M. TAPLIN.
Saw-Mill Carriage.

No. 204,394. Patented May 28, 1878.

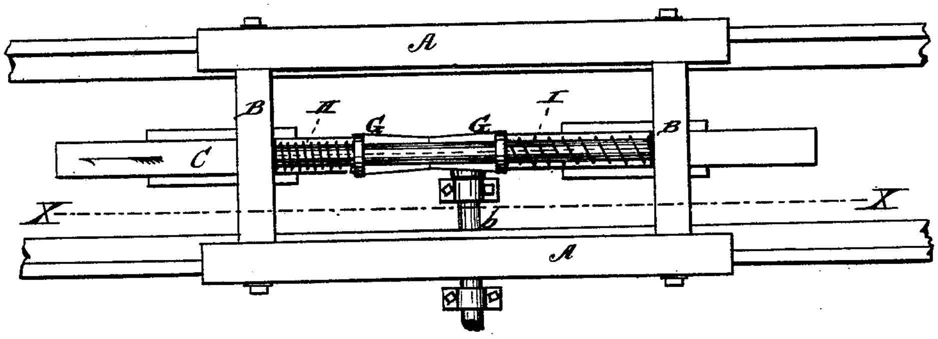

Fig. 1

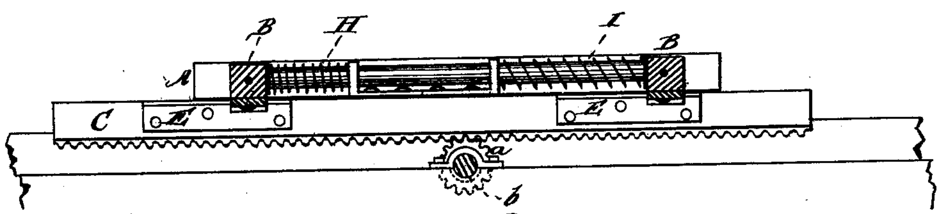

Fig. 2

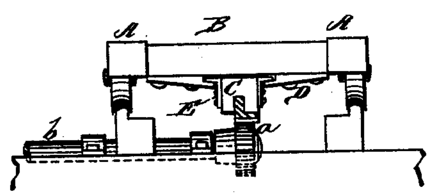

Fig. 3

Attest,
Jas. J. Sheehy
Jno. T. Blackmar,

Inventor.
Mahlon Taplin.
Gilmore Smith & Co.
Attorneys.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

MAHLON TAPLIN, OF MONTPELIER, VERMONT.

IMPROVEMENT IN SAW-MILL CARRIAGES.

Specification forming part of Letters Patent No. **204,394**, dated May 28, 1878; application filed March 2, 1878.

To all whom it may concern:

Be it known that I, MAHLON TAPLIN, of Montpelier, in the county of Washington and State of Vermont, have invented a new and valuable Improvement in Saw-Mill Carriages; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of the top of the carriage. Fig. 2 is a longitudinal vertical section through carriage on line X X. Fig. 3 is an end view of the carriage.

The nature of my invention consists in a device for cushioning saw-mill carriages when the motion of the same is suddenly reversed, or when they are brought from a state of motion to one of rest, as will be hereinafter more fully set forth.

The annexed drawing, to which reference is made, fully illustrates my invention.

The carriage of a circular-saw mill, having a rapid motion forward and backward, and often weighing, with its load, several tons, acquires considerable momentum, which, if too suddenly checked, brings an undue strain upon the feed-rack, feed-pinion, and, in fact, upon the whole feeding mechanism of the mill. A too sudden reverse of motion when the carriage is gigging is also quite apt to cause the log or cant to slip lengthwise on the head-blocks, loosening the dogs and causing delay and loss of time in readjusting the dogs, uneven sawing, and other undesirable results.

The "run" of a saw-mill carriage varying with the length of logs, and it not being convenient to place all logs—even when of the same length—on the carriage exactly alike, it is not practical to cushion the carriage by means of springs fixed at each end of the ways.

The object of my invention is to provide springs for absorbing the momentum of saw-mill carriages, which springs shall be so arranged as always to act efficiently, no matter at what point the carriage is reversed, and without requiring any attention or adjustment.

In the drawing, A A are the sides, and B B the cross-pieces, of a saw-mill carriage. C is the rack bar or stick, to the under side of which is attached the feed-racks. *a* is the pinion, secured on the shaft *b* and meshing with said rack, for operating the carriage.

D D are guides, fastened to the under sides of the cross-pieces B. To each side of the rack-stick C are secured slides E, running in said guides D. The rack-stick is thus suspended from the carriage, so as to allow of endwise play.

G G are plates or stops, securely fastened to the rack-stick at equal distances from the center, and between them and the cross-pieces B B springs H I are interposed. These springs may be of rubber, metal, or compressed air, and may be of any number from two upward.

The operation is as follows: When the feed-pinion is made to revolve so as to carry the log in the direction indicated by the arrows, the rack-stick will slide under the carriage, compressing the spring H until the force is sufficient to carry the carriage and its load forward. When the motion is reversed and the rack-stick is held stationary, the momentum of the carriage is not instantly overcome; but the carriage continues to go forward, releasing the pressure upon the spring H, and at once bringing the spring I into compression, thus serving to arrest the momentum of the carriage without shock or jar, and reducing the strain upon the feed-rack, pinion, and the whole feeding mechanism of the mill to the minimum.

Another advantage is that when, in cutting, the saw strikes a large knot or burl the spring which acts in carrying the log forward yields still more, and automatically lessens the rate of speed, so as to relieve the saw and lessen, if not altogether overcome, the usual tendency of the saw to dodge from the true cutting-line when striking hard spots in the log. The action of the springs also relieves the "setter," when he rides upon the carriage, as is the case in many mills, from the strain and fatigue consequent upon sudden reversals of the carriage.

It is obvious that other mechanical means may be employed besides the rack and pinion for giving the necessary motion to the saw-

mill carriage—such, for example, as a rope or chain connecting the carriage with the propelling power; and therefore I do not wish to confine my invention to the specific means shown.

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

1. The combination, with a saw-mill carriage, of a bar attached thereto and a mechanism, substantially as described, whereby an endwise motion is allowed to said bar, to which bar or stick the propelling power is attached or connected by rack and pinion or equivalent devices, substantially as set forth.

2. The combination of one or more springs or elastic substances with a feed-rack and the carriage of a saw-mill, arranged in such a manner that the same will be brought into action and overcome the momentum of the carriage as often as the motion of the feed and gig works is reversed, substantially as and for the purposes set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

MAHLON TAPLIN.

Witnesses:
STEPHEN THOMAS,
MELVILLE E. SMILIE.