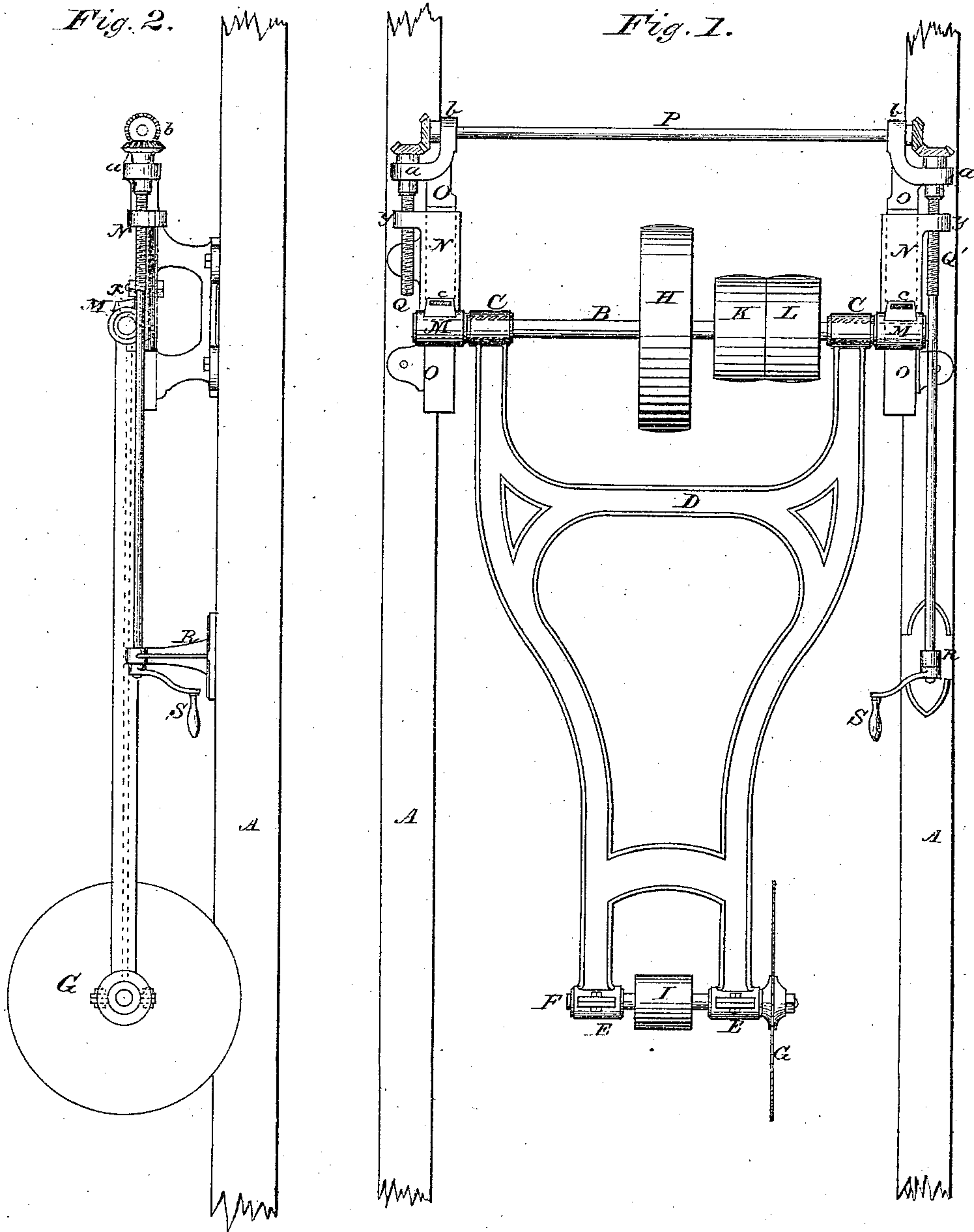


E. W. ROFF.

Improvement in Swinging Saws.

No. 126,093.

Patented April 23, 1872.



Witnesses:

J. C. Brecht.
John Tyler

Inventor:

E. W. Roff.
By atty Wm. C. W. Intire

UNITED STATES PATENT OFFICE.

ERASTUS W. ROFF, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN SWINGING SAWS.

Specification forming part of Letters Patent No. 126,093, dated April 23, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, ERASTUS W. ROFF, of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Swing-Saws; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing making a part of this application.

My invention relates to what is known as "swing-saws," and has for its object the ready and perfect adjustment of the saw with relation to the table and the adjustment independently of the bearings of the driving-shaft; and consists in the combination and arrangement of the parts for raising and lowering the arbor and adjusting the bearings, as will be hereinafter more fully set forth.

To enable those skilled to fully understand my invention, I will proceed to describe the same, referring by letters to the accompanying drawing, in which—

Figure 1 is a front elevation of a swing-saw hung in position; and Fig. 2, a side elevation of the same.

Similar letters indicate like parts in both views.

A A are two upright beams adapted to have secured thereupon the adjusting apparatus to which the arbor is fixed. B is a central driving-shaft, passing through and having its bearings in the boxes M, which are cast with the slides N, and extending toward the drive-pulley H a sufficient distance to afford bearings for the sleeves C of the frame D, as seen through broken line at Fig. 1, so that the said frame does not come in contact with the rotating-shaft B. The frame terminates, at its lower end, in two other sleeve-bearings, E, in which rotates the saw-shaft F, which is provided with an ordinary saw, G. H is a central fixed band-pulley arranged on the shaft B, over which and the saw-pulley I on the shaft F a driving-band passes. Two other pulleys—one, K, fixed and another, L, loose—are arranged on the shaft B and are driven by the band from the motor. The slides N are arranged to move up and down upon a suitable "way" on the brackets O by

being dovetailed or held by a retaining-screw, α , passing through a slot in the face of the slide and into the bracket. The brackets O are securely bolted or screwed to the beams A, and terminate at their upper ends in a fork or right angle, forming the boxes or bearings $a b$, the former for the shank of the lifting-screws Q Q', and the latter serving to retain the horizontal turning-rod P. Each of the lifting-screws Q Q' are headed with a bevel-gear which meshes into corresponding gears on the ends of the horizontal rod P, whereby the movement of both is the same and dependent upon each other. The threads on the lifting-screws move in female threads in the offsets y of the slides N. The lifting-screw Q' extends with a smooth surface down to within the convenient reach of the operative and passes through a steadying-bracket, R, and is provided with a crank-handle, S. The boxes M are provided with suitable oilers c , and any other of the parts may be suitably provided with means for lubricating.

The operation of my improved adjusting device is as follows: The crank S is turned, and with it the screw-rod Q', the thread of which, traveling through the female thread in the offset of the slide N, causes it to move up or down according to the direction in which the crank is turned. The bevel-gear on the head of the screw-rod Q', meshing with the gear on the end of the horizontal rod P, causes it to rotate, and it, by means of a similar meshing of gears at the opposite end, causes the other lifting-screw Q to move in a similar manner in the female thread of the offset of the other slide N, and consequently lift it at the same time and to exactly the same degree that the one on the opposite side is lifted; or, in other words, both bearings of the driving-shaft B are simultaneously raised or lowered to the same degree, thus having them always in the same horizontal plane. Of course, the lifting-screws may be so arranged as to be operated from either or both sides. The slipping of the motor-band from the fixed to the loose pulley (for obvious reasons) and the operation of the saw is the same as in all other swing-saws. It will also be seen that where the journals wear unevenly either side may be adjusted without affecting

the other, by disengaging the gear and moving the lifting-screws sufficiently in one or the other direction.

Having described the construction and operation of my invention, what I claim, and desire to secure by Letters Patent, is—

The combination of the lifting-slides N provided with bearings M, brackets O, rod P,

screws Q Q', and frame D, constructed and arranged substantially as and for the purpose set forth.

ERASTUS W. ROFF.

Witnesses:

CHARLES T. GLEN,
GEORGE M. KEASBEY.