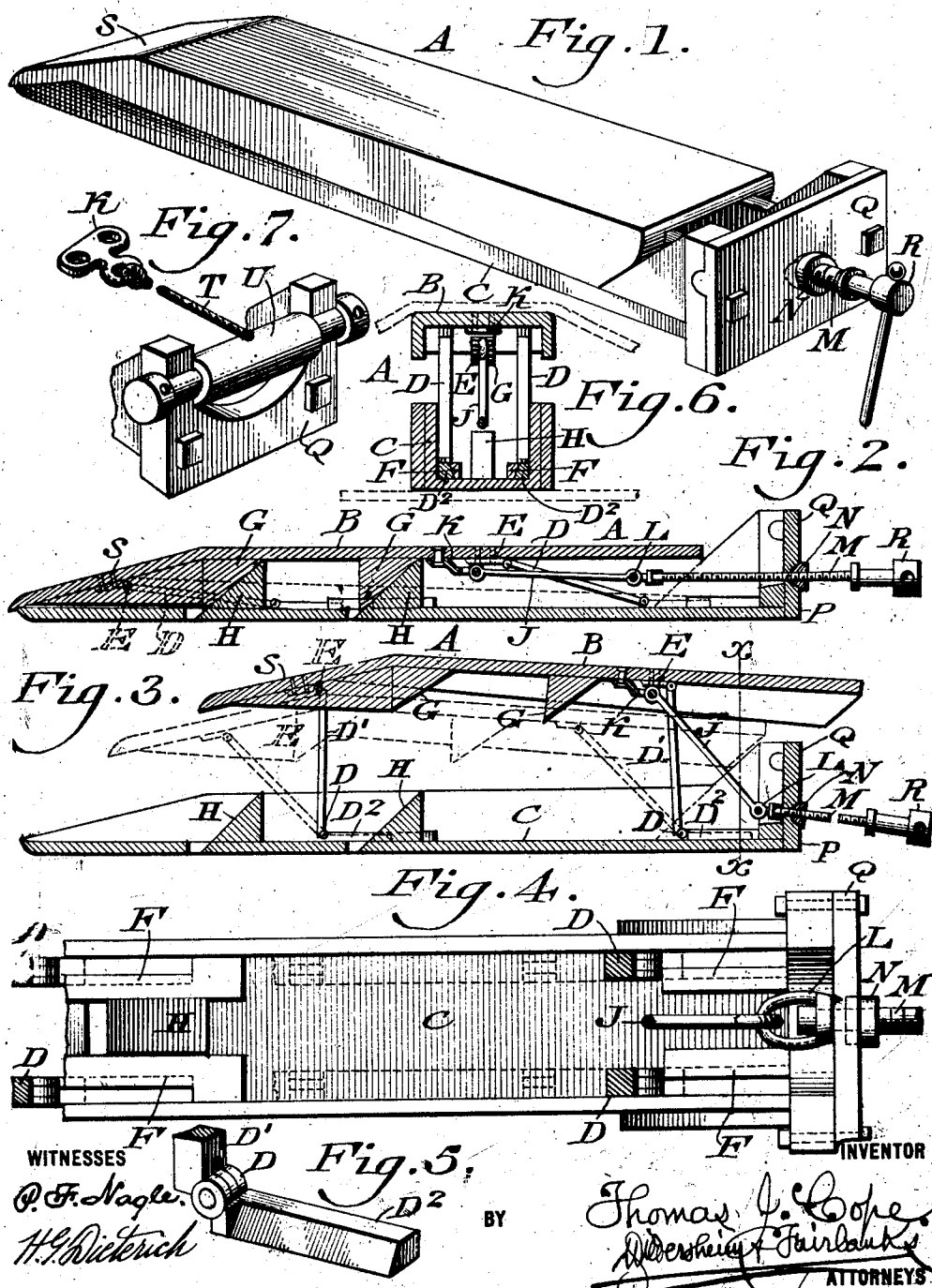


ELEVATING OR SEPARATING JACK FOR ELECTRICAL CABLES OR WIRES.
APPLICATION FILED JUNE 5, 1911.

Patented May 21, 1912

2 SHEETS—SHEET 1.



T. J. COPE.
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Fig. 8.

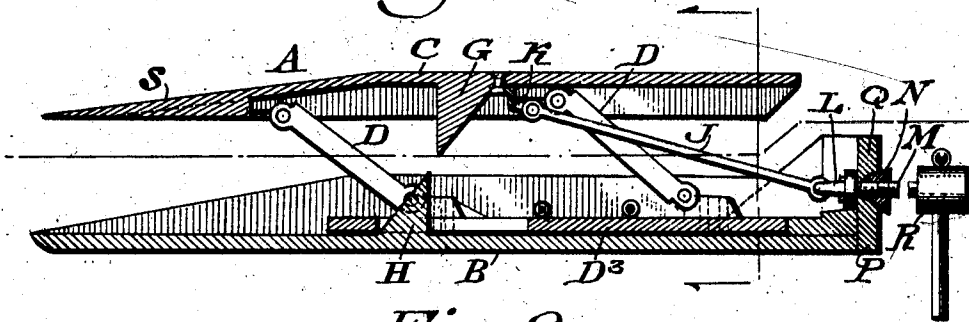


Fig. 9.

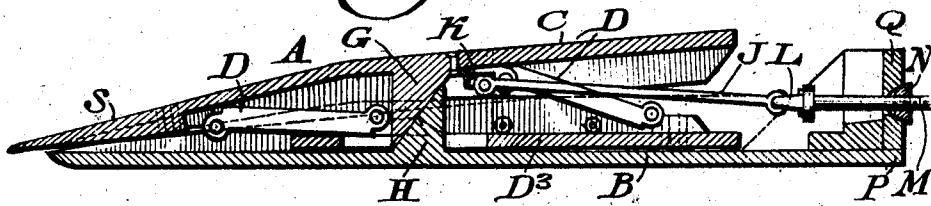


Fig. 10.

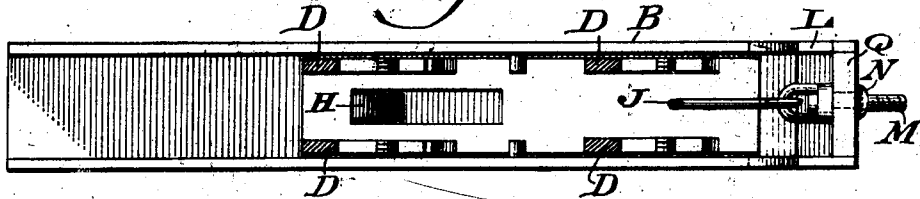
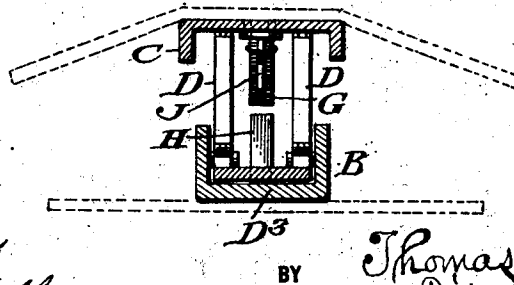


Fig. 11.



WITNESSES

P. F. Nagle
L. Dowville

BY

INVENTOR
Thomas J. Cope
Blackwell & Fairbank
ATTORNEYS

UNITED STATES PATENT OFFICE.

THOMAS J. COPE, OF PHILADELPHIA, PENNSYLVANIA.

ELEVATING OR SEPARATING JACK FOR ELECTRICAL CABLES OR WIRES.

1,027,104.

Specification of Letters Patent.

Patented May 21, 1912.

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To all whom it may concern:

Be it known that I, THOMAS J. COPE, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Elevating or Separating Jack for Electrical Cables or Wires, of which the following is a specification.

My invention consists of means for reaching or providing access to a broken or impaired electric cable, wire or conductor, say in a switch board or other similar device carrying a multiplicity of cables, etc., as where the latter are banked in tiers or arranged in other series. To this end, I employ an implement which may be denominated a jack which is composed of a plurality of jaws forming normally a wedge shaped body, and means for separating the jaws whereby when said body is inserted between the proper wires or cables and said means are operated, the relative wires or cables are raised or separated thus rendering convenient access to the broken or impaired wires or cables when repairs or other treatment of the same may be accomplished.

The invention is satisfactorily illustrated in the accompanying drawing, but the important instrumentalities thereof may be varied, and so it is to be understood that the invention is not limited to the specific arrangement and organization shown and described.

Figure 1 represents a perspective view of a jack for wires or cables elevator or separator embodying my invention. Figs. 2 and 3 represent longitudinal sections thereof with the members respectively in normal and operated conditions. Fig. 4 represents a partial plan view and partial horizontal section of the under member of the jack on an enlarged scale. Fig. 5 represents a perspective view of a portion of a detached member thereof. Fig. 6 represents a transverse section on line *x-x* Fig. 3. Fig. 7 represents a perspective view of another member of the invention. Fig. 8 represents a longitudinal section of another form of the invention with its members in normal condition. Fig. 9 represents a similar section with the members in operated condition. Fig. 10 represents a horizontal section on line *y-y* Fig. 9. Fig. 11 represents a transverse section on line *z-z* Fig. 9.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings. A designates the body of the device, the same comprising the stationary jaw C, the movable jaw B and the toggle levers D intermediate of said jaws, one limb of each of said levers being pivotally connected with the ears E on the jaw B, and the other limb of each of which is slidingly connected with the ways F on the jaw C. Depending from the jaw B are the shoes G and rising from the jaw C are the shoes H, said shoes being adapted to contact, the contacting faces being inclined or wedge shaped, as will be referred to more fully hereafter.

J designates a bar or rod adapted to impart draft to the jaw A, the same being pivotally connected at its forward end with the ear K, the latter being secured to the underside of the jaw B. The rear end of said bar is pivotally connected with the clevis L, the latter having swiveled to it, the end of the screw M, on which is fitted the nut N, the inner face of which is concave and has a bearing in a conical recess P formed in the rear wall Q of the jaw C by which provision said screw is enabled to change its position angularly with the motions of the bar J, as plainly illustrated in Figs. 2 and 3. The screw M is provided with a head R for attachment of a suitable handle whereby the former may be rotated conveniently in reverse directions.

The forward end of the jaw B is tapering as at S imparting a wedge shape to the body A for convenience in applying the device into operative position.

When the parts are in position shown in Figs. 1 and 2, the device is inserted between opposite banks or tiers of cables or wires where access to a broken cable or wire is desired, the device resting on what may be termed the under rows or sets of cables or wires as its support. Then the screw is operated whereby the bar J draws the jaw B in the present case to the right. The shoes G then ride on the shoes H and impart a certain elevation to said jaw B. As the front limbs D' of the toggle D follow the motion of said jaw, the rear limbs D² slide rearwardly in the ways F and so allow said front limbs D' to rise in a radial direction to the required extent without bind-

ing, it being evident that when said extent is reached, the jaw B is sustained by the toggles, it being also evident that owing to the wedging action of the body A increased by the opening of the jaw B, said body causes a separation of the banks or tiers of the cables or wires or the elevation of what may be termed the upper rows or sets of cables or wires, a space is provided thereby which permits access to the broken cable or wire at the existing place adjacent to the device where the same occurs.

When the screw is rotated in reverse direction the bar J advances the jaw B to the front when the movable members assume their normal positions and said jaw lowers and is seated on the jaw C. When the device is closed again, as shown in Figs. 1 and 2, the bar J may be disconnected from the jaw B and removed with the clevis L, the screw M, and the nut N from the rear wall Q of the jaw C, and in lieu of said screw and bar, I may employ the rope or cable T which is connected with the ear K and adapted to be wound around the roller U which is mounted on the wall Q and which by its rotation serves to cause the draft imparted to the rope or cable T to move the jaw B to the right when said jaw begins its elevation as in the previous case.

The limbs D² of the toggles D and openings in the ways F which receive said limbs are rhomboidal in cross section, see Fig. 5, so that while said limbs may slide freely in said ways they are prevented from rising therein and so cause the toggle levers and the jaws to remain connected.

In Figs. 8, 9, 10 and 11, I show a construction similar in general respects to that of the previous figures excepting that each jaw has a single shoe G H respectively and excepting the toggle levers have each a single lower limb, the same being of the form of a slide D³ which rests on the base of the lower jaw B and is movable thereon and operative similar to the limbs D² of the construction illustrated in the previous figures.

Having thus described my invention what I claim as new and desire to secure by Letters Patent, is:—

1. In an elevating device of the character stated, stationary and movable jaws, and longitudinally movable swiveled screw

means connected with said jaws adapted to impart longitudinal draft to the movable jaws.

2. In an elevating device of the character stated, stationary and movable jaws, independently operable longitudinally movable and radially operating means connected with said jaws and interposed between the same adapted to separate the movable jaw from the stationary jaw.

3. In an elevating device of the character stated, a wedge shaped body composed of a pair of jaws, and independently operable longitudinally movable and radially operating means interposed between the same adapted to separate one jaw from another first by draft on said jaw, and next by radial action of a lever which is connected with said jaws.

4. In an elevating device of the character stated, stationary and movable jaws, means connected with said jaws for imparting longitudinal draft to the movable jaw, means for primarily separating the movable jaw from the stationary jaw, and swiveled screw means for further separating said movable jaw to complete operative position.

5. In an elevating device of the character stated, stationary and movable jaws, means connected with said jaws for imparting longitudinal draft to the movable jaw, shoes with inclined faces on the jaws adapted for primarily separating the movable jaw, and a toggle lever having its limbs connected with the opposite jaws and adapted for further separating the movable jaw to complete operative position.

6. In an elevating device of the character stated, stationary and movable jaws, means for imparting longitudinal draft to the movable jaw, and means for opening the latter, said first named means consisting of a draft bar, a rotatable screw, said bar being pivotally connected with said screw and with the movable jaw, and a nut on said screw, said nut having a turnable bearing on a member of the stationary jaw, said screw passing freely through said member.

THOMAS J. COPE.

Witnesses:

JOHN A. WIEDERSHEIM,
N. BUSSINGER.