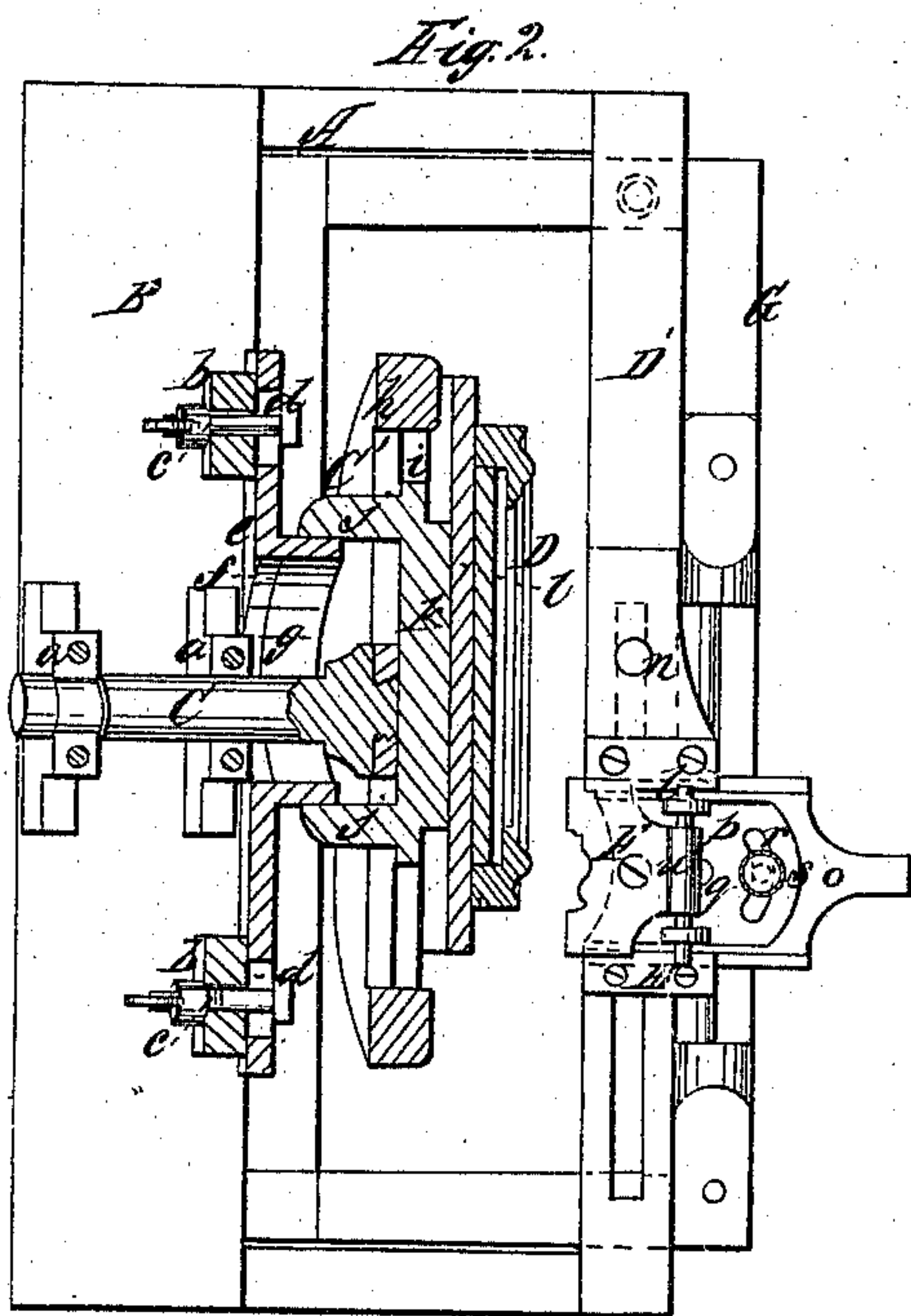
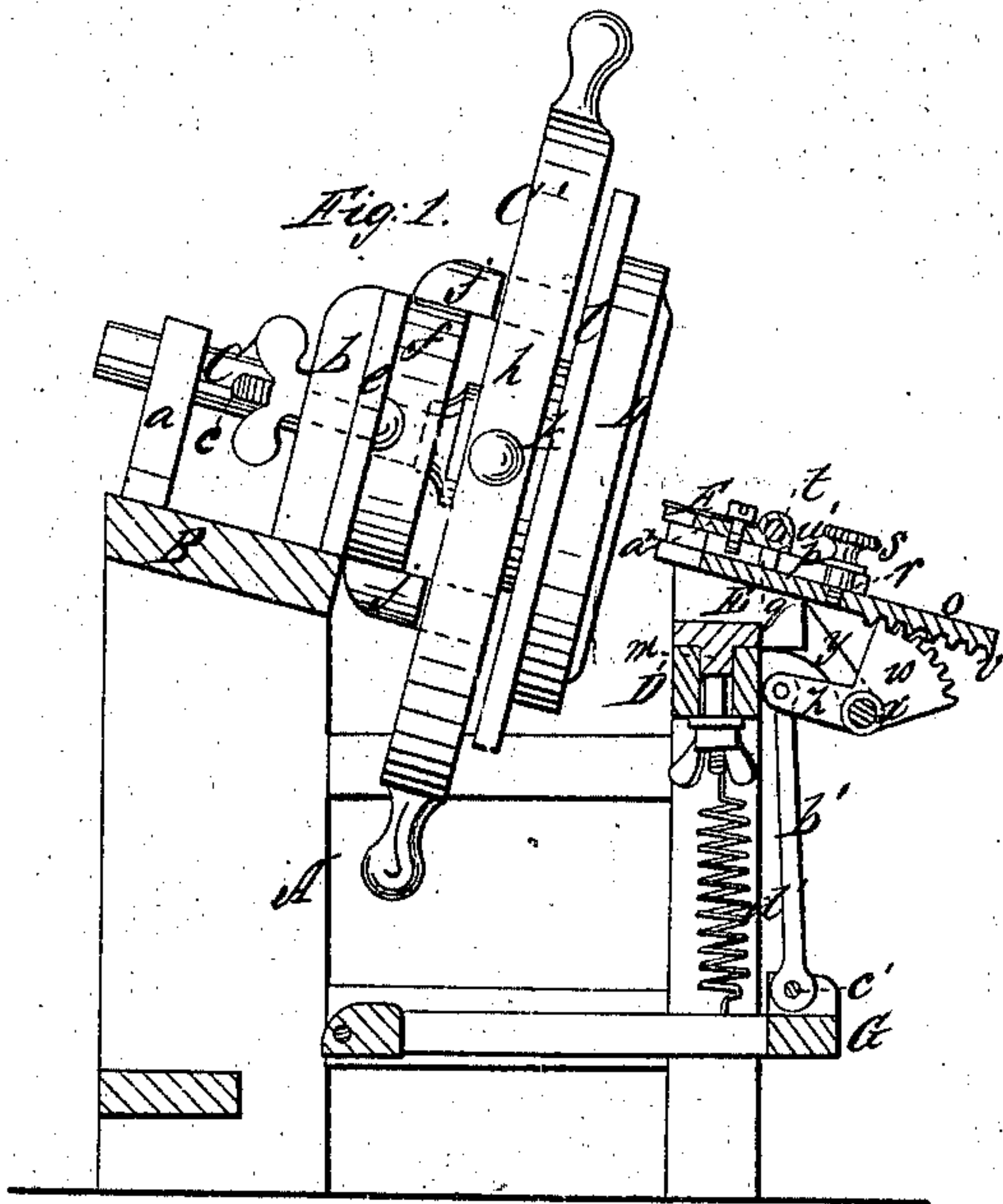


J. W. Campbell,

Enameling Machine.

N^o 2,173.

Patented Aug. 10, 1858.



UNITED STATES PATENT OFFICE.

J. W. CAMPBELL, OF NEW YORK, N. Y.

MACHINE FOR PREPARING FRAMES FOR GILDING.

Specification of Letters Patent No. 21,173, dated August 10, 1858.

To all whom it may concern:

Be it known that I, JAMES W. CAMPBELL, of the city, county, and State of New York, have invented a new and useful Machine for
5 Preparing for Gilding Oval and Circular Frames for Pictures, Mirrors, &c.; 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,
10 making a part of this specification, in which—

Figure 1 is a vertical section of my improvement taken in the line *x, x*, Fig. 2; Fig. 2, is a horizontal section of ditto taken
15 in the line *y, y*, Fig. 1.

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

This invention consists in using in connection with an ordinary eccentric and concentric lathe, such as is generally used for
20 turning oval and circular frames, a smoothing and scraping tool arranged and operated as hereinafter shown, whereby the whiting and size may be smoothed on the frames as they are rotated by the lathe and the superfluous whiting removed, the machine performing its work in a rapid manner and
25 far better than can be done by manual operation.

30 To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents a framing which may be constructed in any proper way to support the
35 working parts. On the upper part of the framing A and at one side a longitudinal board or bed piece B is secured. This bed piece is inclined transversely as shown clearly in Fig. 1, and to it the bearings *a, a*, of the shaft C, of an eccentric and concentric lathe C', is attached. The shaft C, therefore will be inclined transversely with the frame. To the bed piece B the uprights *b, b*
40 are attached through which screws *c, c* pass, said screws passing through oblong horizontal slots, *d, d*, in the ends of a board, *e*, at the center of which an annular flanch *f*, is attached, said flanch surrounding a circular opening, *g*, at the center of the board.
45 To the inner end of the shaft, C, a circular disk *h*, is attached. This disk has an oblong slot made through it, the slot intersecting the center of the disk, and extending nearly to its periphery. Through the slot, *i*, the
50 guides *j, j*, pass. These guides are attached to a bar, *k*, which is fitted in the face side of

the disk, *h* and the inner ends of the guides bear against the flanch, *f*. To the bar, *k*, a plate *z*, is attached and to this plate the
60 frame D to be operated upon is secured. The above described parts constitute a lathe such as is well known and generally used for turning oval and circular frames, especially frames for pictures, mirrors, etc. The only
65 difference between the lathe above described and those ordinarily used is that the former is inclined as before stated.

On the upper part of the framing A at the side opposite to that where the bed piece B is attached there is a bar or beam D',
70 which is parallel with the bed piece B but has its upper surface perfectly horizontal. This bar or beam D' is slotted longitudinally for a certain distance, and a tongue, *m*, at the under surface of a sliding head E is fitted
75 therein, the head being secured at any desired part by a set screw, *n*. In the upper part of the head E a sliding plate, O, is fitted transversely, the edges of said plate working in dove tail grooves in the head.
80 The plate O is inclined corresponding to the inclination of the shaft C, said plate being consequently at right angles with the face of the disk *h* as plainly shown in Fig. 1.

On the upper surface of the plate O a
85 plate, *p*, is placed and attached by a pivot *g*, at about its center; the plate *p*, being allowed to turn on said pivot as a center. The plate *p*, has a curved slot *r* made through it near its outer end and a set screw,
90 *s*, passes through said slot into the head E and retains the plate, *p*, in the desired position so far as its movement on the pivot, *g*, is concerned. On the plate, *p*, a small shaft *t*
95 is placed transversely and on this shaft the smoothing and scraping tool F, is fitted, said tool being attached to a plate, *a'*, having a collar or sleeve *a'*, at the back end through which the shaft, *t*, passes loosely, the sleeve
100 being rather shorter than the shaft so that a certain degree of lateral play is allowed the plate *a'* and tool F. The tool may be formed of any suitable metal and its edge is formed to correspond with the molding or pattern
105 of the frame.

On the under side of the plate O a longitudinal rack *v*, is formed and into this rack a toothed segment *w*, gears, said segment being hung on a shaft *x* which is fitted in the
110 lower ends of arms *y*, attached to the head E. An arm *z* is attached to the segment *w*, said arm having the upper end of a rod *b'*

pivoted to it the lower end of said rod being fitted on a rod c' , which is attached longitudinally to a treadle frame G placed in the lower part of the framing A. To each end
 5 of the framing A, a spiral spring d' is attached, said springs having a tendency to keep the outer end of the treadle frame elevated and the tool F back from the frame D, to be operated upon.
 10 The operation is as follows: The frame D is attached to the plate l , and if the frame is an oval one: the board, e , is adjusted so that the flanch f will be placed eccentrically with shaft C, and cause the frame as the
 15 disk h is rotated to rotate in line with the tool F, the plate l , being actuated or vibrated on the disk h in order to produce this effect, which is precisely the same as in turning oval frames. The frame D when ad-
 20 justed to the plate l , has the whiting applied to it in the usual manner, and the disk h , is then rotated either by hand or otherwise, and the foot of the operator is applied to the treadle G, which is depressed and the tool F
 25 pressed up against the frame D, the tool fitting the molding of the frame, and as said frame rotates scraping the superfluous whiting from the frame and smoothing the portion that remains on the frame, the tool at
 30 the same time being allowed to play laterally to a certain extent in consequence of the sleeve A' , being fitted loosely on shaft t to conform to any irregular movement of the frame, the movement of the frame being
 35 in all cases more or less irregular, as it is impossible to adjust it accurately to the plate l , without expending considerable time. By adjusting the plate p , the tool may be made to conform to the face of the frame
 40 as regards the position of its beam when the tool F is not found to correspond with it as

regards its bevel. By having the beam of the disk h , and consequently the frame D inclined, and also the tool F the latter is allowed to act upon the frame at right angles
 45 with its face, which is essential in order to perform perfect work. And at the same time the superfluous whiting and size which is quite liquid, is allowed to run off from the work and not pass between the edge of
 50 the tool and the work, a contingency which would occur and mar the work if this provision were not made to avoid it.

I would remark that by setting the flanch, f , concentric with the shaft C, circular
 55 frames may be operated upon in a similar way.

When the foot is removed from the treadle G, the springs d' immediately throw back the tool from the work, and the head E may
 60 be adjusted on the bar D' according to the size of the frame to be operated upon.

I do not claim the lathe C' , for this is a well known device and in common use for turning oval and circular frames. But
 65

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

The inclined lathe C' , in combination with the inclined tool F, when said tool is arranged substantially as shown, so as to be
 70 rendered capable of being adjusted to the frame D, by the treadle frame G, and, at the same time allowed a lateral movement or play to conform to any irregular movement
 75 of the frame due to an imperfect centering of the same on the plate l , of the lathe, for the purpose herein set forth.

JAS. W. CAMPBELL.

Witnesses:

W. TUSCH,

A. R. HAYTT.