No. 810,551. PATENTED JAN. 23, 1906.

J. McGRANIGHAN.

PILE TUBE.

APPLICATION FILED JUNE 26, 1905.

Fig. 1.

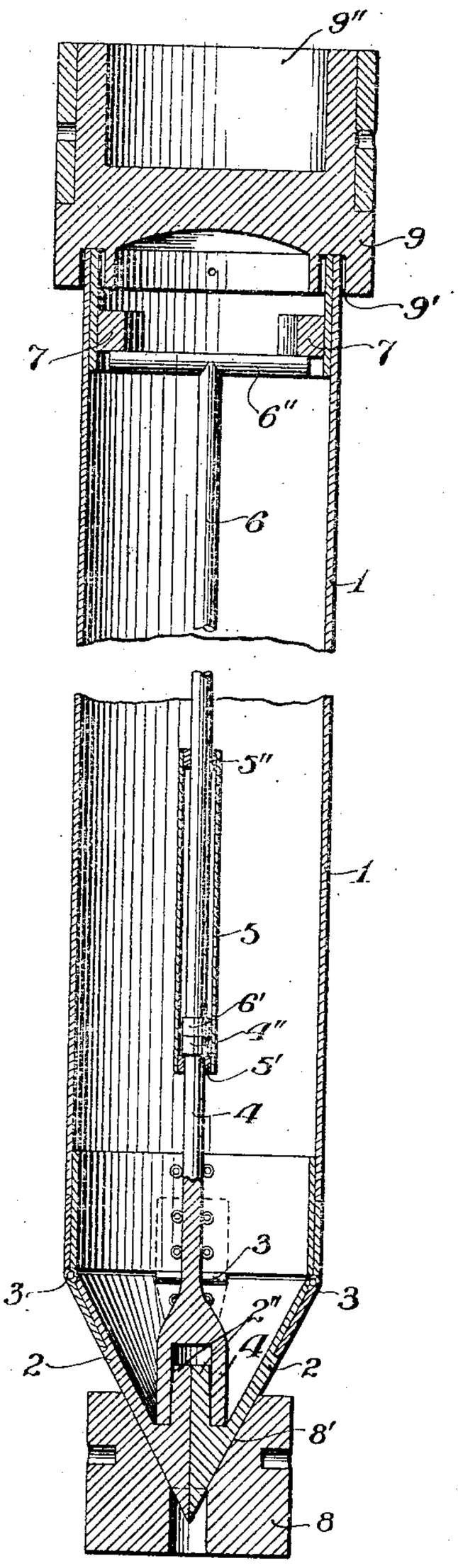
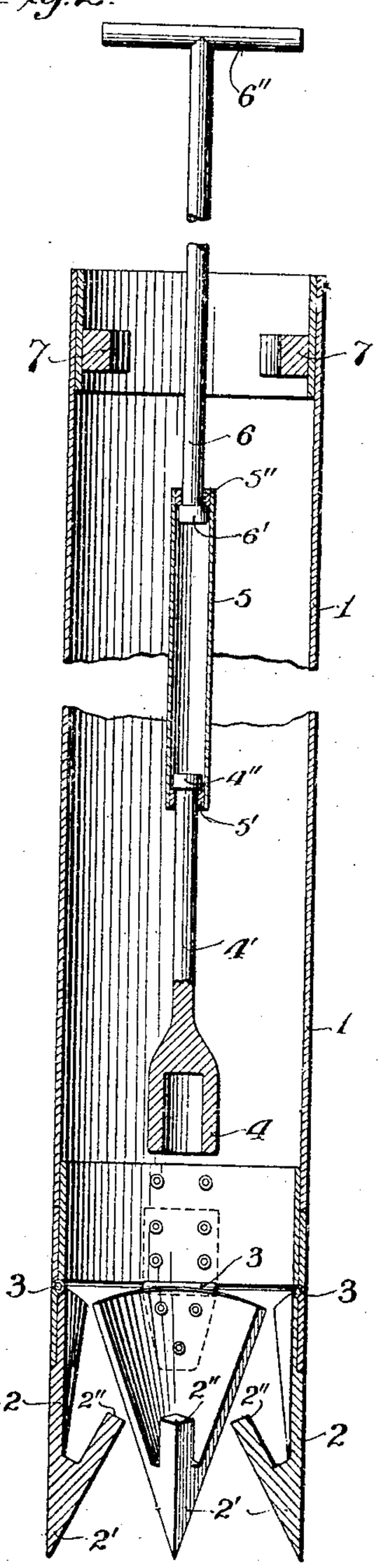


Fig. 2.



Witnesses:-
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UNITED STATES PATENT OFFICE.

JOHN McGRANIGHAN, OF ROXBORO, PENNSYLVANIA.

PILE-TUBE.

No. 810,551. Specification of Letters Patent. Patented Jan. 23, 1906.

Application filed June 26, 1905. Serial No. 266,946.

To all whom it may concern:

Be it known that I, JOHN MCGRANIGHAN, residing at Roxboro, in the county of Philadelphia, State of Pennsylvania, have invented certain Improvements in Pile-Tubes, of which the following is a specification.

This invention relates to tubes for use in forming artificial-stone piles in place; and its object is to provide an improved tube that can be driven with facility and readily withdrawn after the pile has been formed therein.

The improvements reside, primarily, in the use of a peculiar point having cone-sections hinged to the body of the tube with means for locking them together in driving and unlocking them to permit their separation for withdrawing the tube when the pile has been formed therein.

In the accompanying drawings, Figure 1 represents a longitudinal sectional view of the invention, together with the means for closing and locking the point-sections; and Fig. 2 represents a longitudinal sectional view of a second position of the same with the point-closing pilot and driving-cap removed.

The mechanism comprises the tube 1, having the conical point 2, composed of the four quadrantal cone-sections 2′, connected to the tube by the hinges 3, the several sections 2′ having the projections 2″, which fit together when the sections are closed. A shoe 4 is adapted for engaging the closed projections 2″ and locking the sections in the closed position to make the point, the shoe having the rod or stem 4′, with the head 4″ thereon. A tubular coupling 5, having a head 5′, receives the head 4″, the stem 4′ working in the head 5′, which is adapted for engaging the head 4″. The coupling 5, having the head 5″, receives the head 6′ of a stem 6, which works in the head 5″. A T-head handle 6″ is fixed to the rod 6 and is adapted for reciprocating the same to effect through the coupling 5 a hammer-blow on the stem 4′ to engage and disengage the shoe 4 with reference to the projections 2″, the handle being moved into the tube 1 and turned under the lugs 7 thereof when the point-sections have been locked.

To force the point-sections into the close engagement required for driving and locking, a pilot 8, having a conical seat 8′, may be driven upon the point 2 prior to engaging the shoe 4 with the projections 2″, the pilot being removed when the sections have been locked.

The tube is driven by placing thereon a cap 9, having therein a channel 9′, which registers with the top of the tube, and a socket 9″, adapted for receiving a block of wood which receives the direct impact of the driving blows.

When the tube has been driven, the cap is removed from the top and the shoe is withdrawn. Thereafter upon lifting the tube slightly the sections of the point will open. The tube can now be filled with concrete, and when the pile is formed the tube is withdrawn, leaving the pile set in position.

I am aware that tubes have been proposed with two swinging valve members hinged to the bottom thereof held together for driving by a shoe placed exterior thereto; but this device provides a point having an oval cross-section, and the valve members are such that they do not freely open upon lifting the tube. In drawing the tube the extremities of the base of these valve members engage the earth surrounding the hole, causing it to mingle with the concrete and interfere with the withdrawal of the tube. Moreover, the shape of the point is such that it does not penetrate with the readiness of a conical point, and the character of the shoe is such that when the tube jumps in driving upon striking an obstruction the jaws become disengaged from the shoe and open.

Having described my invention, I claim—

1. A pile-tube comprising a body and a point consisting of cone-sections hinged to said body, in combination with the internal means for locking said sections together.

2. A pile-tube comprising a body and a point having separable sections hinged to said body, said sections having projections thereon, in combination with means for engaging said projections to lock said sections together.

3. A pile-tube comprising a body and a point having separable sections hinged to said body, said sections having projections within them, in combination with a shoe for engaging said projections to lock said sections together, and means for exerting a hammer-blow in setting and removing said shoe.

4. A pile-tube comprising a body having a point composed of hinged sections with projections thereon, a shoe with a stem thereon for engaging said projections, a handle having a stem thereon, and coupling mechanism connecting said stems in movable relation to each other.

In testimony whereof I have hereunto set my hand, this 24th day of June, 1905, in the presence of the subscribing witnesses.

JOHN McGRANIGHAN.

Witnesses:

ROBERT JAMES EARLEY,

UTLEY E. CRANE, Jr.