(No Model.)

W. E. TREEN.

TOOL FOR GRASPING WIRE.

No. 457,858. Patented Aug. 18, 1891.

Fig. 1.

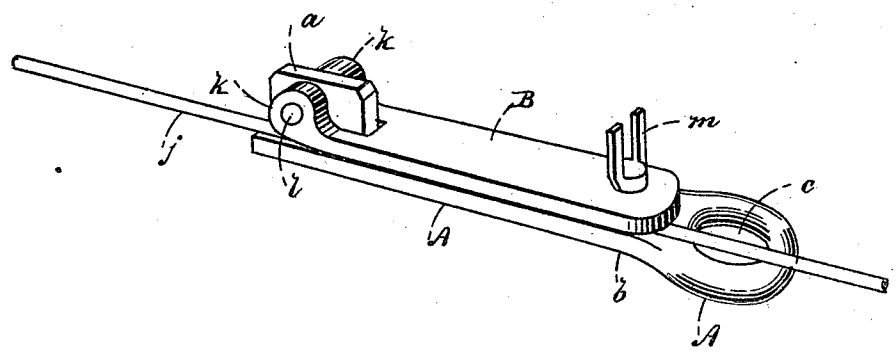


Fig. 2.

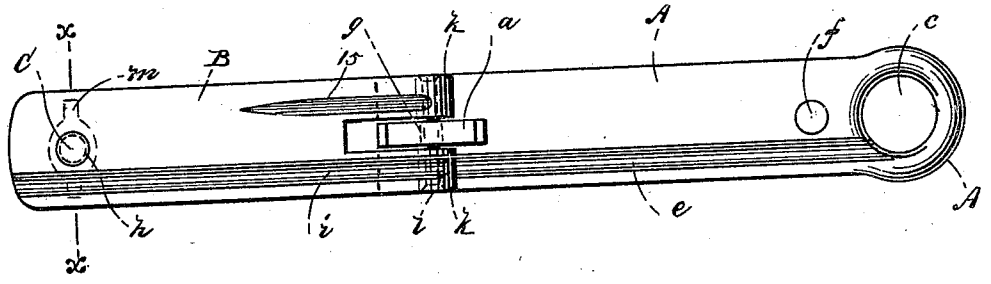


Fig. 3.

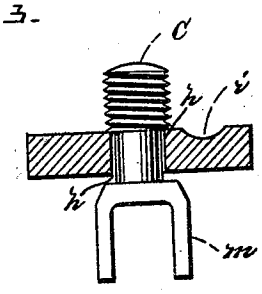
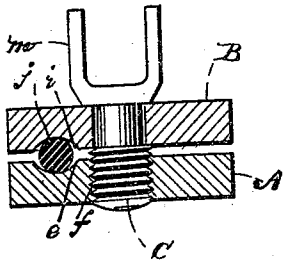


Fig. 4.



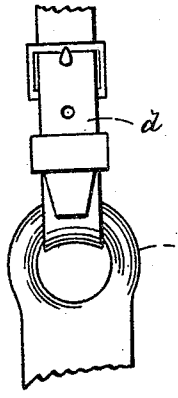


Fig. 5.

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TOOL FOR GRASPING WIRE.

SPECIFICATION forming part of Letters Patent No. 457,858, dated August 18, 1891.

Application filed July 26, 1890. Serial No. 360,105. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. TREEN, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in a Tool or Device for Grasping, Stretching, and otherwise Handling Electric and other Wires, Cables, and Like Substances, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention is intended to supply a tool or implement for linemen and others engaged in grasping, stretching, and otherwise handling electric and other wires, cables, iron rods, and like articles, which tool for simplicity, safety, strength, compactness, quickness of application, and ease in handling I claim will be an improvement upon tools and implements now and heretofore in use for similar purposes.

My invention may be made of steel, iron, or other metal.

There is an invention now in use for the above purposes which may be described as follows: It consists of two iron or steel plates measuring each about ten inches long, two inches wide, and three-eighths of an inch thick. These are held close to each other by means of two or more (usually four) screws, which fit into corresponding threaded openings in both plates and hold both plates, one of the flat surfaces of one facing one of the flat surfaces of the other like the jaws of a vise, at the same time keeping the sides and ends of both plates flush with each other, or nearly so. The plates by means of said screws are kept apart a sufficient distance to admit of an ordinary electric or telephone wire being placed between them for the purpose of having said wire grasped vise-like by the plates upon the screws being tightened. At one end of one of the plates is a leather strap or a rope, which acts as a handle for the use of the tool. The use of said last-mentioned tool necessitates the tightening or loosening, as the case may be, of two or more screws by means of a wrench or its equivalent, and it also involves the possible inconvenience or danger of one or more screws dropping out and the plates becoming detached, thereby causing unnecessary trouble and delay in bringing the tool back again into condition to receive and grasp a wire.

My invention will be an improvement upon said last-mentioned and other tools used for similar purposes in the above and other respects, inasmuch as the plates to be used in my invention, which when forced together act as a vise, are hinged together at one end by means of a standard or boss and a pin and cannot become detached from each other and can always readily be brought into condition to receive a wire. Again, only one screw is necessary to force together the plates, and this screw can be operated by the thumb of the hand or by pliers at pleasure, and is so connected with one of the plates as to be non-detachable from it, even when not employed in bringing the plates together. There is a groove in the surface of each plate near the sides in my invention, one corresponding with the other, in which the wire is fitted when it is received by the tool, so that the grooves form a channel to fit the tool to the shape of the wire to prevent any cutting or abrasion of the latter and to hold it more securely when the tool is tightened. There may be two other larger or smaller corresponding grooves in the surfaces, if desired, to accommodate the tool to different-sized wires. The upper plate, instead of having its bottom surface flat and even, is slightly curved, so as to admit of greater pressure on the wire when the tool is closed.

There is another tool in use more similar to my invention than the tool first above referred to, in that it is hinged at one end and has a single thumb-screw at the other; but the hinge is not formed by means of a standard rising from the surface of the bed and a slotted knuckle, as in my invention. It has no groove in one or both of its plates, no curve along the surface of the upper plate, nor has it a turn-buckle or thumb-screw that swivels in the upper plate, and is not detachable.

My invention is constructed as shown in the following description, taken in connection with the accompanying drawings.

Figure 1 is a view in perspective of the entire tool, showing it closed and holding a wire. Fig. 2 is a plan view showing the tool thrown open and provided with a supple-

mental clamping-groove. Fig. 3 is a section on X X of Fig. 2. Fig. 4 is a section of the tool when closed and gripping the wire. Fig. 5 shows a strap or handle attached to the tool. Similar letters refer to similar parts throughout the several views.

One of two plates, which may be called the "bed" A, is of steel or iron, measuring about three-eighths of an inch in thickness, nine inches long, and one and three-fourths inches wide. It is square at one end and half-round at the other. Springing from the surface of the bed in its longitudinal center and at its square end is a standard or boss *a*, of like metal, about one-half inch in transverse thickness, one and one-eighth inches high, and one and three-fourths inches long, one of the ends of which is flush with the square end of the bed A. This standard or boss *a* and the bed A may be forged from the same piece of metal, or the standard or boss *a* may be attached to the bed A by mortise, rivet, or other mechanical device. The half-rounded end of the bed is slightly deflected downward, as shown in Fig. 1, the curve thus formed beginning at a point *b* about one and three-fourths inches from the rounded end. At this end of the bed A there is a circular opening *c*, about one and one-eighth inches in diameter, the center of which is about one and one-eighth inches from said end. In this opening may be attached a strap or handle *d*, as shown in Fig. 5, to secure the tool to the person of the operator. A groove *e*, about five-sixteenths of an inch from one side and parallel with the same and about three-eighths of an inch wide, runs the entire length of the bed A. About two and one-half inches from the rounded end of the bed A and in the longitudinal center line of the same is a threaded opening *f*, as shown in Fig. 2, about seven-sixteenths of an inch in diameter. The standard *a* has a transverse opening *g* (shown in Fig. 2) about three-fourths of an inch from one of its ends and the same distance above the surface of the bed A. Solidly hinged to the bed A by means of the transverse opening *g* in the standard *a* is the other plate B, of like metal, of like width and thickness, and about one and three-fourths inches shorter. The underneath surface faces the upper surface of the bed A when the tool is closed, as shown in Fig. 1. It has an opening *h* to correspond with the threaded opening *f* in the bed A, and also a groove *i*, corresponding to groove *e*, so that when the tool is closed and holding a wire *j* the wire fits in a channel formed by the grooves *e i*, as shown in Fig. 4. The hinged end of this plate has a heavy knuckle *k*, slotted to articulate with the standard *a* and drilled transversely to correspond with the opening *g* in the standard *a*. Through these openings a strong bolt or pin *l*, as shown in Fig. 1, is fastened, completing the hinge. A screw C, with turn-buckle or thumb-screw head *m*, swivels in the opening *h* in the upper plate, as shown in Fig. 2, is not detachable by reason of the head *m* and threaded part being larger than the opening *h*, and engages with the threaded opening *f* in the bed A whenever the tool is closed. All of said measurements are more or less.

In Fig. 2 the plate B is shown provided with a supplemental clamping-groove 15, arranged at the opposite side of the standard *a* from that occupied by the groove *i* and in parallelism therewith. This groove is approximately one-half the length of the groove *i* and shoals or converges to a point at its outer end. Said groove may be omitted, however, if desired.

What I claim for my invention, and desire to protect by Letters Patent, is—

The herein-described tool for grasping and holding electric wires, comprising the bed-plate A, provided with the eye *c*, threaded opening *f*, and longitudinal groove *e*, the plate B, hinged by an end thereto and provided with the groove *i* in position to register with said groove *e*, and the screw-bolt C, swiveled in the plate B in position to enter the opening *f* and provided with the head *m*, all being arranged to operate substantially as specified.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 3d day of July, A. D. 1890.

WILLIAM E. TREEN.

Witnesses:
HENRY S. KOLSETH,
JOHN H. PONCE.