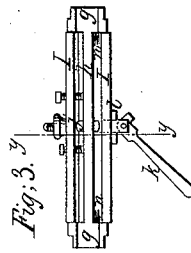
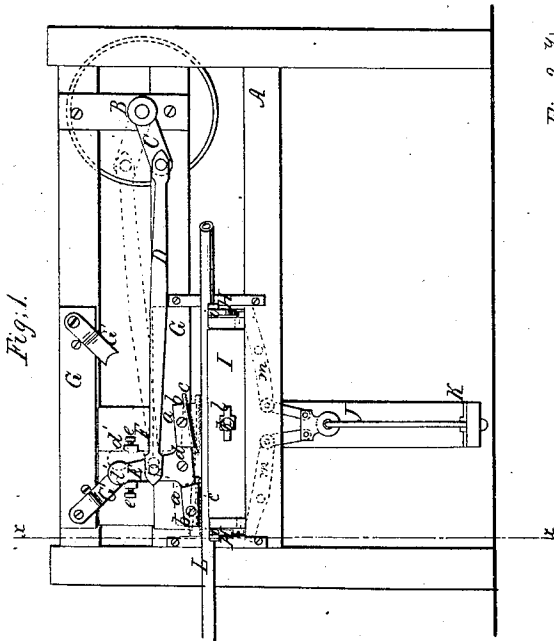
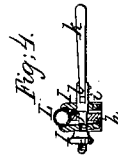
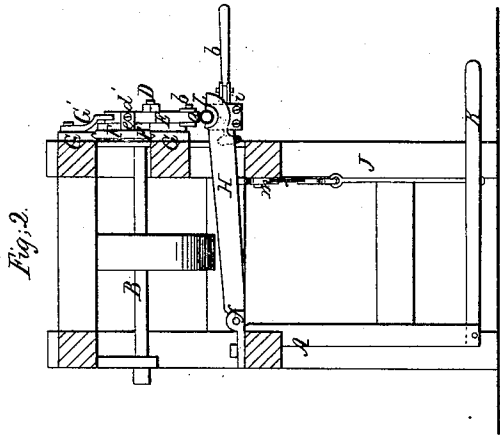


E. Jordan.

Making Metal Tubing

N^o 20,529.

Patented Jun. 8, 1858.



UNITED STATES PATENT OFFICE.

EDMUND JORDAN, OF WATERBURY, CONNECTICUT, ASSIGNOR TO BENEDICT & BURNHAM MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVED MACHINE FOR FINISHING SOLDERED TUBING.

Specification forming part of Letters Patent No. 20,529, dated June 8, 1858.

To all whom it may concern:

Be it known that I, EDMUND JORDAN, of Waterbury, in the county of New Haven and State of Connecticut, have invented a new and useful Machine for Finishing Soldered Tubing; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side view of a machine constructed according to my invention. Fig. 2 is a transverse vertical section of the same, taken in the line *x x*, Fig. 1. Fig. 3 is a detached plan view of the clamp. Fig. 4 is a transverse section of the same, taken in the line *y y*, Fig. 3.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in a peculiar means employed for operating a file or cutter for the purpose of filing or finishing off the soldered seams of tubing.

The invention also consists in a peculiar clamp for holding the tubing while being operated upon by the file or cutter.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a rectangular frame, which may be constructed in any proper manner to support the working parts.

B is a driving-shaft placed transversely in one end of the machine, said shaft having a crank, C, at one end of it.

To the crank C a connecting-rod, D, is attached, the outer end of said rod being pivoted to a bar, E, which is pivoted to a sliding plate, F, said plate being fitted between guides G G, attached to one side of the frame A.

To the lower part of the bar E lateral arms *a a* are attached—one at each side—and to these arms clamps *b* are fitted, said clamps retaining each a file or cutter, *c*, the cutters being formed of steel plates, cut on their under or face sides in any proper manner to form cutting-edges, similar to a rasp or file. The connecting-rod D is attached to the bar E above the pivot *d*, which attaches it to the sliding plate F.

On the sliding plate F, or on a projection

thereon, two lugs, *d d'*, are formed, and through these lugs or ears screws *e e* pass, between the inner ends of which the upper end of the bar E is fitted and works, said screws serving as stops.

To the upper part of the frame A two plates or stops, G G', are attached, the use of which will be presently shown.

H H are two levers, which are pivoted in the frame A, as shown at *f*.

In the outer ends of the levers H concave journals *g* of a bar, *h*, are fitted, the journals being fitted loosely in their bearings.

To each end of the bar *h* a cross-plate, *i*, is attached, said cross-plates being connected with the journals, and to the lower parts of the plates *i* the lower ends of two plates, I I, are attached—one at each side of the bar *h*—the plates I extending upward a little higher than the bar *h*.

Transversely through the plates I I a screw-rod, *j*, passes, and a lever, *k*, is attached to the outer end of said rod, the inner end of said lever forming a cam which bears against a bar, *l*, fitted in a slot in the screw-rod *j*. The levers H H are connected by means of supplementary levers *m m* to a rod, J, which is attached to a treadle, K.

The operation is as follows: The attendant or operator grasps a tube, L, and places it seam uppermost between the upper ends of the plates I I, which, when not otherwise acted upon, are kept distended by springs *n*. The upper ends of the plates I I are made to grasp the tube L and hold it firmly by adjusting the lever *k*. Motion is then given the driving-shaft B in any proper way, and the files or cutters *c* are moved back, and farther over the seam of tube L, the latter being pressed upward against the files or cutters by depressing the outer end of the treadle K. The cutters *c* act alternately on the tube as the bar E is tilted at the end of each movement. The action of the rod D serves to keep the bar E and cutters in proper position, and the tilting of the bar E, and consequently the cutters, is assisted in being tilted a little in advance of the action of rod D, by means of the stops G G, in consequence of the upper end of the bar E striking against said projections. By this means

the device is made to operate smoothly, the momentum of the files or cutters and the cutter-stock being neutralized at the end of each stroke by the advance tilting movement described.

By this invention the tubes may be finished—that is, have their soldered seams smoothly filed or rasped in a perfect manner and with great facility.

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

1. The files or cutters *cc*, attached to a tilting

stock, which is fitted to a reciprocating slide, *F*, and operated by means of the connecting-rod *D*, crank *C*, and stops *G' G'*, substantially as and for the purpose set forth.

2. The clamp formed of the two plates *I I*, attached to the levers *H H*, which are connected to a treadle, *K*, the whole being arranged to operate as and for the purpose specified.

EDMUND JORDAN

Witnesses:

LUCIUS P. BRYAN,
CALVIN H. CARTER.