T. W. RIDLEY.

PILE.

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1,087,830. Patented Feb. 17, 1914.

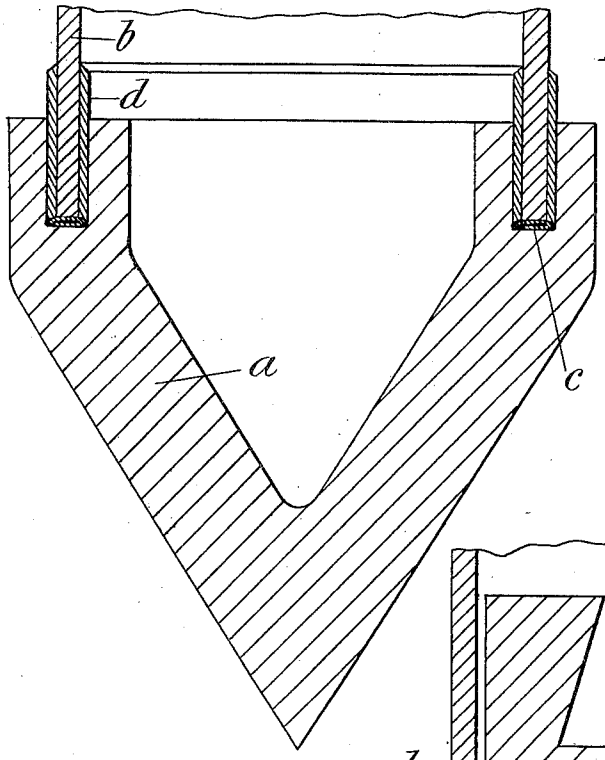
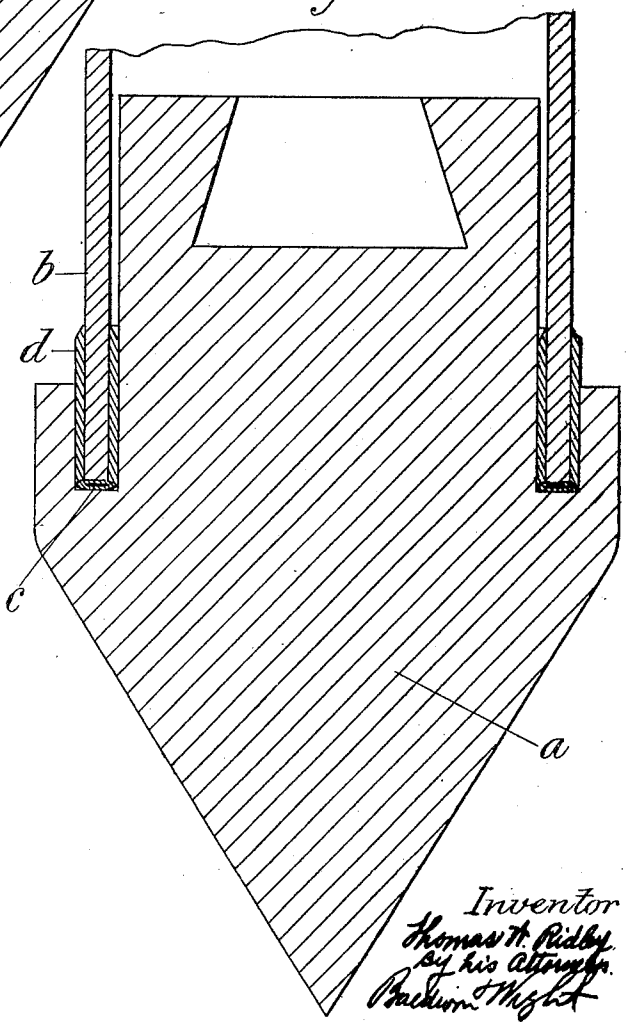


Fig. 1.

Fig. 2.



Witnesses
E. B. Franzoni
M. E. Burnle

Inventor
Thomas W. Ridley
by his Attorneys
Dickson & Wright

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

THOMAS WILLIAM RIDLEY, OF MIDDLESBROUGH, ENGLAND.

PILE.

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To all whom it may concern:

Be it known that I, THOMAS WILLIAM RIDLEY, a subject of the King of Great Britain, residing at 67 Marton road, Middlesbrough, England, have invented new and useful Improvements in Piles, of which the following is a specification.

The invention relates to the well known method of forming concrete piles by driving a tube provided with a shoe at its lower end into the ground and after the shoe and tube have reached a satisfactory depth withdrawing the tube after it has been filled with concrete either in a liquid state or in the form of a previously cast concrete column or a combination of both.

According to this invention the upper end of the shoe is formed with an annular groove or recess which is adapted to receive the lower end of the driving tube which is inserted in the recess or groove and the joint is made tight in a novel and efficient way by interposing between the lower edge of the tube and the bottom wall of the groove compressible fibrous packing, such as Tuck's packing, and interposing between the side walls of the groove and tube plastic packing, such as clay.

By the use of this invention when the shoe is driven into the ground through running sand, water or such like material, the joint prevents the water, sand, etc., from percolating between the tube and the shoe and thus entering the hollow column. The tube and shoe are otherwise of usual construction and are used in the ordinary way. In practice, however, the fibrous compressible packing is preferably first placed in the bottom of the groove, then the clay or plastic packing is placed on top of the fibrous packing. When the tube is forced into the groove the plastic packing rises and occupies the space between the side walls of the groove and tube, while the fibrous packing remains at the bottom of the groove and in the preferred construction is interposed between two rings of plastic packing on opposite sides of the lower end of the tube within the groove.

In the accompanying drawings, Figure 1 shows a vertical section of a preparatory pile constructed in accordance with this invention, and Fig. 2 is a similar view of a modification.

In Fig. 1, *a* indicates a shoe of cast iron, and *b* a steel tube. *c* is a ring of compressible fibrous packing, such as Tuck's packing, and *d* indicates plastic packing, such as clay. In Fig. 1 there are two rings *d* of plastic packing surrounding the lower end of the tube *b* and the fibrous packing *c*, which is at the bottom of the groove, is interposed between these two rings.

The form of shoe *a* shown in Fig. 2 is especially suitable when it is made of concrete, and in this case the inner part of the shoe extends farther up into the tube *b*, otherwise the construction is the same.

I claim as my invention:—

The combination of a shoe having an annular groove in its upper end, a tube the lower end of which enters the groove, rings of plastic packing between the side walls of the groove and tube, and compressible fibrous packing at the bottom of the groove interposed between the rings of plastic packing.

THOMAS WILLIAM RIDLEY.

Witnesses:
HERBERT D. JAMESON,
O. J. WORTH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."