

E. BRADBURY.
Saw-Mills.

No.154,829.

Patented Sept. 8, 1874.

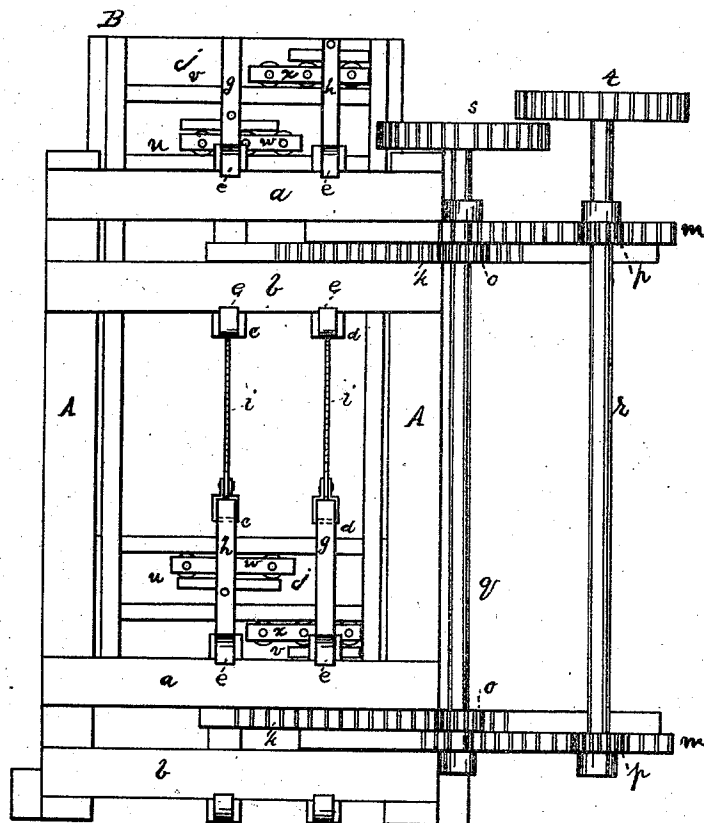


Fig.1.

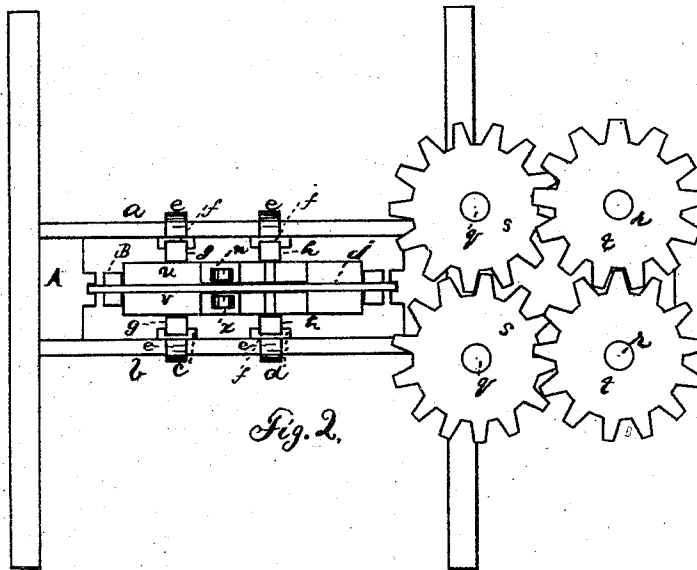
Witnesses:
Frank H. Jordan
Edwin H. Barkell

Inventor:-
Edwin Bradbury
per Wm. Henry Clifford
att'y.

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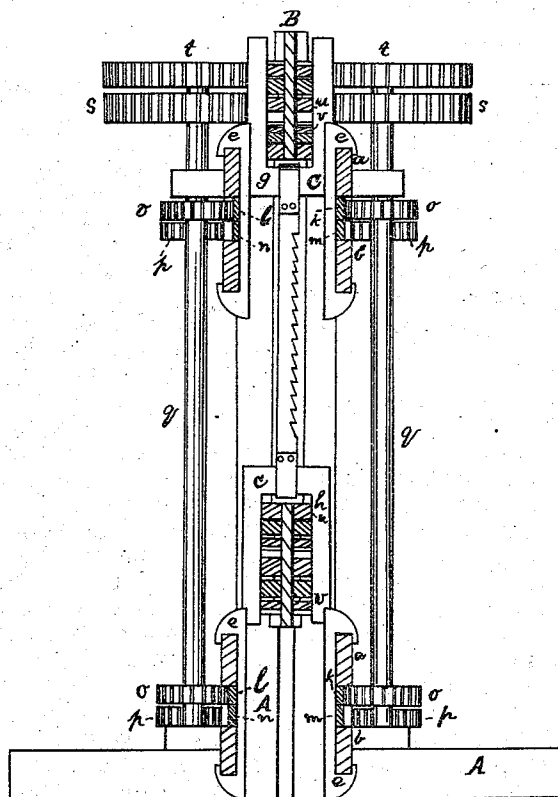


Fig. 3.

Witnesses:-

Frank H. Jordan.
Edwin W. Haskell

Inventor:-

Edwin Bradbury
per
Wm. Henry Clifford
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UNITED STATES PATENT OFFICE.

EDWIN BRADBURY, OF FAIRFIELD, MAINE.

IMPROVEMENT IN SAW-MILLS.

Specification forming part of Letters Patent No. **154,829**, dated September 8, 1874; application filed June 30, 1874.

To all whom it may concern:

Be it known that I, EDWIN BRADBURY, of Fairfield, in the county of Somerset and State of Maine, have invented certain new and useful Improvements in Saw-Mills; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Figure 1 is a side elevation, Fig. 2 a top plan, and Fig. 3 a vertical section.

Same letters show like parts.

The general purpose of this invention is to produce an arrangement for gaging gang-saws, or, in other words, for quickly and accurately fixing their distances from each other in the gang. It will be understood that this arrangement is invented in order that the operator may adjust his saws to any dimensions of lumber which he desires to manufacture. Moreover, this adjustment can be effected without checking the motion of the machine, and while the motion of the saws themselves continues.

In the accompanying drawings, A shows the frame-work, with the ordinary guides for the saw-frame B. The frame moves vertically upon these guides, as common. Upon the cross-pieces *a* and *b*, at the top and bottom of the frame A, are seen vertical guides *c d*. These guides move upon the cross-pieces *a* and *b*, accordingly as they are actuated in the manner hereinafter to be described. *e* shows slides attached to the vertical guides *c d* and working over the cross-pieces *a b*. The vertical guides *c d* have tracks *f*, in which work the saw-stirrups *g* and *h*. Thus, the saw-frame B is allowed its vertical motion as well in the guides *c d* as in those upon the frame-work A. Connected with the stirrups *g* and *h* are the saws *i*. The stirrups *g* and *h* pass down on both sides of the beds *j*. *k l m n* show horizontal geared racks working in proper guides at the base of the frame-work A and operated by pinions *o p* set on the vertical shafts *q r*. These shafts carry the gears *s* and *t*, the two gears *s* matching each other, and the same with the two gears *t*, in order that the motion of the shafts moving the corresponding racks may be uniform. By

this arrangement of the gears, shafts, pinions, and racks, and the attachment of the racks to the stirrups *g* and *h*, the distance between the two stirrups and their saws can be accurately and easily regulated. In the accompanying drawing the shafts *q*, with their pinions *o*, operate the racks *k l*, which are attached to the stirrups *g h*. The other shaft, with similar adjuncts, operates the other stirrups *g h*, but it is evident that any equivalent arrangement of the parts could be made and any desired number of racks employed, according to the number of saws in the gang and within the limits of the girths of the saw-frame.

I desire to specify that I do not limit myself to the vertical shafts with their pinions and the toothed racks. In place of them, I could operate the slides attached to the saw-stirrups *g* and *h* by means of screws, or by cams or eccentrics. The characteristic feature of my invention is the moving of the saws toward or from each other by a uniform and simultaneous operation. It will be seen that the vertical guides *c* and *d*, moving, as they do, upon the cross-pieces at the top and bottom of the frame-work A, can be operated by the racks as well when the saw-frame is in motion as when at rest. These guides *c* and *d* may have, if necessary, rollers or trucks to increase the facility of their movement along the cross-pieces of the frame-work A.

On the girths at the top and bottom of the saw-frame B are ledges *u* and *v*, upon which are placed small carriages *w x*. These carriages are furnished with rollers, and, by means of any convenient projection from the stirrups *g* and *h*, sustain the strain of the saws, which, as is known, is very great. Furthermore, in moving the stirrups to adjust the saws the friction is very much lessened.

I do not limit myself to the exact contrivance shown, for it is plain that there are a variety of ways in which the strain of the saws can be sustained upon rollers or their equivalents, in order to lessen the friction when adjusting the saws of the gang.

It is obvious that this arrangement for regulating the distance between the saws is of great utility over those in which a cessation of the motion of the saws was necessary to the adjustment.

The readiness with which the saws can be placed at any desired distance from each other enables the operator quickly to accommodate his machine to the capacity of any lumber which he may be manufacturing, or to any dimensions which he may desire to cut.

I do not claim the saw-gate like that shown in the patent 107,886 to J. A. Dorr, which consists of straps holding the saws moving upon top and bottom pieces, and operated by screws. Neither do I claim the trucks as shown in that patent. I do not claim operating a gang of saws so as to draw them apart or together.

My invention consists in the combination herein described.

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

The combination of the shafts *q r*, pinions *o p*, racks *k l m n*, gears *s* and *t*, with the horizontally-moving saw-stirrups *g h*, having the carriages or rollers *w x*, the whole operating substantially in the manner and for the purposes herein described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

EDWIN BRADBURY.

Witnesses:

FRANK H. JORDAN,

ALBERT COLE.