

J. MIZELL & J. REVELL.

Gin-Saw Sharpeners.

No. 158,964.

Patented Jan. 19, 1875.

Fig. 1.

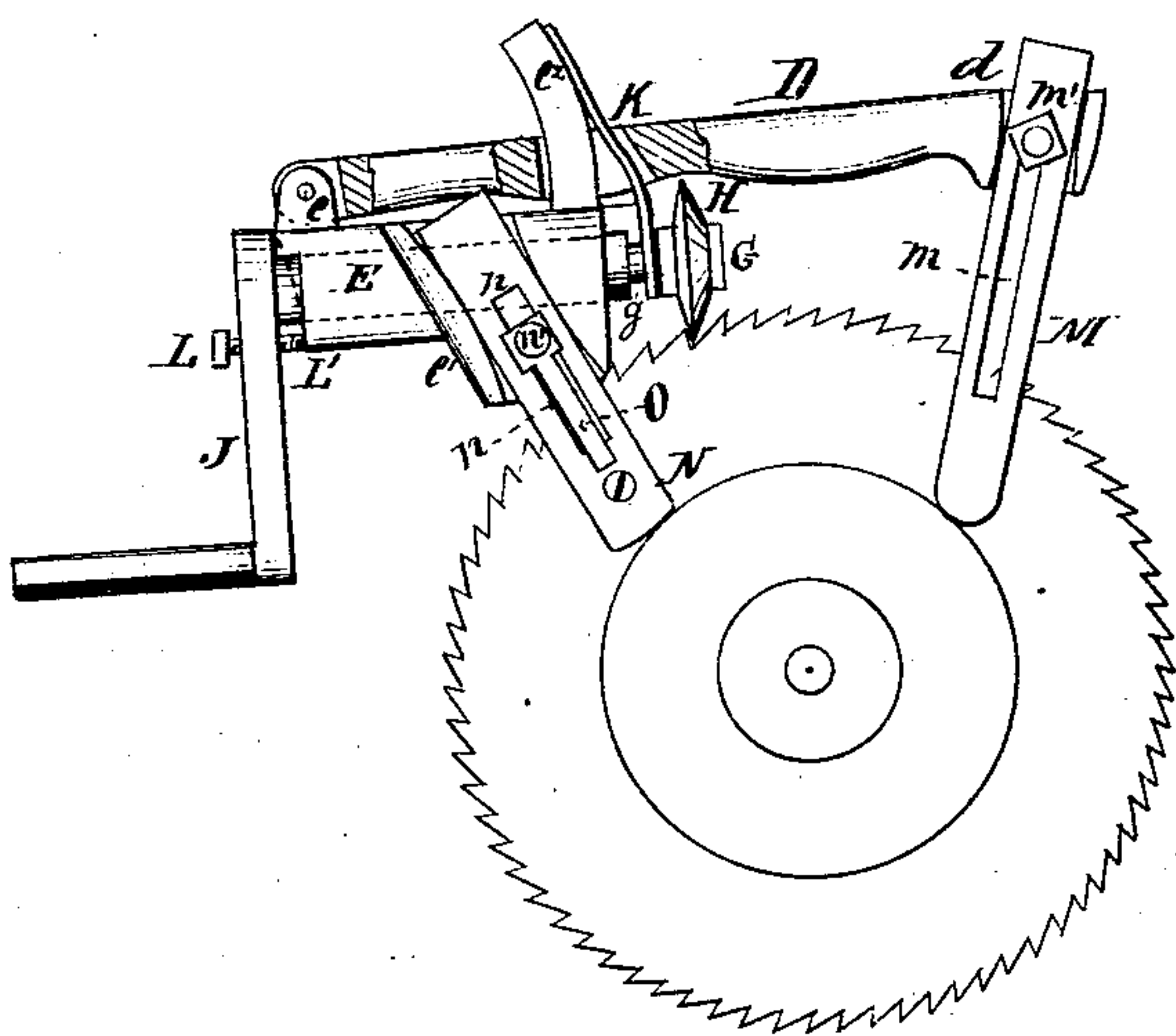


Fig. 2.

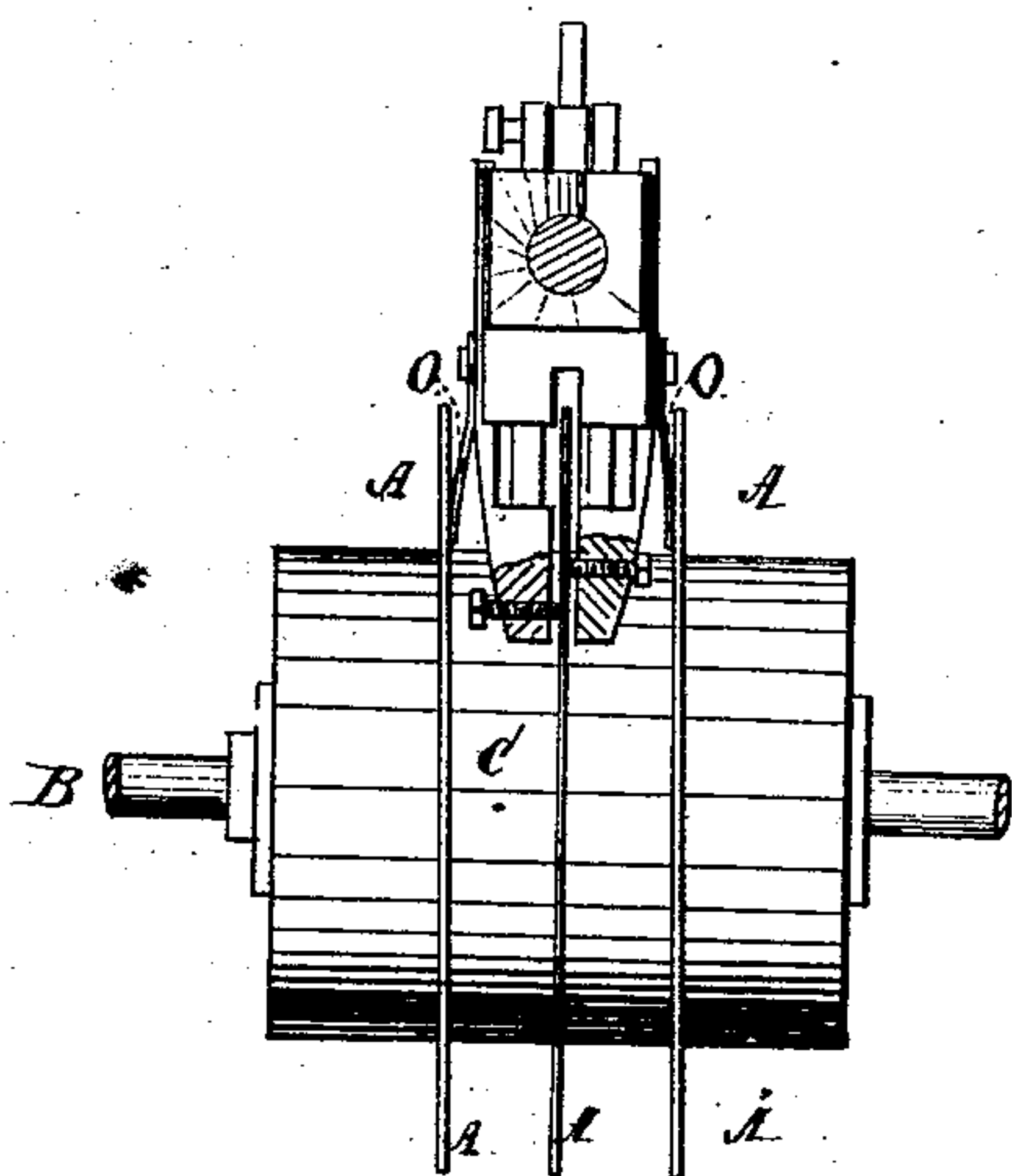
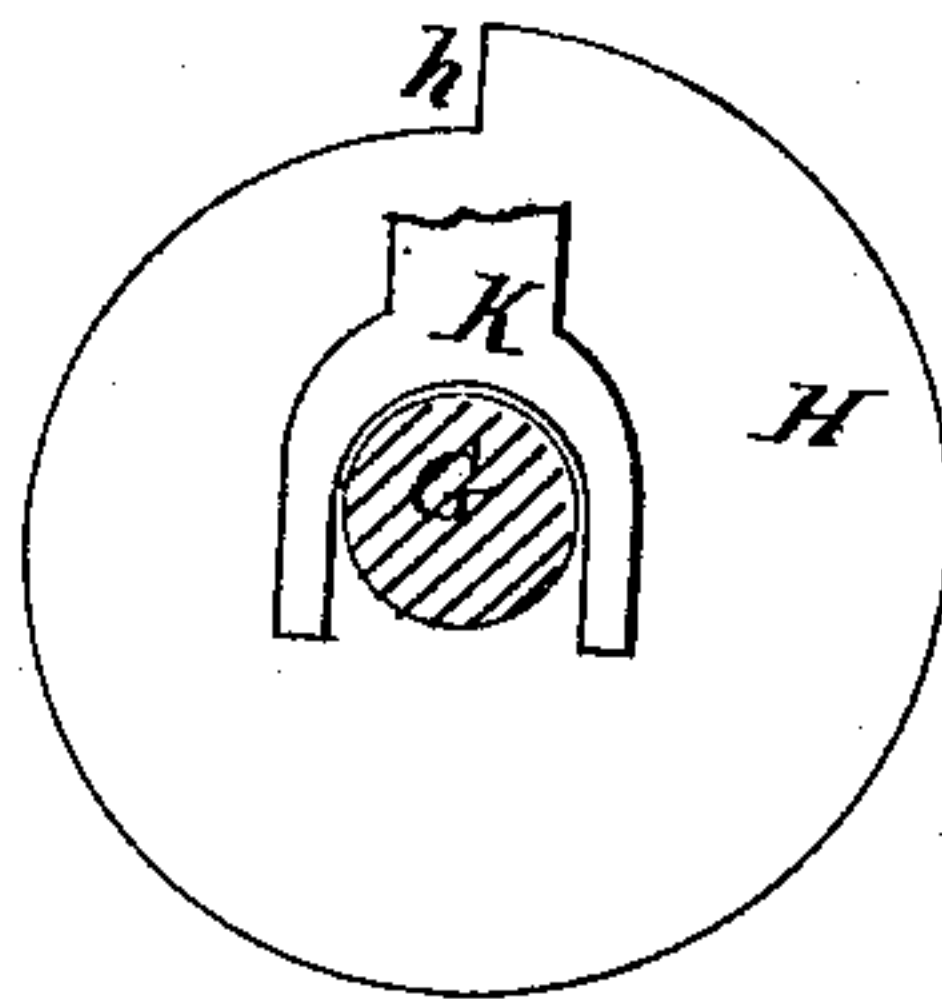


Fig. 3.



WITNESSES:

G. Mathys  
Golouckernon

INVENTOR:

J. Mizell  
J. Revell

BY

Russ & Co.

ATTORNEYS.



# UNITED STATES PATENT OFFICE

JOSIAH MIZELL AND JOHN REVELL, OF COLERAIN, NORTH CAROLINA.

## IMPROVEMENT IN GIN-SAW SHARPENERS.

Specification forming part of Letters Patent No. **158,964**, dated January 19, 1875; application filed October 14, 1874.

*To all whom it may concern:*

Be it known that we, JOSIAH MIZELL and JOHN REVELL, of Colerain, in the county of Bertie and State of North Carolina, have invented a new and Improved Gin-Saw Sharpener; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a side, and Fig. 2 a front, elevation. Fig. 3 is a side view of sharpener with cross-section of its shaft.

The invention relates to machines for sharpening teeth of a series of circular gin-saws arranged upon the same shaft, the invention in this instance being directed to the feed of the rotary file from one tooth to another, the adaptation of the same machine to saws of different diameter, the mode of holding the saw that is being filed steadily centered between the legs, and the mode of relatively placing the legs so as to enable the machine to rest upon the spacing-blocks between the saws more conveniently and securely.

A represents a series of gin-saws arranged upon a common shaft, B, and spaced by the annular blocks C. D is a bar having grooves  $d$   $d$  at the end, and pivoted to a lug,  $e$ , of the main frame E, which latter has grooves  $e^1$   $e^1$  and arc-bar  $e^2$ . On the latter the bar D is adjusted and held by a clamp-screw to regulate the obliquity of the shaft G and rotary file H with respect to the saw. Through the frame E passes the rotary file-shaft G having the hand-crank J by which it is turned.

Thus far all is old, having been heretofore disclosed to the public in a patent granted to J. McBride, July 2, 1872.

First, we regulate the feed of tool H successively to the several teeth by giving the file-shaft G longitudinal play in the frame, holding it out at one end by a spring, K, whose forks enter the annular groove  $g$ , and by drawing it in against the spring by a screw, L, and cam L' on a plate, or the end of frame E. This movement is to a distance equal to that between the roots of two teeth, causes the saw to be moved correspondingly, or to the same distance, and allows the spring to throw the file and its shaft forward over an unfiled space between two teeth. In order that the rotary file may be in a position to pass over and clear the intervening tooth,

we cut it away and dam at the point  $h$ . We may use other means than the spring for throwing the shaft and file forward, and instead of the screw L for drawing them back, but these are at present believed by us to be greatly preferable.

Second, we adapt the same filing-machine to saws of different diameter, or having a different distance between the circumference of saw and that of spacing-blocks, by making long slots  $m$  in the legs M M, and slots in the legs N N, which are made separate in pairs, or jointed together at the top. By clamping them at different adjustments with the screws  $m'$   $n'$ , the machine becomes equally well adapted to all sizes of gin-saws.

Third, we make the bar D so long that the legs M and N will be thrown upon opposite sides of the center of saw, so as to counterpoise each other, and thus make the machine sit much more steadily and securely.

Fourth, we cause the legs to properly center the saw which is to be filed, by the spacing-springs O, which readily adapt themselves to the varying distance between saws on different shafts.

Having thus described our invention, what we claim as new is—

1. The combination, with file-shaft G, having longitudinal play, of the circular file H, cut away at  $h$ , as shown and described, to allow the file to be drawn back and thrown forward at the times and in the manner specified.

2. The combination, with file-shaft G, having longitudinal play, of the cam L', screw L, and spring K, as and for the purpose specified.

3. The combination, with the bar D, and frame E, having grooved guides, of slotted legs and clamp-screws, to adapt the machine to saws having teeth at greater or less distance from the spacing-blocks.

4. The combination, with bar D, of legs M and N, placed, respectively, upon different sides of saw-shaft, as and for the purpose set forth.

5. The combination, with legs, of spacing-springs O, to bear against the adjacent saws, in the manner specified.

JOSIAH MIZELL.  
JOHN REVELL.

Witnesses:

JOHN WILSON,  
W. B. ALEXANDER.