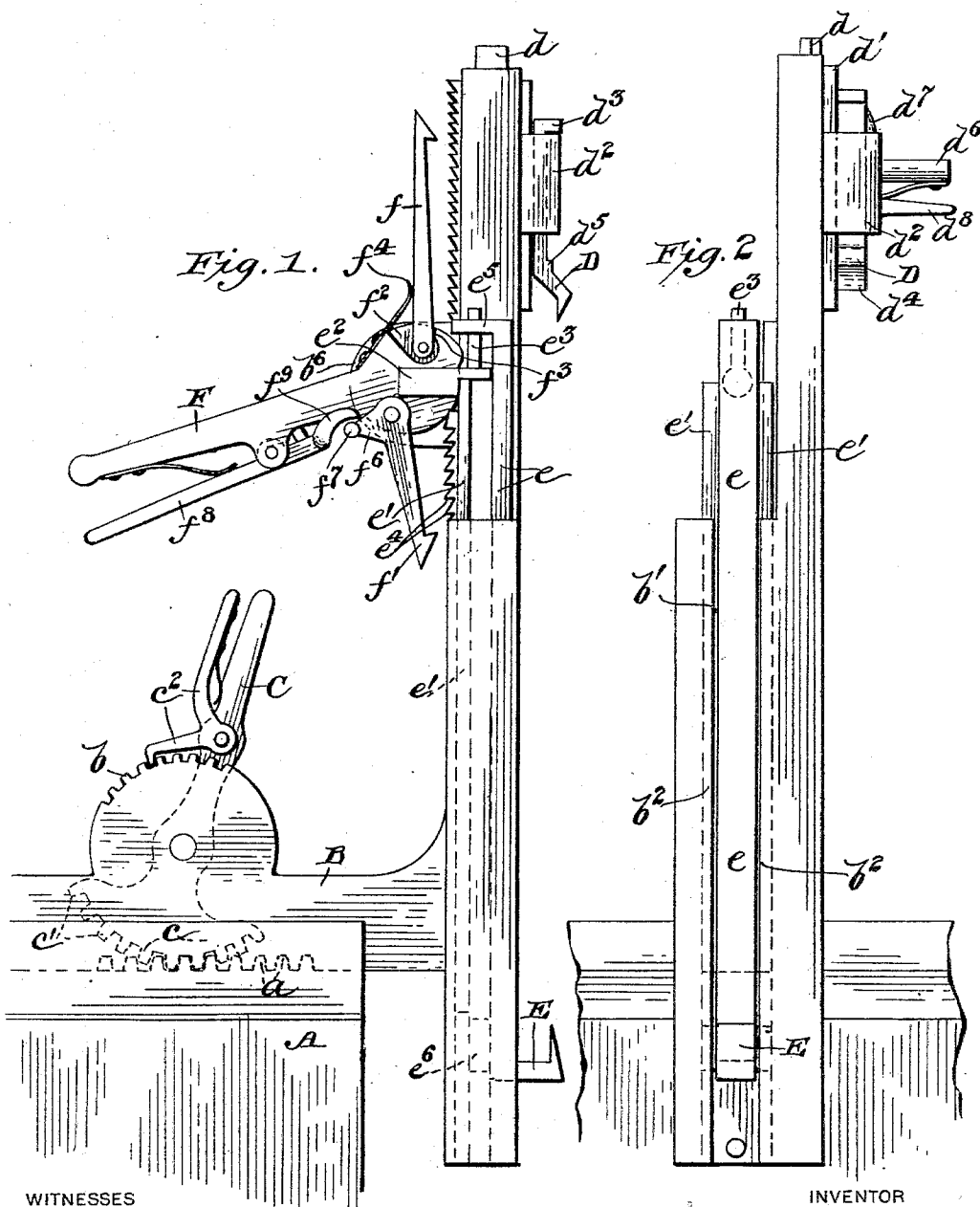


A. M. BEARD.
SAWMILL DOG.

No. 562,700.

Patented June 23, 1896.



WITNESSES

E. J. Leverance.
W. Harry Muzzey.

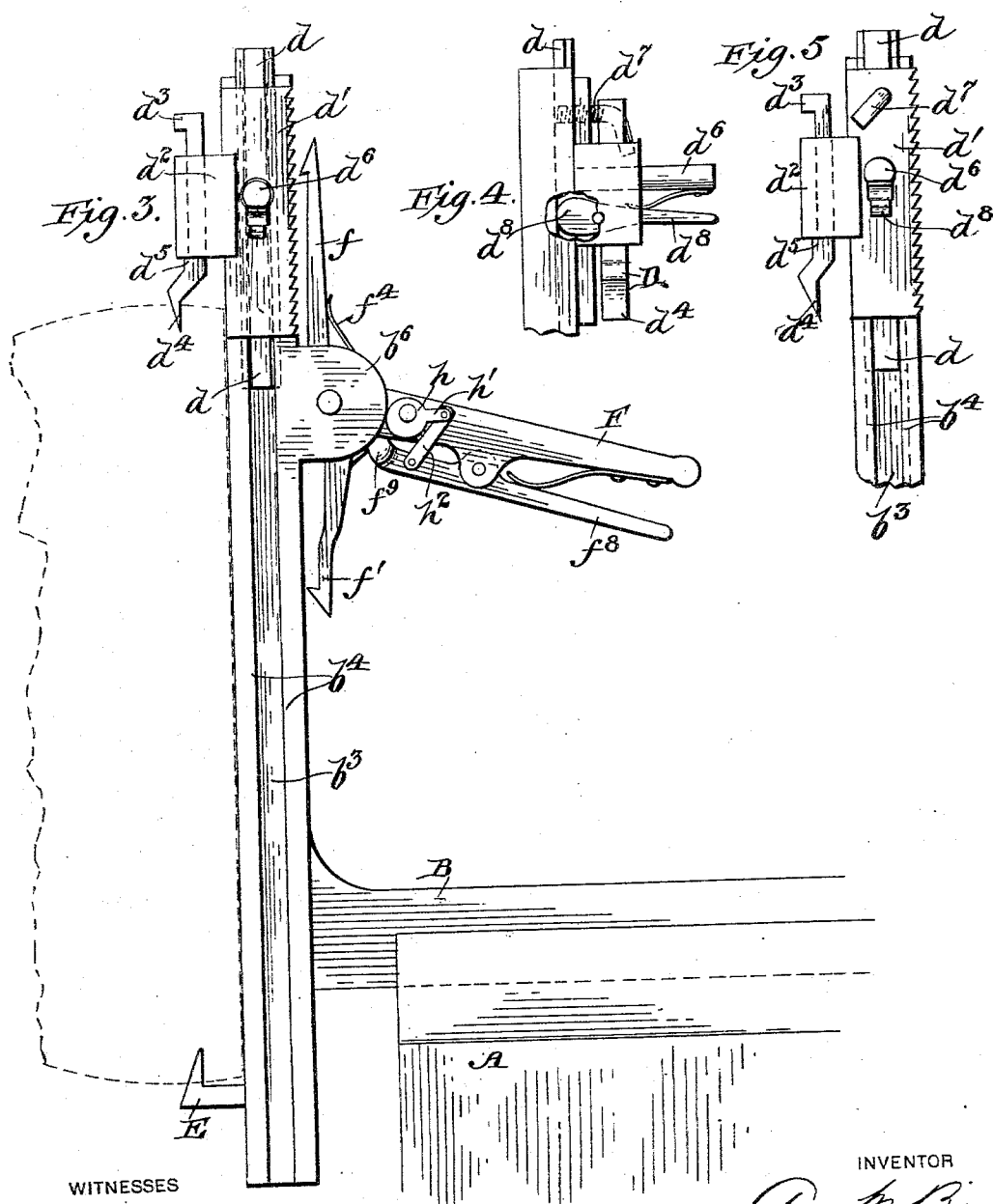
INVENTOR

A. M. Beard
by his atty
Wm. Patrick Plummer

A. M. BEARD.
SAWMILL DOG.

No. 562,700.

Patented June 23, 1896.



WITNESSES

Severance.
 W. Harvey Muzzey.

INVENTOR

Asa M Beard
by his Atty
Mam Frank James

UNITED STATES PATENT OFFICE.

ASA M. BEARD, OF NEW BOSTON, NEW HAMPSHIRE.

SAWMILL-DOG.

SPECIFICATION forming part of Letters Patent No. 562,700, dated June 23, 1896.

Application filed December 11, 1895. Serial No. 571,764. (No model.)

To all whom it may concern:

Be it known that I, ASA M. BEARD, a citizen of the United States, residing at New Boston, in the county of Hillsborough and State of New Hampshire, have invented certain new and useful Improvements in Sawmill-Dogs; 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 improvements in sawmill dogs or clamps; and the invention consists of the combination of a mill-carriage, a clamp mounted thereon and comprising a frame, slides mounted therein and provided with log-engaging dogs, and means for drawing said slides together, whereby the said dogs are pulled toward each other and clamp the log firmly between them.

It also consists of certain other novel constructions, combinations, and arrangements of parts, all of which will be hereinafter more particularly set forth and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 represents a side elevation of the devices embodying my invention. Fig. 2 represents a front elevation of the same. Fig. 3 represents a side elevation of said devices, taken on the opposite side from that illustrated in Fig. 1. Fig. 4 represents a detail front elevation, partly broken away, of the upper portion of said devices; and Fig. 5 represents a side elevation of the said devices shown in Fig. 4.

A in the drawings represents the mill-carriage; B, the dog-frame movably mounted thereon; C, the adjusting-lever for said frame; D, the upper log-hook, and E the lower.

The carriage A is of any suitable construction and is provided with a suitable guiding-groove in which the frame B is adapted to slide, the bottom of said groove being provided with a rack *a*, which is adapted to be engaged by the pivoted lever C. This lever is pivoted on the frame B, and is provided with a segmental head *c*, having a rack-periphery *c'*, which engages the rack *a*. The said lever C is also provided with a pivoted spring-pressed pawl *c''*, which engages the teeth of a segmental rack *b*, formed on a portion of the frame B.

It will be seen from the foregoing that the

frame B can be moved forward or backward on the carriage and locked in such adjusted position.

The upright portion of the frame B is provided with a vertical groove *b'*, in which the slides *e e'* operate. The slide *e'* is provided at its upper end with a horizontal handle *e''*, a vertical stud *e'''*, and a rack *e''''*, the latter projecting through a slot in the bottom of the groove *b'*. The slide *e* is mounted in front of the slide *e'* and is provided at its upper end with an apertured arm *e''''*, which fits over the stud *e'''*, and thus guides the upper end of said slide. The lower end of the slide is formed with the hook E, which projects outward in front of the frame B, so as to conveniently engage and firmly hold the log in front of said frame B. A block *e''''* is attached to the lower end of the slide *e* and takes under the overhanging edges *b''* of the groove *b'*.

A vertical groove *b''* is formed in one side of the vertical portion of the frame B to accommodate the slide *d*, which is adapted to move vertically therein, but be confined against lateral movement by the overhanging flanges *b'''* of said groove. This slide *d* is provided with a rack-plate *d'* and a housing *d''* for the independently-movable dog or hook D. Said dog is loosely mounted in said housing and is provided with a head *d'''*, a penetrating-point *d''''*, and an offset or shoulder *d'''''*. When the dog is in its normal position, the head *d'''* rests upon the housing *d''*, but when in use the offset or shoulder *d'''''* abuts against the under side of the said housing *d''*, and thus prevents any further upward movement of the dog.

The slide *d* is provided with an operating-handle *d''''*, a binding-screw *d'''''*, and a spring-pressed friction cam-lever *d''''''*. The screw *d'''''* has a suitable operating-handle and passes through the rack-plate *d'* and the slide *d* and binds on the bottom of the groove *b''*, thereby locking said slide rigidly in position when so desired, as is sometimes the case, when the top of the log is to be held after the bottom hook or dog has been cast off. The cam-lever *d''''''* is for a similar purpose, but is automatic in its action. Said cam is pivoted on the rack-plate and passes through the same and the slide and engages the bottom of the groove *b''*. When the handle *d''''* is gripped to push the slide either up or down, the cam-lever is also operated by the hand to free the same from the

bottom of the groove b^8 , and when said lever is released its operating-spring throws its cam-face into engagement with the bottom of said groove and then holds the slide firmly in position.

5 A pawl-operating lever F is pivotally mounted on a projection b^6 of the frame B and is provided with a pawl f , pivoted in a recess f^2 in said lever and adapted to be forced forward against a nose f^3 in said recess by a spring f^4 . Said pawl is adapted to engage the rack d' when the dog D is to be operated. A pawl f' is also pivoted on said lever F and is adapted to engage the rack e^4 . This latter
15 pawl is provided with an angular extension f^6 , having a laterally-projecting stud f^7 . The pawls f and f' are pivoted on opposite sides of the pivot-point of the lever F, so that any movement of said lever will raise the one and lower the other. A spring-pressed lever f^8 is pivoted on the lever F and has a segmental nose f^9 , which is adapted to engage the stud f^4 when said lever f^8 is operated, and thus force the pawl f' into engagement with the
25 rack e^4 . Said pawl f' is held normally out of engagement with said rack by its own weight. A cam h is mounted on the lever F, so as to engage the periphery of the projection b^6 . This cam is provided with an operating-lever h' , the outer end of which is connected to the lever F by a pivoted link h^2 .

When the flat side of the log is placed against the frame B, the dog E is pulled upward until it engages said log, by the handle
35 e^2 . The dog D is pulled downward by the handle d^6 . The lever F is now raised, which forces the pawls f and f' into engagement with their respective racks. The continued upward movement of said lever F draws the rack
40 e^4 upward and the rack d' downward, as before described, and the dogs are forced firmly into the log and hold it securely in position. As the lever F is raised the lever f^8 is also operated, which forces the cam h against the periphery of the projection b^6 , and thus when
45 the lever is released the said cam holds it securely in place, as any downward movement of said lever only tends to jam the cam more tightly against said projection.

50 When the pawls are to be released to loosen the log, the lever F is given a quick upward movement without touching the lever f^8 , which results in the cam being rotated so that it will not bind and prevent the descent of the lever
55 F and the releasing of the two pawls f and f' from their respective racks. The handle d^6 is now raised quickly, which results in the housing d^2 engaging the head d^3 of the dog D and thus acts with a hammer stroke to disengage its point d^4 from the log.

60 The cam h is so disposed in relation to the part b^6 that it will not bind with sufficient force against said portion b^6 upon the upward movement of the lever F to prevent said upward movement, but will immediately bind
65 upon any downward movement of the lever by the rotation of the cam on its pivot.

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

70 1. The combination of a sawmill-carriage, a clamp mounted thereon and comprising a frame, slides mounted side by side therein and provided with log-engaging dogs and rack-teeth reversely arranged, and a pivoted lever
75 carrying pawls pivotally attached thereto and extending respectively up and down and adapted to engage said racks respectively, whereby the said dogs are pulled toward each other and clamp the log firmly between them,
80 substantially as described.

2. The combination of a sawmill-carriage, a clamp mounted thereon and comprising a frame, slides mounted therein and provided with racks, dogs loosely mounted on said
85 slides so as to be vertically movable independent of the same and a pivoted lever carrying pawls pivotally attached thereto and extending respectively up and down and adapted to engage said racks respectively,
90 whereby said dogs are pulled toward each other and clamp the log firmly between them, substantially as described.

3. The combination of a sawmill-carriage, a clamp adjustably mounted thereon and
95 comprising a frame, slides mounted therein and provided with racks, dogs mounted on said slides, and a pivoted lever carrying pawls pivotally attached thereto and extending respectively up and down and adapted to en-
100 gage said racks respectively, whereby the said dogs are pulled toward each other, a cam mounted on said pivoted lever and means for operating said cam, whereby it is forced into
105 engagement with a portion of said frame thus holding said lever stationary, substantially as described.

4. The combination of a sawmill-carriage, a clamp mounted thereon and comprising a frame, slides mounted therein, dogs mounted
110 on said slides, means for drawing said slides together and holding them so, and means for locking one of said slides to said frame independent of the other, substantially as described.
115

5. The combination of a sawmill-carriage, a clamp mounted thereon and comprising a frame, slides mounted therein and provided with log-engaging dogs and racks; and a pivoted lever carrying pawls pivotally attached
120 thereto and extending respectively up and down and adapted to engage said racks respectively, whereby the said dogs are pulled toward each other and a cam mounted on said lever and adapted to automatically lock the
125 same in its adjusted positions, substantially as described.

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

ASA M. BEARD.

Witnesses:

R. T. SMITH,
P. A. KENDALL.