

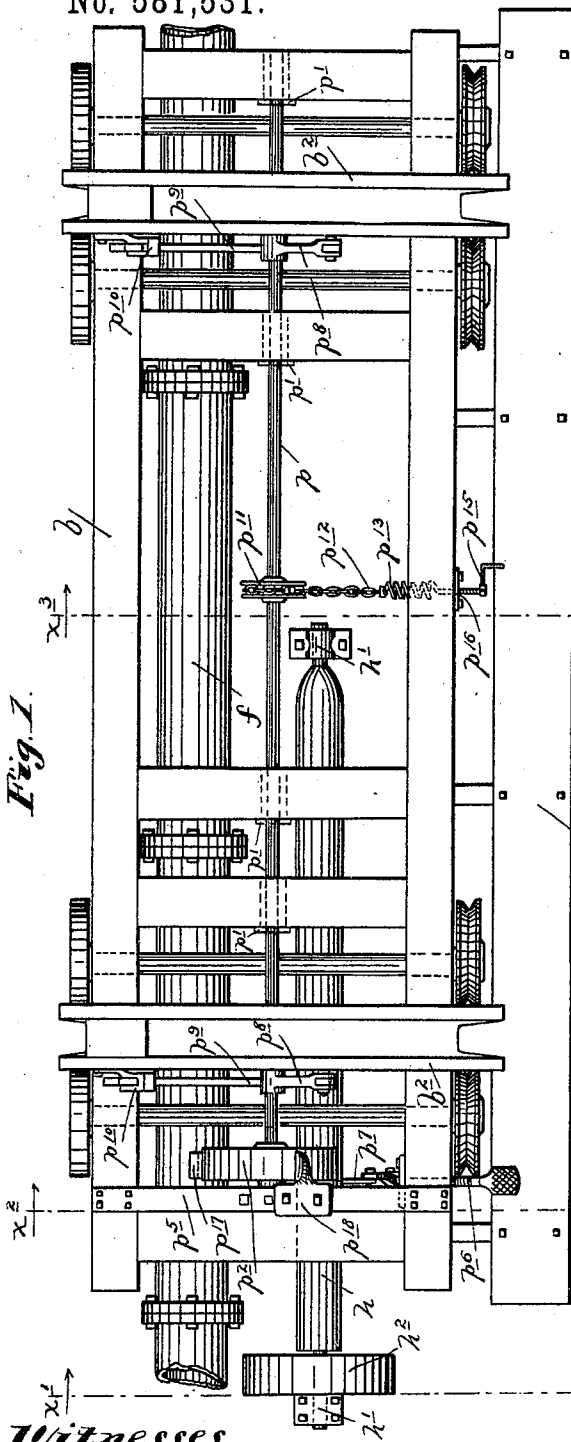
C. BODIN.

UNLOADING DEVICE FOR LOG CARRIAGES.

No. 581,531.

Patented Apr. 27, 1897

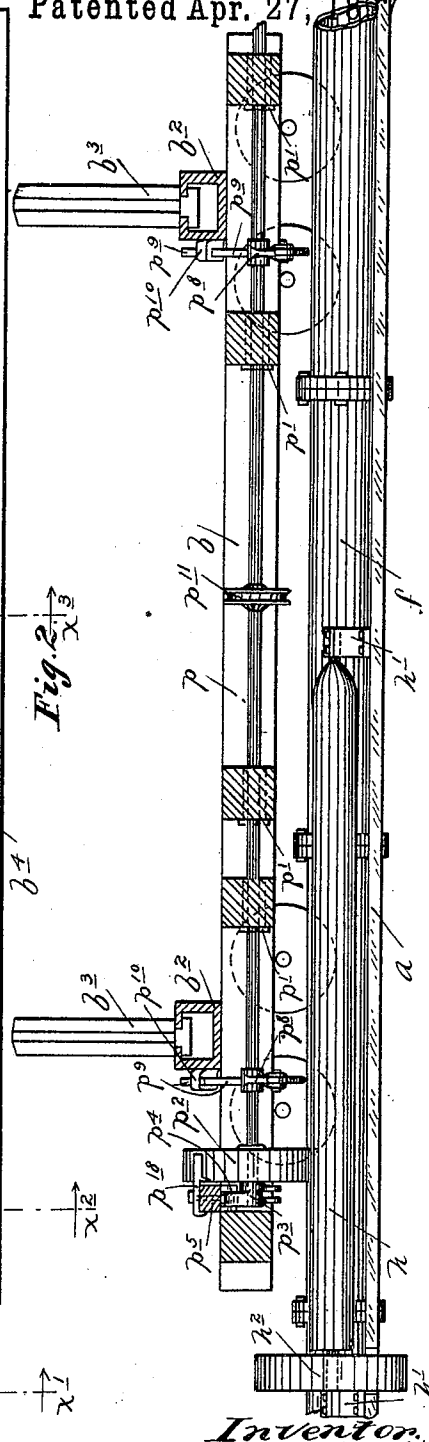
Fig. 1.



Witnesses.

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Fig. 2.



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Fig. 3.

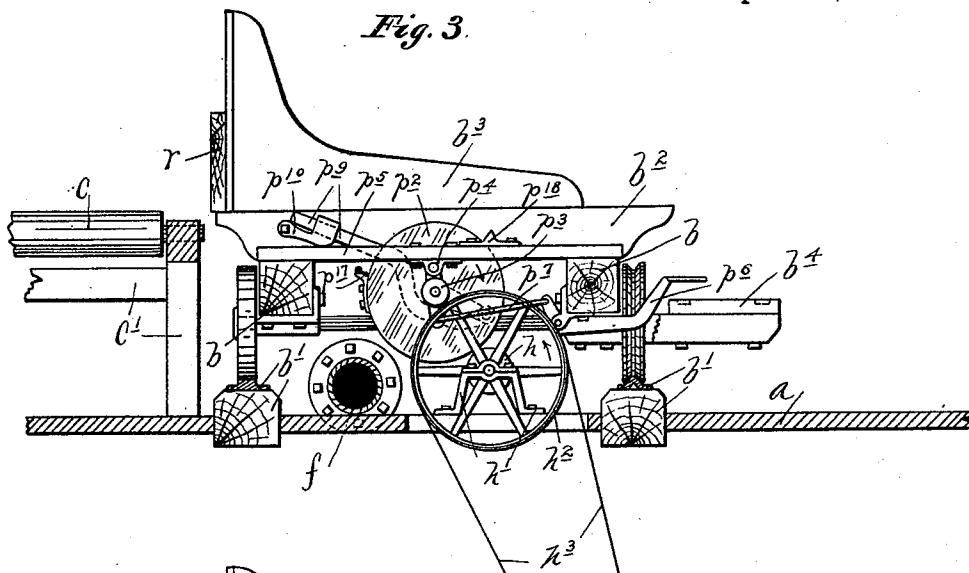


Fig. 4.

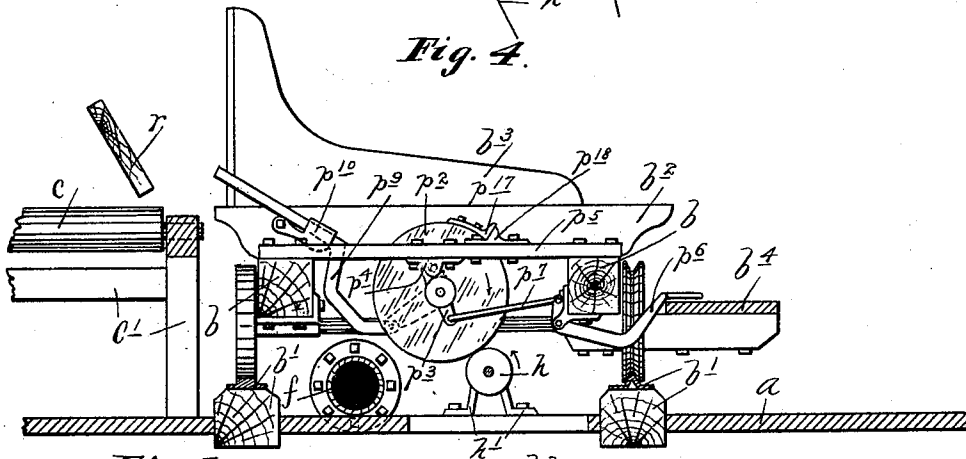
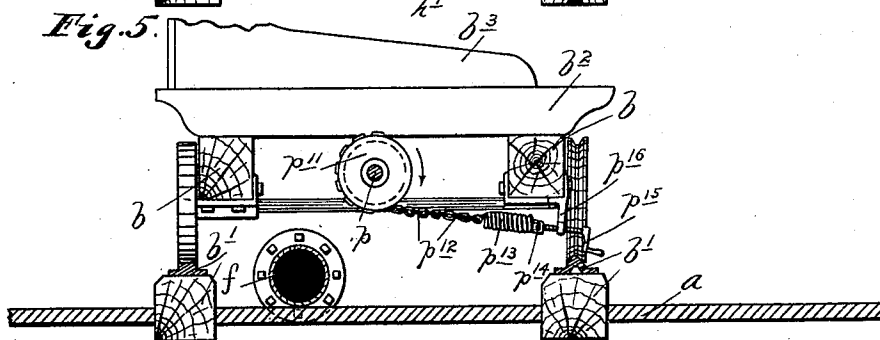


Fig. 5.



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UNITED STATES PATENT OFFICE.

CHARLES BODIN, OF STILLWATER, MINNESOTA.

UNLOADING DEVICE FOR LOG-CARRIAGES.

SPECIFICATION forming part of Letters Patent No. 581,531, dated April 27, 1897.

Application filed June 10, 1896. Serial No. 595,008. (No model.)

To all whom it may concern:

Be it known that I, CHARLES BODIN, a citizen of the United States, residing at Stillwater, in the county of Washington and State of Minnesota, have invented certain new and useful Improvements in Unloading Devices for Log-Carriages; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to sawmill log-carriages, and has for its object to provide an attachment for kicking off the cant or other last piece left on the carriage after its return from the saws.

To this end my invention consists of the novel devices and combination of devices which will be hereinafter described, and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein, like letters referring to like parts throughout the several views—

Figure 1 is a plan view of a carriage equipped with my invention, but stripped of all the ordinary operative parts, with the exception of the blocks. Fig. 2 is a view of the same parts shown in Fig. 1, partly in side elevation and partly in longitudinal vertical section, with the knees in position on the blocks. Fig. 3 is a vertical cross-section through the floor and the live-roller frame on the line $x'x'$ of Fig. 1 and through the carriage on the line x^2x^2 of Fig. 1, with some parts removed. Fig. 4 is a vertical section on the line x^2x^2 of Fig. 1, extended through the live-rollers, with some parts removed; and Fig. 5 is a vertical section on the line x^3x^3 of Fig. 1.

a represents the working floor of the mill.

b represents the log-carriage, and b' the track for the same.

c represents one of the live-rollers, and c' the live-roller frame.

f is the steam-feed for the carriage.

b^2 and b^3 represent, respectively, the blocks and the knees on the carriage.

All the parts so far described are of the ordinary well-known construction and for the purpose of this case require no detailed description.

On the floor of the mill, directly under the carriage when in unloading position, I place a friction-roller h . (Shown as supported by bearing-brackets h' , rising from the floor.) The head end of this roller h is provided with a pulley h^2 , engaged by a belt h^3 , receiving motion from any moving part of the machinery below the working floor of the mill. The friction-roller h is thereby kept in constant motion at a proper rate of speed for the purposes had in view.

On the carriage I mount a shaft p , extending lengthwise thereof through pipe-bearings p' , located in the cross-timbers of the carriage-frame. The forward end of the shaft p is provided with a friction-wheel p^2 , which is adapted to be brought into engagement with the friction-roller h whenever so desired. The shaft p is extended outward beyond the friction-wheel p^2 and has its outer end journaled in a pivoted bearing p^3 , supported from a bearing-block p^4 , fixed to a cross-bar p^5 on the frame. The friction-wheel p^2 normally stands out of engagement or away from the friction-roller h ; but the shaft p may be sprung from the outermost pipe-bearing p' sufficiently to permit the wheel p^2 to be thrown into engagement with the roller h . The said shaft is thus sprung, at the will of the operator, through a treadle p^6 and rod p^7 , connecting one arm of the treadle with the pivoted bearing p^3 . The foot-lever or treadle p^6 overreaches the foot-board b^4 of the carriage in proper position for action by the foot of the operator riding on said board. To the said shaft p are fixed arms p^8 . To the said arms p^8 are pivotally secured the inner or lower ends of the kickers p^9 . These kickers p^9 are preferably made in the shape best shown in Figs. 3 and 4, and the outer or upper straight sections of the same work through keeper-levers p^{10} , pivoted to the blocks b^2 , as shown in Figs. 3 and 4.

At some convenient point on the shaft p is fixed a small chain-drum p^{11} . A chain p^{12} has one end attached to the drum p^{11} and the other to a spring p^{13} . The spring p^{13} is connected to a nut p^{14} , engaged by the inner end of a hand-screw p^{15} , which works through a suitable nut-bracket p^{16} , fixed to the outer side bar of the carriage-frame. The purpose

of the said chain, spring, and drum is to rotate the shaft p and the parts connected thereto backward to their normal positions after the same have been rotated outward to actuate the kickers p^9 . On the outward stroke of the kickers the chain p^{12} is wound up on the drum p^{11} , thereby setting the spring p^{13} under tension sufficient to return the said parts to their normal position after the friction-wheel p^2 has been released from the roller h by the removal of the operator's foot from the treadle p^6 . The outward movement of the kickers p^9 is limited by a pair of cooperating stop-lugs p^{17} and p^{18} , located one on the periphery of the wheel p^2 and the other on the cross-bar p^5 and projecting into the path of the member on the wheel, as best shown in Figs. 1 and 4. The purpose of the hand-screw p^{15} is to take up the slack in the chain p^{12} and set the spring p^{13} under any desired tension.

r represents a cant or other piece to be thrown off by the kickers p^9 .

Having regard to the action of the attachments above described, suppose the carriage to be in unloading position, as shown in Fig. 3. The operator then steps on the treadle p^6 , thereby bringing the friction-wheel p^2 into working contact with the constantly-running friction-roller h . Hence the friction-wheel p^2 and the shaft p , to which the same is fixed, will be given a partial revolution in the direction shown by the arrow on the wheel p^2 until intercepted by the cooperating stops p^{17} and p^{18} . By this movement of the friction-wheel p^2 and the shaft p the kickers p^9 will be thrown outward by a quick motion from the position shown in Fig. 3 into the position shown in Fig. 4. Hence the outer ends of the kickers p^9 will strike the cant or other piece r on the carriage, with the effect of forcibly throwing the same off from the carriage onto the live-rollers c in a manner which is obvious from an inspection of Figs. 3 and 4 of the drawings. This unloading action is extremely quick, thereby saving much time and considerable labor as compared with the method hitherto used for doing the same work. As quick as the operator removes his foot from the pedal p^6 the end of the shaft p will spring back into its straight-line position, so as to relieve the friction-wheel p^2 from operative contact with the roller h , and the spring p^{13} will become effective to rotate the shaft p and the parts connected thereto back into their idle or normal position, as shown in Figs. 1 and 3.

By actual usage I have demonstrated the efficiency of the attachment above described for the purpose herein stated.

I believe that I am the first to provide unloading devices of any kind for automatically kicking off the cant or other piece left on the carriage on the return from the saws. The said kickers or unloading devices p^9 may of course receive the necessary motions in many other ways besides the way herein shown. The friction device herein disclosed for op-

erating said kickers p^9 is a very convenient and satisfactory one; but the said kickers may be operated by various other devices, some of which are disclosed in a companion case filed by me of even date herewith (marked C) and entitled "Log-Carriage."

It will also be understood that the kickers p^9 or unloading devices proper might be themselves changed in form to a considerable extent without departing from the principle of the invention.

It should be further noted, in respect to the action of this attachment, that the same operates without stopping the carriage. The friction-roller in the line of travel is of sufficient length to permit the same to be engaged by the friction-wheel on the carriage at any point desired. By actual usage I have demonstrated that the kickers arranged as herein shown will throw off the two last boards from the carriage at any desired point of the travel, or it will roll the cant off the carriage, without stopping the carriage, and will even throw the cant entirely over any boards or slabs last previously delivered onto the live-rollers. The violence of the kick may be varied, at the will of the operator, according to the throw desired.

The term "kicker" or "kickers" as used throughout this specification and in the claims indicates a striking or engaging part having means for propelling it suddenly against the log or cant.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination with a log-carriage and the knees carried thereby, of one or more kickers carried by said carriage for kicking off the cant or other piece from said knees, a power device, and connections from said power device to said kickers, arranged to operate said kickers, at will.

2. The combination with a log-carriage, of one or more kickers carried by said carriage for kicking off the cant or piece from said knees, a power device supported independent of said carriage, and connections from said power device to said kickers or unloading devices, arranged to operate said kickers, at will, regardless of the movement of said carriage.

3. The combination with a log-carriage, of one or more kickers or unloading devices thereon, and a power device, for operating said kickers, comprising a constantly-running friction-roller in the line of travel, a friction-wheel on the carriage, with connections to said kickers, and means for throwing said wheel into contact with said roller, at will, substantially as described.

4. The combination with the log-carriage, of the constantly-running friction-roller in the line of travel, the kickers and their operating rock-shaft on the carriage, the friction-wheel on the shaft, connections for throwing said wheel into working contact with said roller, at will, to operate said kickers,

and a spring for returning said shaft and kickers to their normal positions, substantially as described.

5 5. The combination with a log-carriage, of one or more kicker-plungers carried thereby, mounted for circular movement at their lower ends, and the pivoted guide-keepers through which the outer ends of said kicker-plungers work, substantially as described.

10 6. The combination with the log-carriage and the friction-roller in the line of travel, of the cant-kickers on the carriage, the rock-shaft on said carriage provided with arms connected to said kickers, and having its outer
15 end mounted in a pivoted bearing, a friction-wheel on the outer end section of said shaft, and foot connections on the carriage for springing the said shaft to throw the said wheel into working contact with said roller,
20 substantially as described.

7. The combination with a log-carriage, of the constantly-running roller h , in the line of travel, the rock-shaft p on the carriage, the friction-wheel p^2 on said shaft, the pivoted bearing p^3 for the outer end of said shaft, the
25 foot connections p^6, p^7 to said bearing p^3 , the arms p^8 on the shaft p , the kickers p^9 having their inner ends connected to the arms p^8 , and their outer ends working through the pivoted keepers p^{10} , the drum p^{11} on the shaft
30 p , the chain p^{12} , the spring p^{13} and the parts p^{14}, p^{15}, p^{16} , all arranged and operating, substantially as and for the purposes set forth.

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

CHARLES BODIN.

Witnesses:

JAS. F. WILLIAMSON,
C. F. KILGORE.