

(No Model.)

T. S. WILKIN.
BAND SAW MILL.

No. 393,802.

Patented Dec. 4, 1888.

Fig. 1.

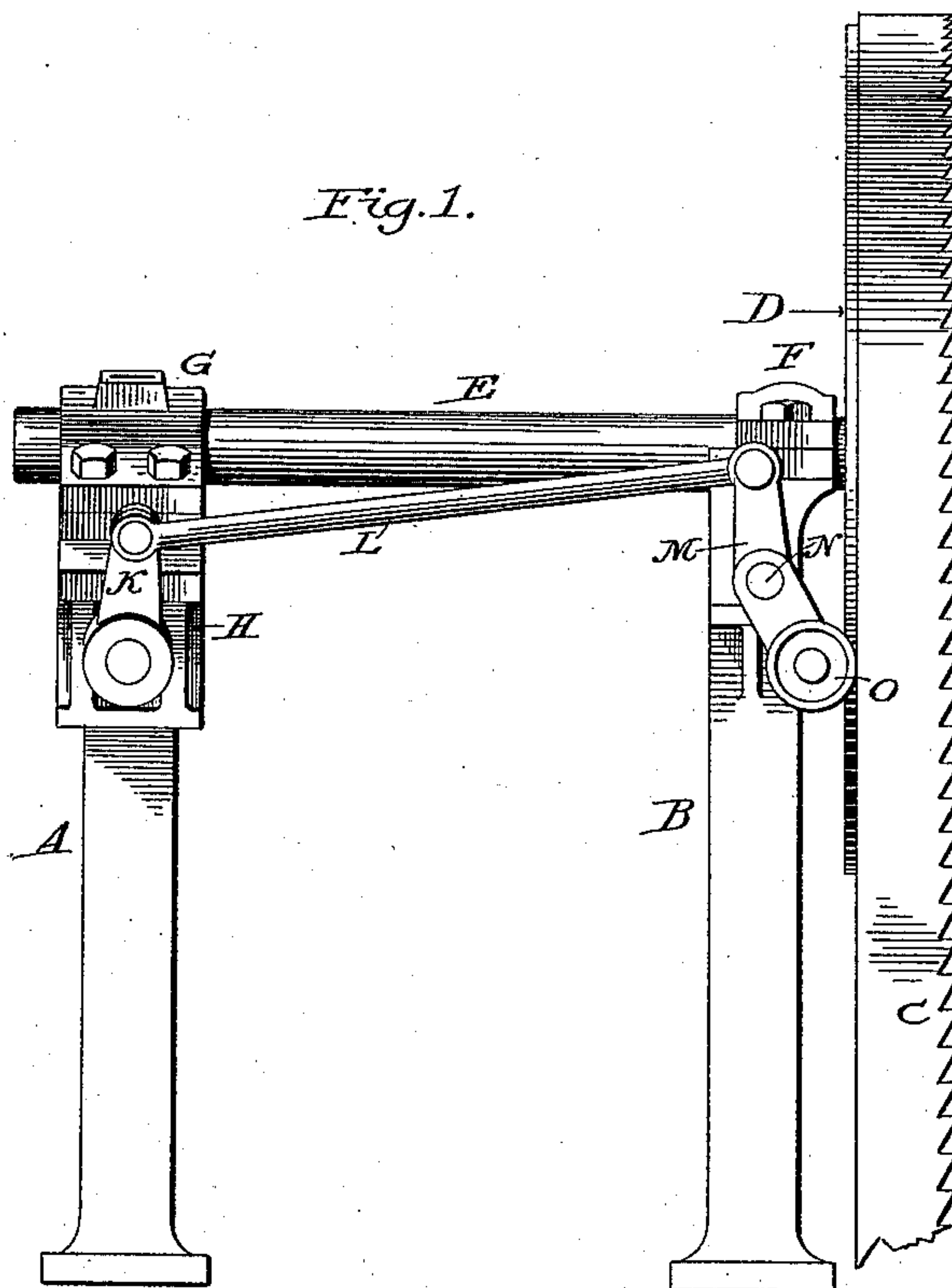


Fig. 2.

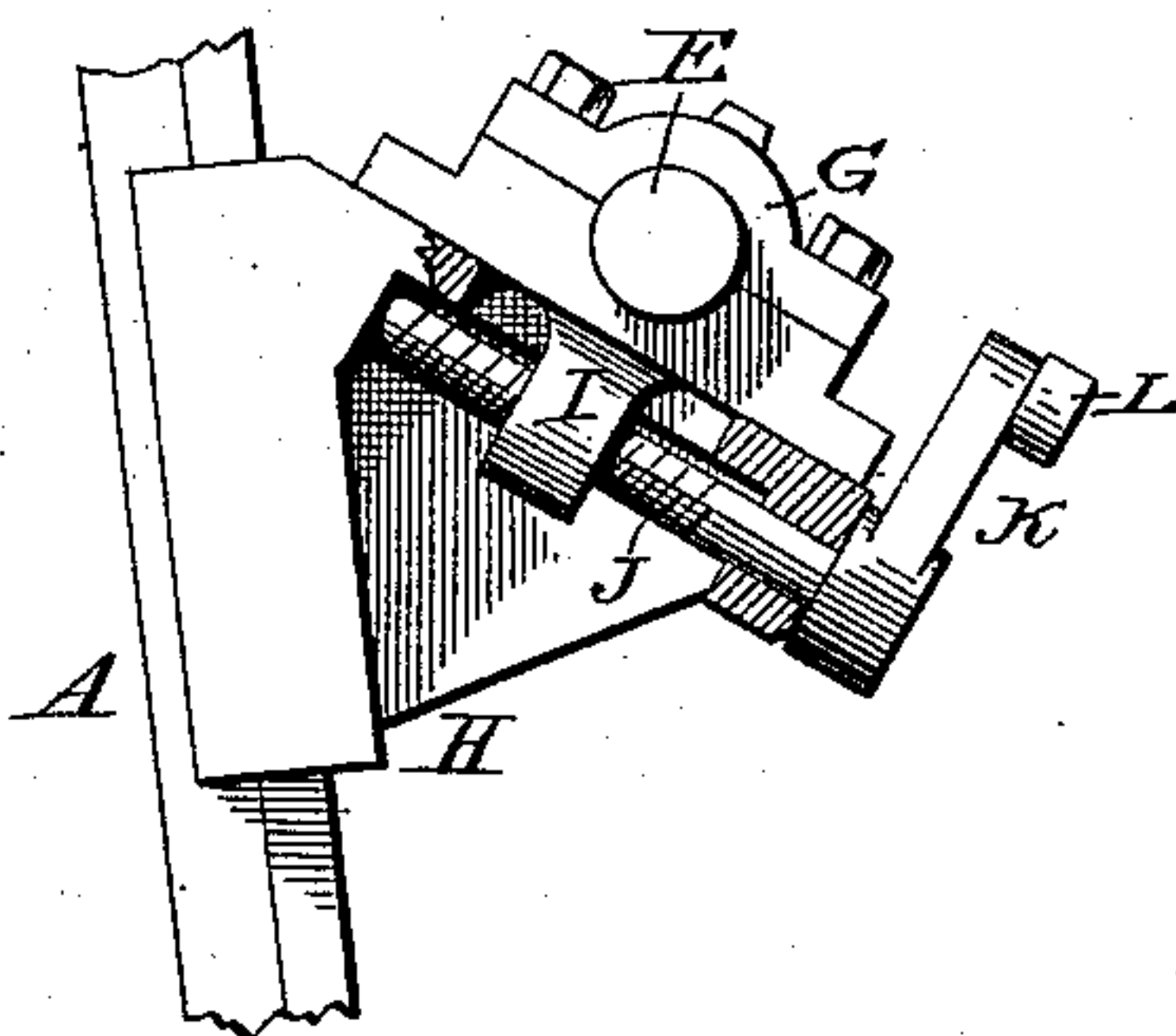
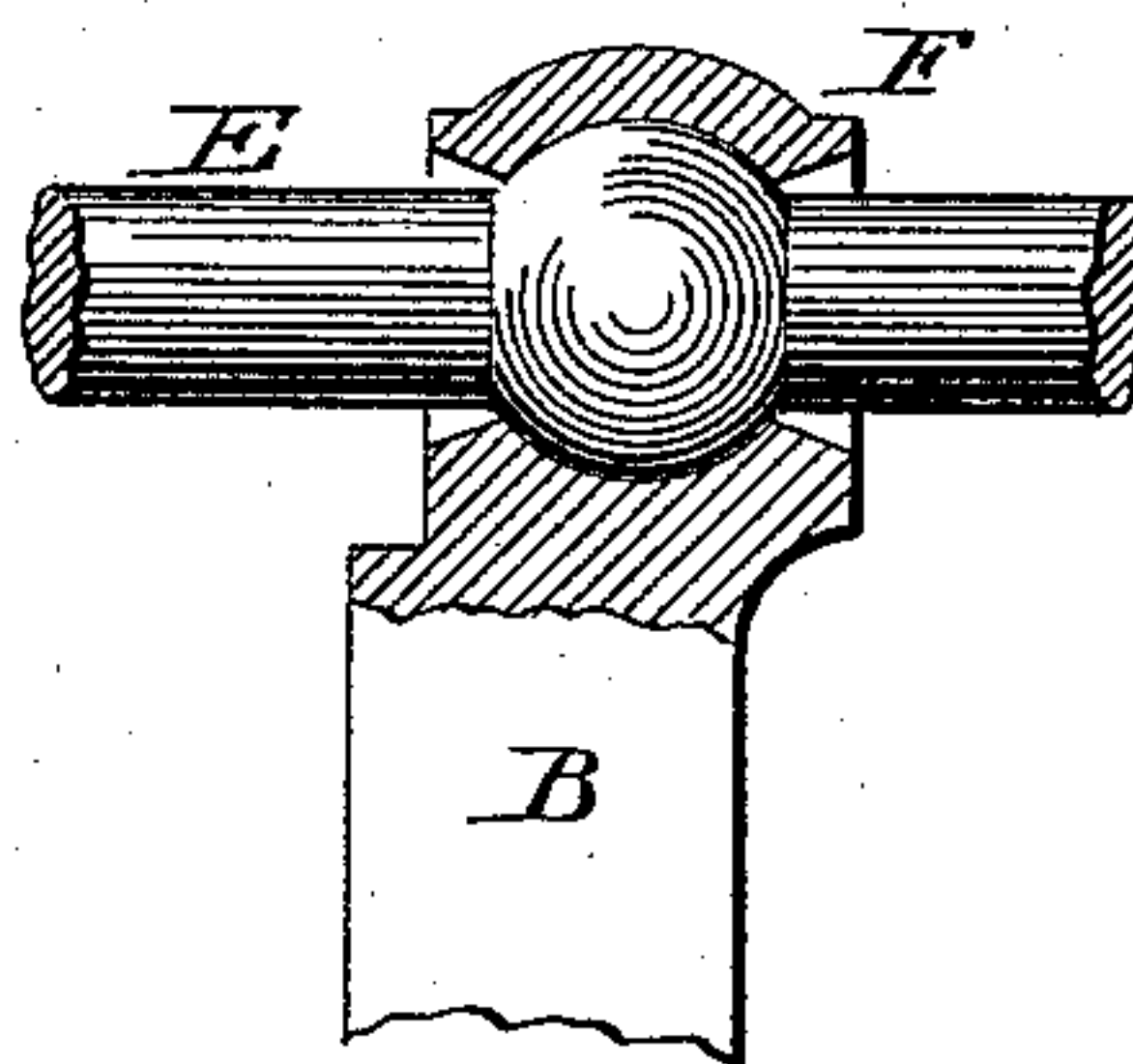


Fig. 3.



Witnesses:

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Inventor:

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UNITED STATES PATENT OFFICE.

THEODORE S. WILKIN, OF MILWAUKEE, WISCONSIN.

BAND-SAW MILL.

SPECIFICATION forming part of Letters Patent No. 393,802, dated December 4, 1888.

Application filed March 17, 1886. Renewed April 9, 1888. Serial No. 270,031. (No model.)

To all whom it may concern:

Be it known that I, THEODORE S. WILKIN, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Band-Saw Mills, of which the following is a specification.

My invention relates to band-saw mills; and it consists, broadly, in mechanism for automatically changing or varying the position of the upper saw-carrying wheel, whereby the tendency of the saw to run off the wheel in sawing is counteracted.

In the drawings, Figure 1 is a side elevation of a portion of a band-saw-mill frame with my invention applied, and Figs. 2 and 3 are detail views.

Heretofore when the saw was crowded back on the rim of its carrying-wheel by the lumber it has been customary to tip the wheel, so as to cause the saw to run on the front edge of the rim, either by raising the rear end of the wheel-shaft, and thereby throwing the top of the wheel outward, or else by moving the rear end of the shaft laterally; but in no case, so far as I am aware, has this been effected automatically, and I claim such idea, broadly.

Referring again to the drawings, A B indicate two upright columns or standards of a band-saw-mill frame, C the saw, D the saw-carrying wheel, and E the shaft upon which the latter is mounted, said parts being of any usual and well-known construction.

As shown in Fig. 3, the front end of the shaft E is carried in a bearing, F, which allows a vertical and a lateral movement of the shaft, the construction of this bearing not being claimed herein, as it forms no part of my invention. The rear end of the shaft E is supported in box or bearing G, of ordinary construction, the box or bearing G being in turn supported upon a bracket, H, rigidly secured to the upright A, as shown in Figs. 1 and 2.

As clearly indicated in Figs. 1 and 2, the top or upper face of the bracket H, upon which the box G rests, is inclined, so that as the box G is moved back and forth upon the bracket it will at the same time be raised and lowered.

The box or bearing G is formed with a lug,

I, which projects from the under side thereof down through a slot in the upper face of the bracket H, and which has a hole or opening threaded to receive a screw, J, as shown in Fig. 2. The screw J is journaled or swiveled in the bracket H, and carries at its outer end a radial arm, K, which is connected by a pitman or rod, L, to an elbow-lever, M, secured upon a rock-shaft, N, journaled in bearings on the upright B, as shown in Fig. 1. The elbow-lever M carries at the end of its lower arm a small roller, O, which at all times bears against the rear edge of the saw. From this construction it will be seen that as the saw is forced back toward the rear edge of the carrying-wheel it forces the small wheel or roller O backward, rocking the elbow-lever M upon its shaft N, and, by means of the pitman L and the arm K, turns the screw J and moves the box or bearing G at the rear end of the shaft E across the face of the bracket H. The box or bearing G, being thus moved laterally up the inclined face of the bracket H, is at the same time being elevated slightly, the elevation of course depending upon the inclination of the bracket.

From the foregoing description it will be observed that the saw-carrying wheel D may be tipped outward at its top, and at the same time moved laterally, this compound movement of the wheel being effected automatically and just in proportion as the saw "runs off."

The wheel O is shown in the drawings as bearing against the upgoing or idle side of the saw; but it will be apparent that it may be equally well applied to the downgoing side.

While it is found that the lug I, which projects through a slot in the bracket H, serves to guide and steady the box or bearing G in its movements, it may be found desirable in some cases to dovetail the parts G and H, so as to further insure the proper movement of the box.

The form of bearing F at the front end of shaft E may be varied as desired, provided that it shall allow the compound movement of the shaft.

Instead of employing a screw to move the box on the inclined bracket, a wedge, a plate having an inclined slot, a toggle-lever, or any

equivalent mechanical device, may be employed. These details will be varied according to the skill and judgment of the mechanic, the requirements of a particular mill, &c.

5 The screw may be arranged to move the shaft vertically, horizontally, or in any intermediate plane; but I prefer to move it in both a lateral and a vertical direction or in an oblique plane, as set forth.

10 Having thus described my invention, what I claim is—

1. In a band-saw mill, the combination, with a frame, a saw, and a carrying-wheel and shaft therefor, of a movable support for the shaft
15 and an arm or lever at the rear edge of the saw connected with the movable shaft-support and adapted to automatically change the position of the carrying-wheel as the saw is crowded back by the log.

20 2. In a band-saw mill, the combination, with a frame, of a laterally-movable box or bearing, a shaft journaled therein, a wheel secured to the shaft, a saw passing about said wheel, and an arm or lever at the rear edge of the saw-
25 blade connected with the movable bearing and adapted to move the shaft laterally as the saw is crowded back.

3. In a band-saw mill, the combination, with a frame, of an adjustable box or bearing, a
30 shaft journaled therein, a wheel secured upon said shaft, a saw carried by said wheel, and an arm or lever at the rear of the saw-blade connected with the adjustable bearing, substantially as shown and described, whereby it
35 is adapted to automatically elevate said shaft as the saw is crowded back by the lumber.

4. In a band-saw mill, the combination, with a frame, of a movable box or bearing, a shaft
40 journaled therein, a wheel secured to said shaft, a saw carried by said wheel, and an arm or lever arranged in rear of the saw-blade and connected with the movable bearing, substantially in the manner described, whereby it is adapted to automatically elevate said shaft

and to move it laterally as the saw is crowded
back. 45

5. In a band-saw mill, the combination of a frame, a movable box or bearing having an upwardly-inclined support, a shaft journaled therein, a wheel carried by said shaft, a saw
50 passing about said wheel, and an arm or lever, constructed substantially as shown, bearing against the saw and connected with the movable box, whereby the tipping and lateral adjustment of the saw-carrying wheel are effected automatically as the saw is crowded
55 back.

6. In a band-saw mill, the combination, with the uprights A B, of an inclined bracket, H, secured to upright A, a universal bearing, F,
60 secured to the upright B, a box or bearing, G, mounted upon bracket H, a shaft, E, mounted in boxes F G and provided with a wheel, D, a saw, C, and a device, constructed substantially as described, bearing against the rear
65 edge of the saw and adapted to move the box G and shaft E up the inclined face of the bracket H as the saw is crowded back.

7. In a band-saw mill, the combination, with the uprights A B, of an inclined bracket, H, secured to upright A, a universal bearing, F,
70 secured to upright B, a box or bearing, G, mounted upon bracket H and provided with a threaded lug, I, a shaft, E, mounted in the boxes F G and provided with a wheel, D, a
75 saw, C, a screw, J, journaled in bracket H, passing through lug I, and provided with arm K, a rock-shaft, N, journaled in the frame, an elbow-lever, M, mounted upon the rock-shaft and provided at its lower end with a wheel,
80 O, to bear upon the rear edge of the saw, and a pitman, L, connecting the arm K and elbow-lever M.

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Witnesses:

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