W. COOKE.

Portable Derrick.

No. 201,997. Patented April 2, 1878.

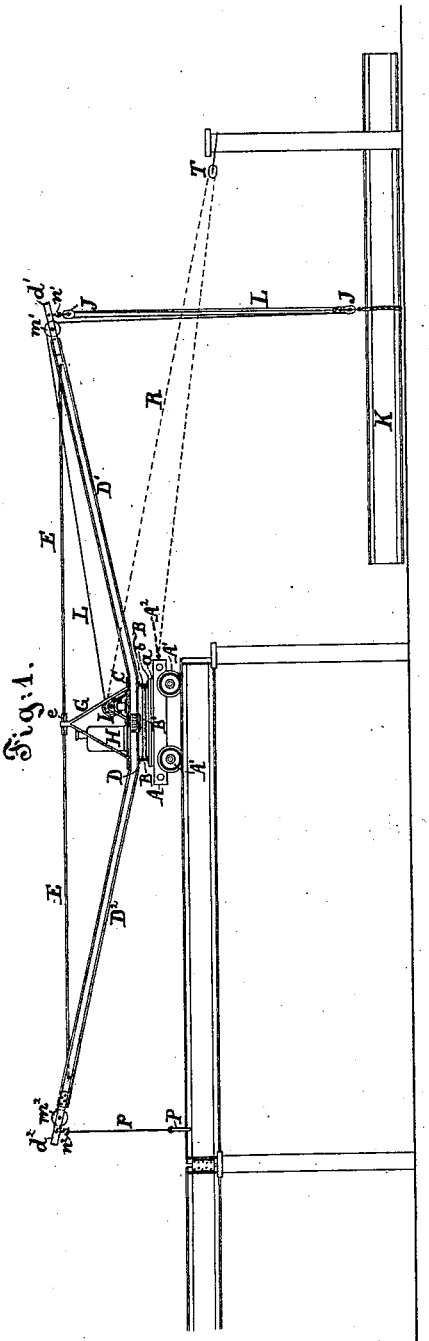

Fig. 1.

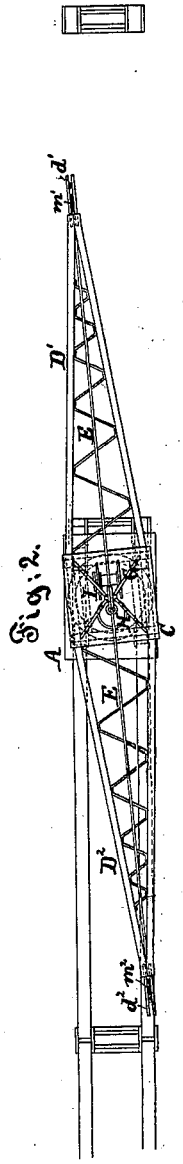

Fig. 2.

Witnesses:

N. A. Goodwin

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UNITED STATES PATENT OFFICE.

WATTS COOKE, OF PATERSON, NEW JERSEY.

IMPROVEMENT IN PORTABLE DERRICKS.

Specification forming part of Letters Patent No. **201,997**, dated April 2, 1878; application filed March 11, 1878.

To all whom it may concern:

Be it known that I, WATTS COOKE, of Paterson, Passaic county, in the State of New Jersey, have invented certain new and useful Improvements relating to Portable Derricks, of which the following is a specification:

My improved derrick is intended more especially for use in constructing elevated railways and analogous bridge-work, where the derrick may be moved forward step by step on the structure which it aids in erecting. It may be useful in various other positions.

The accompanying drawings form a part of this specification, and represent what I consider the best means of carrying out the invention.

Figure 1 is a side elevation, and Fig. 2 a plan view.

Similar letters of reference indicate like parts in both the figures.

A is a rigid framing supported on wheels A^1, and carrying a stout circular bearing-plate, *a*, which, being properly lubricated, supports a circular swiveling-ring, *b*, upon which rest stout horizontal pieces B, connected by cross-pieces B′.

I employ long continuous frames of rolled iron, steel, or semi-steel, adapted to afford great strength with moderate weight. They are peculiarly bent and arranged. The portions D, which rest on the cross-pieces B, are straight, level, and parallel. The continuations therefrom, D^1 D^2, are inclined upward at a small angle, and also inclined toward each other. The two extensions D^1 meet and apply together at their extreme outer ends, and are extended by a stout strap, *d′*, as shown. The tapering space between the inclined frames is crossed by light diagonal braces, contributing to the stiffness. The opposite extensions D^2 are correspondingly joined and braced. Tie-rods E lie in a nearly direct line, and are secured at the central junction by a nut, *e*, which holds it to a light supporting-frame, G, which strides the central portion of the work. On this central portion rests a platform of plank, C, carrying a steam-boiler, H, and as many windlasses I, with steam-engines and gearing for working them, as may be required.

Sheaves m^1 m^2 are mounted in the respective ends of my stout frames D^1 D^2, over which sheaves the required ropes or chains may run, operated by the windlass or windlasses I. Beyond these sheaves are hooks n^1 n^2, which may suspend any more or less complex pulleys, to facilitate hoisting. Ordinarily one end of the structure alone will be used for hoisting. The other end is utilized by engaging it with something to hold it down.

I have shown the derrick as mounted near the end of a section of trestle-work, bridge, or elevated railroad, with the parts D^1 overhanging a supporting-tackle, J, which is in the act of lifting a girder, K, by means of the rope L, wound up by the windlass. To prevent the structure from tilting with the great load thus imposed, an anchoring-hook, P, is engaged firmly with a portion of the structure already completed, and is connected by a stout chain or rope, *p*, to the hook n^2.

The capacity of the device for swiveling on the circular plates *a b* is availed of to allow the anchoring to be transferred from one side of the structure to the other when the tackle J is used to hoist a girder for the opposite side of the structure.

Fig. 2 shows the provision for laying a single track. When a double or triple track to be laid by the aid of my device, the wheels A^1 are dispensed with, and in place thereof are supported wide long axles, supporti long wheels or rollers, which may bear upon two or more rails at once, or one bearing on one may rest thereon at any point in their length. Thus equipped, my device may be moved a little over to either side, so as to bring its operating end over the right point while the other end is exactly over some convenient strong part of the structure, to which it may be strongly tied down.

Eyebolts A^2 in one or both ends of the framing A engage a rope, R, which may run through a single block, T, secured at a proper distance ahead, and be returned to the windlass I, to allow of moving the structure ahead by its own power, when required, after the girders for a section in advance have been lifted in place and secured.

Modifications may be made. I can dispense with the central framing G, which is mainly useful in supporting the ties when the machine is unloaded. The ties may be made continu-

ous from end to end, in cases where it is not required to change them or to adjust their lengths.

The sheave m^1 may be used alone to carry the rope or chain without the tackle J, or, on the other hand, may be dispensed with altogether, and the rope led directly from the upper block of the tackle J to the windlass.

The sheave m^2, or any suitable block, may be employed with an extension of the chain *p*, or the equivalent holding-down means past the same to the windlass. Such would allow the chain to be tightened in advance of the reception of the load on the other end, and thus to better distribute the bearing of the structure on the plate *a* and on the wheels A^1 by preventing the structure from commencing to tilt at all under any load which may be imposed.

I claim as my invention—

1. In a portable derrick, the continuous frames D D^1 D^2, tapered and inclined as shown, in combination with a tie or ties, E, supporting carriage and wheels A^1 A^1, and provisions for engaging one end with the ground or the structure already completed, while the other serves as a jib or crane for hoisting, as herein specified.

2. In a portable derrick, the combination of the bearing-plates or broad swiveling-plates *a* *b* with the carriage A A^1, frames D D^1 D^2, tie E, and holding and hoisting means, as specified.

3. The central supporting-frame G, in combination with the tie E, frames D D^1 D^2, carriage A A^1, and holding and supporting means, as and for the purposes herein specified.

In testimony whereof I have hereunto set my name in presence of two subscribing witnesses.

WATTS COOKE.

Witnesses:
A. H. GENTNER,
W. L. BENNEM.