

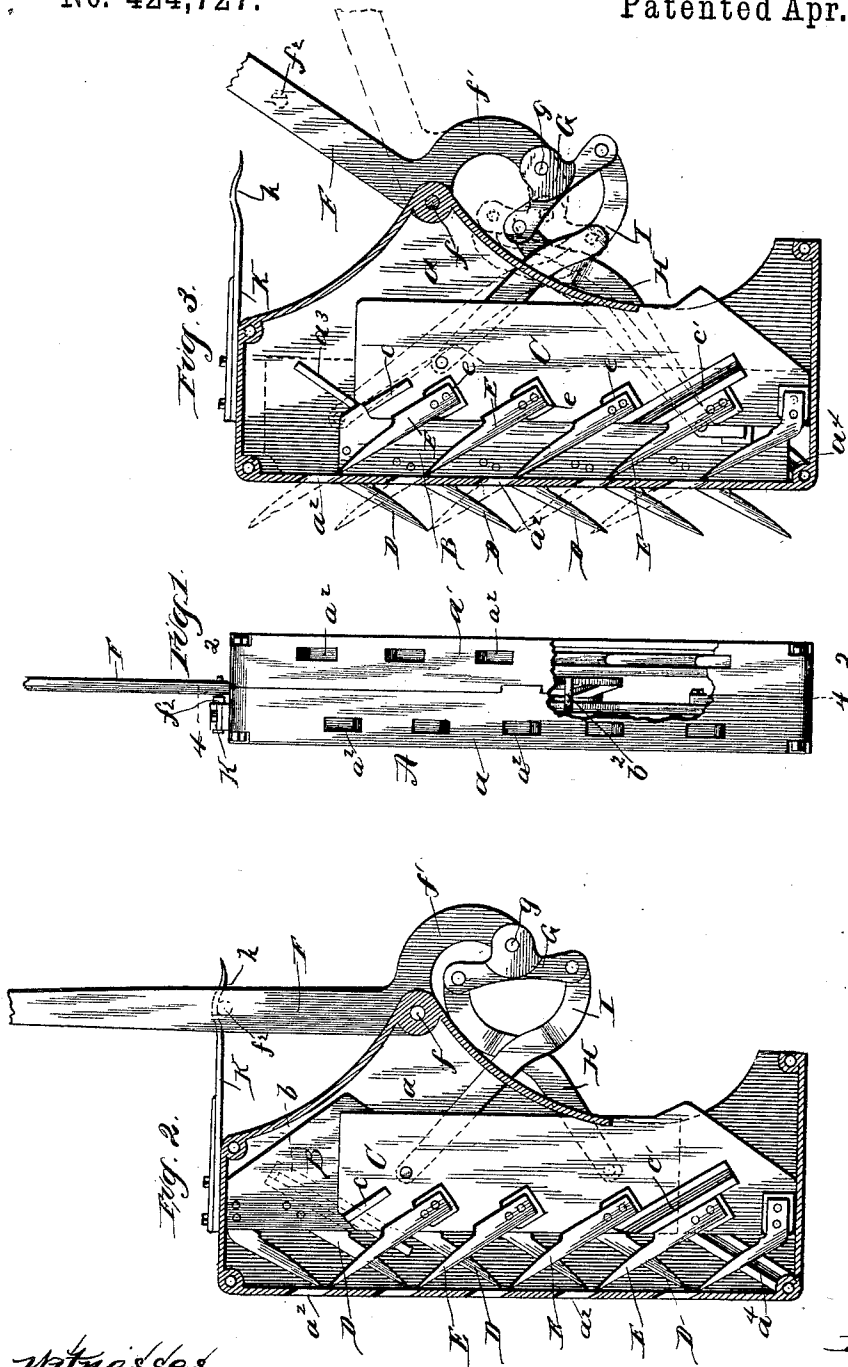
(No Model.)

2 Sheets—Sheet 1.

DE WITT C. PRESCOTT.
SAW MILL DOG.

No. 424,727.

Patented Apr. 1, 1890.



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UNITED STATES PATENT OFFICE.

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SAW-MILL DOG.

SPECIFICATION forming part of Letters Patent No. 424,727, dated April 1, 1890.

Application filed January 31, 1890. Serial No. 338,808. (No model.)

To all whom it may concern:

Be it known that I, DE WITT C. PRESCOTT, a citizen of the United States, residing at Marinette, in the county of Marinette and State of Wisconsin, have invented certain new and useful Improvements in Saw-Mill Dogs, which are fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a front elevation of a dog embodying my improvements, the teeth being drawn within the case and a portion of the latter broken away; Fig. 2, a section of the same, taken on the line 2 2 of Fig. 1, with the teeth drawn into the case; Fig. 3, a similar section on the same line with one set of teeth shown projected in full lines and the second set shown projected in dotted lines, with the corresponding position of the operative parts being also in dotted lines; Fig. 4, a section taken on the meeting line of the two parts of the case indicated by the line 4 4 of Fig. 1, but with the lever and its adjacent parts shown in elevation; Fig. 5, a section the same as Fig. 3, but shown with a portion of a log to illustrate the operation of the dog; Fig. 6, an inside elevation of the right half of the case detached; and Fig. 7, a similar elevation of the left half of the case reversed in position by turning it back from Fig. 6.

My invention relates to that class of saw-mill dogs in which there are two sets of teeth arranged to move in opposite directions, so as to engage with the log both from above and below.

The invention consists in certain equalizing devices whereby the two sets of teeth are connected to the operative lever, so that the movement of the latter projects first one set and then the other.

It also consists in the construction and arrangement of the several parts of the dog, whereby it is made independent of other parts of the log-carriage and can be applied to or detached from the latter at will and in different locations.

I will proceed to describe in detail the construction and operation of a dog in which I have embodied my invention in practical

form, and will then point out definitely in 50
claims the improvements which I believe to be new and wish to protect by Letters Patent.

In the drawings, A represents a case adapted to inclose the dog-teeth and the plates or bars to which they are attached. This case is made 55
in two halves a and a' , the former indicating the right half and the latter the left when standing at the lever behind the dog. These two parts of the case are nicely fitted to each other and are secured together by suitable 60
bolts or nuts, as seen in Fig. 1 of the drawings, and are also provided at their front edges with a series of slots a^2 in each arranged vertically and alternating, as also seen in the same figure. Two plates or wide bars B and 65
C are arranged within the case parallel with each other and the sides of the case. On the inside of the part a of the case there is provided near its upper end an inclined spline or rib a^3 , and near its lower end an inclined 70
groove or channel a^4 , the inclination of each being from the front of the case backward and upward, as seen in Fig. 6 of the drawings. On the outer side of the plate B there are a corresponding inclined groove b and spline b' , the 75
former near the upper end of the plate and the latter near its lower end, which are adapted to engage, respectively, with the spline and groove on the part a of the case just described. On the inside of the part a' of the case there 80
are a like spline a^5 and groove a^6 , reversed, however, in position on the case as compared with those on the part a . The plate C is provided on its outer side with a spline c and groove c' , adapted to engage, respectively, 85
with the inclined groove and spline on the inside of the part a' of the case. It will be seen, however, that the arrangement of these devices is the reverse of that upon the case part a and plate B—that is, the inclination of the 90
groove and spline on the case part a' is downward and rearward from the front, and the spline and groove on the plate C correspond thereto. On the inside of one or the other of these plates is a short stud, which acts as a 95
bearing-post and keeps the plates at the proper distance apart. In the drawings this is shown as on the plate B, and is indicated by the let-

ter b^2 in Fig. 4 of the drawings. It makes no difference, however, on which of the plates it is arranged. A series of teeth D are fastened to the outer side of the plate B and a corresponding series E to the outer side of the plate C. These teeth are fastened to their respective plates by means of a series of shallow sockets d and e , arranged upon the outer faces of the plates and close up to the front edges thereof. These sockets are inclined, the inclination of those on the plate B being downward and on the plate C upward, as seen in the drawings. The shanks of the teeth are adapted to fit these sockets and are firmly secured to the plates by rivets or any other suitable device. The arrangement of these parts is such that when the plates are mounted within the case and pushed back as far as possible to the rear thereof, as seen in Fig. 2 of the drawings, the teeth will also be within the case and will stand with the points of the teeth D just opposite the series of slots a^2 in the front of the case part a , while the teeth E will stand in the corresponding relation to the series of slots in the case part a' , the former inclined downward and the latter upward, as seen in said Fig. 2. Now these teeth-plates are free to move on their inclined guides within the case, and it is evident that if force is applied to them to move them outward toward the front of the case the plate B will move outward and downward and the plate C outward and upward, which movements will of course carry the teeth on the respective plates with the latter and so will project the teeth D out through their respective slots and at the same time downward, while the teeth E will be thrust outward through their slots and at the same time upward, the two series of teeth crossing each other in different planes, as seen in the drawings.

It is desirable in this kind of dog to have the dogging movement of the two sets of teeth successive, the movement of the downwardly-inclined teeth being first and the movement of those upwardly-inclined succeeding when the first meet with resistance by coming in contact with the log.

I will now describe the peculiar means by which the teeth-plates are connected to the actuating-lever, whereby I secure the operation just mentioned. A hand-lever F is pivoted to the rear portion of the case, the latter being preferably extended backward somewhat at this point to provide for the attachment of the lever at a sufficient distance in the rear to afford room for the working of the connection devices. The lever is arranged centrally of the case and its pivot-bolt f passes across the case from side to side. This lever has a bent or curved extension f' , projecting rearward and downward from the pivotal point, and to its extremity there is pivoted a short equalizing-bar G, whose pivot g is arranged midway of its length. A link-bar H is pivoted at one end to the upper end

of the equalizing-bar G, and at its other end to the tooth-plate B near its lower end, as seen in Fig. 4 of the drawings, and a similar link-bar I is pivoted at one end to the lower end of said equalizing-bar and at its other end to the tooth-plate C, near the upper end thereof, as seen in Fig. 2 of the drawings. The rear of the case is cut out or slotted to permit these link-bars to be extended inward to the teeth-bars and attached thereto, as described, the points of attachment being preferably on the inside of said plates. As shown in the drawings, the bent end of the actuating-lever and the equalizing-bar are outside of the case, this being a convenient arrangement for attachment.

On the upper end of the case is a spring-stop K, which is fastened to the case and extends rearward therefrom, as shown in Fig. 2 of the drawings, its outer end being free and provided with a slight upward bend k , arranged over the pivot of the lever F. A pin f^2 is provided on one side of this lever in a position to pass under the stop and engage with the bend therein when the lever is thrown up in a perpendicular position, as seen in Fig. 2 of the drawings, so that the lever is held in this position whenever it is adjusted thereto.

The operation of these devices is as follows: The case is bolted or otherwise fastened to the standard or knee as they are found upon the log-carriages of saw-mills; or it may be secured upon one of the blocks or any other suitable support on the carriage, and in such location as may be desired. The lever is thrown up in a perpendicular position and held by the stop, as seen in Fig. 2 of the drawings, and the teeth will then be within the case. When the log L is placed in proper position on the carriage, the lever F is thrown backward, as seen in Fig. 3 of the drawings. Now the teeth-plates move so easily upon their guides that gravity alone is almost sufficient to cause the plate B to slide downward and forward when there is no resistance, but gravity acts upon the plate C in opposition to its upward movement, and so of course, there being no outside resistance, the movement of the tooth-plate B is attended with much less resistance than the movement of the corresponding plate C. This first movement of the lever, as specified above, will therefore act on the plate B only, the equalizing-bar turning on its pivot as the bent end of the lever is thrown inward, something as shown in full lines in Fig. 3 of the drawings, the upper end of said bar also turning inward, and thereby thrusting the link-bar H forward, and moving the plate B forward and downward, thereby thrusting the teeth D outward and downward at the front of the case. These teeth will of course soon come in contact with the log, when the resistance to their further movement is greatly increased and becomes greater than the resistance to the upward movement of the other plate C. This resist-

ance will be thrown back upon the upper end of the equalizing-bar as the backward and downward movement of the lever F is continued, and this vibration of the equalizing-bar immediately thrusts forward the link-bar I, thereby moving the tooth-plate C forward and upward and thrusting its teeth outward and upward at the front of the case, something as shown in dotted lines in Fig. 3 of the drawings. The upwardly-projecting teeth will of course soon come in contact with the log, and the resistance will soon be equalized upon the two plates, when the further movement of the actuating-lever will thrust forward both sets of teeth in their respective directions into the log in opposite directions, as seen in Fig. 5 of the drawings, thereby securely dogging the log to the carriage. With these devices thus operating it is obvious that not only do I secure the successive movement of the dogging-teeth, which is desirable, but also equalize the force brought to bear upon each set to cause them to enter the log, so that both sets of teeth may be forced into the log to hold it in place, and there will be no undue strain upon either set. This dog is also complete in itself, being entirely independent of the standard or any other of the usual parts of the carriage. It must have some suitable support on the carriage, to which it may be properly fastened, but this is all that is required, and the dog may be attached to any carriage, so that I am able to provide this desirable device for carriages in use which are not already provided with anything of the kind.

Modifications may be made in the details of construction which have been described above and are shown in the drawings with-

out losing the characteristics of my invention; hence I do not wish to be understood as limiting myself to the precise construction herein shown in all its details.

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

1. In a saw-mill dog, the teeth-plates B and C, mounted on inclined guides, in combination with an actuating-lever F, equalizing-bar G, pivoted to the inner end of said lever, and the link-bars H and I, connected, respectively, to the teeth-plates and the opposite ends of the equalizing-bar, substantially as and for the purposes specified.

2. In a saw-mill dog, an independent case, in combination with the teeth-plates inclosed within said case and mounted on guides thereon inclined in opposite directions, an actuating-lever, and an equalizing-bar pivoted to said lever and connected to the respective teeth-plates, substantially as and for the purposes specified.

3. In a saw-mill dog, the independent case A, composed of two substantially equal parts *a a'*, in combination with the teeth-plates B and C, mounted on guides within said case, one set inclined forward and upward and the other forward and downward, the actuating-lever F, the equalizing-bar G, pivoted to said lever, and the link-bars H and I, connecting the respective ends of the equalizing-bar to the respective teeth-plates, substantially as and for the purposes specified.

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Witnesses:

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