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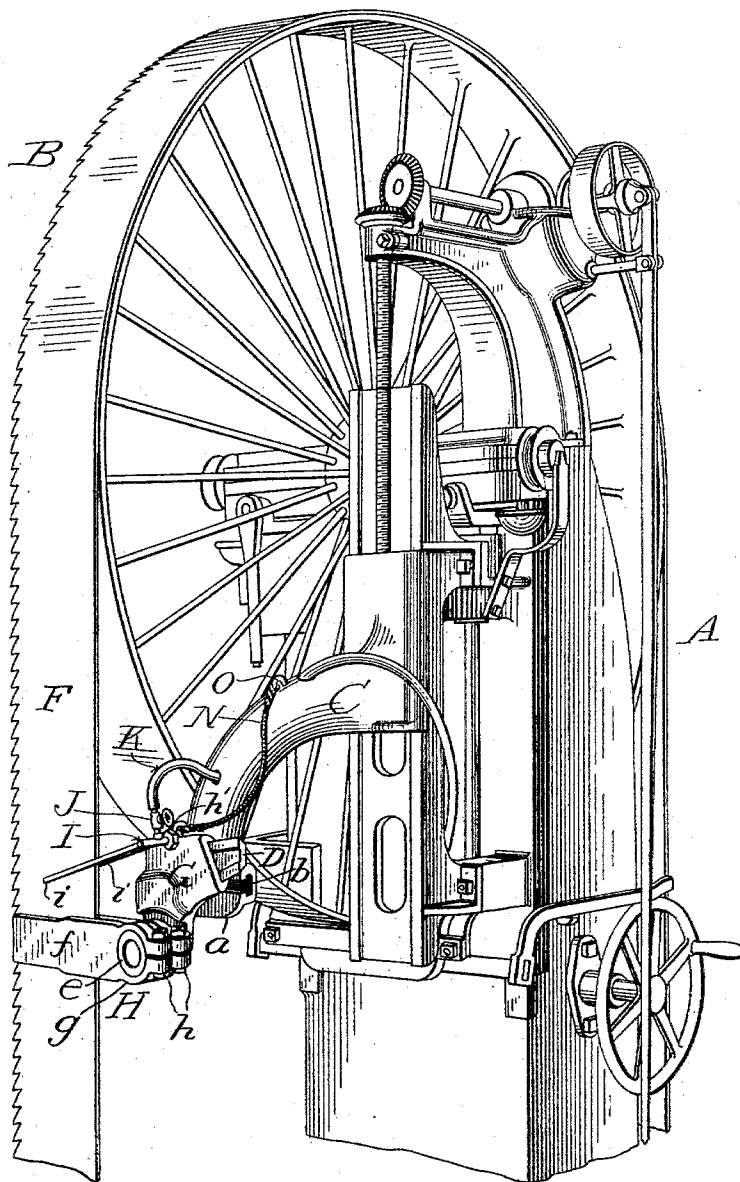
3 Sheets—Sheet 1.

G. M. HINKLEY.
SAW GUIDE.

No. 602,943.

Patented Apr. 26, 1898.

Fig. 1.



Attest;
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(No Model.)

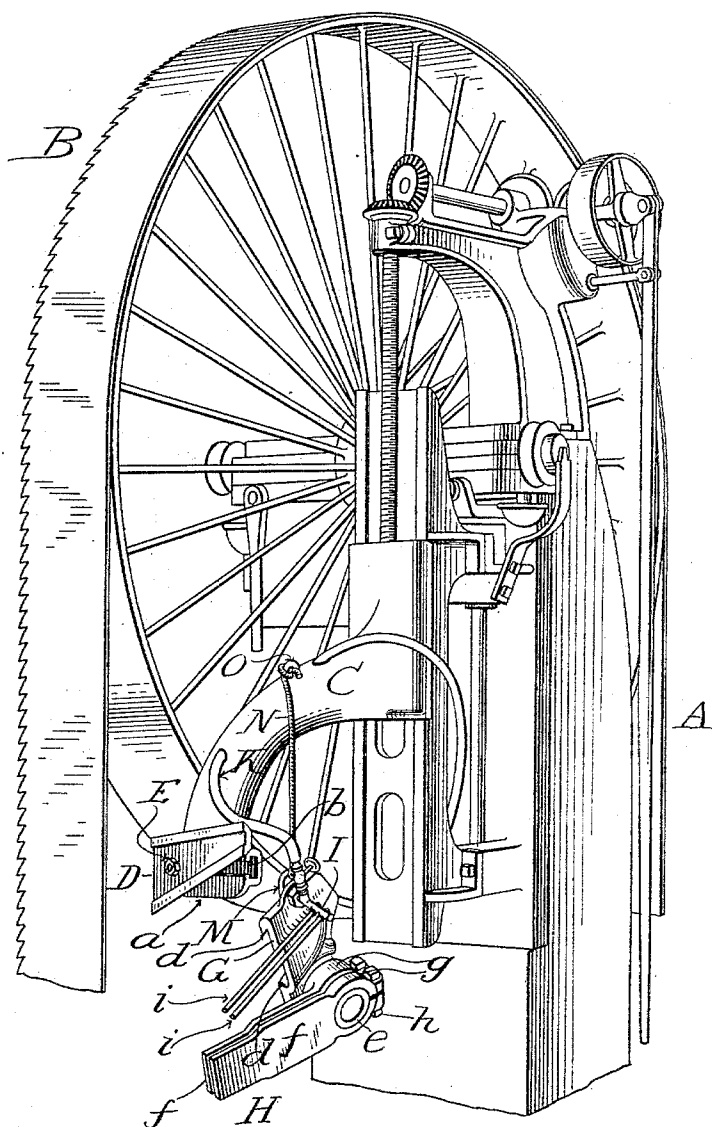
3 Sheets—Sheet 2.

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Fig. 2.



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Fig. 3.

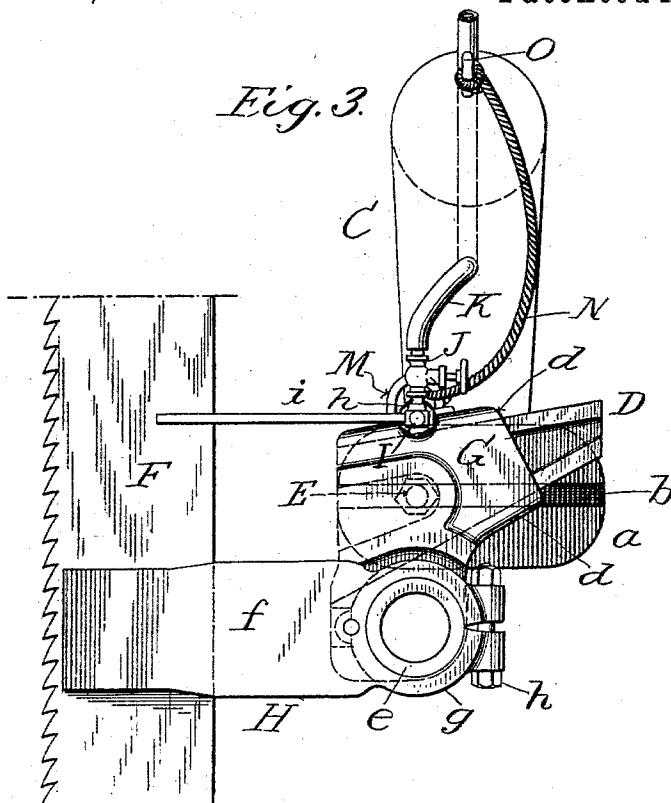


Fig. 4.

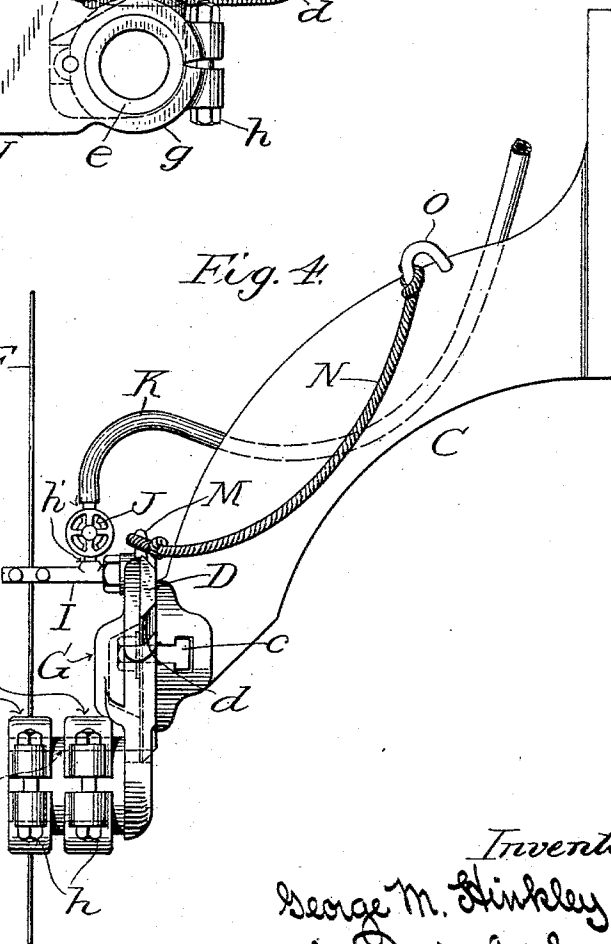
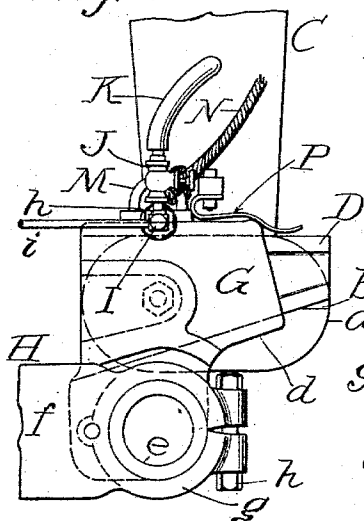


Fig. 5.



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UNITED STATES PATENT OFFICE.

GEORGE M. HINKLEY, OF MILWAUKEE, WISCONSIN, ASSIGNOR OF ONE-HALF TO THE EDWARD P. ALLIS COMPANY, OF SAME PLACE.

SAW-GUIDE.

SPECIFICATION forming part of Letters Patent No. 602,943, dated April 26, 1898.

Application filed August 24, 1896. Serial No. 603,769. (No model.)

To all whom it may concern:

Be it known that I, GEORGE M. HINKLEY, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Saw-Guides, of which the following is a specification.

My invention pertains to saw-guides, and has reference more particularly to such as are used for band-saws, though not restricted thereto.

The invention consists in a guide adapted to recede when subjected to undue pressure or strain in the direction of travel of the lumber, thereby avoiding breakage or strain of the guide or its support in the event of the guide being struck or engaged by the lumber or by anything projecting from it or from the carriage on which it rests.

The invention is susceptible of somewhat varied embodiment, preferred forms of which are illustrated in the accompanying drawings in connection with a band-saw mill.

Figure 1 is a perspective view of so much of a band-mill as is necessary to the present description, my improved guide being shown in operative position. Fig. 2 is a similar view, but showing the guide dismounted, as in the case of being encountered by a log or a projection of any kind moving therewith; Fig. 3, a face elevation of the guide and its supporting arm or bracket; Fig. 4, a rear end view of the guide, showing the bracket or arm in side elevation; and Fig. 5, an elevation of a modified form of the device.

As hitherto commonly constructed and applied the upper guide for the saw of band-saw mills has been rigidly secured to an arm or bracket, which latter has usually been capable of vertical adjustment for the purpose of bringing the guide close to the lumber being sawed. In the practical use of such mills it has sometimes happened that by reason of improper adjustment of the guide, or through the lifting of the lumber, the presence of splinters, protruding knots, or the like the guide has been encountered as the lumber has advanced and either the guide or its supporting-arm has been broken. My purpose is so to mount and secure the guide that it shall be held firmly and rigidly in working position

under normal conditions, or, if desired, urged to and assisted in maintaining its proper adjustment by any pressure that the saw may exert upon it when working normally, but that it shall be free to move backward independently of its supporting-arm whenever subjected to pressure or strain in the direction of travel of the lumber. This I accomplish by the construction now described.

A indicates the main frame of a band-saw mill, B the upper band-wheel, and C an arm or support designed to carry the upper saw-guide and made vertically adjustable by a screw or other usual means. Arm C is formed with a horizontally-elongated end plate or head *a*, in which is formed a horizontal slot or groove *b* of T form in cross-section.

D indicates a plate or casting wider at one end than at the other and formed with a tongue or rib *c* on its rear face to enter the mouth or open side of slot *b*, and thus to sustain and guide the plate D. A bolt E has its head seated in the slot *b*, and its stem is passed outward through the open side of the slot and through a hole in the plate or casting D, the nut being screwed upon the bolt on the front or outer face of casting D to secure the latter in place upon plate *a*. By loosening the nut the plate or casting D may be moved horizontally forward or backward upon head or plate *a* to carry it nearer to or farther from the rear edge of the saw-blade F.

G indicates a bracket having two overhanging edges or flanges *d*, having the same degree of convergence as the edges of the plate or casting D and designed to fit thereon, as shown in Figs. 3 and 4. The interlocking edges of the parts D and G are preferably beveled after the manner of constructing slide-ways and guides, so that they shall fit nicely together and that one may slide smoothly upon the other.

Both edges of plate D have a downward inclination toward the saw-blade F, the upper less than the lower, yet sufficient to cause the bracket G to gravitate toward the front and lower end of head *a*, especially when the downward pressure of the saw-blades acts upon the guide carried by bracket G, as presently explained.

It will be seen that owing to the tapering

form of these parts they will lock firmly together when the bracket is thus carried forward and downward, but that if bracket G be moved backward a slight distance it will be so far freed or loosened that it may be farther receded with the expenditure of slight force. If, however, the pressure be removed before the bracket is carried any considerable distance rearward, it will quickly return to its first or normal position and give firm support to the guide.

Projecting from the front or outer face of bracket G is a stem or neck *e*, preferably of cylindrical cross-section, designed to carry the guide H, which in the form here represented comprises two bars or arms *ff*, each formed with a split circular collar *g* to encircle the neck *e* and provided with bolts *h* by which to tighten them upon said neck. The bars or arms *ff* may thus be adjusted jointly or independently along the neck or stem *e* or swung vertically about its axis and clamped firmly in any desired position, thereby adapting the guide to the position, thickness, and width of the saw-blade.

The bracket G may be varied in form to receive any style or type of saw-guide without departing at all from the present invention.

It is common at the present time to spray the saw-blade with water, hot or cold, steam, or with some solution adapted to remove resinous or other matters tending to accumulate thereon. I provide such spraying device when desired, constructing it preferably in the form best shown in Figs. 3 and 4.

I indicates a pipe or cylinder closed at its ends and provided with an inlet *h'*, connected by a suitable valved coupling J with a hose or supply-pipe K, which may be conveniently held through the arm C, as indicated. Projecting horizontally from the pipe I are two smaller pipes *i*, the inner or opposing sides of which are perforated at or near their ends or provided with openings of any suitable form to deliver water, steam, or solution of any kind to the blade. The pipe I has its inner end threaded or screwed into the plate or body of bracket G and clamped by a binding-nut, as shown in Figs. 3 and 4. The boss into which the pipe I is screwed is located above the line of the plate or casting D, so that it may be screwed through the same a greater or less distance to permit the adjustment of the tubes *i i* to the proper position relatively to the guide-arms *ff*. By the employment of the hose or flexible pipe K the bracket G is left free to move and to carry with it the spraying device.

The bracket G is provided with a bail or loop M for the attachment of one end of a rope N, the other end of which is attached to a similar bail or loop O of the arm C.

The device being thus constructed, it will be apparent that so long as the saw-blade moves in a downward direction between the arms *ff* its faces bearing against the guiding-blocks, with which said arms are, as

usual, provided, will tend to press said arms, and consequently the bracket G, downward, thus causing it to move forward and downward upon the plate or casting D until its overhanging flanges or ribs bind upon the edges of said plate and lock the parts rigidly together. If, however, a log, cant, or board moving horizontally past the saw, as when being sawed, should strike the arms *ff* of the guide or should encounter the bracket G, said bracket and the parts carried by it would be carried backward and slightly upward, the line of movement being that given by the inclination of the upper edge of plate D. If the engagement be only temporary and slight, the bracket and its attendant parts will simply be moved rearward and upward a short distance and at once settle back to place; but if there be a considerable projection, as a large splinter, a knot, or a springing board, said parts will be moved upward and backward and may be carried entirely off of plate D, in which case they will drop down and hang suspended there, as shown in Fig. 2, the hose or flexible pipe permitting the parts to swing freely, but being relieved from strain by the rope which takes the weight of the parts.

As before suggested, the form of the device may be modified considerably without departing from the scope and spirit of my invention, which comprehends, broadly, the idea of so mounting a saw-guide that it shall normally move to and remain rigid in its working position, but shall be free to recede before an advancing body moving in the direction of travel of the log, cant, or board.

One of the various modifications of which the invention is susceptible is illustrated in Fig. 5, in which the upper line of plate or casting D is shown horizontal and a spring P is provided for holding the bracket G in working position under normal conditions. The spring is represented as carried by the stationary part C or D and engaging over the rear end of the bracket G, but obviously this is but one of many equivalent arrangements that can be made. It will likewise be seen that the plate or casting D may be made integral with arm C or that the parts D and G may be reversed, the overlapping lips or flanges being made upon part D and part G made to fit therein. In such case the larger or wider end would be away from the saw instead of toward it. So, too, a hinged or swinging support is within my invention.

The spray device may be provided or omitted at will.

Having thus described my invention, I claim—

1. In combination with a saw-blade, a guide-support and a saw-guide carried by said support and free when in working adjustment to recede before an advancing body moving in the horizontal plane of the guide.

2. In combination with the blade and frame of a sawmill; a head carried by said frame; a bracket in sliding engagement with said head;

and a saw-guide carried by said bracket and free to move away from the saw when subjected to predetermined pressure in that direction.

5 3. In combination with the frame of a saw-mill, a gravitating bracket adapted to move to and to be held in operative position by gravity and free to be moved from operative position by a force acting in opposition to
10 gravity; and a saw-guide carried by said bracket.

15 4. In a sawmill, the combination of a normally-fixed arm or support; an inclined plate or guide carried thereby; a bracket mounted upon said guide and adapted to move downward thereon by gravity; and a saw-guide carried by said bracket and serving when acted upon by the moving blade to draw or
20 urge the bracket downward upon its guide.

25 5. In combination with the arm or support C of a sawmill provided with slotted head *a*; plate D; bolt E connecting said plate and head; bracket G provided with overhanging flanges or ribs to engage with plate D and free to recede under pressure; and a saw-guide upon said bracket.

6. In combination with arm or support C and plate D carried thereby; bracket G adapted to engage with and to slide upon said plate;

and a saw-guide carried by the bracket, and free to recede under pressure.

7. In combination with a normally-fixed arm or support, a bracket loosely connected therewith and provided with a saw-guide; and a supporting rope or band connecting the fixed support and the detachable bracket, and serving to sustain the latter when detached from the former.

8. In combination with arm or support C, loosely-attached bracket G provided with a spraying or jet device; a flexible supply-pipe K communicating with said spray or jet device; and a flexible band connecting the detachable bracket with the supporting-arm and serving to sustain the bracket when detached, and to prevent undue strain upon the hose or pipe.

9. In combination with arm or support C provided with head *a* having groove *b*; plate D provided with rib or tongue *c*; fastening-bolt E; bracket G loosely applied to plate D; and guide-arms *f* carried by the bracket G.

In witness whereof I hereunto set my hand in the presence of two witnesses.

GEORGE M. HINKLEY.

Witnesses:

EDW. E. FITZGERALD,
RICHARD HOPPIN.