W. E. BROOKE

Riveting Machine for Tubing.

No. 204,419. Patented June 4, 1878.

Fig. 1.

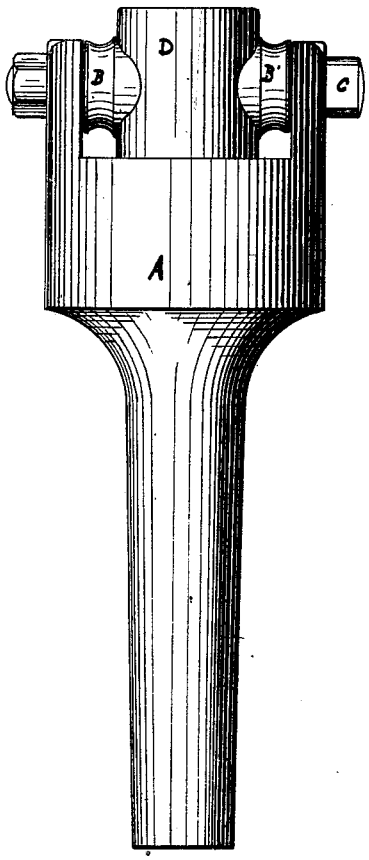


Fig. 2.

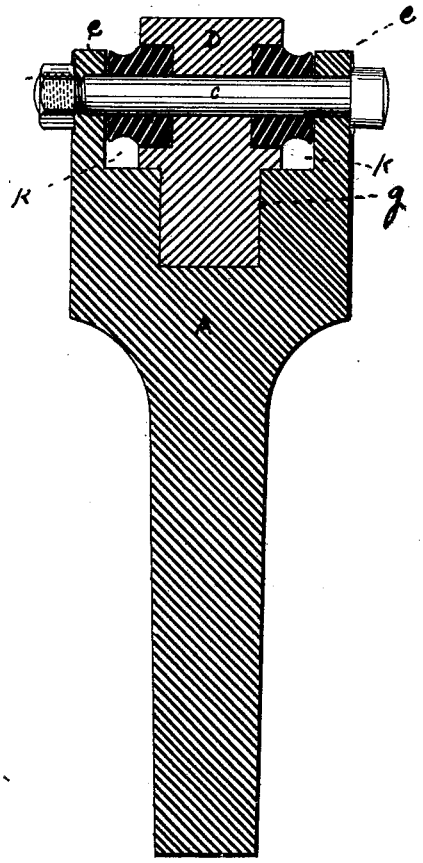


Fig. 3.

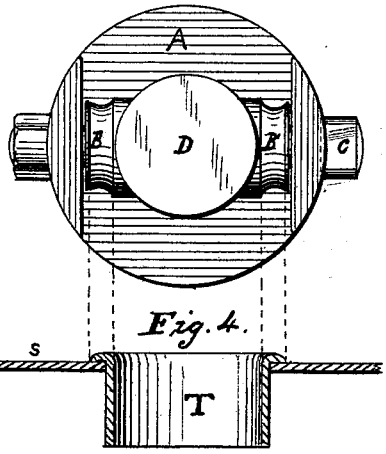
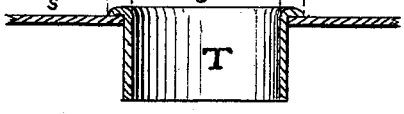


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM E. BROOKE, OF TRENTON, NEW JERSEY.

IMPROVEMENT IN RIVETING-MACHINES FOR TUBING.

Specification forming part of Letters Patent No. **204,419**, dated June 4, 1878; application filed May 14, 1878.

To all whom it may concern:

Be it known that I, WILLIAM E. BROOKE, of Trenton, county of Mercer, and State of New Jersey, have invented a new and Improved Tool for Spreading, Turning, Beading, and Riveting the Ends of Tubes upon Plates or Disks; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in a tool for expanding and riveting pipes or tubes to disks or plates of sheet metal, for making reels or spools for wire. The end of the tube being pressed against the rollers is expanded and turned outward over the plate or disk to which it is in process of being riveted, forming (in its conclusion) the end of the tube into a neatly-rounded head or bead without cracking. The shaft or shafts may be at any angle to the axis of the head, and there may be one, two, or more rollers, but preferably two.

In order that others skilled in the art to which my invention appertains may be enabled to fully understand and use the same, I will proceed to describe it in detail in connection with the accompanying drawings.

Figure 1 is a front view of the head. Fig. 2 is a sectional view of the same, exposing the shaft and the arrangement of all the parts. Fig. 3 is a front-end view of the head. Fig. 4 is a sectional view of the tube and sheet or disk, showing the method and process of turning over the end of the tube, fastening it to the sheet or disk by the revolving tool.

A is a head, that may be placed in the spindle of a lathe or drill press, or their equivalent, to give it motion, and that pressure may be applied between it and the tube while in motion.

The handle A has a recess, *k*, to receive the center pin and rollers, and also socket *g* to receive the shank of center pin D. The bearings *e* are provided with holes to receive shaft C. The center pin has a hole through which the shaft C passes, and is provided with recesses to receive one end of rollers B B′.

B B′ are the two cast-steel hardened grooved rolls which turn on the hardened steel shaft C. This shaft passes through the head A and the center pin D, as shown.

S in Fig. 4 is a section of the sheet or disk, and I is a section of the tube fastened to it by the operation of the tool, the grooved rolls turning over the end of the tube, and making a flange or beading, which attaches the tube firmly to the sheet.

This tool performs the work with great rapidity, finishing it neatly at little cost, without liability to breakage.

The old way, with set and hammer, or by the Dudgeon expander, of which I am aware, was comparatively costly, and involved considerable risk in breaking and cracking the ends of the tubes; but in this case the operation of the tool is such that if the tube be held in line with the revolving head, the sheet or disk will, when fastened on by the continuous unbroken rivet, formed as described, be perfectly true, and at right angles to the tube.

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

The combination of the handle A, having socket *g*, recess *k*, and bearings *e*, with the recessed center pin D, rollers B B′, and shaft C, as and for the purpose set forth.

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