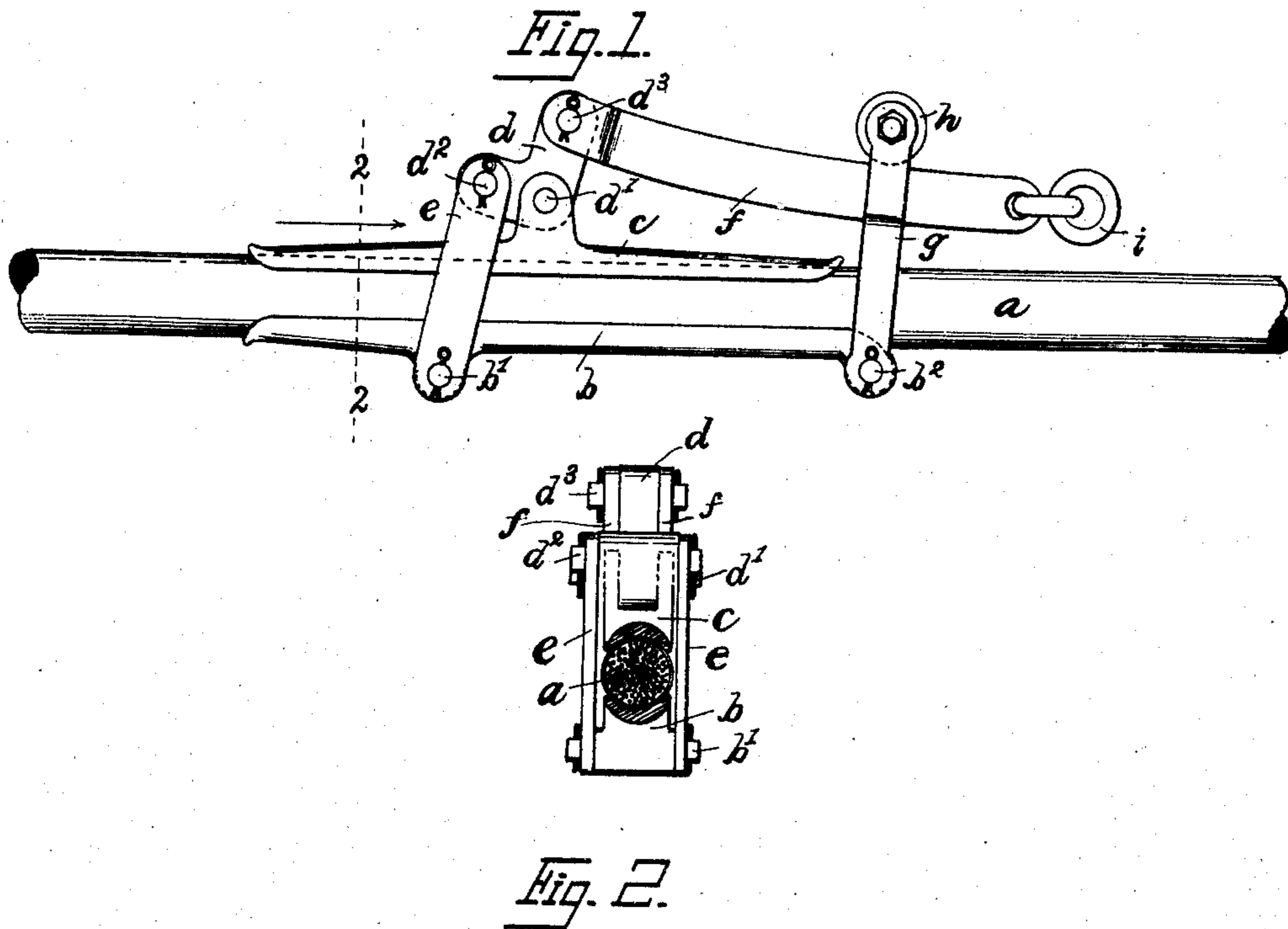


No. 864,530.

PATENTED AUG. 27, 1907.

D. H. GARBER.
DEVICE FOR PULLING ELECTRIC CABLE AND WIRE.
APPLICATION FILED JAN. 26, 1907.



Witnesses

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UNITED STATES PATENT OFFICE.

DANIEL H. GARBER, OF INDIANAPOLIS, INDIANA.

DEVICE FOR PULLING ELECTRIC CABLE AND WIRE.

No. 864,530.

Specification of Letters Patent.

Patented Aug. 27, 1907.

Application filed January 25, 1907. Serial No. 354,004.

To all whom it may concern:

Be it known that I, DANIEL H. GARBER, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Devices for Pulling Electric Cable and Wire, of which the following is a specification.

With the introduction of electrical equipment in large units and the pressing public demand that all electrical conductors shall be placed under ground in suitable conduits, great difficulty is experienced in the pulling of the cumbersome heavily insulated cables without injury thereto especially with the apparatus that is in general use for this purpose, and when a number of such cables have been placed in the conduit and by the pressure of their combined weight they are wedged down in the usually limited space and it becomes necessary to remove a cable or a number of them, as necessity often occurs for the purpose of inspection and repair greater difficulty is encountered in the removal or pulling out of the cable than was originally experienced in pulling it into the conduit, and my invention relates to pulling devices of practical utility and simplicity of construction adapted either to underground or over-head work, and such as are rapidly manipulated being of high efficiency, in no way injuring the cable, its insulation, or metallic sheath.

The surfaces of the jaws of the clamping portion of my invention are of ample length and form partially encircling the cable so that when they are compressed in gripping the cable preparatory to giving it a pull no injury is done to the structure of the cable or to its electrical efficiency; and I have so arranged that the strain coming upon the draw bar from the pulling power is so distributed to the clamping device that the cable is not bent or buckled in the process of pulling out of the conduit. In use my device can be adjusted practically for several different sizes of cables by substituting links connecting between the shoes or jaws and by the use of suitably shaped interchangeable jaws guy wires or ropes may be pulled or stretched with equal facility, and with these ends in view my invention consists of certain parts, arrangement and application of which are represented and shown in the accompanying drawings and described in the following specification, similar letters of reference in different figures of the drawings indicating the same or similar parts.

Figure 1 is a side elevation representing my device applied to a cable as in operation and Fig. 2 is a vertical cross sectional view at line "2", "2", looking in direction of arrow, and in reference characters "a" represents the cable, "b" lower or main jaw or shoe, "c" the upper gripping jaw or shoe, "d" is a bell-crank lever

pivoted at "d¹" to "c" as its fulcrum and at "d²" a link "e", at each side is secured thereto and at opposite end "b¹" said links are attached to the jaw "b"; at "d³" is pinned to the opposite arm of said bell-crank lever a draw-bar "f" which is at opposite end provided with ring "i" or otherwise suitable terminal for the ready attachment thereof to the source of power for the pulling of the cable; "g" is a link of which there is one on each side of my device pinned at the lower end at "b²" to a suitable eye formed at forward end of shoe "b". Between latter said links at upper end thereof is mounted an antifriction roller "h" which rolls on the upper edge of the draw-bar "f" which extends forwardly between latter said links and below said roller.

In application of my device to a cable if at any point except at the ends the pins "b¹" and "b²" are removed readily and the shoe "b" placed under the cable and "c" over and the pins "b¹" and "b²" replaced and when the power is applied through the draw-bar f and the shoe "c" drawn in the direction of the arrow the jaw "b" is held against the cable and link "e" inclined forward as shown in Fig. "1" decreasing the space until the cable is gripped so the shoe "c" can not readily slide further forward on the cable when the pull on the bell-crank lever greatly multiplies the gripping or clamping pressure of the shoes upon the cable to such a degree that no pulling power can cause the device to slip thereon.

In the construction and application of my device there may be changes made without departing from the spirit and scope of my invention and I hold myself at liberty to make any such changes.

Having fully shown my device and described its parts and general operation, what I claim as new and desire to secure by Letters Patent, is—

1. In a device for pulling electric cable and wire in over-head and underground work, comprising two clamping shoes adapted to bind the cable at opposite sides, a bell-crank lever pivoted directly to one of said shoes, and linked at one arm to the other of said shoes and means for the connection of the pulling power to other arm of said bell-crank lever so as to intensify the clamping pressure to correspond with the said pulling power substantially as set forth.

2. In a device for pulling electric cables and wires in over-head and under-ground work, the combination with a main shoe supported at two points, and a gripping shoe supported at a middle point, said shoes having independent longitudinal movement their faces being opposite each other, of a bell-crank lever having its fulcrum pivoted in said gripping shoe, links connecting between said main shoe and one arm of said bell-crank lever, a draw-bar connected to other end of said bell-crank lever and a link holding the main shoe in line with the draw-bar, as shown and described.

3. A device for pulling electric cables and wires in over-head and under-ground work, consisting of a main shoe

and a gripping shoe supported opposite each other and having independent longitudinal movement on the cable, a bell-crank lever pivoted for its fulcrum at a middle point to the gripping shoe, links connecting between one arm of
5 said bell-crank lever and the main shoe holding the two shoes together, a draw-bar connecting between the other arm of said bell-crank lever and the source of power, an antifriction roller and a pair of links in which it is pinned and adapted to roll on upper edge of said draw-bar

the depending end of latter said links being pivoted at 10 one end of the main shoe combined and operating as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

DANIEL H. GARBER.

Witnesses:

J. K. GARBER,
W. ATCHISON.