(No Model.)

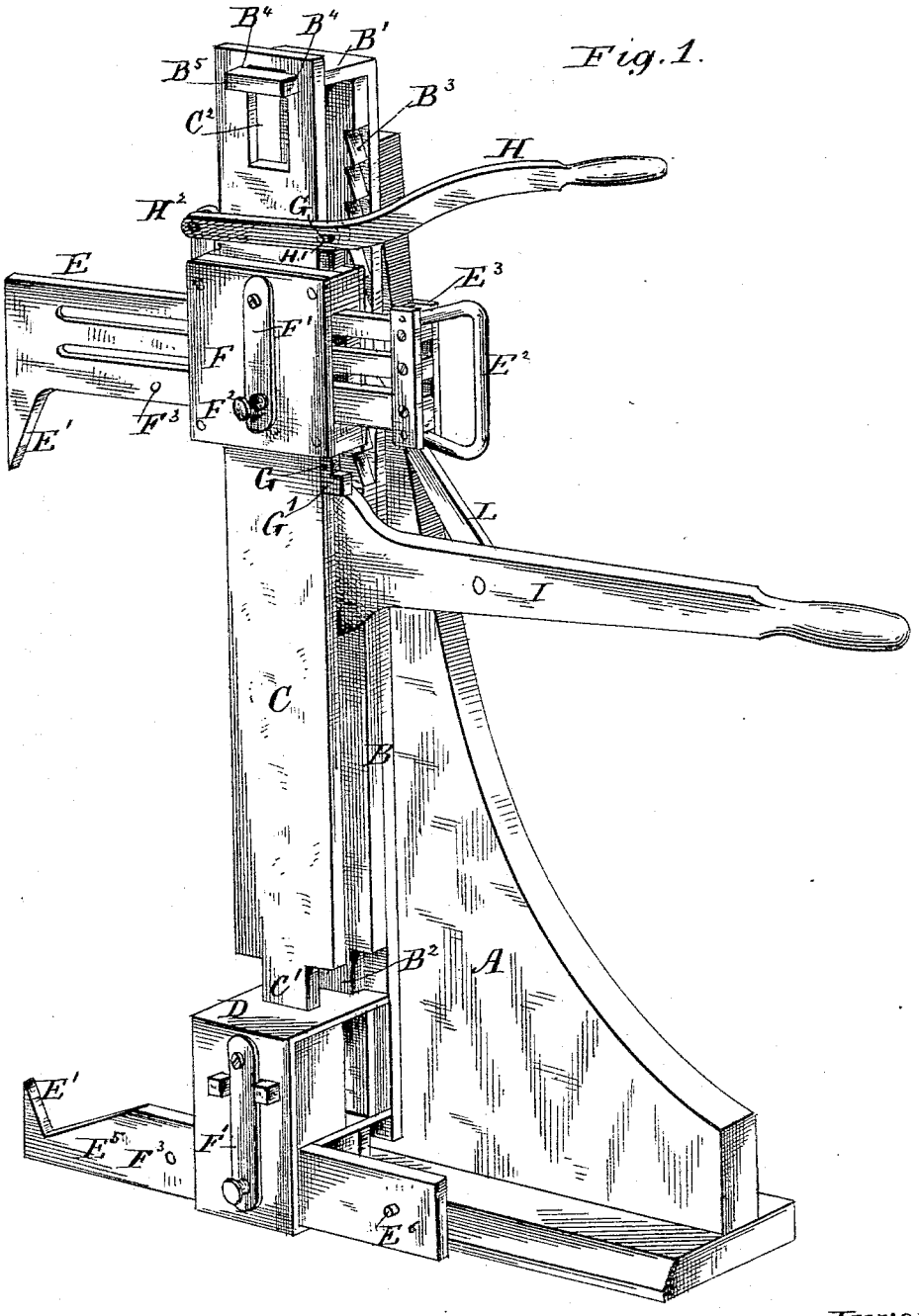
2 Sheets—Sheet 1.

J. ACKERMAN.

SAW MILL DOG.

No. 303,967. Patented Aug. 26, 1884.

Fig. 1.



Witnesses:
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W. B. Masson

Inventor
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atty

(No Model.) 2 Sheets—Sheet 2.

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Fig. 6.

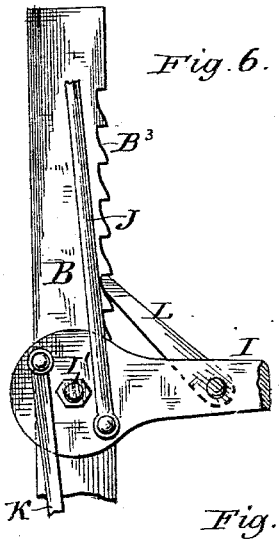

Fig. 4

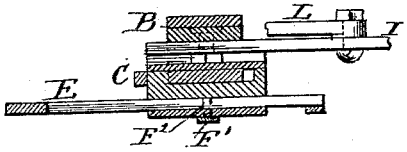

Fig. 5.

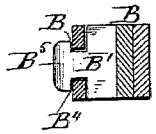

Fig. 2.

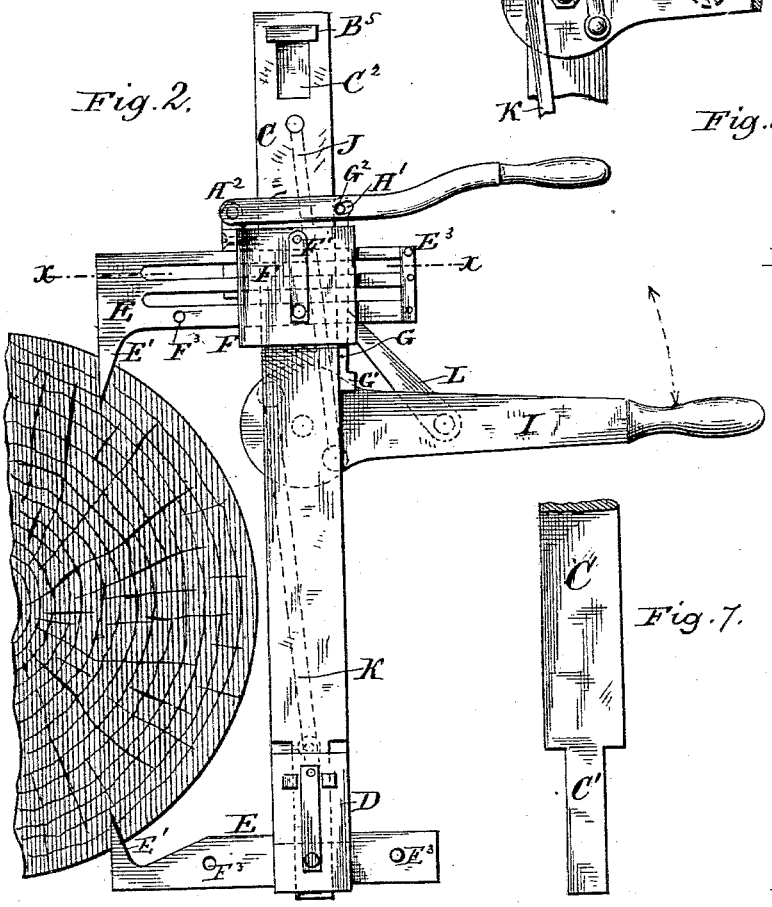

Fig. 3.

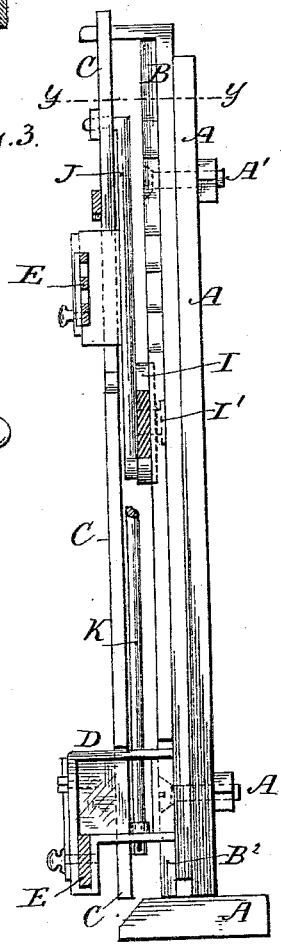

Fig. 7.

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UNITED STATES PATENT OFFICE.

JOHN ACKERMAN, OF COLUMBUS, OHIO.

SAW-MILL DOG.

SPECIFICATION forming part of Letters Patent No. 303,967, dated August 26, 1884.

Application filed May 15, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN ACKERMAN, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Saw-Mill Dogs, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of this invention is to provide means whereby the upper and lower claws of a mill-dog may be simultaneously reciprocated in opposite directions through the operation of a single lever, thereby avoiding the independent adjustment of each of said claws, as is necessary in many of the constructions heretofore employed. Further objects and advantages will appear in the following description, and the novel features thereof will be specifically set forth in the claims.

Referring to the drawings, Figure 1 is a perspective of a mill-dog constructed in accordance with my invention. Fig. 2 is a side elevation of the same; Fig. 3, an edge view of the same with portions in section. Fig. 4 is a horizontal section on the line *x x* of Fig. 2. Fig. 5 is a horizontal section on the line *y y* of Fig. 3. Figs. 6 and 7 are details, hereinafter described.

Like letters refer to like parts in all the figures.

A represents a standard secured in any suitable manner upon the log-carriage of a saw-mill, and may be similar in all respects to the usual standards to which dogs are usually secured.

B represents a base-plate, foundation, or standard of the dog proper, which, by means of screws or bolts A′, (see Fig. 3,) is secured to the standard A. The standard B is provided at its upper end with a stud, B′, projecting at a right angle therefrom, and is adapted, as hereinafter described, to support a reciprocative claw-carrying plate, C.

At the lower end of the standard B is provided a dovetailed tenon, B^2, adapted to receive a similarly-mortised lower claw-carrying block, D. Ratchet-teeth B^3 are also formed on one edge of the standard, as shown. In the present instance the standard is formed of two pieces, in order to facilitate the formation of the various parts, as described; but it is apparent that it may be formed of one piece of cast or wrought metal. The lower end of the upper claw-carrying plate, C, is tenoned, as at C′, to enter a mortise formed in the block D, while its upper end (see Figs. 1, 2, 3, and 5) is slotted, as at C^2, to embrace the projection B′ of the standard, so that a bearing is formed for the plate C on said projection. The connection of the plate C and the standard at its upper end may be varied to agree with the judgment of any person skilled in the construction of similar devices; but in this instance the said projection is slotted at each of its edges, as at B^4, (see Fig. 5,) so as to form a bearing for the plate C. The projection is also shaped to produce a T-head, B^5, which retains the plate in proper position upon the projection to insure a true movement of the plate when it is reciprocated, as hereinafter described. The upper claw comprises a plate, E, having a downwardly-projecting spur, E′, at the end thereof. The plate is mounted in a block, F, which is mortised vertically to embrace the plate C, and transversely to receive the main portion of the claw. Upon the face of the block F is a spring, F′, having on its inner surface a projecting pin, F^2, (see Fig. 4,) adapted to enter holes F^3, formed in the body of the claw. Now, it will be seen that by raising the spring F′, withdrawing its pin from the hole in the claw-bar, the latter, by any suitable means, either the end of the bar or any suitable handle, as E^2, secured thereto, may be reciprocated horizontally within the block and the plate C. A substantially similar construction is employed in case of the lower claw, E^5, a pin, E^6, taking the place of cleats E^3 on the upper claw, to serve the function of preventing withdrawal of the claws from their blocks.

Within a vertical mortise of the block of the upper claw, and arranged at the edge of the plate C, is a wedge, G, having at its lower end a lateral projection or stop, G′, and at the upper end a pin, G^2, which projects into a slot, H′, in the lever H, which is pivoted at H^2 to the block. Now, it will be seen that when the free end of the lever H is depressed, the wedge serves to bind the block upon the plate C, and

when the lever H is elevated at its free end the wedge is drawn upwardly until the stop G′ strikes the bottom of the block, and by means of the lever the reciprocation of the block on the plate C may be effected and determined in its limit and direction. By lifting the lever, withdrawing the wedge, and bringing the stop against the block, the claw and block-lever and wedge are all simultaneously elevated, being connected to each other as described, whereas by lifting upon the lever with sufficient force to raise the wedge only and maintain it in a raised position the weight of the block and claw carries it down the plate, and when it has arrived at any desired point thereon a sudden pressure upon the lever H drives the wedge home and binds the block firmly in position. By this construction I am enabled to independently control the relative location of the claws with each other and determine the distance between them, so that they are adapted for use upon logs of various diameters. By the lateral adjustment provided the claws are also adapted to logs of various diameters, both before and after they have been slabbed, so that the last cut on the log may be as firmly held as the first. It now remains to provide for forcibly removing the claws, after the upper one has been adjusted, toward each other to embed their spurs in the log. This I accomplish also through the medium of a single lever. The lever I is pivoted at I′ to the standard B, and to relieve the bolt which serves as its pivot from undue strains and to give the parts strength I form the pivot end of the lever as a disk, and set it in a corresponding recess in the standard B, whereby the strain upon the lever is resisted by the bearing of the edge of the disk against the walls of said recess. (See dotted lines, Fig. 3.)

At points diametrically opposite the pivot I′, I attach rods J and K, the former extending upwardly and pivotally attached to the plate C, and the latter projecting downwardly and secured to the block D. The pawl L is pivoted to the lever I, and is adapted to operate in connection with the ratchet B^3, so as to hold the lever in position when its free end is depressed, as hereinafter described. Now, it will be seen that when the free end of the lever I is elevated, the rod J′ is elevated, and carries with it the plate C, which carries the upper dog, E, while at the same time, and by the same movement of the free end of the lever I, the lower rod, K, depresses the dog-block D, carrying the lower claw of the dog, so that by elevating the free end of the lever I the claws are separated from each other, and by depressing said free end said claws are brought toward each other.

The operation of the invention has been substantially set forth in the preceding description, and it will be clearly understood that the lever H is operated only to adjust the claws in relation to the distance between them to any log which is to be held up by the dog, and to logs varying in diameter to any extent within the limit of the movement caused in the claws by the lever I, as described. In other words, adjustment of the upper claw is required only when one log succeeds another and varies more in diameter, either from within the distances which the claws may be moved by means of the lever I alone. This distance depends merely upon the particular proportions of the parts, the diameter of the disk end of the lever I and the length of the bearings of the reciprocative parts. Practically a reciprocation of three inches is sufficient to separate the claws, elevate the upper and depress the lower dogs, so that they shall be free from contact with the log as it is rolled upon the carriage, and shall be presented squarely above and below the same at the time of embedding their spurs into it. After that is done the pawl L serves to hold the parts in a locked and firm position.

Having thus described my invention, what I claim is—

1. The combination of a main standard provided with bearings at its upper and lower ends, a claw mounted in a block, adapted to ride the lower bearing, a plate adapted to ride the upper bearing and the lower block, and carrying an upper claw, and intermittent lever with connecting-rods secured to the plate and lower block, respectively, substantially as specified.

2. In a saw-mill dog, the combination of a vertical plate, a block adapted to slide thereon, a wedge arranged between the block and plate and provided with a stop, and a lever pivoted to the block and pivotally connected to the wedge, substantially as specified.

3. In a saw-mill dog, a standard, a lever pivoted to the standard, a block riding said standard and connected with said lever, a plate reciprocating upon said standard and within said block, and a rod connecting said plate with said lever, the block and said lever being adapted to carry claws, substantially as specified.

4. In a saw-mill dog, the combination of a plate, a claw-block mounted reciprocatively thereon, a vertically-reciprocating wedge and a lever connected with said block, in combination with a lever adapted by suitable connecting devices to reciprocate said plate, substantially as specified.

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

JOHN ACKERMAN.

Witnesses:
JOHN R. BOWDLE,
AD. MITCHELL.