P. PRYIBIL.

RE-SAWING MACHINE.

No. 172,772. Patented Jan. 25, 1876.

Fig. 1.

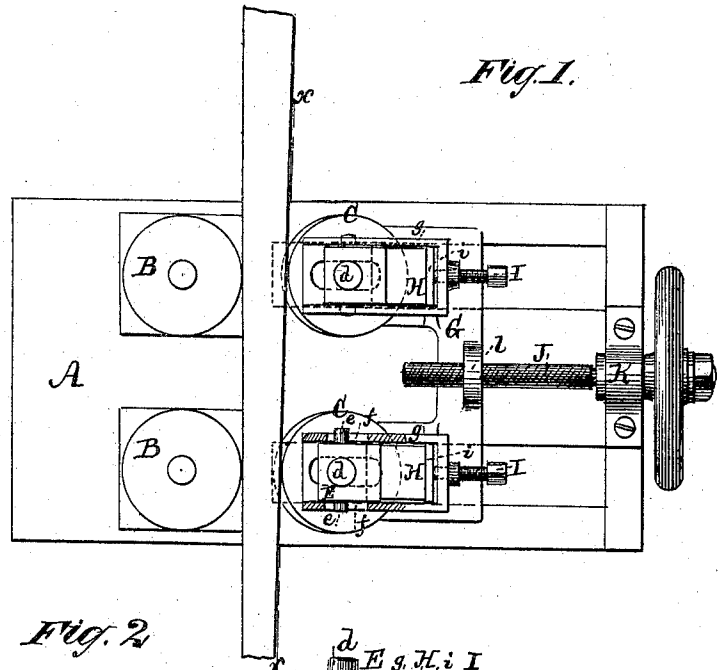


Fig. 2

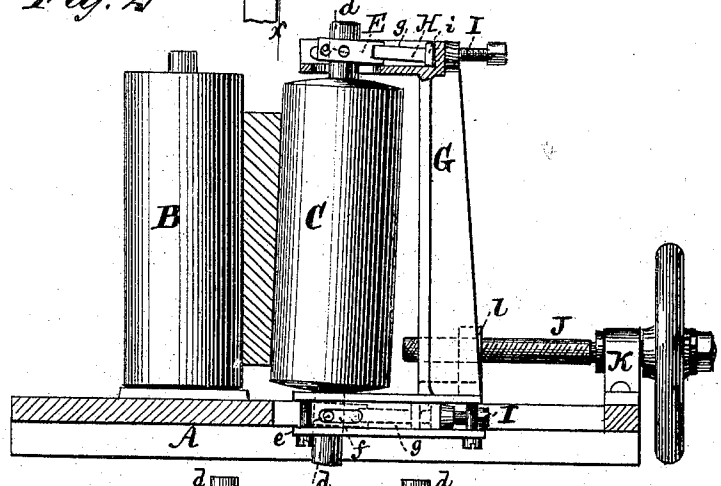
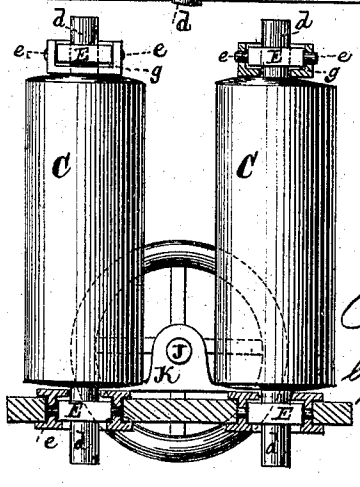


Fig. 3.



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UNITED STATES PATENT OFFICE.

PAUL PRYIBIL, OF NEW YORK, N. Y.

IMPROVEMENT IN RESAWING-MACHINES.

Specification forming part of Letters Patent No. **172,772**, dated January 25, 1876; application filed December 8, 1875.

To all whom it may concern:

Be it known that I, PAUL PRYIBIL, of New York, in the county and State of New York, have invented a certain Improvement in Resawing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same:

My invention is particularly applicable to machines used for resawing where the thickness of the lumber to be sawed is not uniform throughout; and the object of the invention is to preserve a constant pressure of the feed-rollers across the whole face of the work while passing through the machine.

To this end the invention consists in providing one or more of the feed-rollers with swiveled sliding bearings or journal-boxes, and with elastic cushions or springs, whereby the roller is enabled to oscillate from a center located at or near one of its journals, and beyond its bearing-surface, and automatically adjust itself to the work when the thickness thereof is greater at one edge than at the other, or when roughness or unevenness exists on the surface.

In resawing lumber into boards or planks considerable inconvenience is sometimes experienced in consequence of differences in the thickness of different portions of the timber, and it is difficult to obtain the desired uniformity of thickness in the board or plank unless some means is adopted for preserving uniformity of pressure of the feed-rollers against the surface of the work.

In my invention the difficulty and inconvenience referred to are overcome by means of devices which are self-adjusting and automatic in their operation.

In carrying out my invention, I provide one or more of the feed-rollers with bearings or journal-boxes, which are arranged to slide in ways or guides in a direction transverse to the axis of the roller, and are also pivoted, so as to allow them to oscillate in a direction parallel with the length of the roller.

Behind these boxes or bearings are elastic cushions or springs, which are compressed when sufficient pressure is brought to bear upon the feed-roller, but expand to their normal condition when such pressure is removed. These cushions or springs are provided with set-screws for the purpose of regulating their tension.

The two bearings are similar in their construction and operation, and both are attached to a sliding frame provided with a hand-screw for adjusting the rollers to different thicknesses of lumber.

In some cases a weight and a cord and pulley may be substituted for the cushions or springs, where the general construction of the machine will admit; but in most cases the cushions will be found preferable.

When desired, there may be two rollers on the same side of the machine, provided with the self-adjusting bearings—both rollers being carried by a sliding frame provided with a regulating-screw. The sliding frame may also be provided with a cushion or spring, to enable it to yield when any irregularity or projection on the work comes in contact with the roller.

In the accompanying drawing, Figure 1 represents a top view, partly in section, of a machine arranged according to my invention. Fig. 2 is a front elevation, with certain portions removed or broken away. Fig. 3 is a vertical section, taken in the line *x x* of Fig. 1.

On the bed A two rollers, B B, are arranged in stationary bearings; and opposite to them are two rollers, C C, arranged in adjustable bearings, carried by a frame, G, which is arranged to slide on the bed A.

In some cases there may be only one of the rollers C; but the two are shown in order to illustrate the manner in which they may be arranged, and they are both alike in their construction and operation.

The journals *d d* of each of the rollers C have their bearings in boxes E E, which are arranged to slide in ways or guides *g g* in the frame G. Each of the boxes E is provided with two studs or pivots, *e e*, which project from two sides of the box, in opposite directions, transverse to the axis of the roller C, and work in slots *f f* in the frame G. Thus the boxes are allowed to slide in a direction transverse to the axis of the roller, and to oscillate in a direction parallel with the length thereof.

Behind each of the boxes E is a spring or cushion, which is here represented as a block of rubber, H, fitting in the ways or guides *g g*.

When sufficient pressure is brought to bear against the roller C to cause the box E to slide backward the rubber is compressed, and as soon as such pressure is removed the rubber expands and restores the box to its normal position.

By this construction and arrangement of the roller-bearings a constant pressure of the roller across the whole face of the work *a* is maintained, as each box moves independently of the other, so that, if the thickness of the lumber is greater at one edge than at the other, one of the springs or cushions yields, and allows the roller to oscillate from a center located at or near one of its journals and beyond its bearing-surface, and adjust itself to the surface of the work, and maintain a constant pressure thereon.

This automatic or self-adjusting action of the roller is the same in all cases, whether the difference in thickness is in the direction of the width of the lumber or the length thereof.

The cushions H may be provided with set-screws I, passing through the frame and bearing against followers *i*, by means of which the degree of pressure of the rubber against the boxes may be regulated.

In order to enable the sliding frame G to be moved on the bed A, to adjust the rollers to the work before commencing to saw, or from time to time as the thickness of the lumber is decreased by successive sawings, an adjusting device is provided, consisting of a hand-screw, J, passing through an arm or standard, K, on the bed A, and provided with a handle or wheel for turning it.

The front end of the screw engages with the frame G by means of an internally-threaded portion, *l*, so that by turning the screw in one direction or the other the frame and rollers are moved either toward or from the work.

If desired, the sliding frame G may be provided with a spring, cushion, or weight, to enable the rollers to yield with a parallel motion when a slight projection on the work passes the same.

This invention may be applied to machines provided with either circular, reciprocating, or band saws, or gangs of the same, whether used for sawing or resawing; and it will be found of great advantage in all cases where irregularities exist in the surface of the lumber to be sawed.

What I claim as new, and desire to secure by Letters Patent, is—

The combination, with the sliding frame G, provided with the ways *g g*, the sliding and swiveled journal-boxes E E, elastic cushions H, and the feed-rollers C C, the whole constructed and arranged to allow each feed-roller to oscillate from a center located at or near one of its journals and beyond its bearing-surfaces, substantially as described.

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