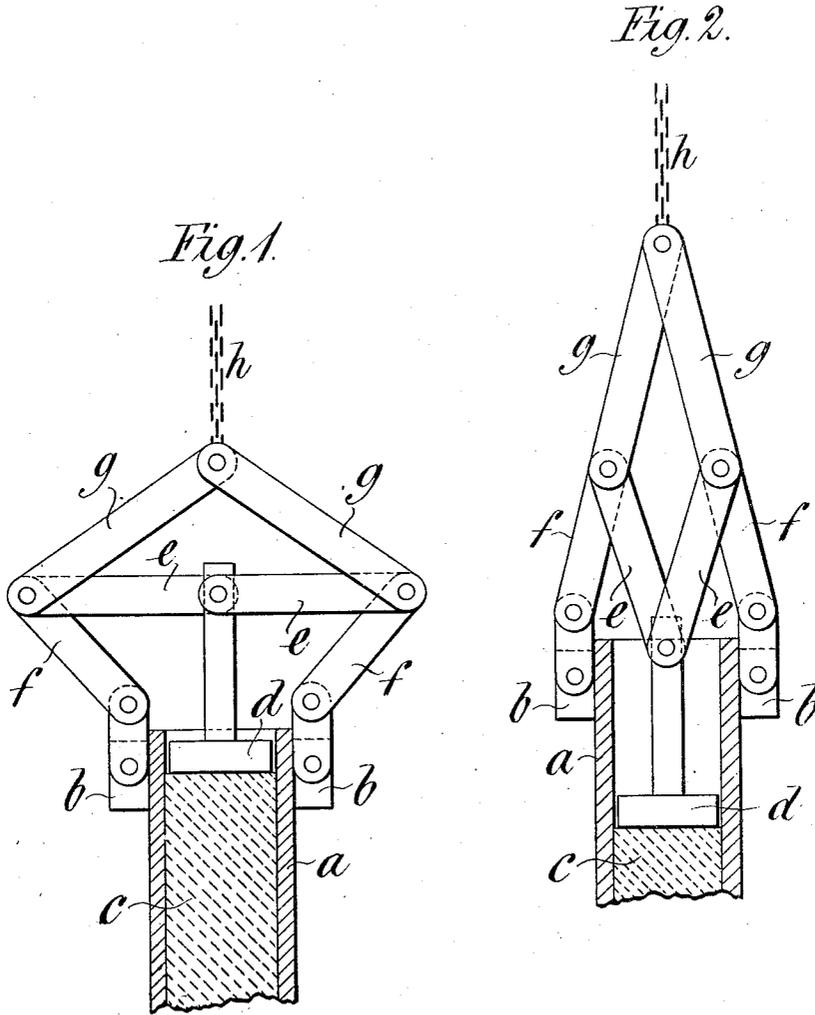


T. W. RIDLEY.
CONCRETE PILE.
APPLICATION FILED APR. 19, 1913.

1,078,000.

Patented Nov. 11, 1913.



Witnesses.
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UNITED STATES PATENT OFFICE.

THOMAS WILLIAM RIDLEY, OF MIDDLESBROUGH, ENGLAND.

CONCRETE PILE.

1,078,000.

Specification of Letters Patent.

Patented Nov. 11, 1913.

Application filed April 19, 1913. Serial No. 762,362.

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, in the county of York, England, have invented new and useful Improvements Relating to Concrete Piles, of which the following is a specification.

This invention relates to concrete piles which are formed by first driving a tubular preparatory pile, filling it with concrete and then withdrawing it leaving the concrete in place. In some cases when employing this method, as the tube is withdrawn the earth surrounding it forces itself into the space which should be filled with concrete and even mixes itself with the concrete.

According to this invention the concrete is rammed during the withdrawal of the tube and this is done by the act of withdrawing the tube.

Figures 1 and 2 are sectional elevations illustrating one form of apparatus for carrying out the invention. Fig. 1 shows the position of the parts before, and Fig. 2 after, the withdrawal of the tube has commenced.

a is the ordinary tubular preparatory pile and *b b* are lugs fixed to its upper end.

c is the concrete within the tube *a*.

d is a rammer resting on the concrete *c*.

e e are links pivoted at one end to the rammer *d* and at the other end to the ends of links *f f* and *g g*. The other ends of the links *f f* are pivoted to the lugs *b b* and the other ends of the links *g g*, are pivoted together and to the lifting chain *h*. The links *f, g* are toggle links and connect the tube *a* with the chain *h*. The links *e* are also toggle links connecting the rammer *d* with the links *g* and *f*.

When the chain *h* is hauled up the concrete *c* forms a fulcrum for the system of levers connecting the chain *h* to the tube *a* and as the links *f f* and *g g* are drawn to-

ward each other as shown at Fig. 2 there is a tendency to force the rammer *d* downward and cause the concrete *c* to fill up the space which was occupied by the lower end of the tube *a*. When the parts have been drawn into the position shown at Fig. 2 the chain *h* may be lowered, the rammer *d* lifted and the top of the tube *a* filled with concrete and then the lifting be resumed.

What I claim is:—

1. The combination with a preparatory pile of a rammer, a lifting chain and toggle link connections between the chain, the pile and the rammer, whereby the rammer is operated when the chain is raised before the pile is lifted.

2. The combination with a preparatory pile of a rammer, a lifting chain, toggle link connections between the chain and the pile, and toggle link connections between the rammer and said first mentioned links, whereby the rammer is operated when the chain is raised before the pile is lifted.

3. The combination with a preparatory pile of a rammer, a lifting chain, expansible and contractible toggle link connections between the chain and the pile, and expansible and contractible toggle link connections between the rammer and said first mentioned links, whereby the rammer is operated when the chain is raised before the pile is lifted.

4. The combination of a preparatory pile, a rammer, a lifting chain, two pairs of links the links of each pair being pivoted together at one end while their other ends are pivoted respectively to the preparatory pile and the lifting chain, and a third pair of links their ends being pivoted to the rammer and to the pivots connecting the links of the first pairs.

THOMAS WILLIAM RIDLEY.

Witnesses:

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