

(No Model.)

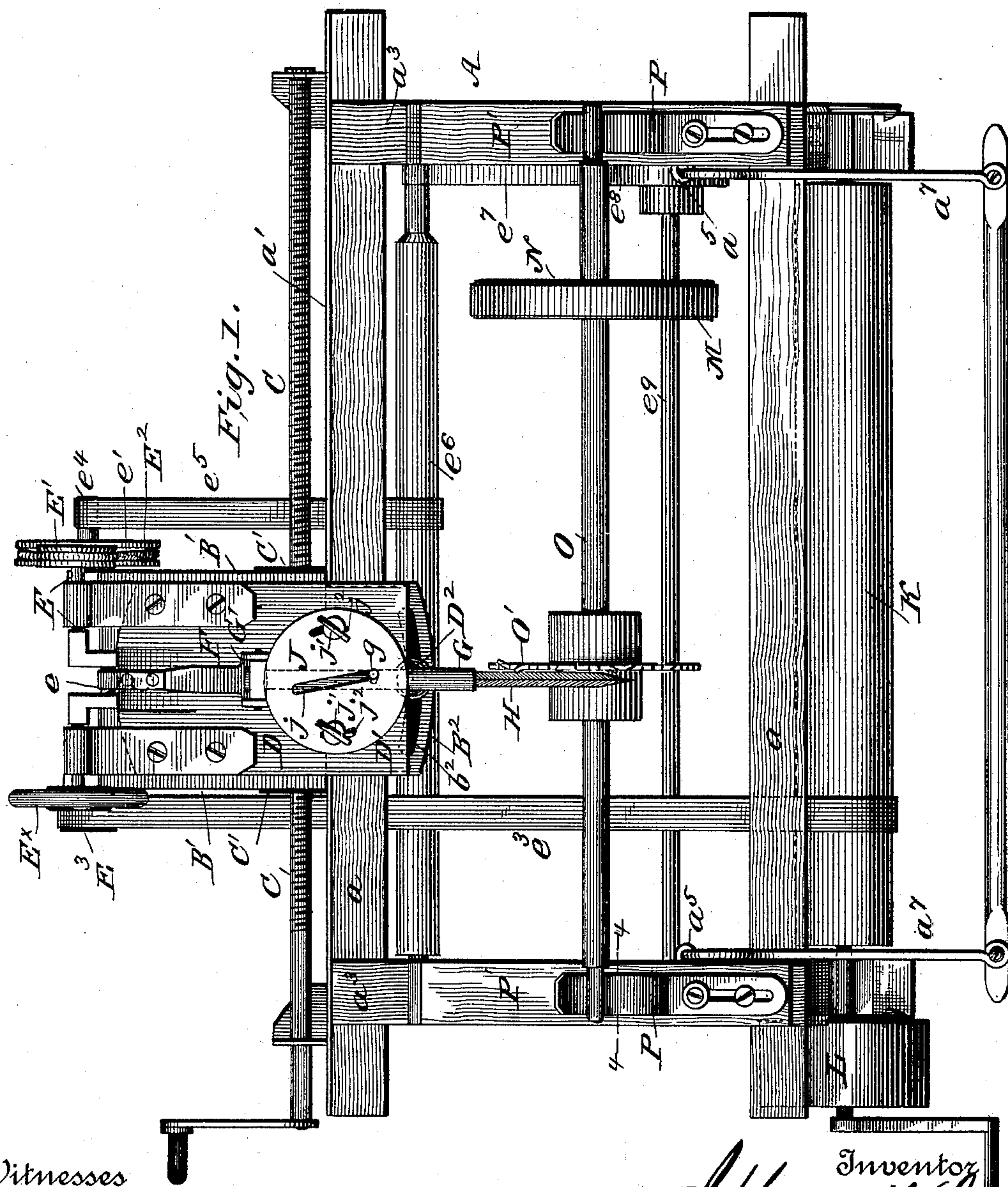
2 Sheets—Sheet 1.

J. Y. LYLE.

MACHINE FOR SHARPENING GIN SAWS.

No. 505,774.

Patented Sept. 26, 1893.



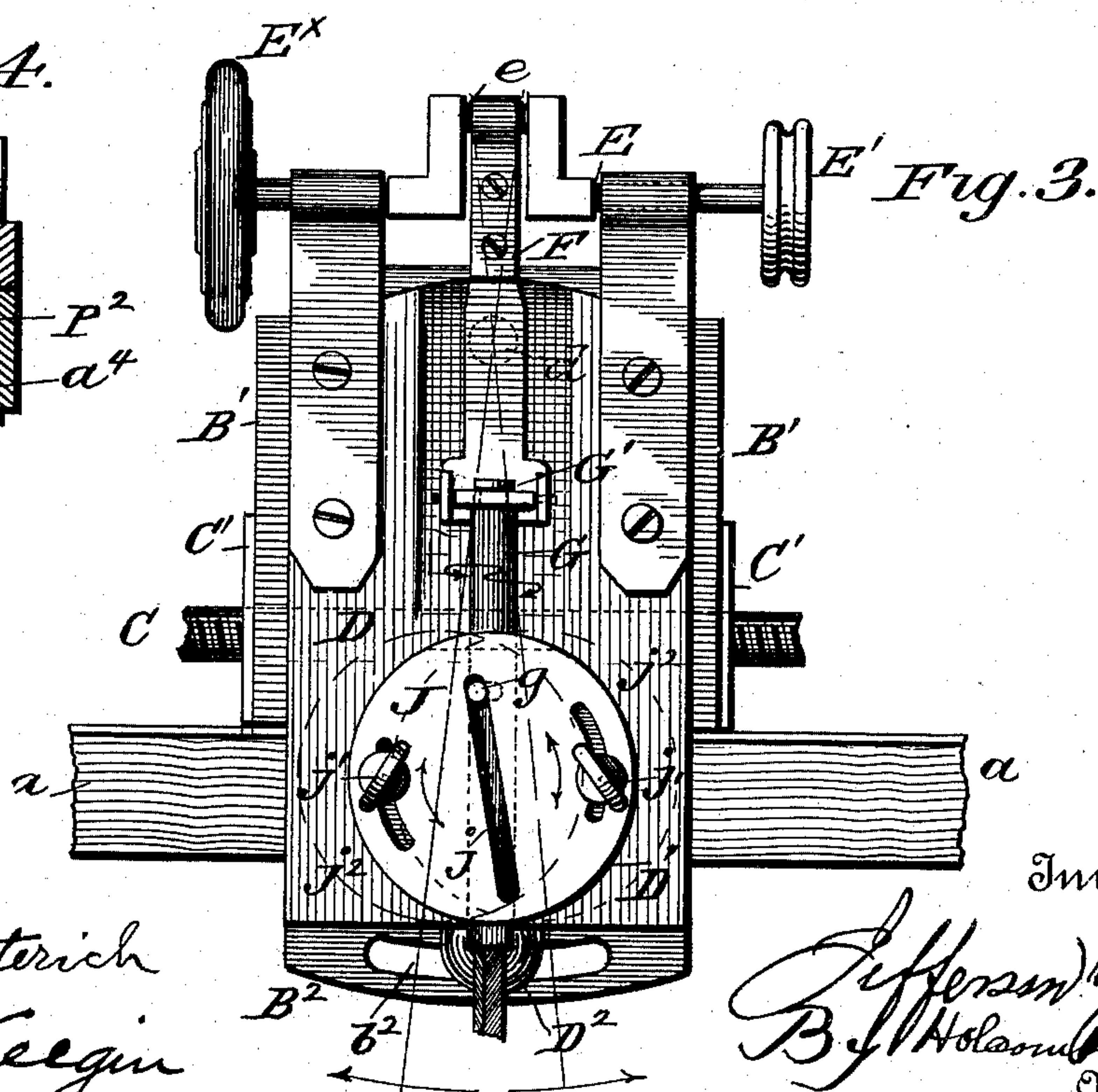
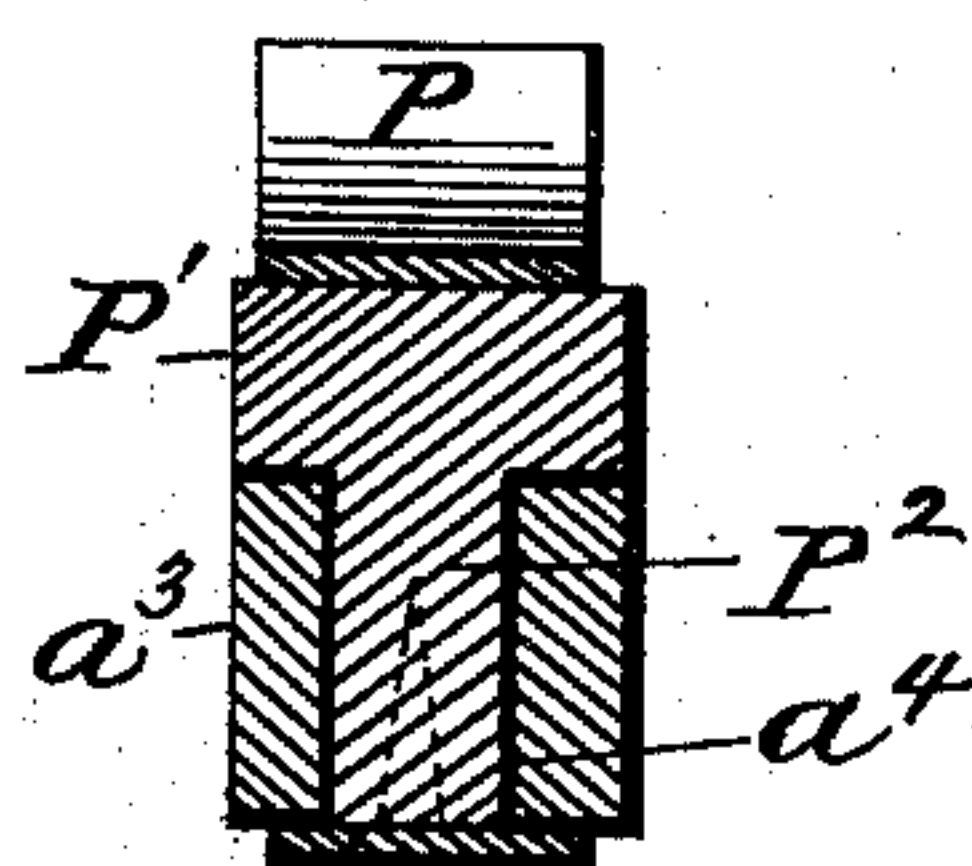
Witnesses
A. E. Dieterich
W. C. Keegin

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2 Sheets—Sheet 2

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UNITED STATES PATENT OFFICE.

JEFFERSON Y. LYLE, OF CHATTANOOGA, TENNESSEE, ASSIGNOR OF ONE-HALF TO F. F. SMITH, SAMUEL L. BODDY, AND DAVID H. BLOOM, OF SAME PLACE.

MACHINE FOR SHARPENING GIN-SAWS.

SPECIFICATION forming part of Letters Patent No. 505,774, dated September 26, 1893.

Application filed September 19, 1892. Serial No. 446,263. (No model.)

To all whom it may concern:

Be it known that I, JEFFERSON Y. LYLE, a citizen of the United States, residing at Chattanooga, in the county of Hamilton and State of Tennessee, have invented certain new and useful Improvements in Machines for Sharpening Gin-Saws; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in devices for sharpening gin saws, and consists of certain details of construction and arrangement of parts hereinafter more particularly described in the specification, illustrated in the drawings, and pointed out in the claims.

Its object is a means by which gin saws may be rapidly and effectively sharpened and cleaned.

In the drawings—Figure 1 is a plan view of my device. Fig. 2 is a vertical cross section. Fig. 3 is a plan of the file carriage. Fig. 4 is a detail cross section on the line 4—4 Fig. 1.

Referring more specifically to the drawings: A represents the main frame, which is rectangular in form and has longitudinal side beams a , a , at the top, and cross beams a^3 at each end. One of these side beams is provided on its outer face with a metallic plate a' , having its edge projecting slightly beyond the upper face of the beam, and which serves for a guide for the carriage.

B, is the carriage, which consists of the bed plate B' , secured on the upper ends of two blocks which bear against the face of the guide plate a' , and its end extends over and embraces the upper edge of the guide plate, a recess being provided on its under side to receive the same.

C, is a feed screw, consisting of a threaded shaft journaled in bearings located near the outer ends of the guide plate. This feed screw passes through the carriage, and through the plates C' on its sides, which plates are provided with threaded openings for its reception.

D, is the hinged file holder section, having its rear or outer end pivotally hinged to the

outer end of the bed plate B' by the bolt d , whereby it is capable of both vertical and lateral adjustment in the direction indicated by arrows, Fig. 3. It also has at its front end a screw shank, D^2 , which projects downward through a slot or opening, b^2 , in the guide plate B^2 , at the front end of the bed plate B' , said screw shank being provided with adjusting nuts, b .

The file holder, section D, is formed with a seat, D' , at its front end to receive the file socket G. Upon this seat is adjustably secured a cap plate, J, provided with a central guide slot, j , and segmental side slots, j^2 , through the latter of which it is secured by the set screws, j' .

H, is the file.

The file socket, G, is provided on one side with a lug or projection, g , which projects into the guide slot, j , of the cap, J, and has a rocker bearing, G' , at its rear end in the pitman, F. The pitman, F, is connected to a crank, e , of a shaft, E, journaled in bearings on the rear end of the file holder section D. Said shaft E is provided with a drive pulley, E' , at one end and a balance wheel, E^x , at the other. Over pulley E' passes a belt, e' , which also passes over a pulley, E^2 , on shaft, e^2 , journaled in bearings on the lower end of the carriage B. On the opposite end of this shaft e^2 , is a pulley, E^3 , which is connected by a belt, e^3 , with the main drive shaft, K, mounted on the front of the frame. This drive shaft is provided with a main driving pulley, L, to which the power is applied. Shaft e^2 is also provided with a small pulley, e^4 , over which passes belt, e^5 , connecting with shaft, e^6 , mounted in bearings at the rear and near the bottom of the frame. Shaft e^6 is connected by a belt, e^7 , with stepped pulley, e^8 , on shaft, e^9 , mounted in bearings at the front and near the bottom of the frame. Shaft e^9 is connected by belt, M, with drive wheel, N, on saw arbor shaft, O, mounted at the top of the frame, and which carries the saw, O' . This shaft is journaled in adjustable bearings P, held on the beams, P' . These beams, P' , are adjustably secured on the upper face of the side timbers, a^3 , by means of a slot and tenon as shown in Fig. 4.

A⁷ is the shifting bail or lever pivoted at a⁶, to the beams, a⁸, and passed through staples, a⁵, in the shifting beam, P'. This bail is movable in the directions indicated by arrows, 5 Fig. 2, and being bent in a circular or cam shaped form at the points where it passes through the staples, serves to shift the beams, P', carrying the bearings P, in which shaft O is mounted, when desired.

10 H, is the file secured in the file socket, G. Having thus described the several parts of my invention in detail, I will proceed to describe its operation. The power is applied to the pulley, L, on the main shaft, and transmitted by the belt, e³, to shaft e², journaled 15 in bearings at the bottom of the carriage. By means of the belt, e', connecting with pulley E', on shaft E, motion is imparted to the pitman, F, connecting with the file socket, G, 20 and file H. By means of the band, e⁵, passing from the small pulley, e⁴, around shaft e⁶, and the auxiliary belt, e⁷, passing from shaft, e⁶, to the stepped pulley, e⁸, and the band, M, connecting with the wheel N, a slow motion 25 is imparted to the arbor shaft O, carrying the saws, O', and they are slowly revolved during the operation of sharpening.

It will be observed that by reason of the adjustability of cap J, covering the seat of 30 the file socket, the slot j in said cap may be arranged in a line diagonal to the file, and by reason of this direction and the rock bearing by which the file socket is connected with the pitman, the file is given both a reciprocating 35 and rotary motion, the latter to a greater or less degree according to the adjustment. Again, it will be seen that because of the lateral adjustability of the front or forward end of the file carrier section, the direction of the 40 file in its contact with the saw may be adjusted to any convenient or desirable angle.

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

45 1. The combination with the bed plate B' having the guide plate B² provided with the transverse curved slot b² at its front or inner end, of the file holder section D having its outer end pivotally hinged to the bed plate 50 and provided at its front end with screw shank D² having adjusting nuts, and adapted to pro-

ject through the curved guide slot in the plate B² substantially as and for the purpose set forth.

2. The combination with the file socket G 55 having the projecting lug g, of the seat D' and its cap plate J provided with a central longitudinal slot to receive the lug g of the file socket, and with the curved slots j² at its sides to receive the set screws, and the set 60 screws J' substantially as and for the purpose described.

3. The beams P' movably secured to the ends of the main frame by means of the slot and tenons and adapted to slide backward 65 and forward thereon, the saw shaft adapted to receive one or more saws, journaled in adjustable bearings on the beams P' and the shifting lever or bail A⁷ having its ends pivoted in the opposite end timbers of the main 70 frame and fulcrumed in projecting staples of the beams P' all combined and arranged substantially as and for the purpose set forth.

4. In a gin saw filing machine the combination of the main frame, the movable carriage 75 mounted on the main frame carrying the saw filing mechanism, the driving shaft journaled in bearings on the carriage and connected by a belt with a crank shaft also journaled in bearings upon the carriage, said crank shaft 80 being adapted to actuate the saw filing mechanism, the main driving drum mounted on the main frame, the belt connecting the main driving drum with the driving shaft on the carriage, the shaft e⁶ mounted in bearings 85 near the bottom of the main frame and connected by a belt with the driving shaft on the carriage, the shaft e⁷ provided with a stepped pulley also mounted on the main frame near its bottom, and connected with the shaft e⁶ by 90 a belt, and the saw shaft journaled in bearings on the movable beams P' at the top of the main frame and connected by a belt with the stepped pulley shaft e⁷ all combined and arranged substantially as and for the purpose 95 described.

In testimony whereof I affix my signature in presence of two witnesses.

JEFFERSON Y. LYLE.

Witnesses:

JOHN O. BATES,

C. WINTHROP SMITH.