

(No Model.)

O. F. GARVEY.

SOLDERING PLIERS.

No. 381,544.

Patented Apr. 24, 1888.

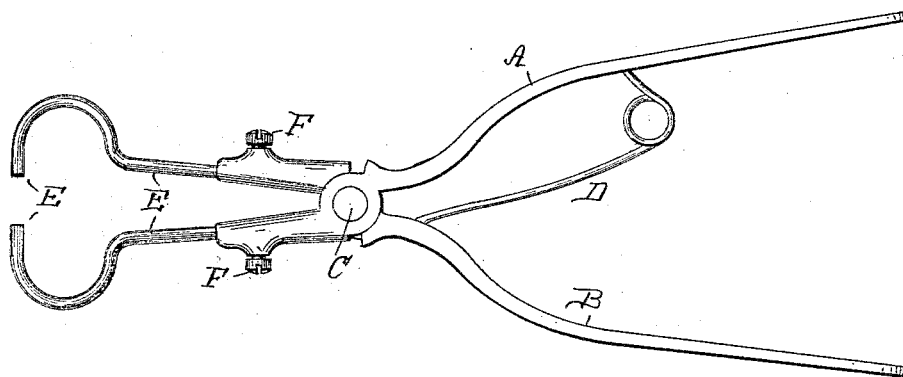


Fig. 1.

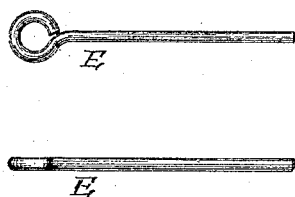


Fig. 2

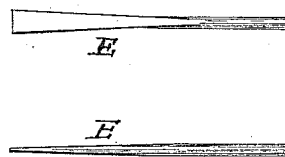


Fig. 3.

WITNESSES:

Howard P. Perry
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Owen F. Garvey
by his Atty
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UNITED STATES PATENT OFFICE.

OWEN F. GARVEY, OF PAWTUCKET, RHODE ISLAND.

SOLDERING-PLIERS.

SPECIFICATION forming part of Letters Patent No. 381,544, dated April 24, 1888.

Application filed December 9, 1886. Serial No. 231,083. (No model.)

To all whom it may concern:

Be it known that I, OWEN F. GARVEY, of the city of Pawtucket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Soldering Pliers or Tweezers, of which the following, taken in connection with the accompanying drawings, is a specification.

The object of this invention is to provide for tin-workers and others a most convenient form of soldering pliers or tweezers, adapted for universal use, and yet of most simple construction.

My invention consists of two pivoted levers or jaws with handles, in combination with removable jaws held in sockets in the short ends of the levers and made interchangeable, so as to adapt the pliers to various uses. These interchangeable jaws I hold in their sockets in the levers by means of set-screws.

A further feature of my invention is a peculiar spring for operating the levers, having a bend or coil and two arms of unequal length projecting therefrom.

Reference being had to the drawings, Figure 1 shows a side elevation of the pliers with my improvements. Figs. 2 and 3 show other forms of the removable jaws that may be substituted for those shown in the pliers in Fig. 1.

These substitute jaws, Figs. 2 and 3, are made of different shapes to hold different-shaped articles to be soldered. The jaw with a ring in the end is especially adapted for holding spherical surfaces, as balls or buttons, and the jaw with a straight grasping surface, as shown in Fig. 1, is adapted to hold the eye of the button, whereby the parts may be clamped and soldered together.

A and B represent two levers joined by the pivot C and furnished with the spring D.

E E are removable jaws made of steel wire or other suitable material, which are bent at their outer ends, or shaped to such forms as may best adapt them to the work in view.

The levers A B may cross each other at the pivot C, so that the jaws will come together by pressure on the handles, instead of opening by such pressure.

Each jaw E has a straight shank of a uniform size and corresponding to the bore of the socket formed in the end of each of the pivoted levers, so that they may be readily inserted and removed. The set-screws F hold the jaws in place.

The spring D has a bend or coil, *d*, and two arms of unequal length extending therefrom and entering one into each of the levers A and B to connect them together. The unequal length of the arms of the spring D prevents the bend *d* and that part of the spring from swinging out from its proper position between the levers when the handles are pressed together, which the spring is liable to do if the arms are of equal length, unless some more expensive mode of fastening the ends of the spring is adopted.

Having thus described my improvements, what I claim as my invention is—

1. The improved pliers herein described, consisting of the arms or levers A, pivoted together, the unequal-armed spring D, removably and reversibly fixed between them, the jaws provided with longitudinal and transverse perforations, the interchangeable jaws E, fitted in the longitudinal perforations, and set-screws F, engaging said jaws through the transverse perforations, as set forth.

2. The improved pliers herein described, provided with arms or levers A, pivoted together and having in the ends of each a perforation, and a screw-threaded opening transversely located with reference to and communicating with said perforation, removable and interchangeable jaws E, fitted in the perforations, and set-screws F, engaging said jaws through the screw-threaded openings, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 1st day of December, A. D. 1886.

OWEN F. GARVEY.

Witnesses:

HENRY F. JENKS,
JOHN G. PERRY.