(No Model.)

A. A. RAYMOND.

PILE CORE.

No. 589,026. Patented Aug. 31, 1897.

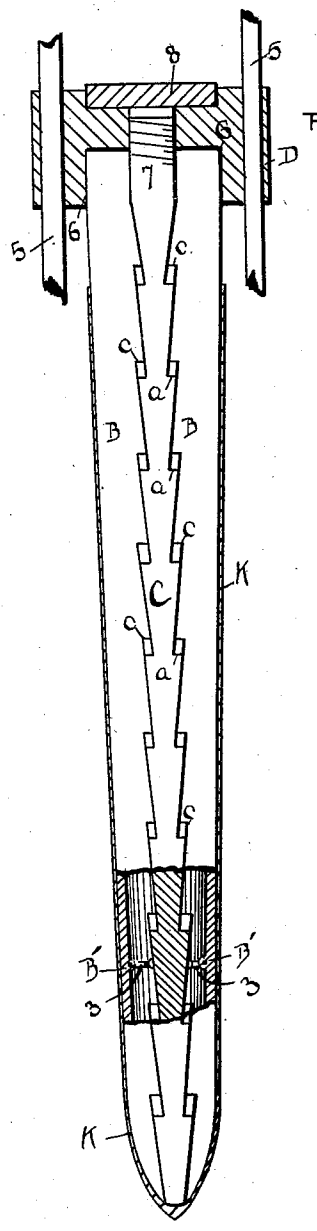


Fig 1

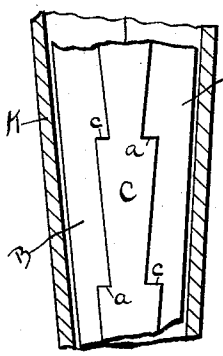


Fig 2

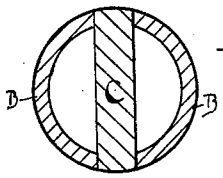
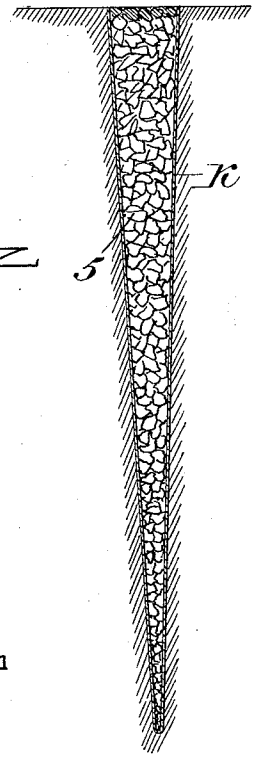


Fig 3

Fig. 4.



WITNESSES:

G. W. Paddock

Y. Haeseler

Alfred A Raymond

INVENTOR

BY C. M. Rues.

ATTORNEY.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ALFRED A. RAYMOND, OF OMAHA, NEBRASKA, ASSIGNOR OF ONE-FOURTH TO ARMINTA ROOT, OF SAME PLACE.

PILE-CORE.

SPECIFICATION forming part of Letters Patent No. 589,026, dated August 31, 1897.

Application filed March 6, 1896. Serial No. 582,055. (No model.)

To all whom it may concern.

Be it known that I, ALFRED A. RAYMOND, residing at Omaha, Douglas county, and State of Nebraska, have invented certain useful Improvements in Pile-Cores; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as 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 a part of this specification.

This invention has relation to a pile-core and the method of driving the same, the object of my invention being to provide a pile-core to be used in place of the ordinary wood pile for a foundation for buildings as well as piers.

In the accompanying drawings, Figure 1 shows a broken detached view of a pile-core embodying my invention. Fig. 2 shows a broken enlarged view of my pile-core and casing, while Fig. 3 shows a top view of my improved pile-core.

The object of my invention is to provide a cheap lasting pile that shall be adapted to withstand corrosion and not rot either in moist or dry soil.

In fulfilling the object of my invention I provide a pile-core comprising two similar semicircular core-shells B B, which shells are preferably in the form of rings in cross-section, as is shown in Fig. 3. At a suitable point near the lower ends I provide these core-sections with the ears B′ B′, adapted to receive the bars 3 3, which bars are used in pairs and in turn are shackled to the core C, preferably of metal, and looking from the edges like a series of superposed truncated cones, as is shown in the figures. The core-sections B B are of less than half a diameter, the missing space being occupied by the core C, as is disclosed in Fig. 3. The edges where this core-section joins the core C are stepped or notched to correspond with the outline of the core C. The pile can be either round or in any other shape in cross-section.

Secured to the core C is a head D, which head is provided with ways adapted to receive the guides 5 5, by means of which the core is guided, and which guides form part of any ordinary construction adapted to guide the same. This head D is of metal and is provided with the opening 6, within which the core C, as well as the sections B B, are held, the core C, however, being provided with a threaded head 7, screwing into the head D, while the pile-sections work loosely within the opening 6. Above I provide a plate 8, of wood or suitable material, to act as a buffer in receiving the shock necessary to drive the core.

In its normal position the pile-sections B B, as well as the core, would rest upon their lower edge, as is shown in Fig. 1. To keep the core-sections B B from expanding beyond a certain point while working downward, I provide the bars 3 3 below, while above the cores work within the head D, and so cannot spread. However, as soon as the core should be carried upward by means of the head D the core C would promptly move upward, forming part of the head, while the sections B B would remain inert until the shoulders *a a* of the core C engaged the shoulders *c c* of the core B, in which position the core would be of a decreased diameter, as is shown in Fig. 2.

The method of using my device and of driving piling according to my invention is to provide a thin metal jacket K, which jacket can be of sheet metal from a thirty-second to any desired thickness. This jacket need not be water-tight and simply forms a light temporary coating to the pile. The core is driven, as usual, with one of these jackets surrounding it a desired depth, when the pile-core can be promptly withdrawn, as the core contracts in being carried backward.

In Fig. 2 I have shown the relative position of the core-section B and the shell K and showing the core-section still in position, but the core drawn up a short distance.

After the core is withdrawn there is of course left within the earth the thin metal jacket, which jacket is next filled by a composition of cement and crushed stone 5 or any other filling adapted to harden with age. This filling can be tamped into the jacket to make it good and solid and to be built up above the ground as well as within the ground. In time the metal jacket of course corrodes and rusts, especially if the piling is driven below

the water-line, but this cuts no figure as the earth around the piling will have been securely packed, while the cement pile will withstand corrosion.

Now, having thus described my said invention, what I claim as new, and desire to secure by United States Letters Patent, is—

1. In an expanding pile-core the combination with a main serrated center core of a head secured to said core and two core-sections shackled to said main core and provided with a serrated edge meshing with said main core said core-section working within said head all substantially as and for the purpose set forth.

2. An expanding pile-core comprising the main central section C having two serrated sides *a a*, the ears B′ B′ the core-sections B B shackled to said main core-section C by means of the bars 3 3, the head D secured to said main section C and provided with the opening 6, adapted to movably hold the upper ends of said core-sections B B in combination with shell K all substantially as and for the purpose set forth.

3. The method of driving a pile which consists in providing a temporary pile-covering with a solid core then driving said temporary shell into position and then removing said solid core and finally providing the said shell with a suitable filler, all substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ALFRED A. RAYMOND.

Witnesses:

JOHN M. MACFARLAND,

E. W. RAYMOND.