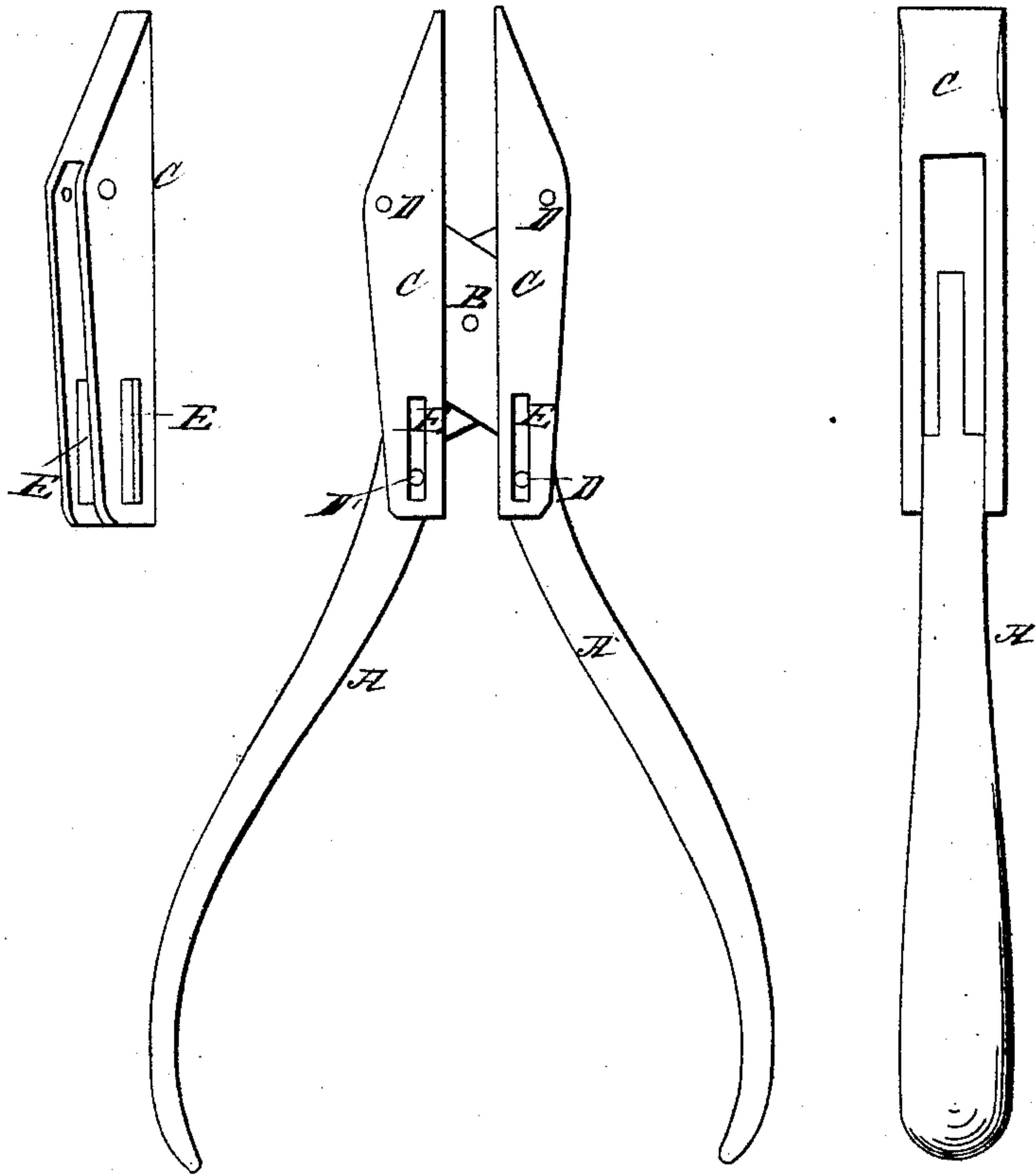


C. W. Sykes,
Wire-Working Tool.
No 21,525. Patented Sep. 14, 1858.

Fig: 3.

Fig: 1.

Fig: 2.



UNITED STATES PATENT OFFICE.

CHESTER W. SYKES, OF NEW YORK, N. Y.

IMPROVEMENT IN MAKING PLIERS.

Specification forming part of Letters Patent No. 21,525, dated September 14, 1858.

To all whom it may concern:

Be it known that I, CHESTER W. SYKES, of the city, county, and State of New York, have invented a new and useful Improvement in Pliers or Pinchers; 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, making part of this specification.

Figure 1 is a front view of the improved pliers or pinchers when placed in an upright position. Fig. 2 is a side elevation of the same. Fig. 3 is a perspective view of one of the movable jaws of the same detached from the handle.

Similar letters in the figures refer to corresponding parts.

The nature of this invention and improvement consists in connecting the jaws of the pliers or pinchers to the handles of the same by pins arranged diagonally with each other and at equal distances from the center-pin, upon which the handles move, and allowing one set of the connecting-pins to have a longitudinal movement in parallel slots in such a manner as to enable the said jaws to be opened and closed parallel with each other, and thereby enable a more firm grip to be given the object grasped by them than if they opened and closed upon a fixed center-pin, as heretofore.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

The handles A are made of the usual or most approved form at the portion where they are grasped by the operator, and are secured together at the point where they cross each other by the usual center-pin, B, and instead of being extended upward to form grasping-jaws, as heretofore, they are simply bent outward and upward beyond the crossing portion, and are made to enter slots formed in the lower portions of parallel moving jaws C, the upper ends of which are made tapering on their sides, and somewhat similar in form to the jaws of pliers or pinchers now in use. The upper extended curved ends of the handles A are attached to the upper portion of the jaws C by pins D passing through the said ends and through the jaws, and the por-

tions of the handles below the center-pin or fulcrum B, upon which they move, are connected to the lower portions of the jaws C by pins D' projecting from the surfaces of the handles opposite each other, and at the same distance from the center or fulcrum B as the pins D are situated, and entering parallel longitudinal slots E, formed in the lower portions of the jaws C, in which the said pins D' traverse when the jaws are opened and closed by the movement of the handles A. By thus connecting the jaws C to the oscillating portions of the handles A above and below the pivot or fulcrum B, on which they work, a parallel movement is given the said jaws C, and they are enabled to grasp a nut, bar, or, in fact, any object having parallel sides over a greater amount of surface than if their embracing surfaces were angular or diagonal with each other, and through this means are better adapted to the fulfillment of the objects of their design.

This feature is particularly desirable in grasping the ends of bars, or other articles having parallel sides or screw-bolt heads and nuts upon which a firm and strong hold is necessary, as by it this desideratum is not only accomplished, but the edges or other parts of the articles gripped are not so likely to be injured as if they were taken hold of in an angular manner, as heretofore, instead of parallel and over their entire surface, as in this case.

What I claim as new, and desire to secure by Letters Patent, is—

Connecting the jaws C of the pliers or pinchers to the portions of the handles A above and below the center-pin or fulcrum B, upon which they move, by pins D D' at points diagonal with each other, and at equal distances therefrom, the lower set of the said pins D' being inserted and allowed to traverse (with the opening and closing of the handles and jaws) in longitudinal slots E in the lower parts of the said jaws C, substantially in the manner and for the purpose before described.

CHESTER W. SYKES.

Witnesses:

J. W. COOMBS,
S. H. WALES.