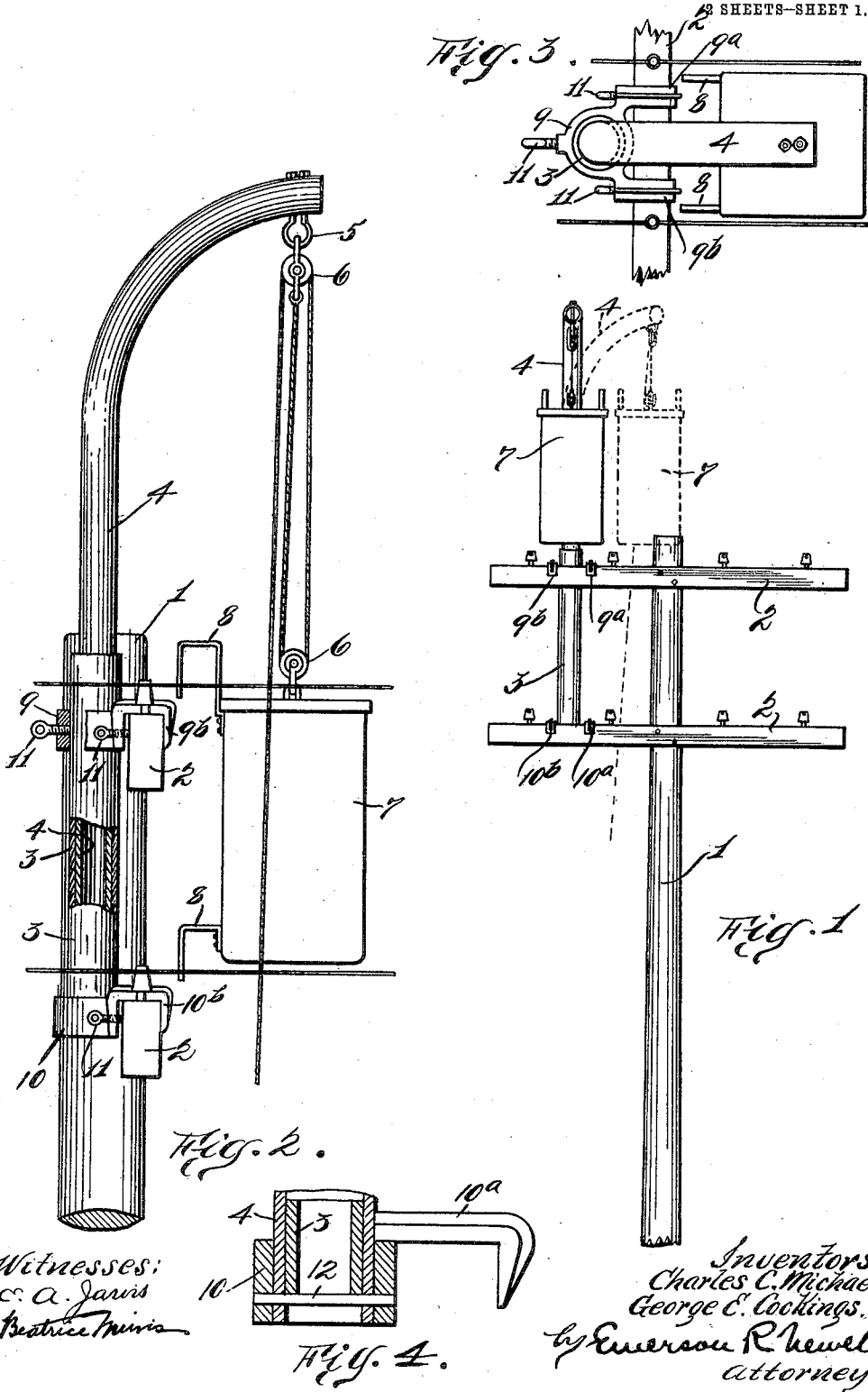


C. C. MICHAEL & G. E. COCKINGS.
HOISTING APPARATUS.
APPLICATION FILED JAN. 20, 1910.

971,686.

Patented Oct. 4, 1910.

2 SHEETS-SHEET 1.



Witnesses:
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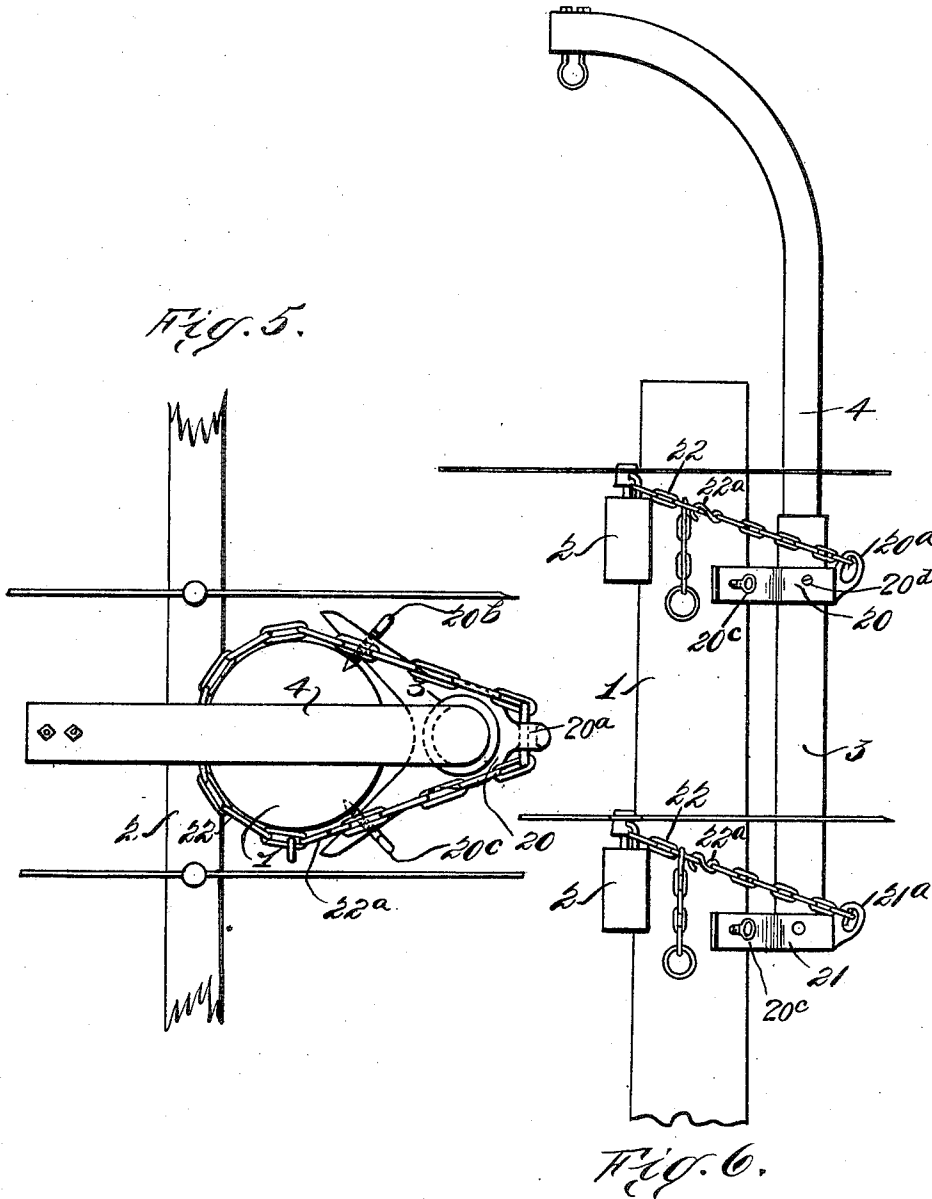
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UNITED STATES PATENT OFFICE.

CHARLES C. MICHAEL AND GEORGE E. COCKINGS, OF BRISTOL, CONNECTICUT.

HOISTING APPARATUS.

971,686.

Specification of Letters Patent.

Patented Oct. 4, 1910.

Application filed January 20, 1910. Serial No. 539,065.

To all whom it may concern:

Be it known that we, CHARLES C. MICHAEL and GEORGE E. COCKINGS, citizens of the United States, residing at Bristol, Connecticut, have invented certain new and useful Improvements in Hoisting Apparatus, of which the following is a clear, full, and exact description.

This invention relates to a portable crane construction which can be attached to suitable supports for raising, lowering and placing heavy articles in different positions.

In lifting heavy devices, such as transformers, into position upon electric light or telegraph poles, the difficulty and inconvenience heretofore has been that the pole itself does not extend far enough above the resting place of the transformer to furnish a purchase for hoisting tackle. Consequently the practice has been to lash a supplemental mast temporarily upon the pole for this purpose of obtaining a sufficiently high support for the hoisting tackle, and it is to do away with the labor and delay of such procedure that this invention is particularly designed.

Although we have shown certain details of construction as embodying our invention in its preferred form, the scope of the invention will be more particularly pointed out in the claims.

In the drawings which show the preferred embodiment of our invention; Figure 1 is a front elevation of a telegraph pole showing the crane attached to the cross arms thereof; Fig. 2 is an enlarged side view of the upper portion of the same; Fig. 3 is a plan view of the crane; Fig. 4 is a sectional detail of one of the clamps; Fig. 5 is a side elevation of a pole showing a modified form; and Fig. 6 is a plan of one of the modified forms of supports.

Referring to Fig. 1, 1 indicates a telephone and electric light pole having the usual cross arms 2 which carry the wires. The crane consists, preferably, of a tubular standard 3 carrying a mast 4 which extends therein, the upper end of said mast curving outwardly and being provided with means 5 at the outer end for holding the usual hoisting tackle 6. A transformer 7 having supporting brackets 8 is shown as being hoisted in position. The lower end of the mast 4 extends within the tubular standard 3 and may rest at the bottom thereof upon a pin 12, as shown in Fig. 4. This mast 4 is freely rotatable within the socket of the

standard 3 to swing its supported weight into different positions. The standard 3 is provided with means for detachably securing the same to the pole comprising one or more supports which preferably have a two-point lateral bearing against some part of the pole or cross arm, which acts to maintain the standard in its vertical position relative to the pole and prevent its wobbling about when lifting and swinging the transformer into position. The upper clamp 9 is preferably formed with a collar surrounding the standard and slidable thereon, and having a set screw 11 for adjusting the same in different positions. Branching from the forward part of the collar 9 are two separated jaws 9^a and 9^b, respectively, for the purpose of being clamped on the cross arms 2 furnishing a lateral two-point bearing for the support. These jaws are also provided with set screws 11 as shown. The lower clamp 10 is preferably fixed to the lower end of the standard 3 by means of a pin 12 extending through its collar and the standard. This lower clamp 10 also is provided with two separated jaws 10^a and 10^b for attachment to one of the cross arms 2. We prefer to secure the lower clamp 10 in this way to the standard, but it may be formed integral therewith, or fixed thereto, in any other preferred manner. The other clamp as 9 is preferably made slidable on the standard 3 as shown, so that it may be adjusted relatively to clamp 10, or so that if several clamps such as 9 are employed they may be adjusted apart for attachment to the different cross arms 2 of the pole.

Figs. 5 and 6 show a modification in which the standard 3 is supported in a somewhat different manner. The supports in this case consist of upper and lower collars 20 and 21 respectively, of which 20 is preferably adjustable on the standard and fixed in position by set screws 20^a, and 21 is stationary and fixed at the lower end of the standard. Each of the collars is provided with separated and adjustable set screws 20^b, 20^c resting against the pole as shown, to furnish a two-point lateral bearing. A chain 22, one connected to each collar at 20^a and 21^a detachably secures the same to the pole, the chain extending around the pole preferably above one of the cross arms 2 and is fastened at its ends by a link and hook 22^a.

In using our device we attach it to a telegraph pole, as described, and by means of

the mast 4, which is swivelly mounted, the transformer after being hoisted, may be swung around to any desired position for attachment to the cross arms and easily lowered into its place where the brackets 8 will engage with said cross arms. The crane thus being detachable from the pole and portable may be easily carried from one pole to another for setting up transformers, with a great saving of time and energy. The openings or eyes in the set screws 11 allow the leg of a lineman's pliers to be inserted for tightening the set screws.

We are aware that modifications of the embodiment illustrated may be made without departing from the spirit of our invention as claimed.

We claim:

1. A portable crane comprising a carrying standard provided with upper and lower supports arranged to be detachably secured to a pole and a swivelly mounted mast carried by said standard, and means for carrying hoisting tackle at the outer end of said mast.

2. A portable crane comprising a vertically disposed carrying standard, means for detachably securing the same to a pole, comprising upper and lower supports for said standard, and means for maintaining said standard in fixed vertical relation to said pole, a swivelly mounted mast carried by said standard and means for carrying hoisting tackle at the outer end of said mast.

3. A portable crane comprising a vertically disposed carrying standard, means for detachably securing the same to a pole comprising upper and lower supports for said standard, and a two-point lateral bearing for maintaining said standard in fixed vertical relation to said pole, a swivelly-mounted mast carried by said standard, and means for carrying hoisting tackle at the outer end of said mast.

4. A portable crane comprising an upper and a lower support arranged to be detachably secured over two or more cross-arms of a pole, a hoisting mast pivotally supported thereby in vertical position whereby the mast may be rotated about its axis.

5. A portable crane comprising an upper and a lower support each provided with one or more hooks arranged to be detachably

secured over two or more cross-arms of a pole, a hoisting mast pivotally supported thereby in vertical position whereby the mast may be rotated about its axis, one of said supports being provided with means to adjust the same toward and from the other support.

6. A portable crane consisting of a tubular standard provided with supporting clamps, one of said clamps furnishing a two-point lateral support for said vertical standard, a mast carried by said standard and swivelly mounted therein, and provided with means for carrying hoisting tackle at the outer end of said mast.

7. A portable crane adapted to be secured to poles having cross-arms, consisting of a vertically-disposed tubular standard provided with supporting clamps secured to the same and adapted to be adjusted apart for attachment to the different cross-arms of said pole, each of said clamps furnishing a two-point lateral support for said vertical standard, a mast extending into said standard and swivelly supported at its lower end, one of said supporting clamps being secured to the lower end of said standard and furnishing the support for the swiveled mast, and means for carrying hoisting tackle at the upper end of said mast.

8. A portable crane for attachment to poles having cross arms, consisting of a vertically-disposed tubular standard provided with a plurality of clamps for engaging the different cross-arms of said pole, a mast extending into said tubular standard and swivelly supported at its lower end, one of said clamps being fixed to the lower end of said standard, and the remaining clamp or clamps having collars slidable on the standard for adjustment in different positions, each clamp having two laterally-separated jaws for attachment to the cross-arm, and means for firmly securing the collar of the clamps on said standard and the jaws on the cross-arms.

Signed at Bristol, Connecticut, this 17th day of January, 1910.

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