

(No Model.)

J. D. HALL.

MACHINE FOR SHARPENING COTTON GIN SAWS.

No. 247,049.

Patented Sept. 13, 1881.

Fig 1.

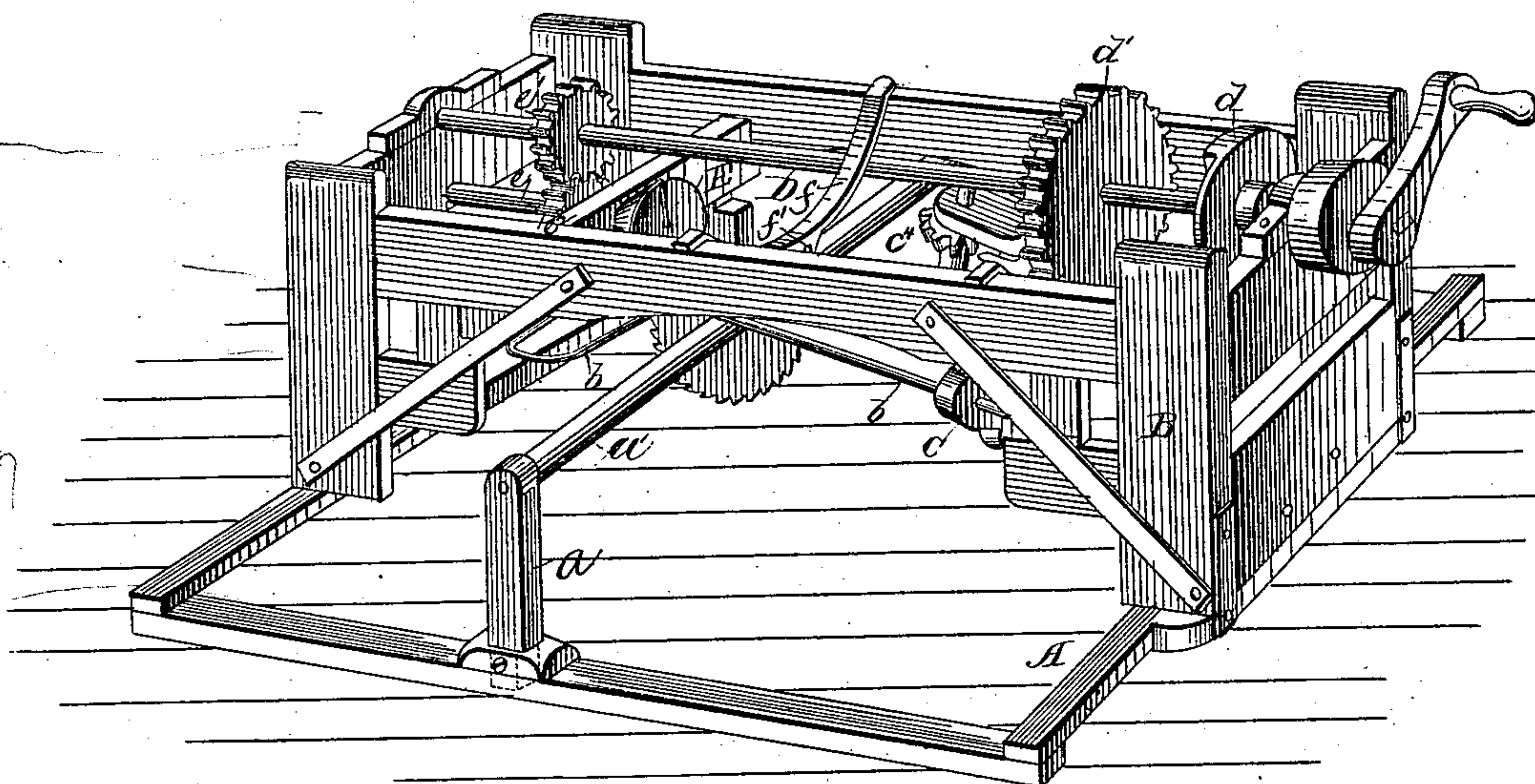


Fig 2.

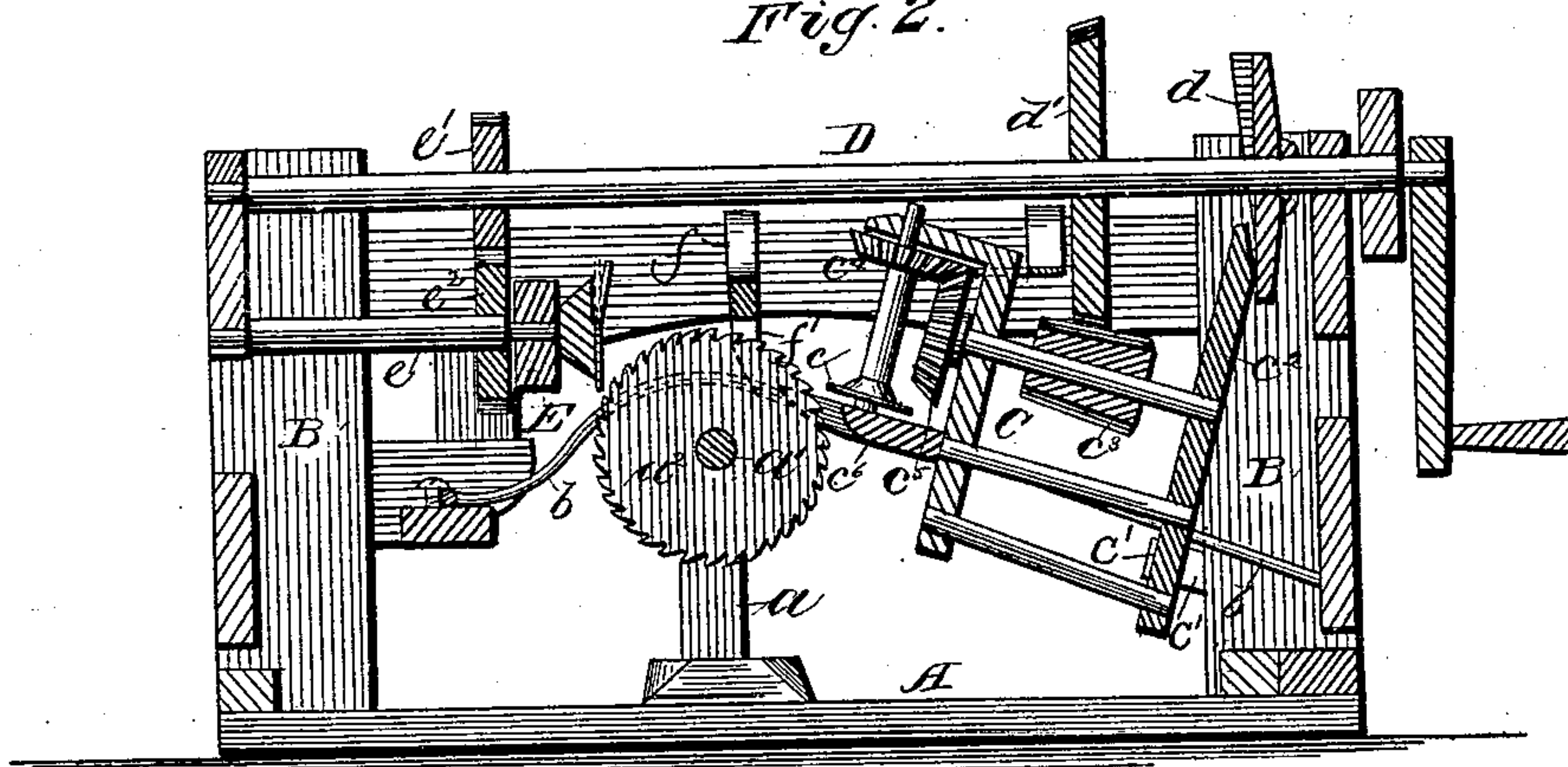
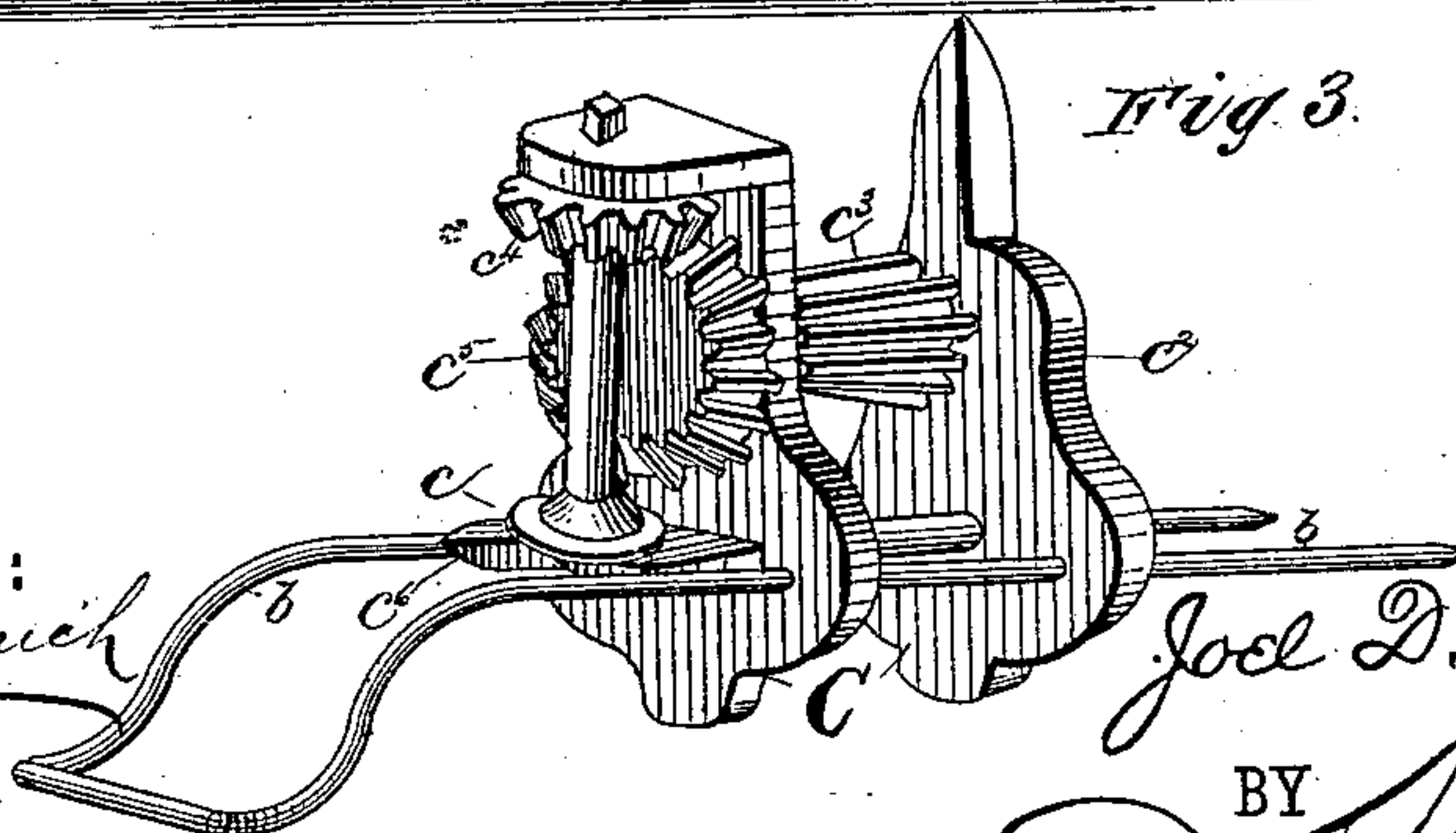


Fig 3.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOEL DAVIS HALL, OF KINGSTON, GEORGIA.

## MACHINE FOR SHARPENING COTTON-GIN SAWS.

SPECIFICATION forming part of Letters Patent No. 247,049, dated September 13, 1881.

Application filed June 3, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, JOEL DAVIS HALL, a citizen of the United States, residing at Kingston, in the county of Bartow and State of Georgia, have invented a new and useful Improvement in Machines for Sharpening Cotton-Gin and other Saws, of which the following is a full, clear, and exact description, reference being had to the drawings hereto annexed.

10 The object of my invention is to provide a gummer or sharpener which can be operated to sharpen saw-teeth with speed and precision.

In the accompanying drawings, Figure 1 represents a perspective view of my invention; 15 Fig. 2, a central longitudinal section, and Fig. 3 a detail view.

The base A of the machine, consisting of sills resting upon the ground, is provided with standards *a a* of adjustable height for supporting the shaft *a'*, which carries the serrated disk or saw to be filed. Extending above and on both sides of said shaft is the frame B, which rests upon cross-ties connecting the sills, and is firmly secured thereto. To one end of the 25 frame, on the under side, are secured two parallel rods, *b b*, which extend above shaft *a'*, on opposite sides of the saw *a'*, and are curved downward and rigidly attached to a cross-piece at the opposite end of the frame.

30 Upon these rods a frame, C, which carries the rotating file *c*, is made to slide to and fro intermittently by means of a spring, *c'*, which tends to draw it in one direction, and an arm, *c''*, which engages with a helical incline, *d*, on the driving-shaft D, to force it in the opposite 35 direction. In the center of said frame C is a gear-wheel, *c''*, meshing with wheel *d'* on the said driving-shaft, and made of sufficient length to admit of the shifting motion of frame C 40 without being thrown out of gear. On the end of this frame, adjacent to the saw, is a circular file, *c*, mounted upon a nearly-vertical shaft, which is driven by bevel-gear wheels *c''* and *c''*, the latter being secured to the end of the shaft 45 upon which wheel *c''* is mounted, and consequently operated by the same mechanism. The

said sliding frame is further provided with a guard, *c''*, which projects along the side of the saw opposite to the direction of the rotation of the file, for supporting the saw and holding it firmly against the file. At the opposite end 50 of the frame is the feeder E, which consists of a disk cut to the center at one point and having one of the cut edges helically inclined, so that when it is rotated by means of shafts *e* and 55 D and gear-wheels *e'* and *e''* it will at each revolution engage with the next succeeding tooth of the saw, and thereby cause it to rotate intermittently. In this manner the saw will be fed to the file, the sliding intermittent movement of the latter being set to correspond with 60 the revolution of the feeder.

On the top of the main frame is a curved brace, *f*, reaching across from side to side, and having two downward-projecting lugs on its under side, near the center, to form a bifurcated guard, *f'*, into which the saw is adjusted to prevent lateral movement. A suitable brace arranged in like manner is to be provided with horizontal guards, between which the upper 70 part of the sliding frame shall be confined.

The driving-shaft D is provided with a crank and pulley, whereby it may be rotated either by hand or by steam or other power.

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

1. The combination of shaft *a'*, adapted to support a saw, the feeder E, supported in one end of the main frame, the bifurcated guard 80 *f'*, and the sliding frame C, having file *c* and guard *c''*, and suitable mechanism for operating the file, substantially as shown and described.

2. The rotating file *c*, mounted upon a nearly-vertical shaft, in combination with the intermittently-sliding frame C, having guard *c''*, substantially as shown and described.

JOEL DAVIS HALL.

Witnesses:

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