L. KIRKUP.

Pile.

No. 226,664. Patented April 20, 1880.

Fig 1.

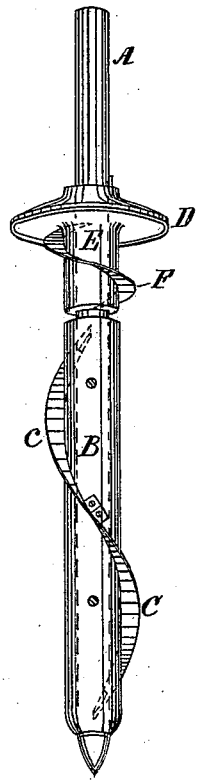


Fig 3.

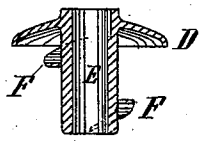
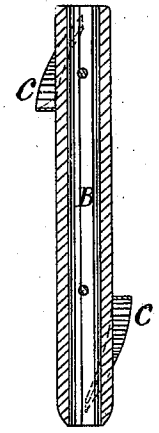


Fig 2.



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UNITED STATES PATENT OFFICE.

LANCELOT KIRKUP, OF BROOKLYN, NEW YORK, ASSIGNOR TO MANHATTAN IRON AND STEEL PIER AND BRIDGE COMPANY.

PILE.

SPECIFICATION forming part of Letters Patent No. 226,664, dated April 20, 1880.

Application filed February 10, 1880.

To all whom it may concern:

Be it known that I, LANCELOT KIRKUP, of Brooklyn, in the State of New York, have invented a new and useful Improvement in Piles, of which the following is such a full, clear, and exact description as will enable others skilled in the art to which this appertains to make and use the same, when taken in connection with the accompanying drawings, in which—

Figure 1 is a perspective view of my improved pile. Fig. 2 is a perpendicular section through the sleeve and lower screw. Fig. 3 is a perpendicular section through the plate, upper sleeve, and screw.

To an ordinary wooden or iron pile I fasten, by keying or other means, the sleeve B, having thereon the spiral screw-flange C, or, if preferred, the flange is attached to or made part of the pile, which flange, commencing at or near the lower end of the pile, extends about and part way up it, and is an open spiral or screw of rapid pitch, forming with the axial line of the pile an angle of forty-five degrees or less, giving the pile a much greater bearing-surface, and, without materially increasing the displacement of the pile, greatly increases the bearing capacity both for weight and side thrust.

A pile having on it such a spiral screw-flange may be driven into the ground by striking the pile on the top with a driver, the flange causing it to revolve as it goes in, and need not be turned around by a lever, as must be done with the ordinary screw-pile having a flat screw. The flange will, however, give the pile a firm hold on the ground and prevent displacement.

Another part of my invention consists of the plate D, having attached to it the sleeve E, on which is the spiral screw-flange F.

The sleeve E and the plate D are so united to one another that the axial line of the sleeve will correspond with the center of the plate. The spiral flange surrounds the sleeve and is attached thereto.

Through the center of the plate and the sleeve is a hole sufficiently large to accommodate a pile, on which the plate may be placed and to which it should be keyed.

The mode of operation is as follows: The sleeve B, having thereon the flange C, is firmly keyed to the lower end of the pile, or the flange is fastened directly to or made as part of the pile. The pile is then driven into the ground where desired. The plate D, having attached the sleeve E and flange F, is now put on the pile and lowered to the ground about the pile, the screw and sleeve sinking into the ground and the plate resting on or sinking slightly into the ground, in which position the plate is firmly keyed to the pile and made to support it.

The spiral screw-flange C and plate D may be used on any kind of piles. They are, however, of more advantage to piles of small cross-section, as iron piles, which require additional support to give them stability.

By the use of both the lower flange and the plate two parts of the pile are supported in a firm manner against both the weight of the load and side thrust.

I am aware that screw-flanges have been used on piles to give them increased stability, as shown in Patent No. 108,814, to Moseley, November 1, 1870; but such screw-flanges were nearly flat, and necessitated the turning of the pile by a lever to get it into the ground, at great expense of both time and labor.

By my invention the rapid spiral screw-flange is used, and may be readily driven into the ground.

What I claim as new, and desire to secure by Letters Patent, is—

1. The pile herein shown and described, having thereon a spiral screw-flange at an angle with the axial line of the pile of forty-five degrees (45°) or less, encircling the pile from its lower end part way up, substantially as and for the purpose specified.

2. The pile having thereon a spiral screw-flange from its lower end, encircling the pile part way up, and the plate having attached thereto on its lower side a screw-flange, so combined that the plate and flange thereto attached encircle the pile and rest upon the ground about the pile, substantially as specified and set forth.

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Witnesses:

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