G. W. Rodebaugh.

Head Block for Saw Mills.

No. 54,777. Patented May 15, 1866.

Fig. 1.

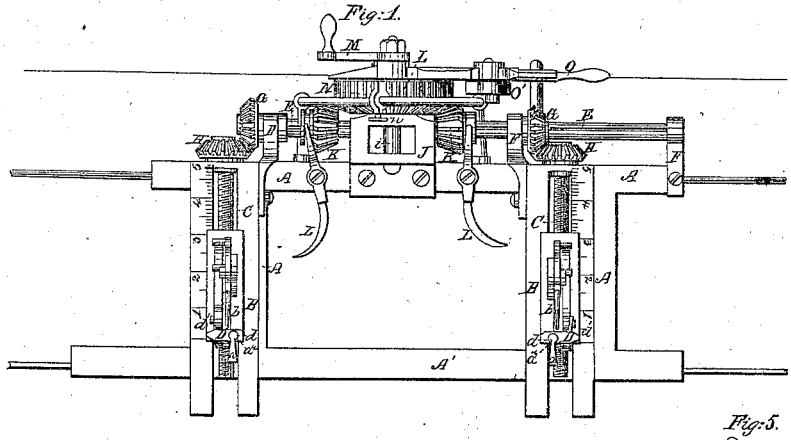


Fig. 5.

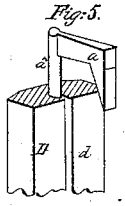


Fig. 2.

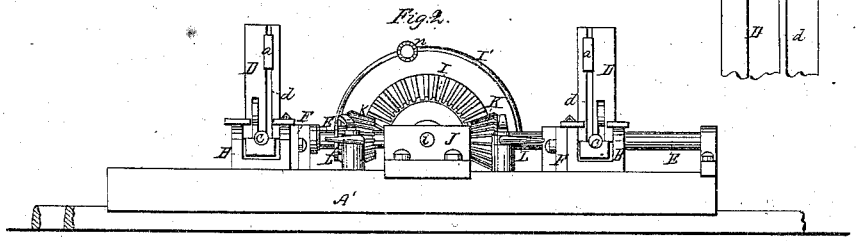


Fig. 3.

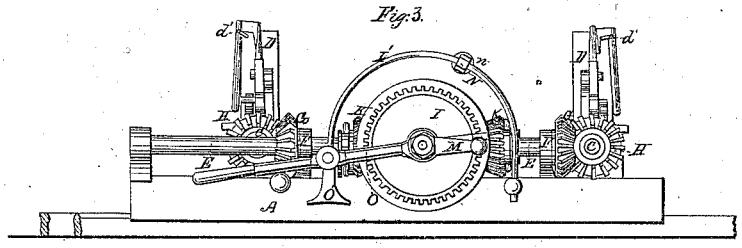
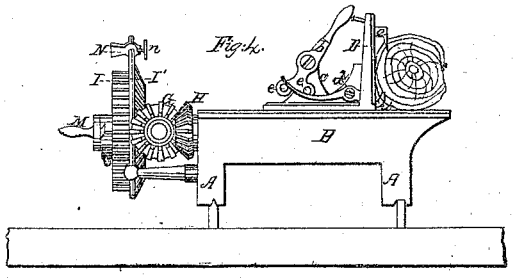


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE W. RODEBAUGH, OF TOLEDO, OHIO.

IMPROVEMENT IN HEAD-BLOCKS FOR SAW-MILLS.

Specification forming part of Letters Patent No. **54,777**, dated May 15, 1866.

To all whom it may concern:

Be it known that I, GEORGE W. RODEBAUGH, of Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Head-Blocks and Setting Mechanism for Circular Saw Mills; and I do hereby declare the following to be a full, clear, and exact description of the nature, construction, and operation of the same, reference being had to the accompanying drawings, which are made a part of this specification, and in which—

Figure 1 is a plan of a feeding-carriage and setting mechanism illustrating my invention. Figs. 2 and 3 are side elevations thereof, the respective views being taken from opposite points. Fig. 4 is an end elevation of the same. Fig. 5 is a detached perspective view of the knee and one of the upper hook-dogs, hereinafter described.

Similar letters of reference indicate corresponding parts in the different figures.

In ordinary saw-mills the setting mechanism is operated by two screws, which are rotated by means of a single driving-shaft, to which the power is applied at one end. This driving-shaft, on account of its length and a greater or less degree of elasticity, is liable to spring and undergo considerable tension, and is most efficient in transmitting motion near the point where the power is applied, inasmuch as the inertia or immobility of the driving-shaft gradually increases from the end where the power is applied toward its opposite extremity.

The chief feature of my invention consists in the employment of two driving-shafts, one for each head-block, which are driven by separate gearing, and not only obviate the objections above alluded to, but admit of the adjustment of each set to dogs independently by simply throwing the driving-pinion of each of the respective shafts out of connection with the main gear-wheel, which serves to give motion to both of the shafts when all the setting mechanism is to be adjusted simultaneously.

Another feature of my invention consists in a peculiar manner of applying the dogs which hold the log while under the action of the saws, the intention being to avoid the binding of the knees against the head-blocks, which is incidental in the use of dogs as commonly employed.

In order that others skilled in the art to which my said invention appertains may be enabled to fully understand and use the same, I will proceed to describe it in detail in connection with the accompanying drawings.

A A represent the carriage which feeds the log to the action of circular saws, which reduce the log to boards of the required thickness. The side A′ of the feeding-carriage constitutes a rack on its under side, and into this rack engages the pinion which gives motion to the feeding-carriage.

B B are the graduated head-blocks upon which the log rests. C C are screws working through the head-blocks and employed to adjust the knee D D.

Instead of operating the setting-screws C C by a single shaft, or by two shafts coupled permanently together, I employ two independent shafts, E E, which may have their bearings in lugs F F, and which are provided with bevel-pinions G G, to engage with similar pinions H H on the screws C C.

I represents a compound miter and spur gear wheel fixed upon a short shaft, *i*, having its bearing in a box or lug, J, projecting from the feeding-carriage. The miter or beveled portion of the wheel I is adapted to mesh with adjustable pinions K K, which are feathered upon the contiguous ends of the shafts E E, and may be thrown into or out of gear with the wheel I by means of the forked levers L L. (See Fig. 1.)

A curved graduated rod, I, extending archwise over the wheel I, supports a stop, N, which limits the movement of the lever O, which is actuated by hand and carries a catch or pawl, O′, which gives motion to the wheel I, thus turning the screws C C and adjusting the knees D D. The stop N may be adjusted in any position upon the curved rod I by the set-screw *n*, and by thus limiting the movement of the lever O the operator is enabled to determine with precision the extent of the adjustment of the knees D D which may be due to one or more vibrations of the lever O. The wheel I may be turned continuously by means of the crank-handle M whenever it is desired to impart a quick motion to the knees, which is the case when the knees are to be run back to allow a new log to be placed upon the head-blocks.

In the vertical portion of each of the knees D is a groove or socket, *d*, intended to receive

and retain the shank of the hook-dog *a*, which is made to bite the log at the upper side, as seen in Fig. 4, where the red lines represent the log. This dog consists of a shank, a^4, which slides within the vertical groove of the knee D, and the bit or tooth *a*, projecting from the face of the knee so as to enter the log when driven downward by a blow from the crow-bar or hammer. Each of the knees D has another hook-dog, *a'*, which is pivoted at a^2, and adapted to be turned by the lever *b*, which is pivoted to the lug *c* on the knee, and it vibrates the dog *a'* through the medium of the pins *e e*, which project from the lever *b* and traverse the opposite sides of the arm of dog *a'* when in motion.

This method of arranging and operating the dogs will be found to have a material advantage over the common mode, because the points at which the dogs bite and hold the log are in line with the knees, so that any strain from the log will act upon the knees in the same direction as that in which they move under their appropriate adjustment; whereas the common bail-dog, which extends from the knee and bites the log at a point between the two knees, has a tendency to exert a constant lateral strain upon the knees, thus causing them to bind against the head-blocks and interfere with the adjustment.

The operation will be readily understood, having been casually referred to in the course of the above description.

Both of the knees D D, together with their dogs, may be advanced or retraced simultaneously by placing both of the pinions K K in gear with the main wheel I; but when, as is often the case, one knee with one set of dogs alone is to be advanced or retraced, the pinion K, pertaining to the other knee, is thrown out of gear with the main wheel I, so that when the latter is rotated one of the knees is moved in the desired direction while the other remains stationary. The catch or pawl O is formed and applied so that it may be adapted for turning the wheel I in either direction.

The arrangement of the dogs, as above described, enables me to save or dispense with one turning of the log, for the reason that the slab being held at the upper and under side and prevented from springing, need not be turned, for the dogs are capable of holding the slab with its convex side presented to the knee, whereas the common bail-dog permits the slab to slip out of place and renders it necessary to place the flat side of the slab against the knee before the last cut can be made. Hence, instead of having a cull or being compelled to make the last board of unusual thickness, I am enabled to saw from the slab the same as from the body of the log—*i. e.*, saw from the slab a board of the same thickness as those previously made, or of any thickness that may be desired.

Several sets of dogs, *a*, of different sizes are to be provided, and these dogs (which may be hung upon the small arms *d*, projecting from the knees) may be readily brought into requisition to suit the circumstances or character of the work.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. Setting the log to the saw at either end or at both simultaneously by means of the independent shafts E E, when operated by the compound cog-wheel I and adjustable pinions K K, substantially in the manner and for the purposes herein specified.

2. The construction of the dog consisting of the bit *a*, attached to a shank, a^4, which fits and slides within the vertical groove of the knee, substantially as described and represented.

3. Operating the pivoted dog *a'* by means of the lever *b* and pins *e e*, as and for the purposes set forth.

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