A. Lockwood.

Shaping and Slotting Metals.

No. 15,403. Patented Jul. 22, 1856.

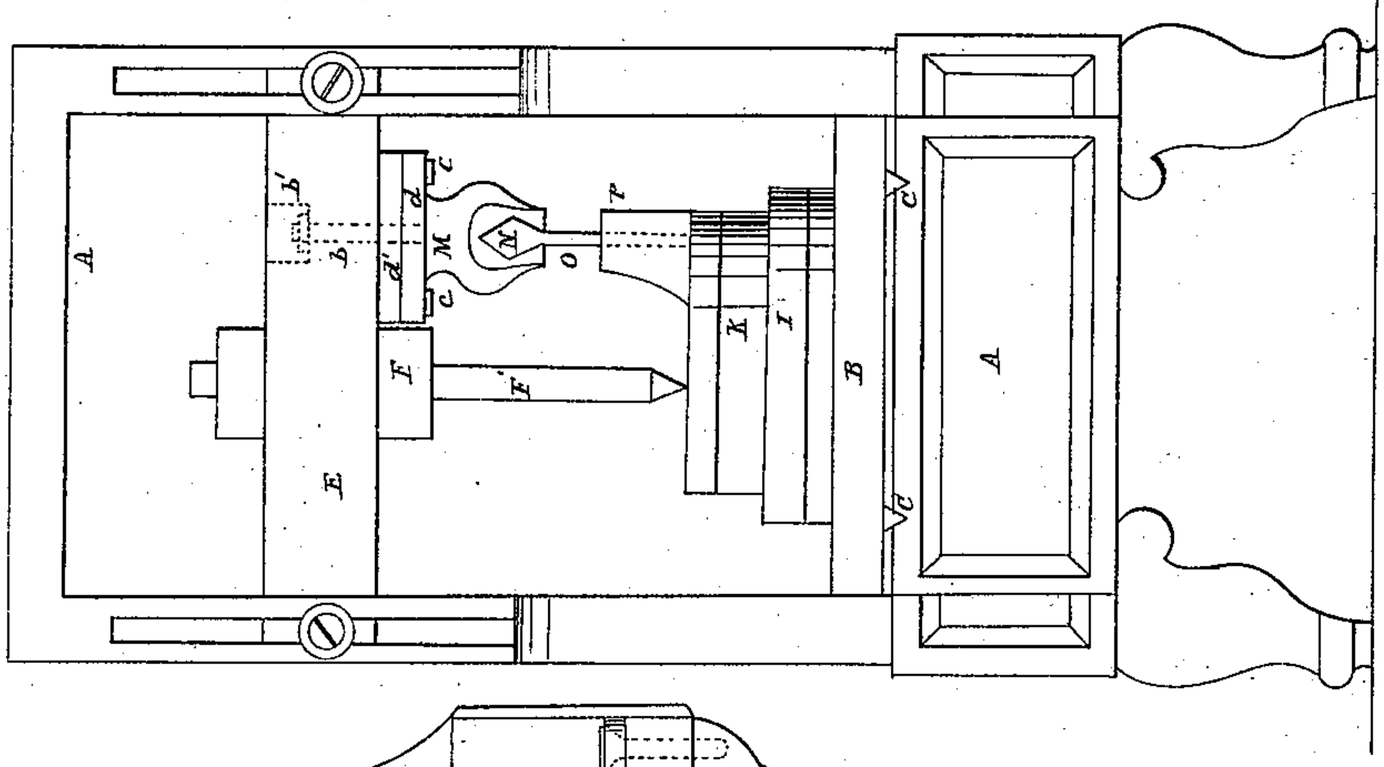

Fig. 3.

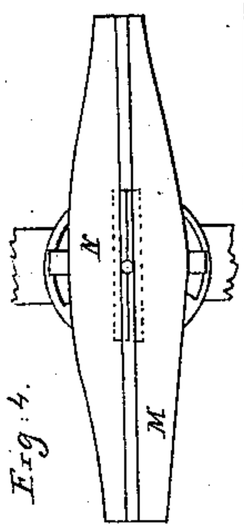

Fig. 4.

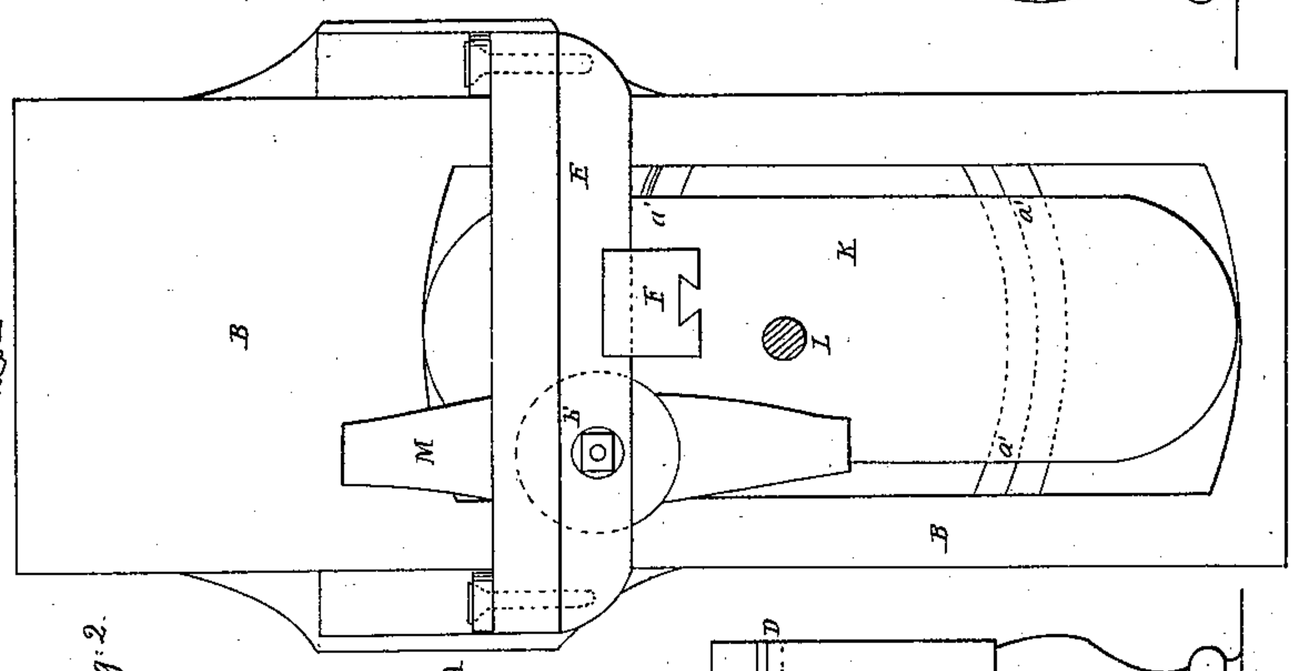

Fig. 2.

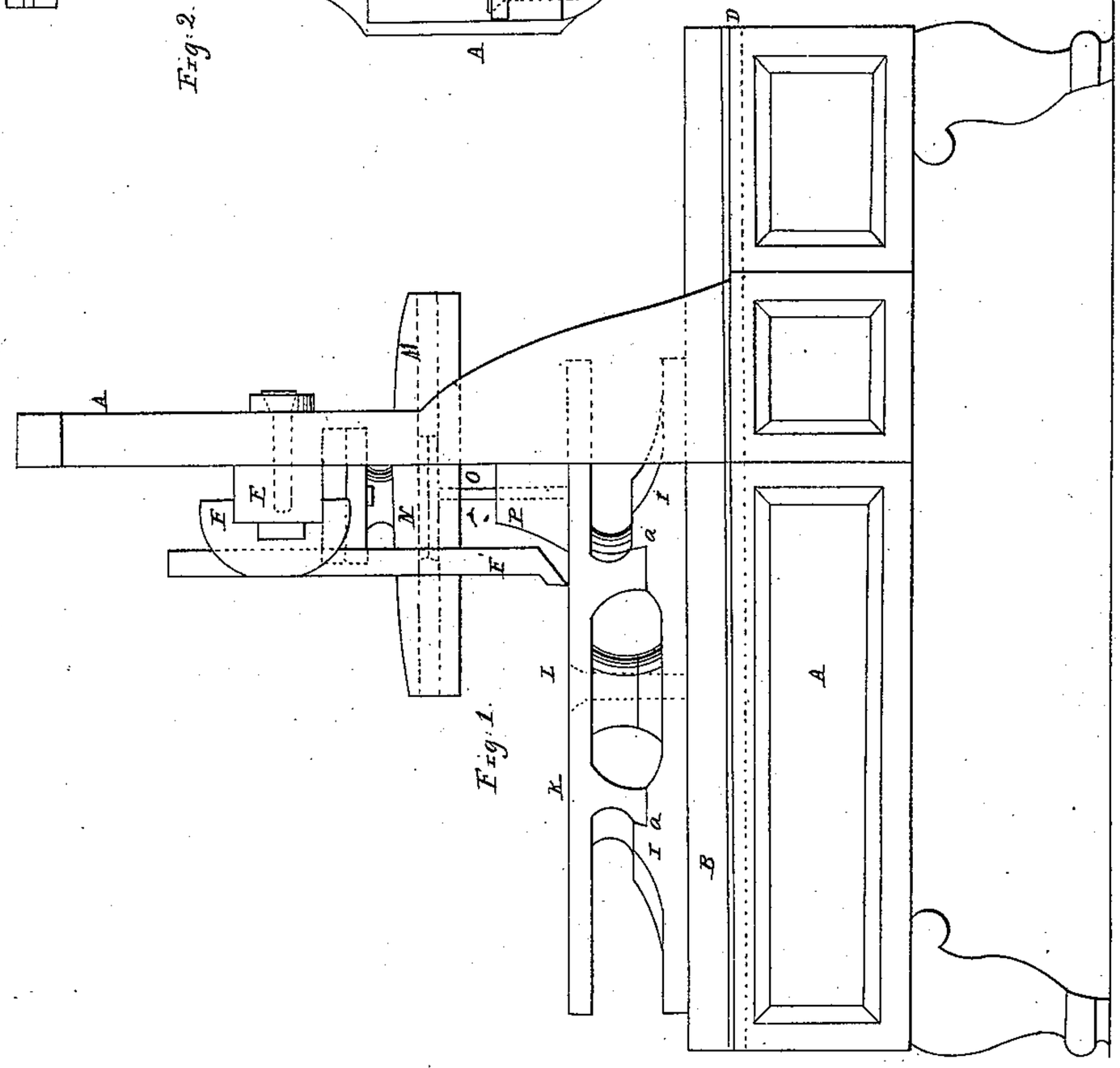

Fig. 1.

UNITED STATES PATENT OFFICE.

ASAHEL LOCKWOOD, OF CHICAGO, ILLINOIS, ASSIGNOR TO L. B. FLANDERS, OF CLEVELAND, OHIO.

PLANING-MACHINE.

Specification of Letters Patent No. 15,403, dated July 22, 1856.

To all whom it may concern:

Be it known that I, A. LOCKWOOD, of Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in the Construction of Planing-Machines; and I hereby declare that the following is a full and complete description of the same, reference being had to the accompanying drawings, making a part of this specification, like letters referring to like parts.

Figure 1 is a side view of the machine, Fig. 2 is a top view, and Fig. 3 is an end view.

The nature of my invention consists in part of a horizontally vibrating table that turns upon a central pin or king bolt and moved by means hereinafter described, so that any desired curve, from a right line to the arc of a radius of a few inches in length, can be accurately planed.

The frame work and ways of the machine are represented by A, A, Figs. 1 and 3. The frame can be made in the usual manner of such machines, with a bed piece B, Figs. 1, 2 and 3, which moves upon the ways C, C, Fig. 3. These ways run the whole length of the frame as shown by the dotted line D, D, in Fig. 1. The cross head E, Figs. 1, 2 and 3, for holding the head block F, to which the tool or cutter F′ is attached, can be raised or lowered at pleasure in the usual manner. The head block F, is also adjustable, by means commonly found in machines for planing iron. Upon the top of the bed piece B, is another piece I, I, Figs. 1 and 3, permanently attached to the bed B, which serves as a support and guide for the vibrating table K, Figs. 1, 2 and 3.

This vibrating table, or horizontal face plate, turns upon the pin or bolt L, Figs. 1 and 2, being also guided in its vibrating motion by the circular dovetail guides *a*, *a*, or their equivalents, Fig. 1, and shown also by the dotted lines *a′*, *a′*, in Fig. 2; these circular dovetail guides or their equivalents having a common center in the king bolt L, Figs. 1 and 2. This king bolt L, passes through the support I, and is secured to the bed B. The vibrating table K, is regulated in its motion by the adjustable guide M, Figs. 1, 2 and 3, and the sliding head N, Figs. 1 and 3. The adjustable guide M, is shown in detached Fig. 4, in an under side view, with the slot and sliding head N. The guide M, is attached to the cross head E, by a bolt *b*, having a nut *b′*, let into the top of the cross head, and is secured in any desirable position by set screws *c*, *c*, which pass through the flange *d*, and screw into the flange *d′*, which is firmly attached to the cross head E. By this means, the guide M, may be set at any angle with the cross head E, and secured.

The sliding head N, has a rod O, Figs. 1 and 3, which passes into an elevated portion of the vibrating table K, as seen at P, Figs. 1 and 3. This rod allows the adjustable guide M, to be elevated or depressed without breaking the connection between the vibrating table K, and the adjustable guide M, and rotates in the round hole in which the rod O, is placed. Now if this adjustable guide is secured by the set screws *c*, *c*, in a position exactly parallel to the ways C, C, Fig. 3, the vibrating table K, will move in concert with the lower bed I, and will not vibrate upon the king bolt or center pin L, Figs. 1 and 2. But if the adjustable guide M, is turned in the least degree from a parallelism with the movement of the lower bed B, and its ways C, C, the cutter F, will describe a curve having a very long radius. If the adjustable guide M, is turned still more, a curve will be described by the cutter or tool F, upon the face of the table K, as it moves forward and backward under the tool F, but having a shorter radius, and as the angle between the two becomes less and less acute, the radii of the circle described by the tool F, becomes shorter and shorter.

The bed B, is put in motion in the usual manner, in which these movements are obtained in machines for planing iron, and the fixtures for holding the cutter or tool F, and moving the same laterally as the work progresses is also the same as in any common iron planing machine. Therefore, in adapting my improvement to any planing machine already in operation, all that is necessary to do is to introduce the vibrating table K, and its appendages, as herein set forth.

What I claim as my improvement and desire to secure by Letters Patent is—

The supports I, I, with its circular dovetail grooves *a*, *a*, or their equivalents, attached to the bed piece B, together with the

vibrating table K, turning upon the center pin or king bolt L; and in combination therewith the adjustable guide M, and the sliding head N, so adjusted and combined that a greater or less vibratory motion can be secured to the table K, by means of the adjustable guide M, by bringing it out of a parallelism with the ways C, C, and the bed B, in the manner and for the purpose set forth.

ASAHEL LOCKWOOD.

Witnesses:

J. H. CRIPPEN,

J. M. CHAMBERLAIN.