

No. 685,560.

Patented Oct. 29, 1901.

E. S. BERRY.
SAWMILL CARRIAGE GEAR.

(Application filed Mar. 18, 1901.)

(No Model.)

2 Sheets—Sheet 1.

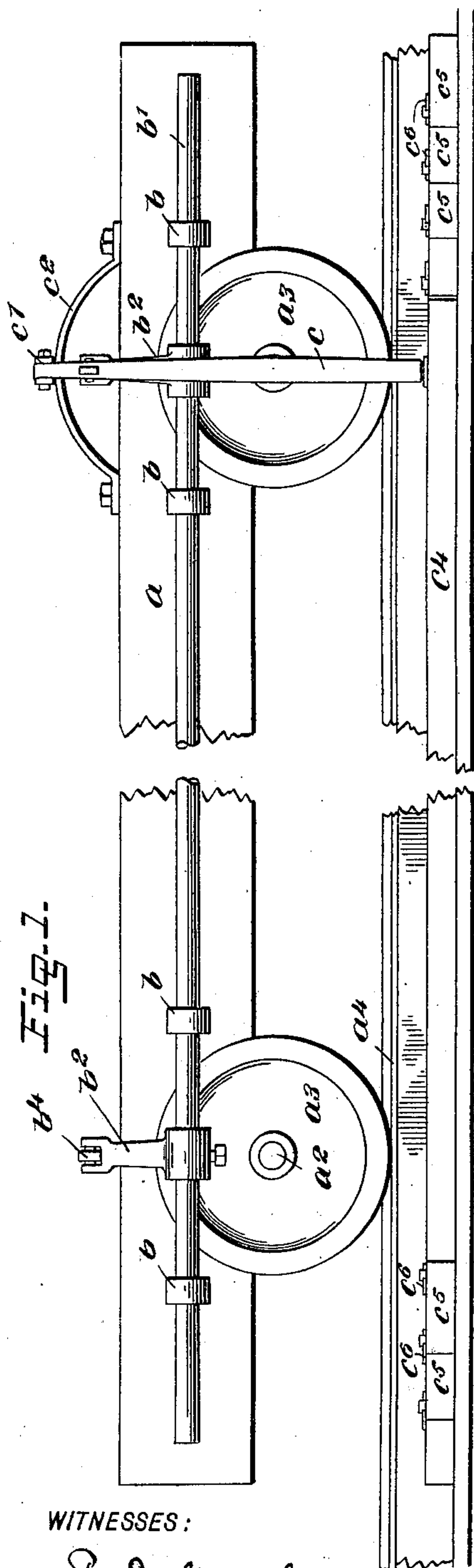


Fig. 1.

WITNESSES:

James I. Duhamel

J. B. Owens.

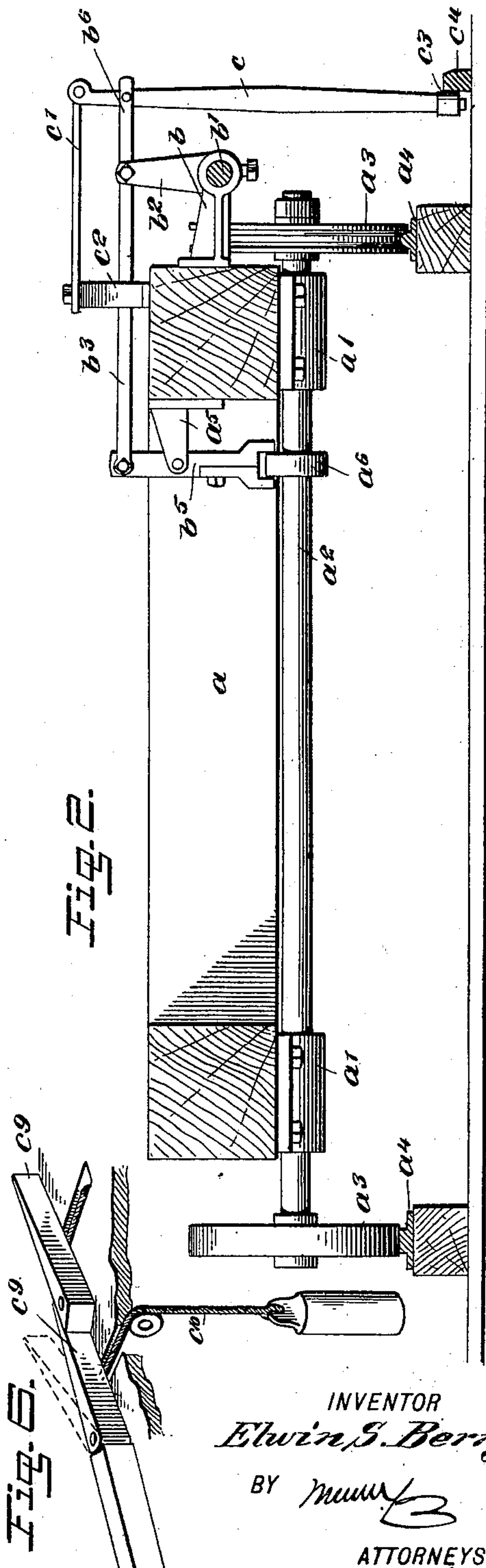


Fig. 2.

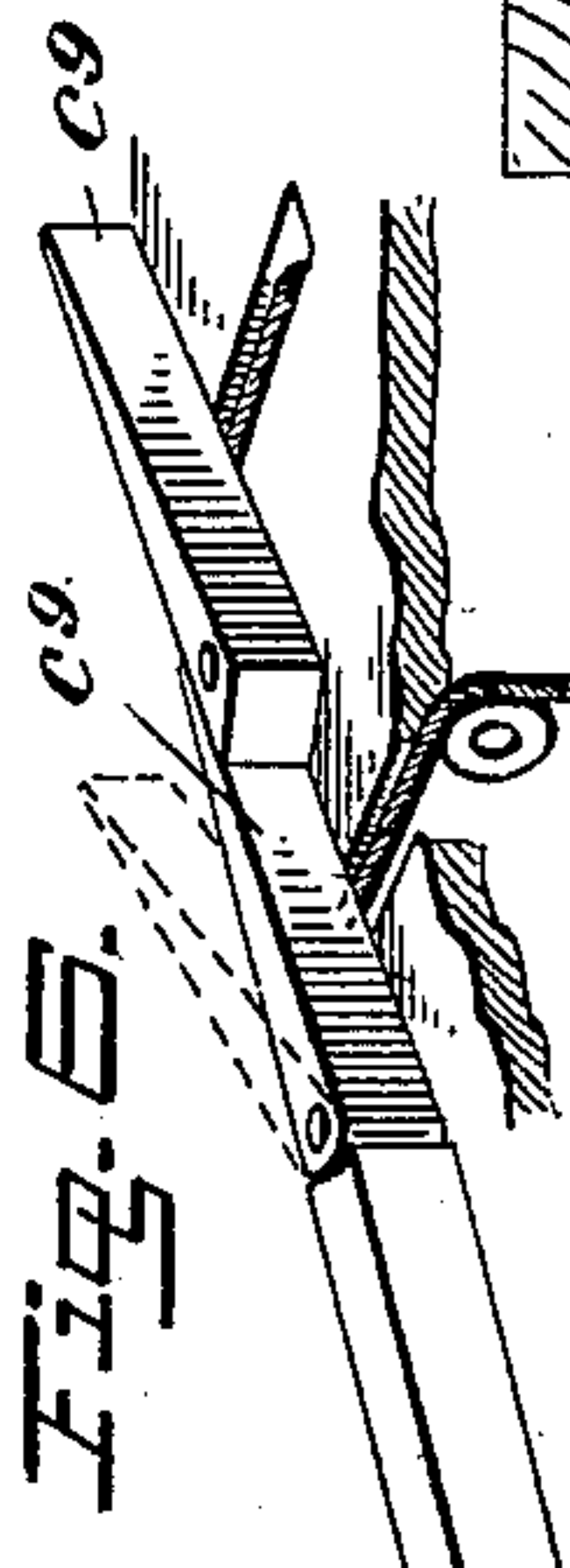


Fig. 3.

INVENTOR

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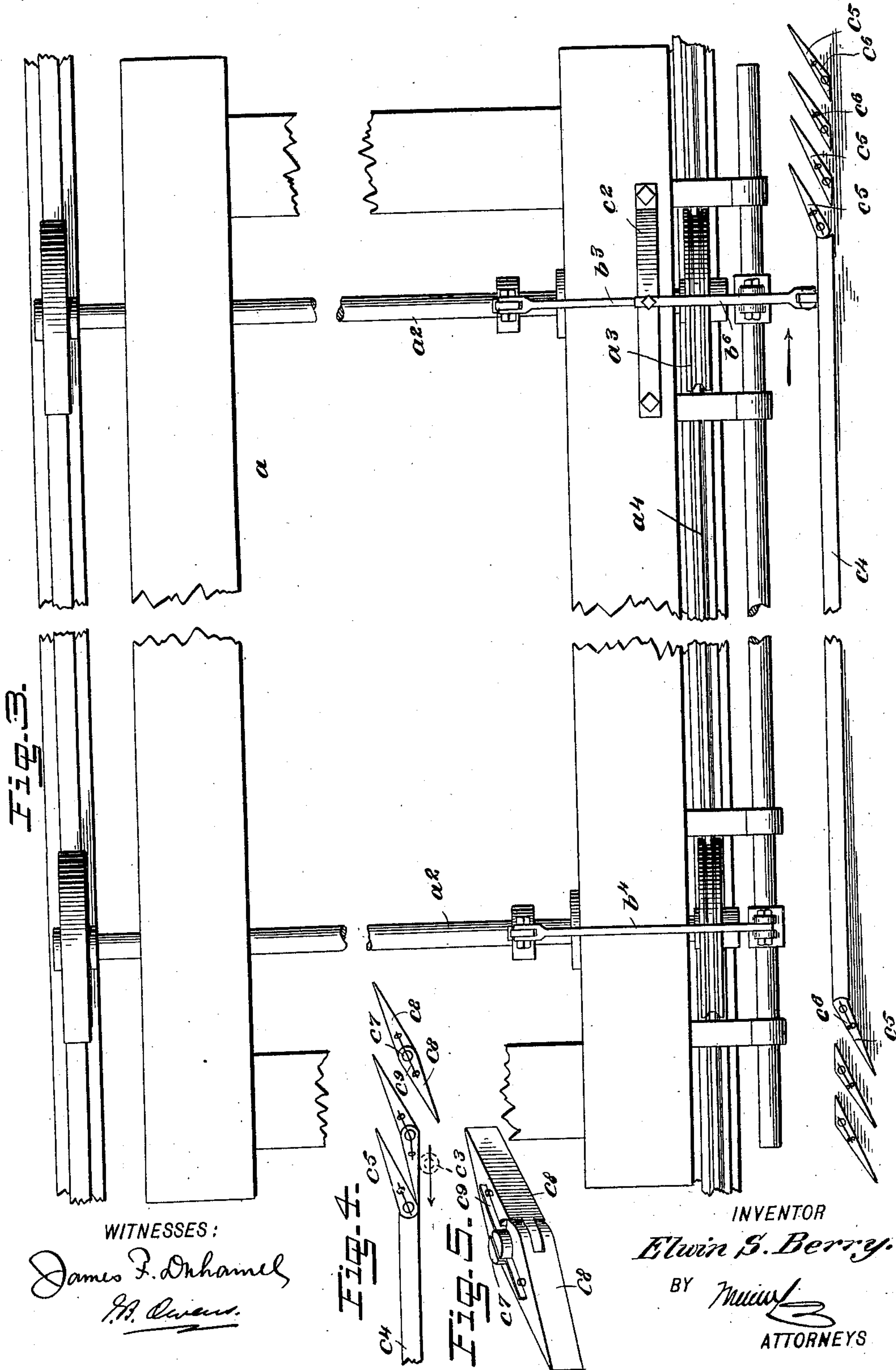
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2 Sheets—Sheet 2.

(No Model.)



UNITED STATES PATENT OFFICE.

ELWIN S. BERRY, OF PUTNAMVILLE, VERMONT, ASSIGNOR OF ONE-HALF
TO RALPH W. PUTNAM, OF PUTNAMVILLE, VERMONT.

SAWMILL-CARRIAGE GEAR.

SPECIFICATION forming part of Letters Patent No. 685,560, dated October 29, 1901.

Application filed March 18, 1901. Serial No. 51,648. (No model.)

To all whom it may concern:

Be it known that I, ELWIN S. BERRY, a citizen of the United States, and a resident of Putnamville, in the county of Washington and State of Vermont, have invented a new and Improved Sawmill-Carriage Gear, of which the following is full, clear, and exact description.

This invention relates to an apparatus for enabling me to move a log clear of the saw when gigging back the carriage for a new cut. Ordinarily the carriage is drawn back in the same line in which it was advanced, and this warps the log against the saw. By means of my invention, however, when the carriage is to be gigged or returned to the starting-point it is first moved sidewise slightly, so as to clear the log from the saw, and then the return movement is effected.

The invention is applicable to sawmills of all classes; but it is especially useful in connection with band-saws.

This specification is a specific description of two forms of my invention, while the claims are definitions of the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the invention. Fig. 2 is a sectional end elevation of the same. Fig. 3 is a plan view. Figs. 4 and 5 are detail views of a slight modification, and Fig. 6 is a perspective view of a further modification.

a indicates the carriage, which is mounted, by means of boxes a' , on axles a^2 in such a manner that the carriage may slide on the axles longitudinally thereof and transversely of the track. The axles a^2 are provided with wheels a^3 , which run on the rails a^4 . One of these wheels is grooved and works with a ribbed rail, so as to hold the wheels and axles in place with respect to the track.

Fastened to the carriage a are brackets b , in which is mounted to rock a shaft b' , the shaft extending longitudinally with the carriage at one side thereof. This shaft has arms b^2 attached thereto, and these arms are respectively connected with links b^3 and b^4 , said links extending transversely to a point

over the carriage. The links b^4 have their inner ends connected with forked levers b^5 , which are fulcrumed on brackets a^5 , attached to the carriage. The forks of the levers b^5 are at the lower ends of the levers, and these forks respectively engage collars a^6 on the axles a^2 of the carriage. When the shaft b' is rocked, the levers b^5 are thrown on their fulcrums through the action of the parts b^2 , b^3 , and b^4 , and this movement of the levers b^5 causes the carriage to be moved on its axles in a direction laterally of the carriage.

The above-referred-to movement is imparted to the shaft b' through the medium of an extension b^6 of the link b^3 , which extension is connected to a lever c , fulcrumed at its upper end to an arm c' , held rigidly on the carriage by an arch-bar c^2 or other suitable support. This lever c extends vertically, and its lower or free end reaches downward below the carriage and carries a roller or wheel c^3 , which is adapted to run on a rail c^4 , arranged parallel with the rails a^4 and extending throughout the length thereof. As the carriage moves along the track and the roller c^3 runs on the rail c^4 the lever c will be held stationary with respect to the shaft b' and connected parts. Should the lever be thrown so that the roller c^3 will engage the side of the rail c^4 opposite that shown engaged in Fig. 2, the parts b' , b^2 , b^3 , b^4 , and b^5 will be operated to shift the carriage on the axles, as explained. I have provided means for automatically throwing the lever to effect this purpose, and these means are best shown in Fig. 3. According to the construction shown in that view at each end of the rail c^4 are arranged a number of switch-points c^5 . These points are independently pivoted, their pivots being arranged in alinement with the rail c^4 . Springs (indicated at c^6) are employed, one for each switch-point c^5 , and these springs hold the switch-points normally in the position shown in Fig. 3. Assuming now that the roller c^3 in running along the track c^4 in the direction of the arrow shown in Fig. 3 strikes the switch-points c^5 , these points will be thrown on their pivots into line with the rail c^4 , and thus a continuous extension of the rail will be formed. The instant that the roller passes one of the switch-points its

spring will return it to the normal position illustrated in Fig. 3. Now when the carriage begins to return the switch-points c^5 , being engaged by the roller on the sides opposite the sides first engaged, will throw the roller laterally and shift it, with the lever c , to the other side of the rail c^4 . This will impart the necessary movement to the shaft b' . The carriage will now be returned or gigged back, and when the other end of the rail c^4 is reached the roller c^3 and the lever c will be automatically thrown back to the other side of the rail c^4 . This is effected by the switch-points c^5 at the rear or starting end of the rail c^4 , which switch-points are arranged reversely to the arrangement at the other end, all of which is illustrated in Fig. 3. It will therefore be seen that as the carriage operates in the ordinary manner it will be automatically moved laterally the instant that the return movement is begun, this lateral movement being slight, but nevertheless being sufficient to clear the log of the saw. When the forward movement begins, the carriage is automatically returned to the proper longitudinal position.

Figs. 4 and 5 illustrate a modified arrangement of the switch-points. With this arrangement the operation is essentially the same—that is to say, the lever is thrown from one side to the other of the rail, according to the movement of the carriage—but the construction of the parts is different in that on each stationary pivot c^7 are mounted two switch-points c^8 , such points being independently movable and being held normally in alinement with each other and diagonally with respect to the rail c^4 by a spring c^9 , which is fastened to the pivot c^7 and engaged at its ends, respectively, with the switch-points. As the roller c^3 moves forwardly along the track c^4 it engages the switch-points and throws them into alinement with the rail, so as to furnish a continuous surface along which the roller travels to the full extent of the forward movement of the carriage. When the return movement is begun, the roller is switched over to the other side of the rail and assumes the position indicated by dotted lines in Fig. 4. The construction shown in Figs. 4 and 5 is more advantageous than that shown in the other views, for the reason that the

double switch-points, arranged as described, furnish a smooth unbroken track-surface for the roller, no matter in which direction it be moved. Reference to Fig. 3 will show that as the roller moves along one side of the row of switch-points in striking the butts thereof a strictly continuous trackway is not provided; but in Fig. 4 no matter with which side the roller be engaged a smooth unbroken track-surface is always provided. Fig. 6 shows an arrangement in which the switch-points c^8 are actuated by weights c^{10} , serving the same purpose as the springs c^6 and c^9 .

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

1. A sawmill having a laterally-shiftable carriage, and means for moving the carriage laterally upon the return movement thereof to disengage the work from the saw, such means comprising a rail with a switch device and a part running on the rail and switched from one side to the other thereof.

2. A sawmill having a laterally-shiftable carriage, and means for moving the carriage laterally upon the return movement thereof, such means comprising a rail with switch devices at each end thereof, and a member running on and actuated from the rail, the switch devices serving automatically to throw said member from one side to the other of the rail.

3. A sawmill having a laterally-shiftable carriage for the purpose specified, and means for shifting the carriage, said means comprising a rail, and a member engaging the same, the rail having at one end a pivoted switch-point serving to throw said member from one side of the rail to the other.

4. In a sawmill, the combination with a shiftable carriage and means for shifting the same, of a rail and switch devices at the end thereof, said switch devices comprising two switch-points independently mounted on a common axis, and means for uniformly holding the points in diagonal relation to the rail.

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

ELWIN S. BERRY.

Witnesses:

RALPH W. PUTNAM,
LEROY A. FLINT.