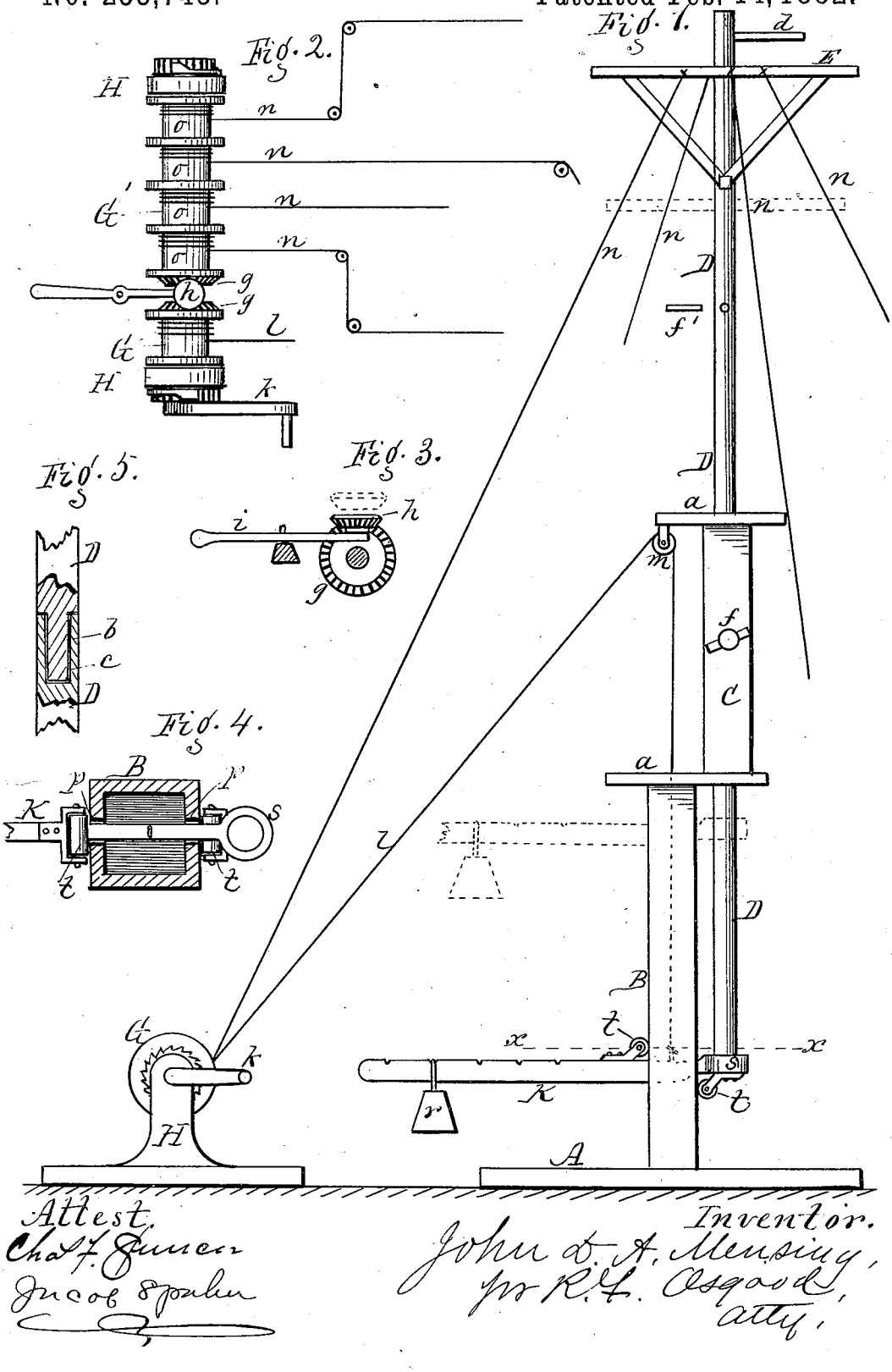
(No Model.)

J. D. A. MENSING.

APPARATUS FOR ELEVATING POLES FOR ELECTRIC LIGHTS, &c.

No. 253,743. Patented Feb. 14, 1882.



Attest.
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APPARATUS FOR ELEVATING POLES FOR ELECTRIC LIGHTS, &c.

SPECIFICATION forming part of Letters Patent No. 253,743, dated February 14, 1882.

Application filed July 8, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. A. MENSING, of Rochester, Monroe county, New York, have invented a certain new and useful Improvement in Apparatus for Elevating Poles for Electric Lights and other Purposes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation of the apparatus. Fig. 2 is a plan of the windlass and the guy-cords connected therewith. Fig. 3 is an elevation of the gearing connected with the windlass. Fig. 4 is a cross-section in line *x x* of Fig. 1; Fig. 5, a section of the connecting ends of two sections of the pole.

My improvement relates to apparatus for elevating poles in sections, applied at the bottom in the manner hereinafter more fully described.

In the drawings, A represents a base, and B C represent two sections of boxing, forming guideways—the first for the elevating device and the latter for the pole itself. These guideways offset each other, the upper one projecting outward beyond the other, as shown in Fig. 1, by which means the pole rests outside the lower section, giving room for the elevating device to operate thereon.

At the top of the guideways are platforms *a a*, upon which the operators may mount whenever it is necessary in operating the apparatus.

D D are the sections of the pole, the lengths being such that they will enter under the lower platform, *a*, and these lengths are connected by pins *b* and sockets *c* on the adjoining ends, which fit together, as shown in Fig. 5, or in some other suitable manner. These sections are fitted together one after another at the bottom, and the pole is gradually raised by raising the bottom section and fastening it up while a new section is applied. In this manner the pole may be raised to any desired height. At the top of the pole is a cage or frame, E, and above this an arm, *d*, upon which the light is hung, the cage projecting outward and forming the bearings for the wires and insulators and such other attachments as are necessary in operating the light. The pole as it is raised is held by a set-screw, *f*, or a pin, *f'*, which passes through holes in the pole, or by any other suitable arrangement.

G G' are two sections of windlass, mounted on the same axis and resting in a suitable frame, H. These sections have bevel-gears *g g* on their ends, with which engages a bevel-pinion, *h*, which is moved up and down by a clutch, *i*. When raised, as shown in Fig. 3, the gears are out of engagement, and each section of the windlass is then free. The windlass is driven by a crank, *k*, and the sections have ratchets and pawls, by which they are held when under strain.

l is a cord or cable winding upon the section G, extending thence up over a pulley, *m*, at the top of the guideway C, and thence passing vertically down through the guideway B, and being attached at its lower end to the elevating device K, by which the pole is raised.

n n n n are four guy cords or cables wound upon four spools, *o o o o*, of the section G', thence extending to the top of the pole or any point below, and serving to steady and stay the pole as it is raised. One of these guys extends in a direct line and winds upon the windlass. The other three, which rest upon the back side and quarters of the pole, pass around pulleys and proceed in an indirect line to the windlass, this being a matter of necessity, owing to the position of the guys.

The elevating device K consists of a bar, which passes through and rests in a vertical slot, *p*, which extends from bottom to top of the guideway B, and forms the guide proper in which the bar moves. The bar is in the nature of a steelyard-beam, extending out some distance on the back side, and having a series of notches, in which a weight, *r*, may be hung and moved outward gradually as the weight of the pole increases, thus substantially balancing the pole. The opposite end is short, and has a socket, *s*, for receiving the pole. On opposite sides of the guideway are two friction-rollers, *t t*, attached to the bar, one above and the other below, as shown, which run against the sides of the guideway as the bar moves up, thus preventing binding.

A cam-screw or other device might be used effectively in raising the pole; but the bar as above described is the most effective device I know of for the purpose, as it can be balanced with ease, and friction is in a great degree obviated.

The operation will be readily understood. The sections of the pole are placed one after another on the end of the elevating device K, and the latter is raised with each section by turning the windlass G, thus gradually elevating the pole. As fast as the pole is raised the guys *n n* are let out, but kept always taut to prevent any swaying of the top of the pole. This is done automatically by the unwinding of the guys on the section G′ as fast as the section G is turned up. In turning the section G back for a new hold the gears are disengaged by raising the pinion *h*, during which time the section G′ remains stationary.

The apparatus above described is not only applicable to raising electric lights, but to a great many other purposes.

The light or other thing to be attached to the top of the pole is hung to a cord or cable passing around a pulley connected with the arm *d*, so that it may be raised and lowered without lowering the pole itself when once raised. To facilitate the raising and lowering of the device without obstruction from the guy-cords the latter are preferably attached to the cage E, or to a cross-bar at the top of the pole. (Shown in dotted lines, Fig. 1.) The cage may project out on one or both sides of the pole, as may be desired.

Having thus described my invention, I claim—

1. In an apparatus for elevating poles, the combination of the two guideways B C, the elevating device K, the two sections of windlass G G′, connected by an engaging and disengaging gearing, the cord or cable *l*, connecting the section G with the elevating device, and the guys *n n n n*, connecting the section G′ with the pole, as shown and described, and for the purpose specified.

2. In an apparatus for elevating poles, the frame consisting of the two guideways B C, the upper guideway being offset from the lower one, so that the sections of the pole may be inserted in the upper one outside of the lower one, as herein shown and described.

3. In an apparatus for elevating poles, the combination, with the guideway B, provided with the slot *p*, of the elevating device K, passing through the guideway, having a socket, *s*, at one end for receiving the pole, a long arm at the other end, notched to receive a counter-weight, and provided with friction-rollers *t t* for running against the guideway, as herein shown and described.

4. In an apparatus for elevating poles, the combination, with the pole erected in sections, of the two windlass-sections G G′, connected by engaging and disengaging gears, the cord or cable *l*, connecting with one windlass-section and being attached at the opposite end to the elevating device K, and the cords or cables *n n n n*, connecting with the other windlass-section and being attached at the opposite end to the pole, the several cords of one section being paid out as the cord of the other section is drawn up, as herein shown and described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOHN D. A. MENSING.

Witnesses:
R. F. OSGOOD,
CHAUNCEY PERRY.