

(No Model.)

J. T. SMITH, Dec'd.
O. A. SMITH, Administrator.
PLIERS.

No. 602,880. *Fig. 1.*

Patented Apr. 26, 1898.

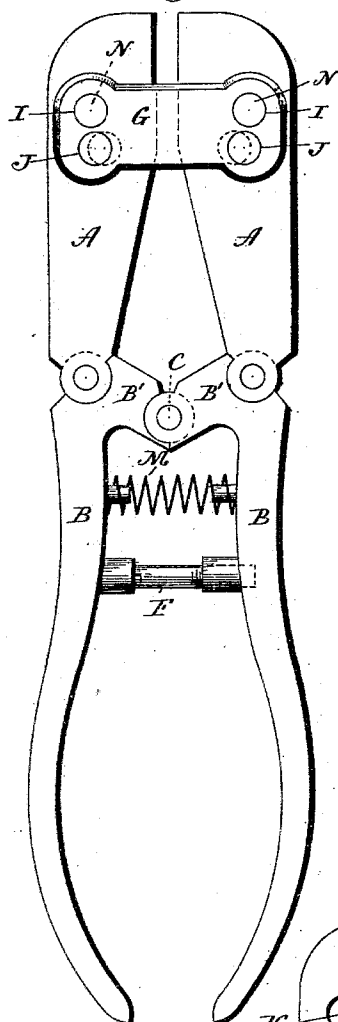
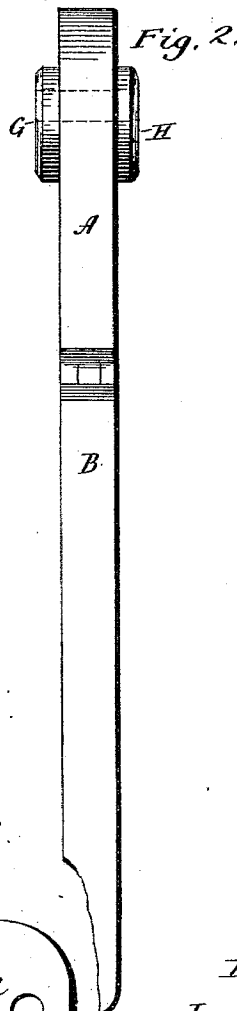


Fig. 3.

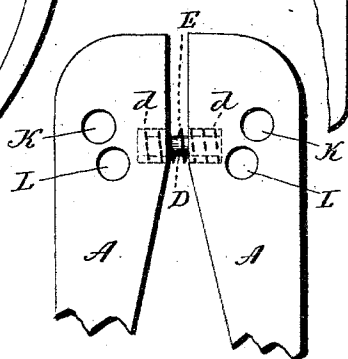
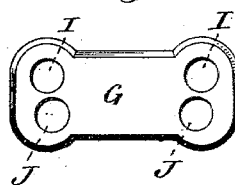


Fig. 4.



Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN T. SMITH, OF ROCK FALL, CONNECTICUT; OTIS A. SMITH ADMINIS-
TRATOR OF SAID JOHN T. SMITH, DECEASED.

PLIERS.

SPECIFICATION forming part of Letters Patent No. 602,880, dated April 26, 1898.

Application filed February 12, 1897. Serial No. 623,068. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. SMITH, of Rock Fall, in the county of Middlesex and State of Connecticut, have invented a new Improvement in Pliers; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view of a pair of pliers constructed in accordance with my invention; Fig. 2, an edge view of the same; Fig. 3, a side view of the outer ends of the jaws with the fulcrum-plate removed; Fig. 4, a side view of one of the fulcrum-plates detached.

This invention relates to an improvement in pliers, and particularly to those especially adapted for use in splicing telegraph and telephone wires, closing car-seals, and other uses in which great power is required, the object of the invention being to adjustably connect the ends of the jaws so as to change the fulcrum and also permit the jaws to be opened to a greater or less extent; and it consists in the construction as hereinafter described, and particularly recited in the claims.

The pliers have jaws A A, pivotally connected to the outer ends of the handle-levers B B, which are formed with inwardly-extending arms B' B', which are connected together by a pivot C, located in the central plane of the tool. Between the adjacent faces of the jaws is a spiral spring D, which enters recesses *d* in the edges of the jaw, and within the spring is a short rod E, by means of which the spring is held in position. Secured to one of the handle-levers B and projecting inward therefrom is a stop-pin F, all substantially as shown and described in an application filed by me August 3, 1896, Serial No. 601,417. In the application before referred to I employed a yoke extending around the outer ends of the jaws, and by moving which I was enabled to vary the leverage and extent of movement of the jaws. Instead of employing such a yoke I employ two plates G H, each formed with two or more holes I J

on each side, the lower holes J being nearer together than the upper ones I. I also form each jaw with two or more holes K L, the holes L being nearer together than the upper holes K. As shown in Fig. 1, the fulcrum-plates G H are engaged with the jaws by pins N passing through the holes I in the said plates and through the holes K in the jaws, and from this position the plates may be changed to a position in which the pins extend through the holes L in the jaw, or by reversing the plates the pins may extend through the openings J in the fulcrum-plates and through the holes L or K in the jaws. Thus four changes may be secured, and this number of changes may be increased by increasing the number of holes in either the plate or the jaw, or both. Preferably I arrange a spiral spring M between the handle-levers, and also preferably between the stop-pin F and the pivot C, the tendency of the spring being to force the hand-levers apart.

The operation of the device is the same as in my previously-mentioned application—that is, the movement of the hand-levers toward each other will force the jaws together, and owing to the location of the fulcrum-yoke the leverage is largely multiplied, giving the necessary degree of power to the outer ends of the jaws.

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

1. The combination with two handle-levers having inwardly-extending arms which are pivoted together, of two jaws pivotally attached to the outer ends of said handle-levers, said jaws each formed with differentially-spaced holes extending through their sides and fulcrum-plates adjustably secured to the opposite sides of said jaws by pins which may be passed through either of the holes in the said jaws, substantially as described.

2. The combination with two handle-levers having inwardly-extending arms which are pivoted together, of two jaws pivotally attached to the outer ends of said handle-levers, said jaws each formed with differentially-spaced holes extending through their sides,

a fulcrum-plate also formed with a plurality of holes at each end, arranged in pairs and differentially spaced, and pins adapted to extend through said plates and jaws for engaging said plate with said jaws and whereby the fulcrum of the pliers may be changed, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOHN T. SMITH.

Witnesses:

GEO. W. WARNER,
HARRIS WARNER.