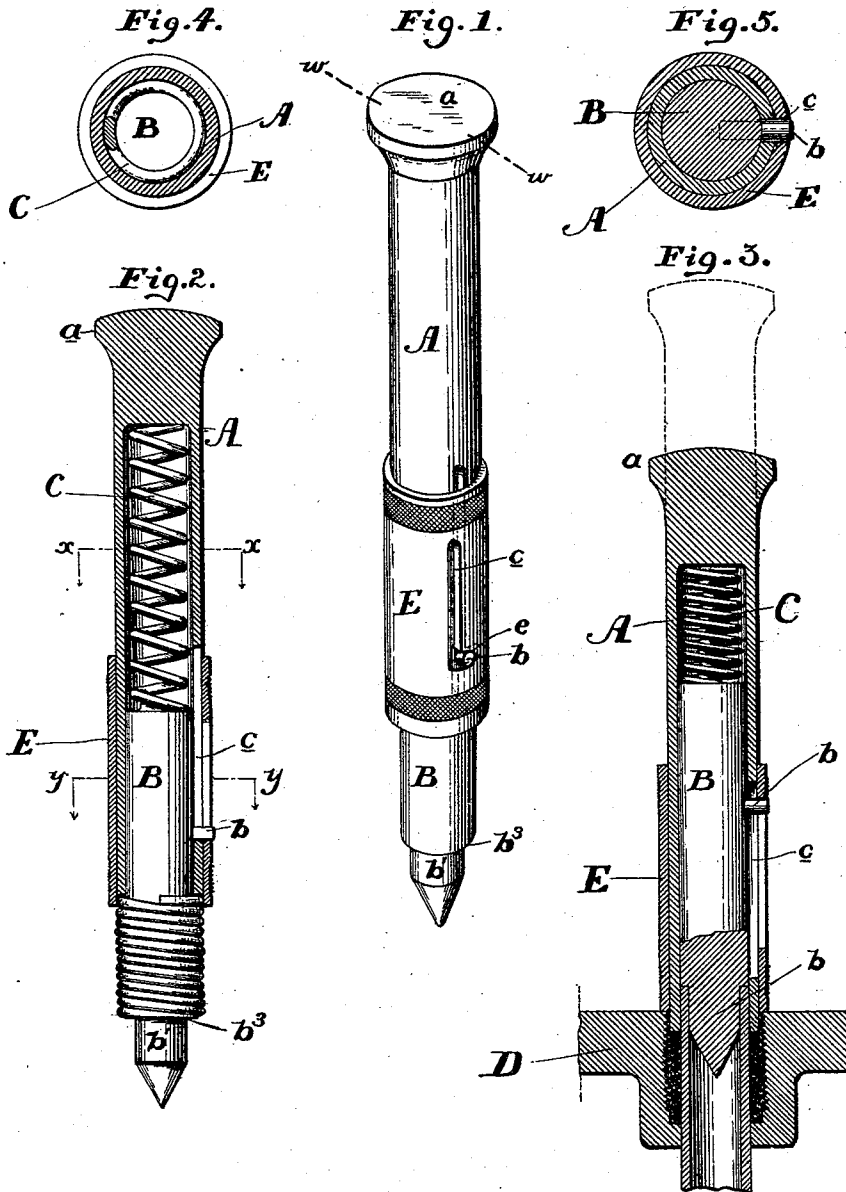


(No Model.)

J. F. LYNCH.
PACKING TOOL.

No. 473,008.

Patented Apr. 19, 1892.



WITNESSES:

Walter Farnsworth
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UNITED STATES PATENT OFFICE.

JOHN F. LYNCH, OF PHILADELPHIA, PENNSYLVANIA.

PACKING-TOOL.

SPECIFICATION forming part of Letters Patent No. 473,008, dated April 19, 1892.

Application filed July 15, 1891. Serial No. 399,560. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. LYNCH, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Packing-Tools; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of my invention is to provide a tool which may be used for packing the tubes of condensers or similar articles where a number of tubes are secured in a tube-sheet.

In the accompanying drawings, Figure 1 is a perspective view of a tool constructed in accordance with my invention. Fig. 2 is a longitudinal section of the same, the packing-cord being wrapped in position on the mandrel or former. Fig. 3 is a similar view showing the cord being pressed into position around the tube. Fig. 4 is a sectional plan view on the line *x x*, Fig. 2; and Fig. 5 is a sectional plan view on the line *y y*, Fig. 2.

In packing the tubes of condensers it is usual to employ cord, the successive layers or windings being separately forced down into the packing-box, the operation requiring much time and care to produce a good joint.

In carrying out my invention I employ a tool on which the cord is first wound and then pressed into the packing-box at one operation.

A represents a hollow stem having at one of its ends a solid head *a*, and guided within this head is a former or mandrel B, from which projects a pin *b*, running in a slot *c* in the stem A, the two parts A B being normally forced apart by the action of a compression-spring *c* within the stem A. The main body of the mandrel or former B is adapted to fit within the hollow stem A and projects therefrom when the spring is acting a sufficient distance to hold enough packing-cord to fill the packing-box D, through which the tube passes. The outer end *b'* of the mandrel is reduced in diameter in order that it may be fitted within the tube to be packed, and is

preferably provided with a conical pointed end *b'* for convenience in inserting it in the end of such tube, the tool being pressed into the tube until the shoulder *b'* abuts against the end of the tube. Surrounding the stem A is a sleeve E, provided with a longitudinal slot *e*, in which fits the pin *b*, projecting from the mandrel B.

In operation the packing-cord is coiled around the projecting portion of the mandrel B, the sleeve E being held up in the position shown in Figs. 1 and 2 by the engagement of the pin *b* with a recess *e'* in the sleeve. After the winding is completed the sleeve is slipped down over the packing-cord in order to keep the coils in proper position. The end of the mandrel is then inserted in the end of the tube to be packed until the shoulder *b'* comes into contact with the end of the tube to be packed. Then by the use of sufficient pressure on the head *a* or by a sharp hammer-blow the coils of packing-cord are forced from the mandrel and around the tube by the end of the stem A.

If desired, the protecting-sleeve E may be omitted, as it only serves to prevent the coils from being forced outward. Its use, however, is preferred, and I have for that reason described it.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. A packing-tool comprising a winding-surface for the packing material and a headed stem or sleeve adapted to fit thereon, whereby the packing on the winding-surface may be forced around the tube being packed, substantially as set forth.

2. A packing-tool comprising a winding-mandrel for the packing material, a hollow stem in which said mandrel is guided, and a protecting-sleeve adapted to fit over the coils of packing material, substantially as set forth.

3. A packing-tool comprising a winding-surface or mandrel for the packing material, a headed and slotted stem in which said mandrel is guided, and a projecting pin on said mandrel, adapted to the slotted portion of the stem, substantially as set forth.

4. A packing-tool comprising a winding surface or mandrel for the packing material, a slotted stem in which such mandrel is guided, a slotted protecting-sleeve on said stem, and

a projecting pin on said mandrel, adapted to the slotted portions of said stem and sleeve, substantially as specified.

- 5 5. A tube-packing tool comprising a winding-mandrel having a winding-surface for the packing material and a reduced end portion adapted to fit within the tube to be packed, in combination with a stem fitting over and

guiding said mandrel, substantially as specified. 10

In testimony whereof I affix my signature in presence of two witnesses.

JOHN F. LYNCH.

Witnesses:

DAVID S. WILLIAMS;

ELSIE A. WRIGHT.