

H. S. MINOR.
 OFFSET FOR SAWMILL CARRIAGES.
 APPLICATION FILED JULY 27, 1908.

950,183.

Patented Feb. 22, 1910.
 2 SHEETS—SHEET 1.

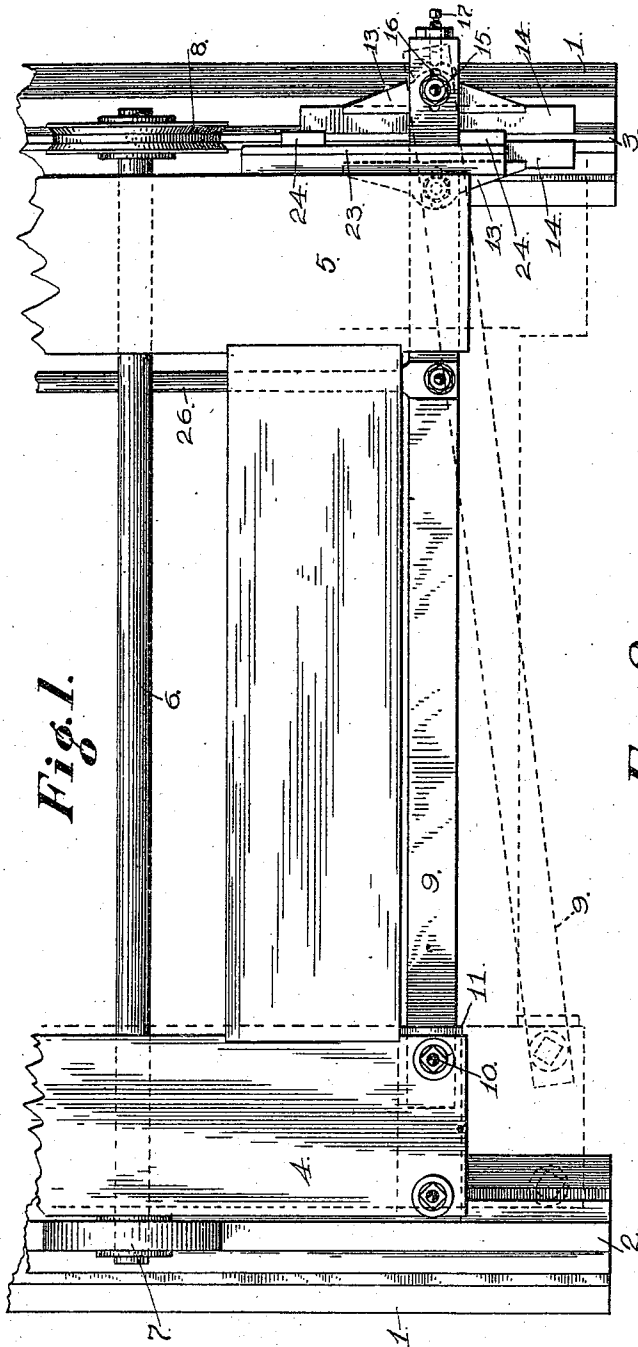


Fig. 1.

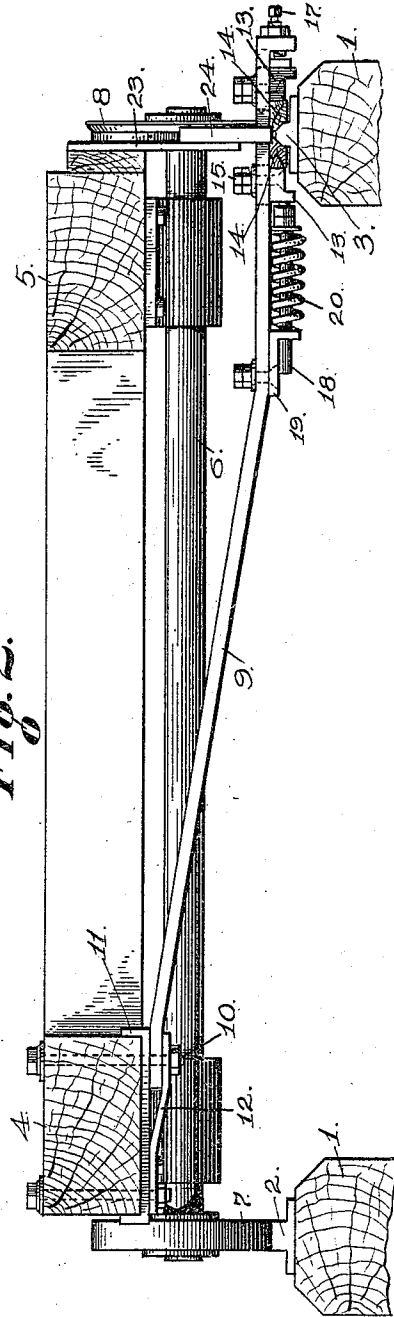


Fig. 2.

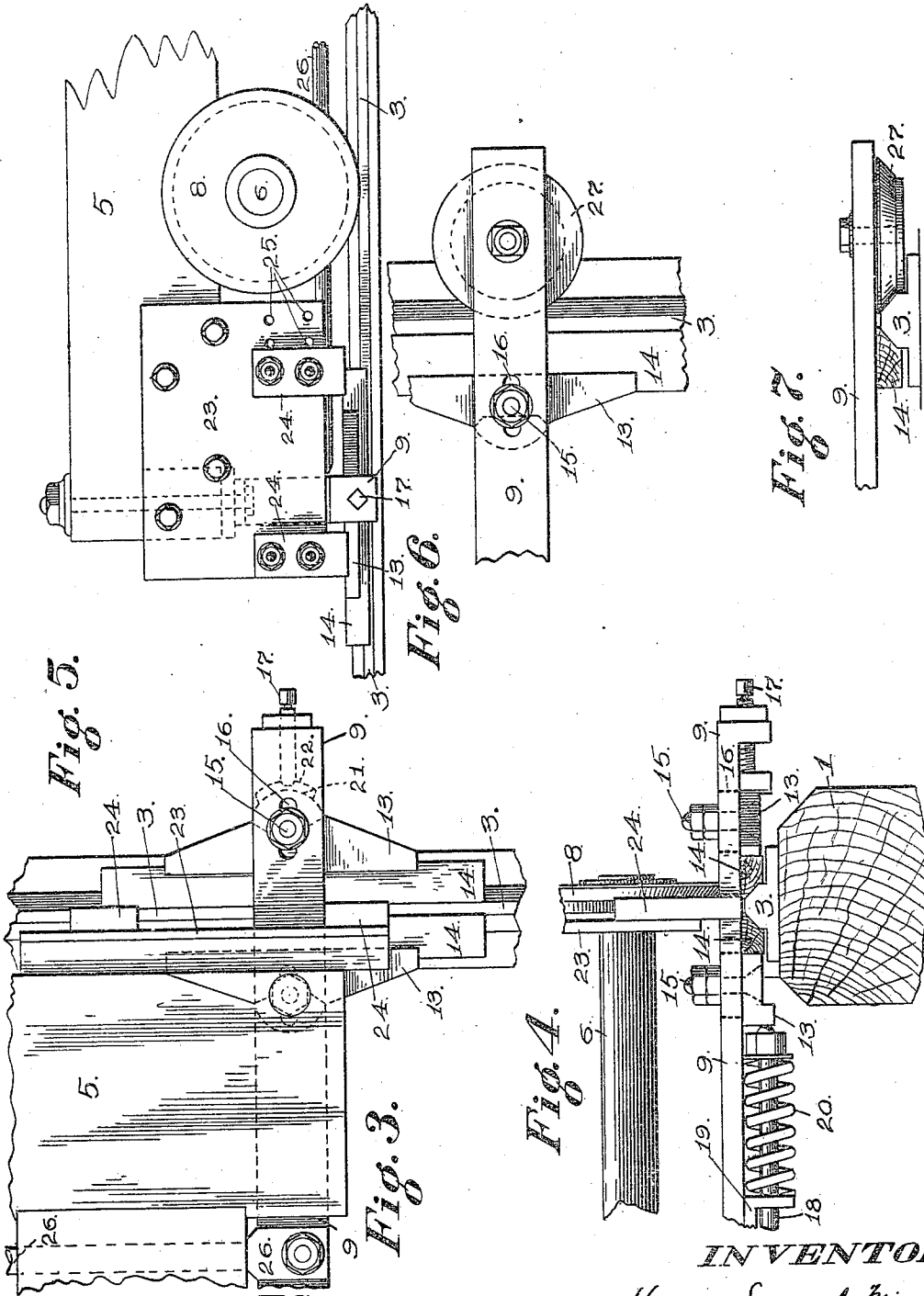
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UNITED STATES PATENT OFFICE.

HENRY SAMUEL MINOR, OF BAKERSFIELD, CALIFORNIA.

OFFSET FOR SAWMILL-CARRIAGES.

950,183.

Specification of Letters Patent.

Patented Feb. 22, 1910.

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To all whom it may concern:

Be it known that I, HENRY SAMUEL MINOR, a citizen of the United States, residing at Bakersfield, in the county of Kern and State of California, have invented certain new and useful Improvements in Offsets for Sawmill-Carriages, of which the following is a specification.

My invention relates to the class of offset mechanisms for saw-mill carriages, by which the carriage and log are moved a short distance away from the saw when "gigging back," and are returned to their original position when "feeding."

The carriage must be held rigidly in position at all times, particularly when feeding, so that any point will move in the same straight line when moving in the same direction. The operation of moving the carriage away from the saw should be accomplished as quickly, or in as short travel as possible, and it should be returned in the same manner. The saw should not touch the log until after the carriage has completely regained its position and is moving in a straight line toward the saw. These are the essentials of an offset mechanism, and to attain them and other desirable results, which I shall hereinafter fully point out, is the object of my invention, which consists in the novel constructions, arrangements and combinations hereinafter fully described.

Referring to the accompanying drawings, Figure 1 is a plan view of one end of the saw-mill carriage, showing the application thereto of the offset mechanism. Fig. 2 is an end view of the same. Fig. 3 is a plan view, enlarged, of the friction end of the offset-lever. Fig. 4 is an end view, enlarged, of the same. Fig. 5 is a side view of the same. Fig. 6 is a plan view showing a modification of the outer clamp. Fig. 7 is an end view of the same.

1 are stringers upon which are laid the inner rail 2 and the outer or guide-rail 3 of the carriage track.

The carriage comprises a front timber 4, an outer timber 5, and suitable cross connections.

6 is one of the axles of the carriage, 7 one of the inner wheels, and 8 one of the outer wheels.

The carriage is so mounted, as usual, that it may move sidewise to effect its offset, there being for this purpose sufficient clearance between its timbers and the wheels.

9 is one of the offset-levers. At one end it is pivoted by a bolt 10 to the under side of the front carriage timber 4, the pivotal bearing being best formed between an anchor plate 11 and a safety strap 12 bolted to said timber. The lever 9 extends across under the carriage and its outer end overlies the guide-rail 3. To this overlying end are pivoted the guide-rail clamps, which in the form here shown consist of friction blocks 13 which carry the friction shoes 14, preferably made of wood. These shoes bear against and grip the guide-rail 3, which rail may be an ordinary flat topped rail, or other shape in cross section, though here shown as a V-rail.

The pivotal connections of the blocks 13 with the offset-lever 9 are made by means of bolts 15 which pass down into them through elongated slots 16 in the lever. This gives an adjustable connection for the outer shoe, so that by means of an adjusting screw 17 in the lever end, the shoe of the outer block may be set up to the rail to compensate for wear. It also provides for a yielding connection for the inner shoe, formed by a plunger-pin 18 passing through a backing-block 19 riveted to the lever 9, and having its other end bearing on the back of the inner friction block.

A spring 20 produces the required pressure of the plunger-pin on the block, and serves the further purpose of relieving the strain occasioned by loading or turning the logs on the carriage.

In order to permit the friction blocks 13 to shift or turn on their pivotal connections without binding and without wearing the pressure devices which set them up, it is best to round the back of the blocks, as I have shown at 21 on the outer block; and to interpose between the adjusting screw 17 and said rounded block, a correspondingly faced bearing plate 22.

Bolted to the outer face of the outer carriage timber 5 is a plate 23 which projects down over and nearly to the offset-lever 9, preventing any tendency of said lever to lift up from the rail. To this plate 23 are bolted the stop-lugs 24, one on each side of the offset-lever 9, and directly in its path of movement when swinging on its pivotal connection at its other end. To vary the distance between these stop-lugs, and thus vary the length of movement of the lever 9 between them, and the consequent distance

of carriage offset, I show a series of holes 25 in plate 23, in any of which holes one of the lugs may be bolted.

It will be understood that there will be 5 two or more of these offsetting devices on the carriage; and, in order to indicate that they operate in unison, I show connected with the offset-lever 9, a link 26 which may be supposed to extend to and to be connect- 10 ed with the other corresponding offset levers.

Although I have described the outer member of the guide-rail clamp as a block, it will readily be understood that said member 15 may be a wheel 27, as I indicate in Figs. 6 and 7.

The operation is as follows:—When the carriage has started on its feeding stroke, that is, moving toward the saw, which is in position here shown, the offset-lever 9 is 20 perpendicular to the rails, and is against one of the stop-lugs 24. The carriage is thus held over to its feeding position, and the lever 9 travels with it in the position 25 shown in the full lines. Now, upon starting to gig back, that is, to return after the board has been sawed off, the friction of the shoes 14 on the guide-rail 3, and the inertia due to the weight of the lever 9 and 30 its connected parts, cause the outer or friction end of said lever to lag behind, thereby throwing said lever to an oblique angle with the rails, as is indicated by the dotted lines in Fig. 1. In assuming this oblique posi- 35 tion, the lever pulls the carriage over or offsets it. Then, when the other stop-lug 24 reaches the lagging end of the lever, it picks it up, and thereafter, throughout the 40 gigging back, the lever is held in the oblique position, with the carriage in its offset position. When the end of the gig-back travel is reached, and the carriage again starts on its feeding stroke, the outer or friction end of the lever 9 again lags behind, until 45 the lever reaches its first position, perpendicular to the rails; and during this movement, the lever throws the carriage back to its first position; and then, when the first stop-lug 24 reaches said lever, it picks it up 50 and thereafter it travels with the carriage in said first position. It will thus be seen that when the carriage is moved in either direction, the friction on the rail and the inertia of the levers, blocks, shoes, etc., 55 cause the outer ends of the levers to lag behind or to be retarded. As soon as the levers come up against the stop-lugs on the carriage, they remain stationary with reference to the carriage, and are swept along 60 with it. By placing these stop-lugs so that the levers are perpendicular to the rails when the carriage is feeding, and at an oblique angle to them when gigging back, the carriage is caused to move away from 65 the saw on reversing after feeding.

The distance the carriage offsets depends upon the length of the levers and the distance apart of the stop-lugs 24, and may be made any distance desired. Two such levers 9 are sufficient to operate any ordinary 70 carriage, but an extremely long or heavy carriage may be equipped with three or more.

As before stated, the spring 20 has a double function. Besides keeping the shoe up 75 against the rail, it receives the shocks from loading and turning the logs, and to a great extent relieves the head-blocks and all other portions of the carriage of this jar, which is often sufficient when handling a heavy 80 log on the carriage, to break the heavy and expensive castings of other offset mechanisms.

The entire device is independent of the axles and wheels, so that a broken wheel or 85 a sprung axle may be removed and another fitted without interference. It is accurate, positive and durable. It is in plain view of the operators at all times and is easy to get at. It requires little oil, and it will 90 operate as quickly and as far as desired.

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

1. An offset for saw-mill carriages, comprising an offset-lever pivoted at one end to the front timber of the carriage and thence 95 extending under the carriage and overlying the guide-rail thereof; a pair of friction clamps projecting downwardly from and 100 carried by the overlying end of the lever, adapted to engage the guide-rail between them to temporarily retard said end and swing the lever to offset the carriage; the said clamps being bodily adjustable relative 105 one to the other and stops on the carriage to limit the swing of the lever.

2. An offset for saw-mill carriages, comprising an offset-lever pivoted at one end to the front timber of the carriage and thence 110 extending under the carriage and overlying the guide-rail thereof; a pair of friction clamps carried by said overlying end of the lever, adapted to engage the outer and inner faces of the guide-rail to temporarily 115 retard said end and swing the lever to offset the carriage; means for applying a yielding pressure to the inner clamp; and stops on the carriage to limit the swing of the lever. 120

3. An offset for saw-mill carriages, comprising an offset-lever pivoted at one end to the front timber of the carriage and thence 125 extending under the carriage and overlying the guide-rail thereof; a pair of friction clamps carried by said overlying end of the lever, adapted to engage the outer and inner faces of the guide-rail to temporarily retard said end and swing the lever to offset the 130 carriage; means for adjusting the outer

clamp to said rail; means for applying a yielding pressure to the inner clamp; and stops on the carriage to limit the swing of the lever.

5 4. An offset for saw-mill carriages, comprising an offset-lever pivoted at one end to the front timber of the carriage and thence extending under the carriage and overlying the guide-rail thereof; a pair of friction
10 clamps carried by said overlying end of the lever, adapted to engage the outer and inner faces of the guide-rail to temporarily retard said end and swing the lever to offset the carriage; means for adjusting the outer
15 clamp to said rail; a spring to hold the inner clamp to the guide-rail with a yielding pressure; and stops on the carriage to limit the swing of the lever.

5 5. An offset for saw-mill carriages, comprising an offset-lever pivoted at one end to the front timber of the carriage and at its other end overlying the guide-rail of said carriage; a pair of friction clamps adjust-
20 ably pivoted to said overlying end of the lever, adapted to engage the inner and outer faces of the guide-rail to temporarily retard said end and swing the lever to offset the carriage; means for setting up the outer
25 clamp to the rail; a spring to yieldingly hold the inner clamp to the rail; and stops on the carriage to limit the swing of the lever.

35 6. An offset for saw-mill carriages, comprising an offset-lever pivoted at one end to the front timber of the carriage and at its other end overlying the guide-rail of said carriage; a pair of friction clamps adjust-
40 ably pivoted to said overlying end of the lever, adapted to engage the inner and outer faces of the guide-rail to temporarily retard said end and swing the lever to offset the carriage; means for setting up the outer
45 clamp to the rail; a spring to yieldingly hold the inner clamp to the rail; stops on the carriage to limit the swing of the lever; and a plate on the carriage above the overlying end of the lever to hold it down to the guide-rail.

50 7. An offset for saw mill carriages having the usual front and rear timbers, an offset lever pivoted at one end to the front timber and extending continuously to a point over-
lapping the guide rail, longitudinal slots in the lever one upon each side of the guide
55 rail, shoes one upon each side of the guide rail, and projections on the shoes adapted to slidably engage within the slots of the lever with means for holding the projections and the shoes carried thereby in adjusted
60 positions.

8. An offset for saw mill carriages having the usual front and rear timbers, an offset

lever pivoted at one end to the front timber and extending continuously to a point over-
lapping the guide rail, and terminating in a
65 downward projection, a shoe mounted on the under surface of the lever arranged to en-
gage the inner face of the guide rail, and a cooperating shoe for the outer face of the
70 rail connected to the under surface of the lever for relative sliding movement, and means carried by the downward projection of the lever for holding the adjustable shoe in position to engage the outer face of the guide rail.

75 9. An offset for saw mill carriages having the usual front and rear timbers, an offset lever pivoted at one end to the front timber and extending continuously to a point over-
lapping the guide rail, a shoe slidably con-
80 nected to the under surface of the lever, a rod extending inwardly from the shoe, a lug on the lever having a sleeved connection with the rod, a spring on the rod between the lug and shoe for normally holding the
85 latter in engagement with the inner face of the guide rail, and a cooperating shoe slidably connected to the under side of the lever to engage the outer face of the rail, and means for holding the latter in adjusted
90 position.

10. An offset for saw mill carriages having the usual front and rear timbers, an offset lever pivoted at one end to the front timber and extending continuously to a point over-
lapping the guide rail, shoes upon the outer
95 end of the lever to engage opposite sides of the guide rail and means for connecting the shoes to the under surface of the lever whereby they may have swinging and longitudinal
100 movement relative to the lever.

11. An offset for saw mill carriages having the usual front and rear timbers, an offset lever pivoted at one end to the front timber and extending continuously to a point over-
lapping the guide rail, shoes secured to the
105 under surface of the outer end of the lever and projecting downwardly therefrom to engage opposite sides of the guide rail the said shoes being laterally adjustable relative
110 to one another and stops extending downwardly from the rear beam of the carriage at a point between the respective shoes to engage directly with the lever intermediate the shoes and limit the swinging movement
115 thereof in opposite directions.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY SAMUEL MINOR.

Witnesses:

A. W. MASON,
JOHNNIE PLUMMER.