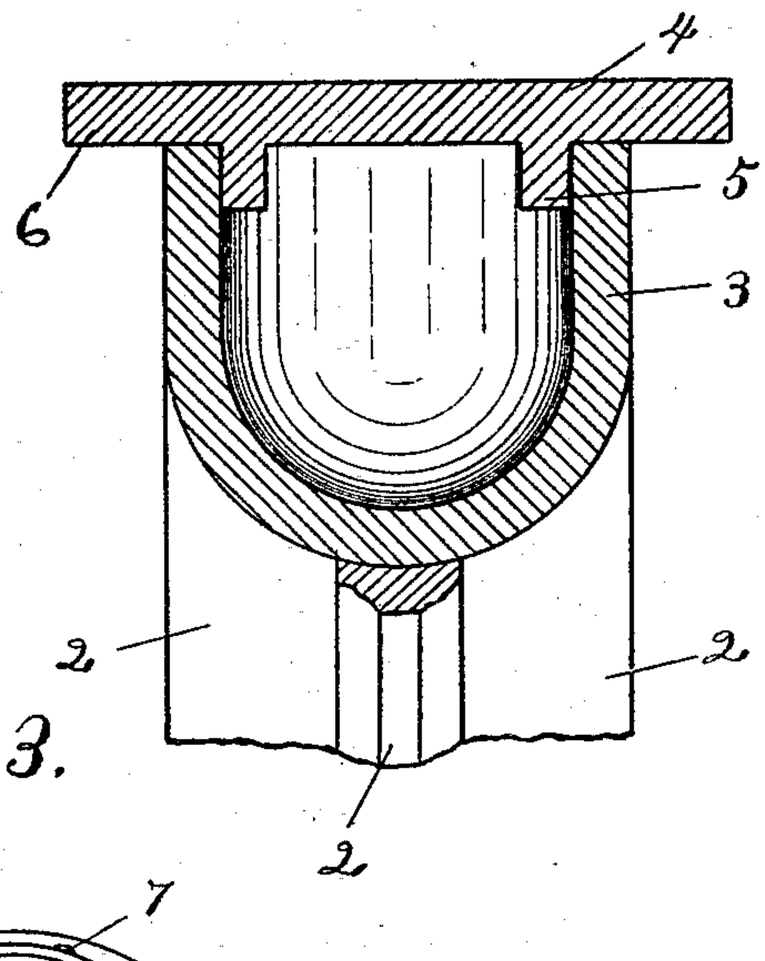


Fig. 3.

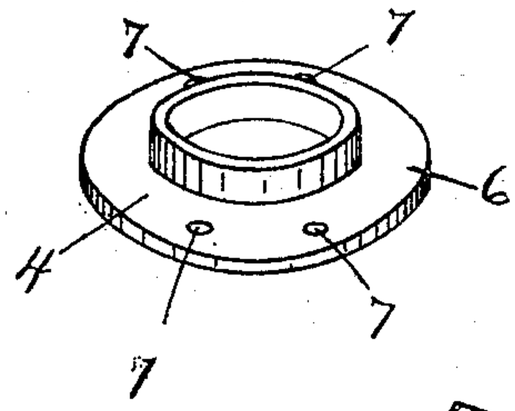
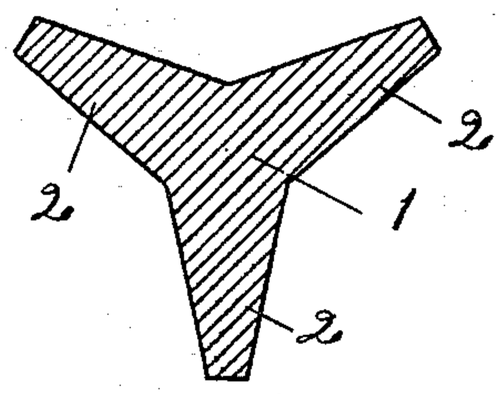


Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

MAURICE GOLDBERGER, OF FORT WAYNE, INDIANA, ASSIGNOR TO THE FORT WAYNE SMELTING AND REFINING WORKS, OF SAME PLACE.

CAST-METAL PILE.

SPECIFICATION forming part of Letters Patent No. 637,728, dated November 21, 1899.

Application filed September 27, 1899. Serial No. 731,786. (No model.)

To all whom it may concern:

Be it known that I, MAURICE GOLDBERGER, a citizen of the United States, residing at Fort Wayne, in the county of Allen, in the State of Indiana, have invented certain new and useful Improvements in Cast-Metal Piles; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in cast-metal piles specially designed and adapted for use as foundation-piles for bridges.

It is well known that in foundation-piles of cast metal it is almost impossible to drive them perfectly true vertically, particularly in soft earth or quicksand or in hard ground when even small boulders are encountered, and that when the pile is thus driven in a slightly-inclined position the cap will, when made in the usual way, not adjust itself to the usual superimposed beam which supports the superstructure, but will be tilted to the same degree or angle as the body of the pile and will therefore be under a constant strain when in use and under a constant tendency to break.

The object of my present invention is to provide a cast-metal pile of simple and economical construction having a three-flanged body adapted to secure an efficient holding friction and an improved form of cap adapted to readily adjust itself to the adjacent face of the superimposed beam when the pile is placed in an inclined position in use, thereby avoiding all unequal strains from the imposed weight.

My improved pile consists of a three-winged body pointed at one end and having a hollow cylindrical top closed by a detachable cap of improved construction.

In the accompanying drawings, Figure 1 is a perspective view of my improved cast-metal foundation-pile, with the cap in position thereon. Fig. 2 is a side view of the same, broken away in part, with the hollow cylindrical top and detachable cap shown in vertical section. Fig. 3 is a perspective detail of the removable cap, showing the circular flange upon its lower face. Fig. 4 is a cross-section of Fig. 1, taken on the line X X.

The body of my improved foundation cast-metal pile 1, of any proper dimensions, preferably either ten or sixteen feet in length, is formed of three integral radial wings or flanges 2, each one equally distant from its next adjacent neighboring flange. The wings preferably taper slightly toward their outer edge, as shown in Fig. 4, and have a proper width to secure the necessary holding friction in position and are of a proper thickness to give them the requisite strength.

My improved pile is provided with a hollow open-topped cylindrical top 3, whose outer periphery is a circle whose radius equals that of the width of the flanges 2, measuring from the center of the pile-body 1, Fig. 4. This hollow cylindrical receptacle 3 is compactly filled with sand to deaden the concussion of the blow of the pile-driver in a well-understood manner. The detachable cap 4, circular in form, has a circular pendent integral flange 5 upon its lower face, adapted to tightly fit the open top of the said receptacle 3, as shown in Fig. 2. The cap 4 is also provided with a horizontal flange 6, which projects beyond the perimeter of the said receptacle-top 3, and thus materially increases the area of the upper face of the cap 4, which receives the blow of the pile-driver, and also affords a secure support for the superstructure. The rim 6 of the said cap 4 is provided with a series of perforations 7, Fig. 1, preferably four in number, by means of which the said cap is rigidly secured to the beams, which are mounted on the piles to support the superstructure in the usual manner. The lower end of the pile-body 1 is properly pointed for driving, as shown. It is obvious that when the said beams are placed in position the detachable cap 4 can readily be adjusted to the exact position of the beam, and when the body of the pile 1 is out of true or in a slightly-inclined position one side of the cap will be slightly raised, but will not be subject to the strains and tendency to break incident to those caps which do not admit of this adjustment.

Having thus described my improvement

and the manner of employing the same, what I desire to secure by Letters Patent is—

1. A cast-metal foundation-pile whose body is formed of three integral wings or flanges arranged as shown, pointed at their lower end, and whose upper end is formed into an integral hollow receptacle or chamber, and a removable cap having an annular flange upon its lower face adapted to fit within the open top of said chamber as and for the purpose described.

2. The combination in a cast-metal pile of a three-flanged pile-body pointed at its lower end, and provided upon its upper end with an open-topped cylindrical chamber, and a detachable cap provided upon its lower face with an annular flange adapted to fit within the open top of said chamber for the purpose specified.

3. In a cast-metal pile having a flanged body as shown, for the purpose of increasing its holding friction, a detachable cap having upon its lower face an annular pendent flange adapted to fit within the opening of the chambered top of said pile-body.

4. The combination of the pile-body 1 having the longitudinal radial flanges 2 and the hollow top 3, and the removable cap 4 provided upon its lower face with the annular flange 5 adapted to be received by the said hollow top all substantially as and for the purpose specified.

Signed by me at Fort Wayne, in the county of Allen and State of Indiana, this 23d day of September, A. D. 1899.

MAURICE GOLDBERGER.

Witnesses:
ADELAIDE KEARNS,
AUGUSTA VIBERG.