

(No Model.)

J. NOONAN.
HEAD BLOCK FOR SAWMILL CARRIAGES.

No. 545,907.

Patented Sept. 10, 1895.

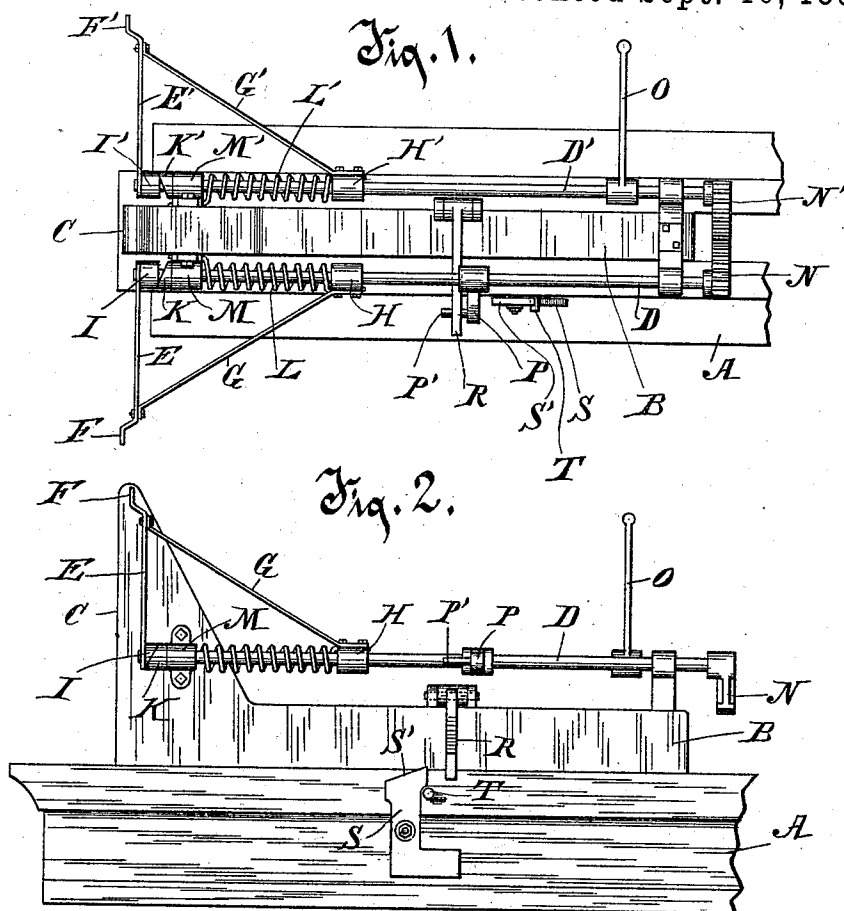
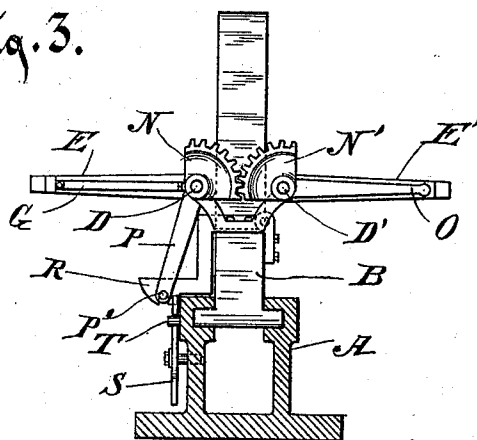


Fig. 3.



Witnesses.

W. H. Keeney

Anna V. Faust

Inventor.

John Noonan

By Benedict Morell
Attorneys.

UNITED STATES PATENT OFFICE.

JOHN NOONAN, OF OCONTO, WISCONSIN.

HEAD-BLOCK FOR SAWMILL-CARRIAGES.

SPECIFICATION forming part of Letters Patent No. 545,907, dated September 10, 1895.

Application filed March 4, 1895. Serial No. 540,409. (No model.)

To all whom it may concern:

Be it known that I, JOHN NOONAN, of Oconto, in the county of Oconto and State of Wisconsin, have invented a new and useful Improvement in Head-Blocks for Sawmill-Carriages, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My improvement relates to sawmill-carriages which are provided with two or more transversely-disposed head-blocks on which the log or timber being sawed is supported, and which head-blocks are each provided with a knee mounted and movable endwise thereof, (laterally of the carriage,) which knee at its front vertically-disposed end or face bears against the log or timber and holds it up to the saw as the carriage advances, carrying the log or timber to and past the saw. These knees as ordinarily constructed have only a narrow face (horizontally) and therefore support the log or timber at that side against which it bears only in a narrow vertical line, so that the distant portions of the log or timber not thus directly supported are held in place only by the stiffness or rigidity of the log or timber itself, and when the log or timber has been mostly sawed up, so that only a small portion of it remains to be sawed—as, for instance, when a timber is being sawed into inch boards, when only two or three inches in thickness of the timber remains—the part distant from the supporting-knees, and particularly the parts near the end of the log or timber that is last to be sawed, is liable to vibrate or buckle or spring away from the saw; and it is the object of my invention to provide a means in connection with the knee for effectually supporting the log or timber at the rear or on that side opposite the saw-line at a distance from the knee and on one or both sides thereof. This I accomplish by mechanism hereinafter described and claimed, which mechanism is attached to the knee and carriage and which is in some of its features made automatic.

In the drawings, Figure 1 is a top plan view of a fragment of a head-block with a knee mounted thereon to which my improved devices are attached. Fig. 2 is an elevation of the fragment of a head-block, the knee,

and my improved devices shown in plan in Fig. 1. Fig. 3 is a rear end view of the parts and mechanism shown in Figs. 1 and 2.

The head-block A is one of two or more similar head-blocks disposed transversely of and fixed on a movable sawmill-carriage as such carriages are commonly constructed. The knee B is also such as is commonly mounted on the head-block, which knee is supported on and is movable endwise (laterally of the carriage) of the block A in ways therefor. The face C of the knee, when in use, is moved up to and bears against the log or timber which rests on the head-block in front thereof and holds the timber up to the saw, the line of which is just in front of the head-block and near to which the head-block passes as the carriage is reciprocated.

My improved log-supporting device or devices may be located at one or both sides of the knee, and as it is desirable to have such supports at both sides of the knee I have shown them in this form, one support being located at each side of the knee, the two being geared together and provided with shifting devices adapting them to be used unitedly or as a pair. In this device as preferably constructed and used rock-shafts D D' are mounted horizontally, one at each side, on the knee B, and are movable revolutely and endwise in their bearings, which are fixed on the knee. These rods are each provided with a radially-extending arm E E', fixed thereto at its front end. Each arm terminates in a face F F', preferably a little in front of the principal or shank portion of the arm, and is so disposed as, when in position for work, as shown in Fig. 1, to be flush with the face C of the knee and necessarily in line with it and each other. For strengthening this construction I preferably apply braces G G' thereto, the braces being secured to the arms E E', respectively, near their outer extremities and extending therefrom to the rock-shafts D D', to which they are secured by means of fixed collars H H'. Annular wedge-shaped or cam-faced collars I I', fixed on the rods D and D', respectively, bear against the opposite correspondingly and reversely cam-faced bearing-blocks K K', fixed on the knee B. These cam-faced collars and blocks on the

movable and fixed parts, respectively, are a means adapted, by the oscillation of the rock-shafts in one direction, to force the supporting-arms E E' forwardly, and by their oscillation in the other direction to permit of the receding of the arms rearwardly. The arms are by these cams forced forwardly and supported in place when thrown down into the position shown in Fig. 1, and are permitted to be withdrawn rearwardly when thrown upwardly into the position shown in Fig. 2, in which latter position the faces F F' of the arms E E' are withdrawn rearwardly from the line of the face C of the knee B. For automatically withdrawing these arms and folding them upwardly out of action, I employ torsional and extensible springs L L', coiled about shafts D D', respectively, between the collars H H' and the boxes or bearings M M' of the rock-shafts, which boxes are secured rigidly, but detachably, to the knee B. The springs at their extremities are secured, respectively, to the collars H H' and the boxes M and M' to such extent at least as to prevent rotation of the springs about the rock-shafts, thus compelling their torsional action. These supporting-arms E E' may be used separately, one on each knee; but, as before stated, I prefer to use them in sets or pairs, two on each knee. These supporting devices are also preferably provided with means for shifting them inot action, and other means for locking them in that position, and I herein show devices for connecting the two mechanisms together, and other devices for shifting and locking them in a set or pair, though it will be understood that the shifting and locking devices can be applied to each mechanism, if desired, without the gearing for uniting them actively, thus making each supporting-arm independent of the other. Segmental gears N N', fixed, respectively, on the shafts D and D' and meshing with each other, are adapted to compel concurrent oscillation of the rock-shafts. Hand-lever O, fixed on and projecting radially from the rock-shaft D', is a convenient means by which the attendant can throw the arms E E' down from the position shown in Fig. 2 to the position shown in Fig. 1, thus putting the arms into position for work. This handle can also be used for reversing the motion if desired; but this is normally accomplished by the springs L L'. An arm P, fixed on and projecting radially from the rock-shaft D, is provided with a pin P', adapted to be engaged by the dog or latch R, which is hinged on the knee B. The construction is such that when the arms E are thrown down into the position shown in Fig. 1, the pin P' passes underneath the latch R and engages a catch thereon, whereby the arm P, the rock-shafts, and the arms E E', fixed thereon, are held in the positions shown in Figs. 1 and 3 until the latch is lifted and the arm is released therefrom. This may be done by the attendant; but I provide a device for accomplishing this auto-

matically, which consists of the detaching cam-faced swinging arm S. This vertically-disposed detaching-arm S is pivoted on the block A, and is provided at its upper extremity with an inclined or cam face S', which is located in the path of the latch R, so that when the knee moving on the block recedes from the front the latch, as it passes the arm S, contacts with and is lifted by the cam S', thereby disengaging the latch from the pin P', thus releasing the arm P, whereupon the springs L L' fold the arms E E' upwardly and withdraw them rearwardly. The arm S is prevented from tilting rearwardly by the pin T, fixed in the head-block, but is free to tilt in the other direction, so that as the knee B moves forwardly the latch R contacts with the arm S and tilts it forwardly, passing it freely in that direction.

An important feature in my invention is that the arms E E' when not in use, which use is only in a comparatively small portion of the time in which the sawing is carried on, are folded up close against the knee, thus being put out of the way of the attendant at all other times and especially when a log is being put onto the carriage or is being canted or turned. It is very common for the attendant to stand on the head-block alongside the knee when engaged in turning the log or timber and attending to the work connected with sawing which it is his duty to attend to; and it is with reference to relieving him from any unnecessary obstruction in his duties, among other things, that these arms E E' are made to fold up out of the way.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination with the head-block of a saw mill carriage, and a knee thereon, of timber-supporting arms fixed on and projecting radially from horizontal rock-shafts journaled one at each side on the knee, cams for moving the rock-shafts forward endwise when the arms are thrown down, springs adapted to withdraw the shafts rearwardly when the arms are thrown up, means connecting the rock-shafts operatively adapted to compel concurrent and corresponding oscillation thereof, and means for oscillating one of said shafts to throw the arms down, substantially as described.

2. The combination with a head-block of a saw mill carriage, and a knee thereon, of log or timber-supporting arms fixed on and projecting radially from rock-shafts journaled one at each side on the knee, gears on the rock-shafts meshing with each other, and a lever and a spring or springs for oscillating one of said rock-shafts, substantially as described.

3. The combination with a head-block of a saw-mill carriage and a movable knee thereon, of a log or timber-supporting arm having a bearing face at its extremity, said arm being

fixed on and projecting radially from a rock-
shaft journaled on the knee, a torsional spring
acting on the rock-shaft adapted to fold up
the arm when not held down, a radial arm on
5 the rock-shaft, a swinging latch hinged on the
knee adapted to engage the radial arm re-
leasably and hold the timber-supporting arm
to its work, and a detaching cam-faced lever
pivoted on the head-block in the path of said
10 latch adapted to lift the latch as it passes in

one direction and to be tilted and allow the
latch to pass freely in the other direction, sub-
stantially as described.

In testimony whereof I affix my signature
in presence of two witnesses.

JOHN NOONAN.

Witnesses:

C. T. BENEDICT,
ANNA V. FAUST.