

H. CASE.
Composite Pile.

No. 224,646.

Patented Feb. 17, 1880.

Fig: 1.

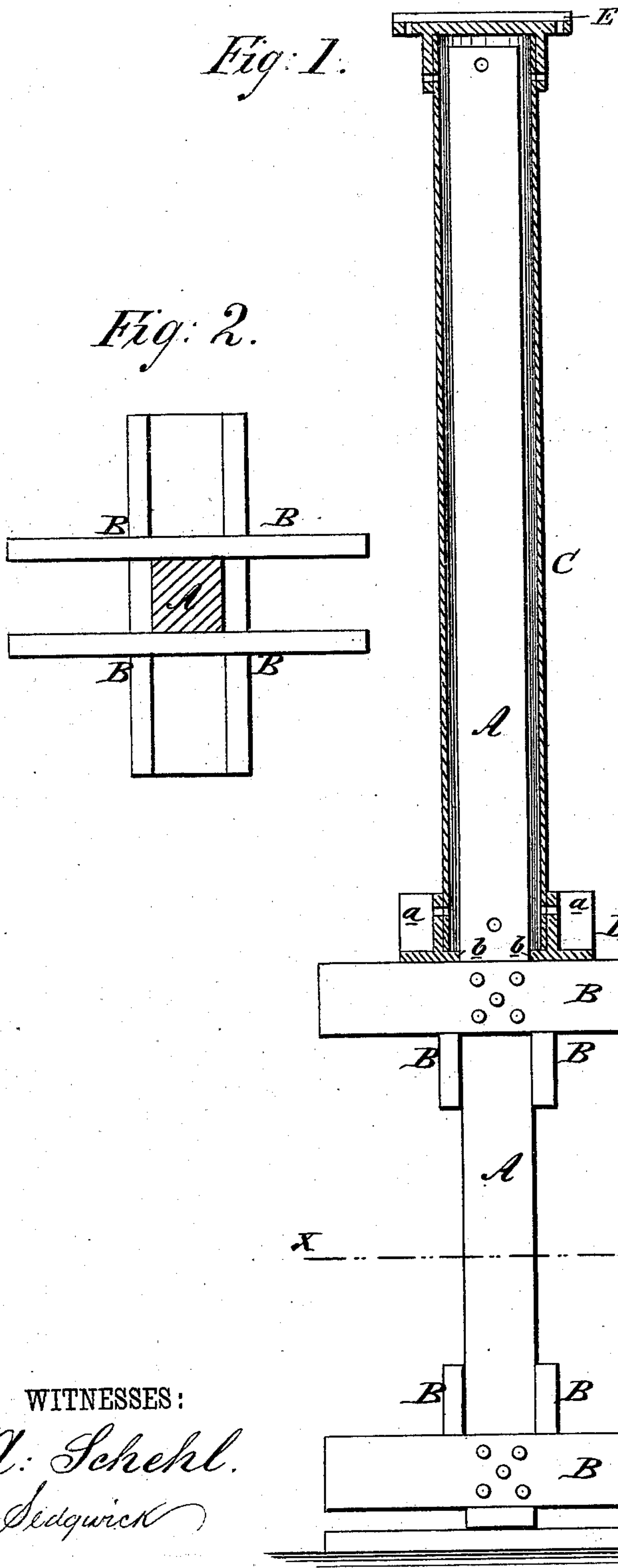


Fig: 2.

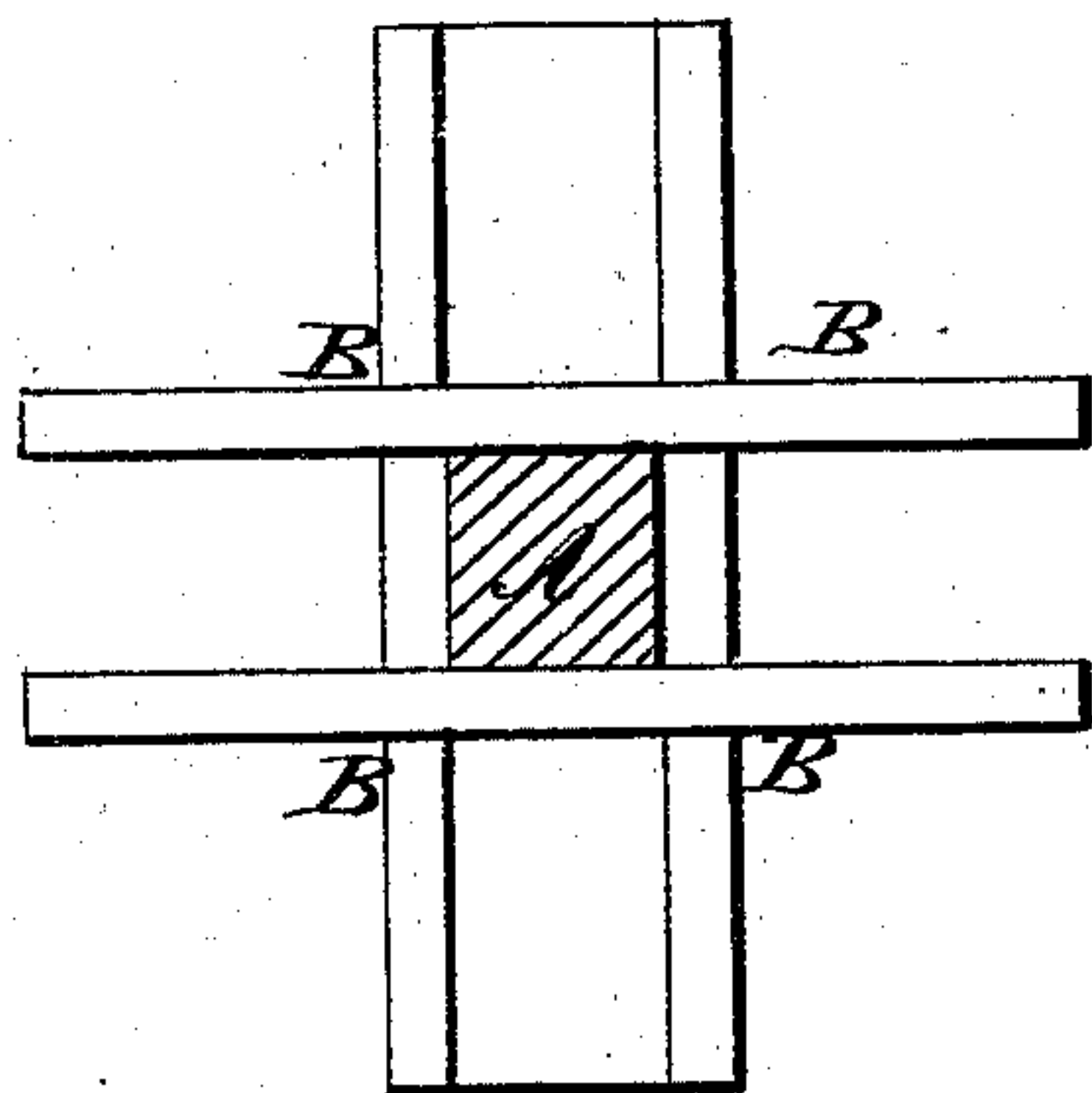


Fig: 3.

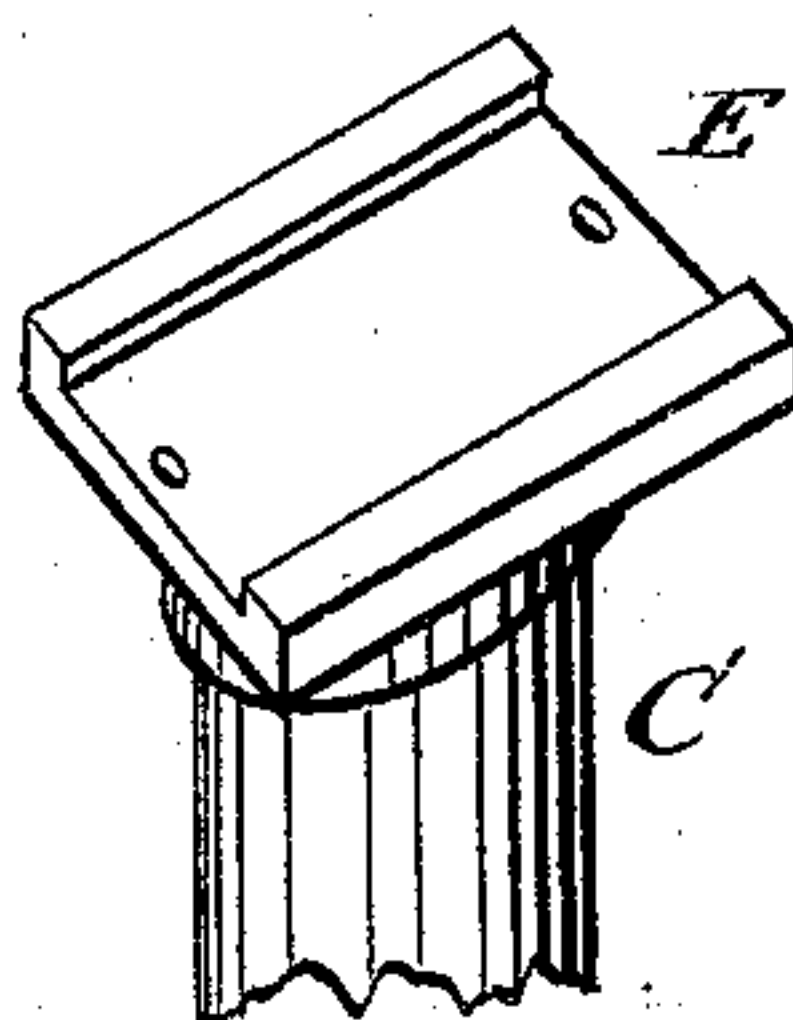
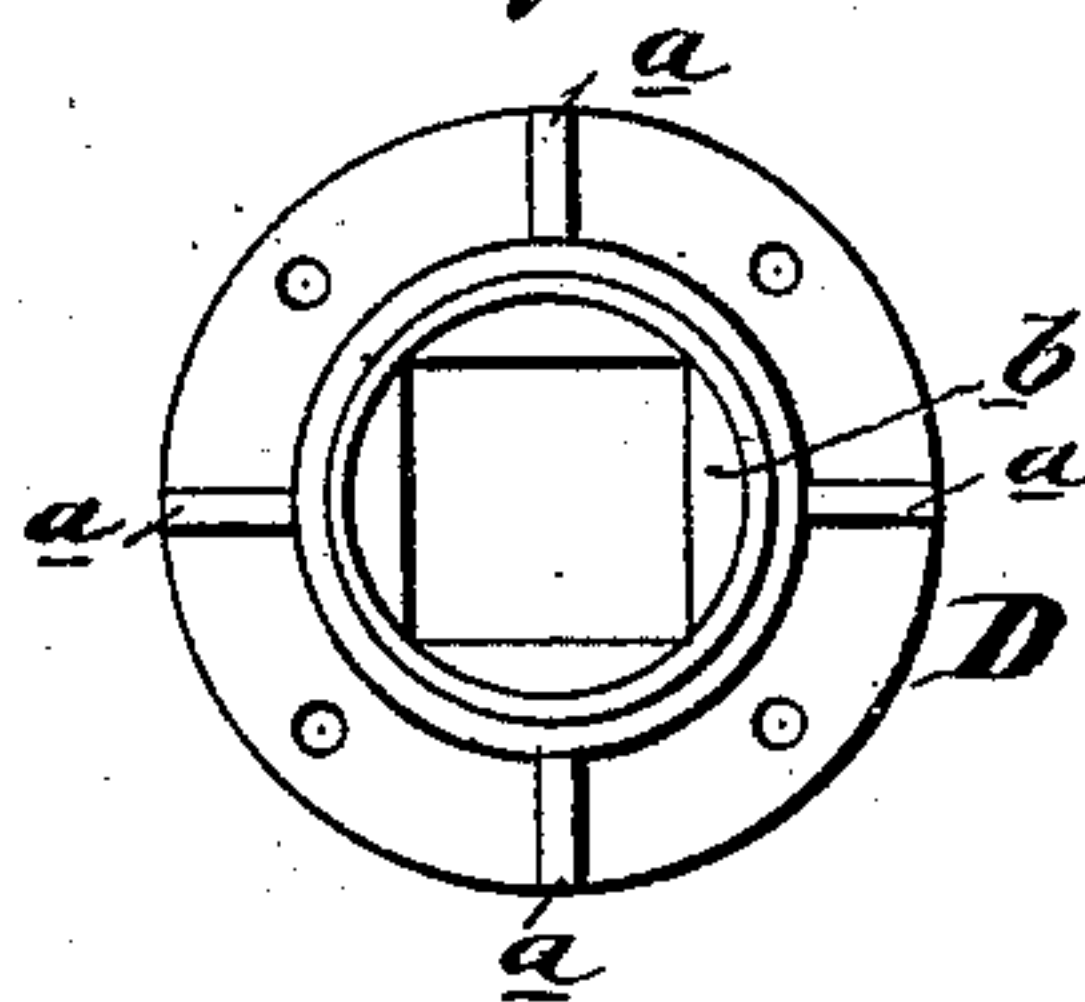


Fig: 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

HENRY CASE, OF BROOKLYN, NEW YORK.

COMPOSITE PILE.

SPECIFICATION forming part of Letters Patent No. 224,646, dated February 17, 1880.

Application filed January 10, 1880.

To all whom it may concern:

Be it known that I, HENRY CASE, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Composite Pile, of which the following is a specification.

Figure 1 is a vertical elevation of a pile, partly in section. Fig. 2 is a transverse section on line *x x*, Fig. 1. Fig. 3 is a perspective view of the cap of the pile attached to the top of the pile. Fig. 4 is a plan of the pile with the cap removed.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide a composite pile for submarine foundations and other purposes that shall withstand decay or the attack of worms and insects better than a wooden or iron pile.

In the drawings, A represents the wooden pile provided with shoes B, formed of strips of wood fastened across the faces of the pile in contact with each other. C is the metal tube composing the upper part of the pile and inclosing the upper part of the wooden pile A. Resting upon the upper shoes, B, of the pile A is a circular metal shoe, D, provided with vertical flanges *a*, and within this shoe D the lower end of the tube C rests upon the annular inward flange, *b*, of the said shoe, so that this end of the tube C shall not press upon and cut into the shoes B, and the said shoe D serves also as a foundation for the tube C and to steady the whole structure.

In sinking this pile the wooden part A is sunk so that the upper shoe, B, shall be beneath the surface of the soil, where it cannot be reached by marine worms or insects, while the metal tubular part of the pile extends upward above the surface of the water to any desired height, and on its top is a metal cap, E, whose upper surface is rectangular and

channeled or grooved, as shown, for the reception of the sills of a pier or other superstructure, and said cap E is intended to be secured to the top of the metal part of the pile by bolts which pass through the tube C and the wooden pile A. The said cap E also protects the top of the wooden pile from atmospheric influences.

It is found in submarine foundations that that part of a metal pile which is sunk in the soil quickly corrodes, and that part of the wooden pile which extends upward above the soil or bed of river or harbor is quickly destroyed by marine worms and insects. These objections to the use of piles constructed wholly of metal or wood are removed by the use of this composite pile, as herein shown, the wooden part of the pile enduring almost indefinitely in the soil of river or harbor bed, while the metal part of the pile successfully resists all attacks of marine worms or insects in the water. The pile is lighter and cheaper than one composed of metal entirely, and much stronger than one composed entirely of wood, while the shoes on the pile support it firmly in an upright position. The metal tubular portion of the pile also will itself be uninjured by floating ice, and serve at the same time as an efficient protector of the wooden portion of the pile against ice and other floating objects.

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

The combination of the wooden pile A, provided with shoes B, with the tubular metal pile C, provided with a flanged shoe, D, substantially as herein shown and described.

HENRY CASE.

Witnesses:

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