No. 851,083. PATENTED APR. 23, 1907.

A. S. FROSLID.

DEVICE FOR SAWING QUARTERED TIMBER.

APPLICATION FILED APR. 30, 1906.

4 SHEETS—SHEET 1.

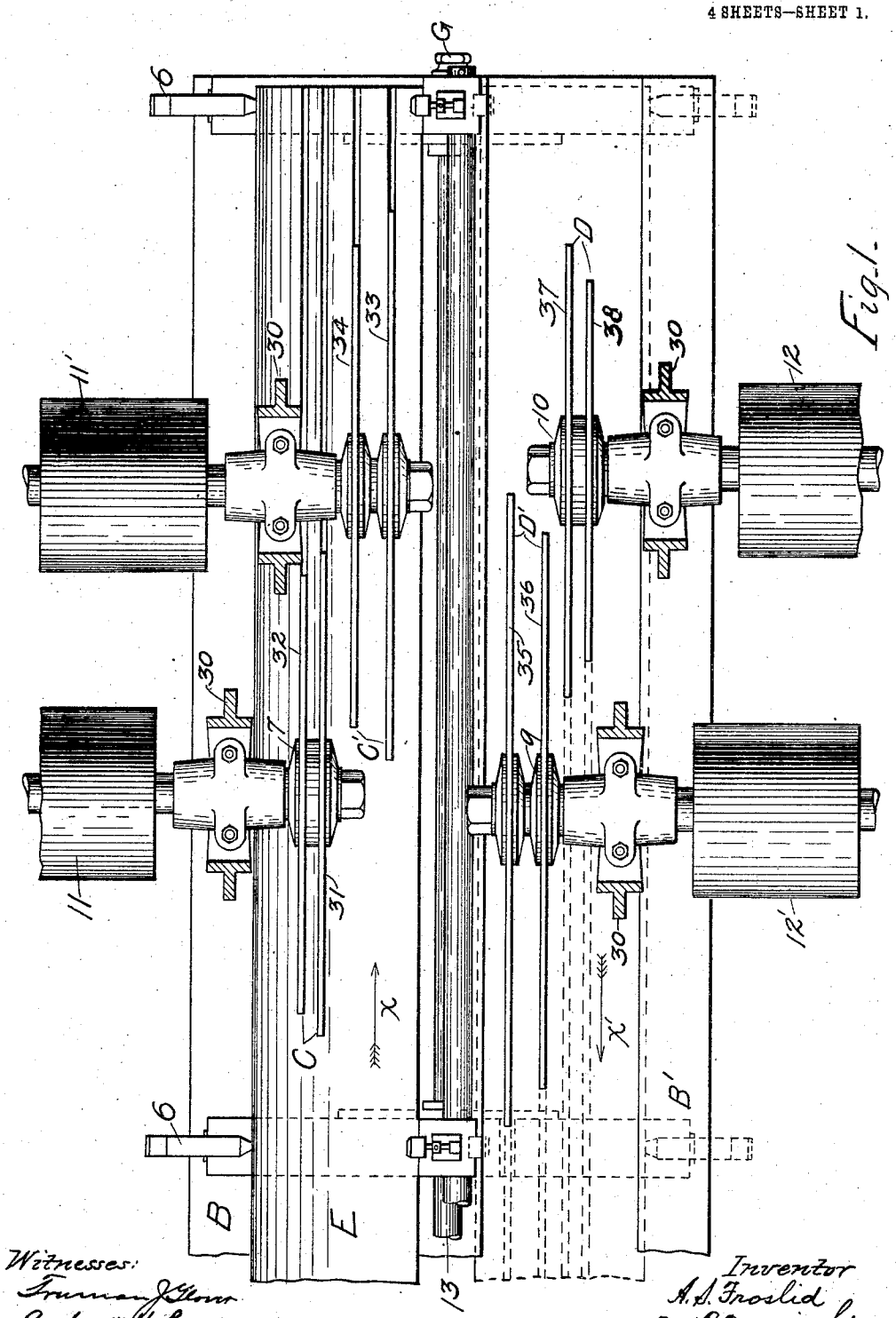


Fig. 1.

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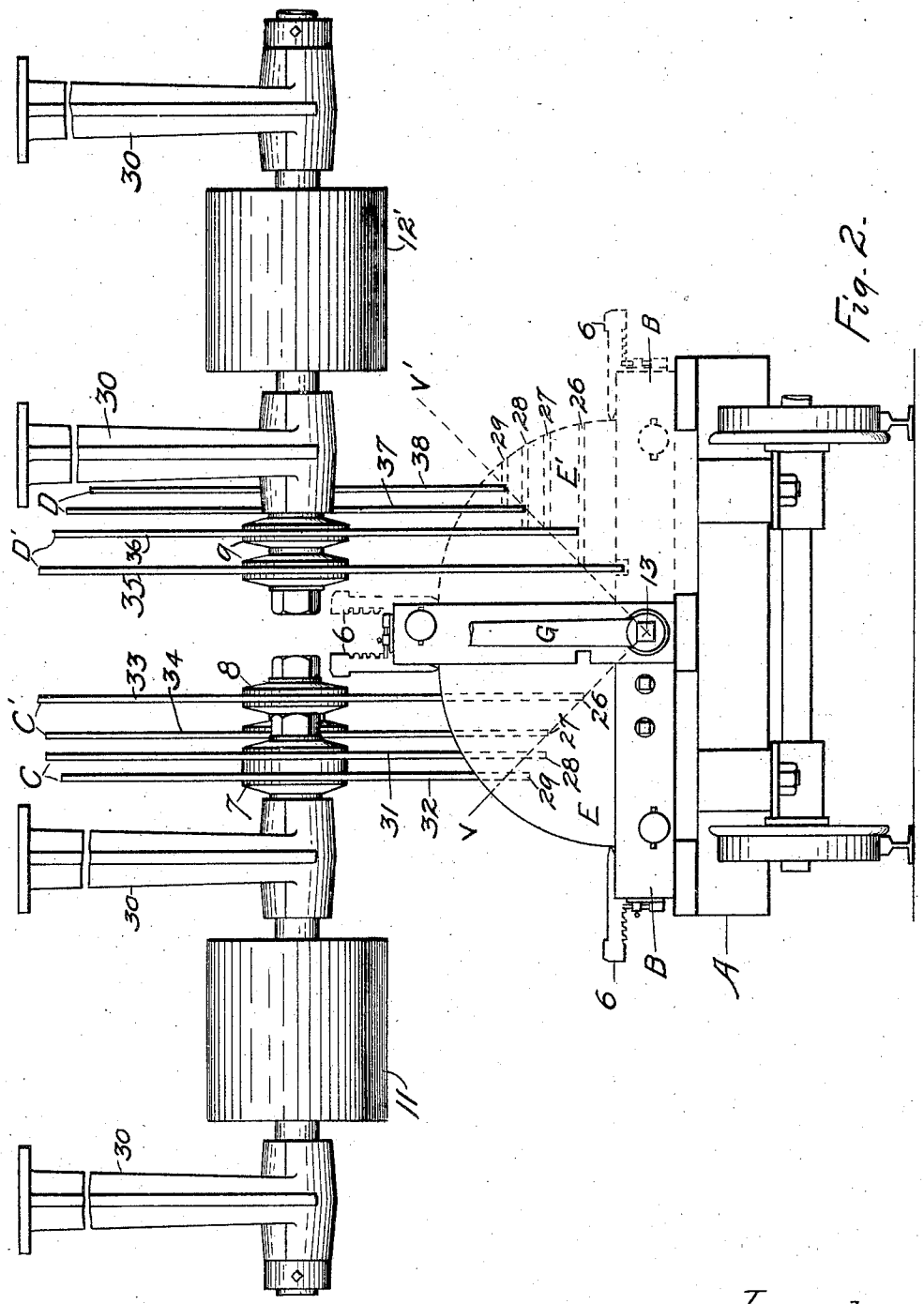


Fig. 2.

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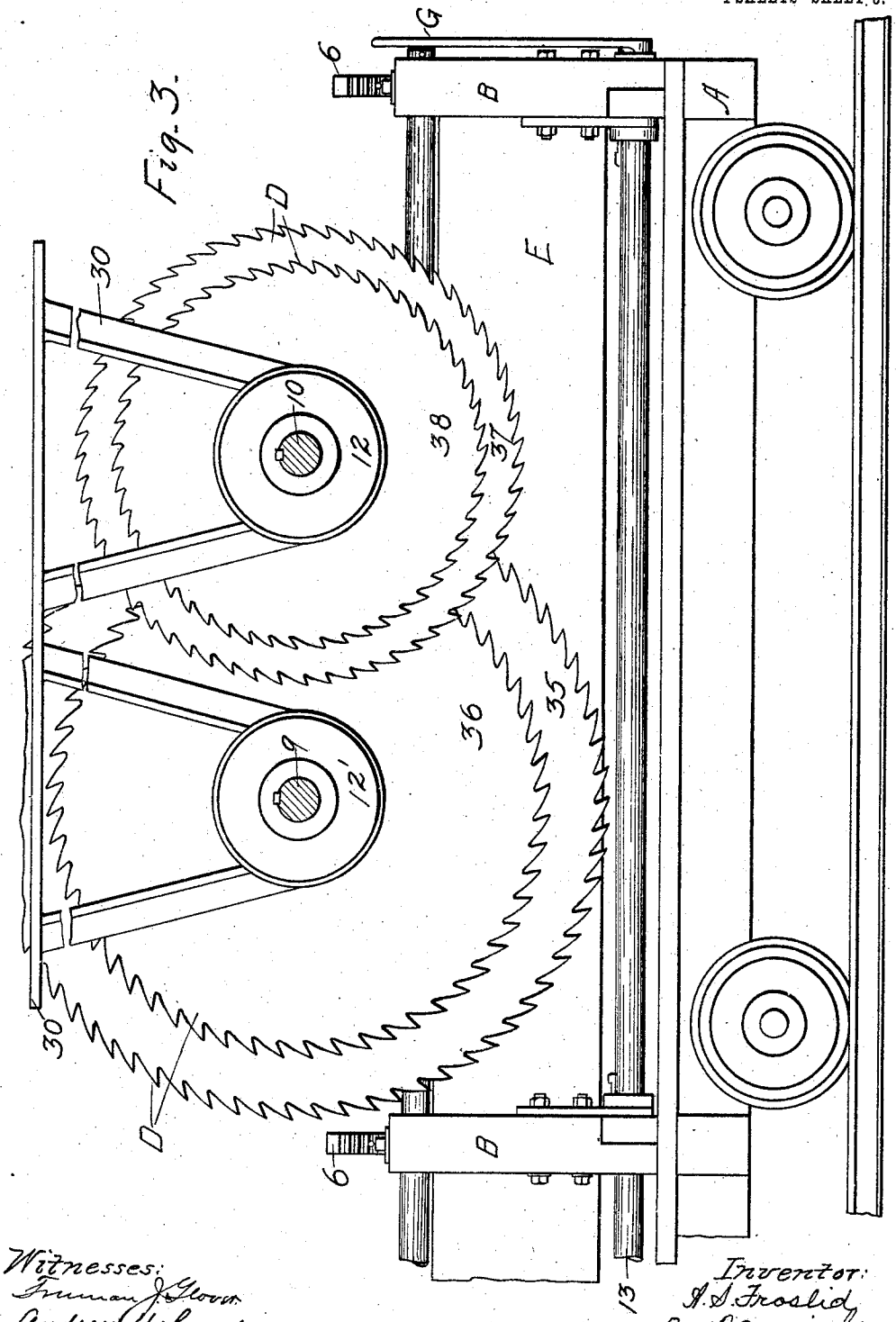
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4 SHEETS—SHEET 3.

Fig. 3.



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4 SHEETS—SHEET 4.

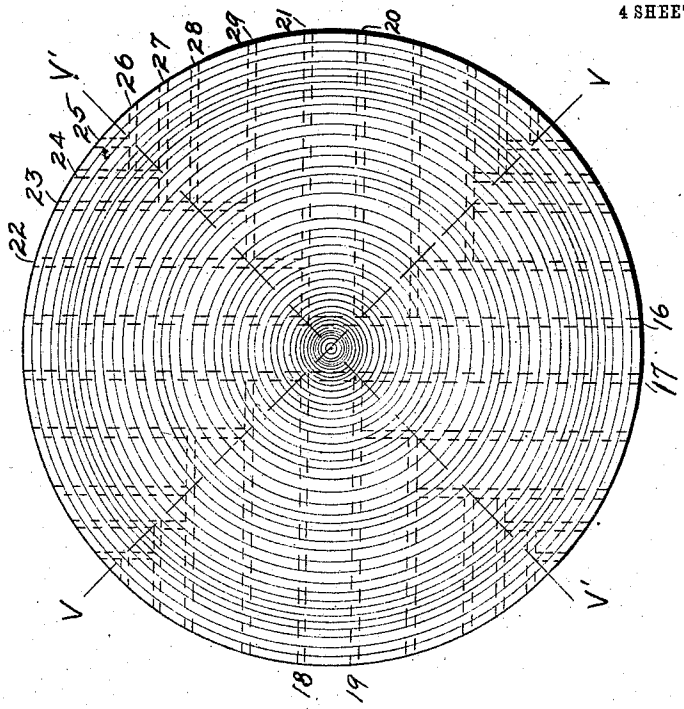


Fig. 4.

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UNITED STATES PATENT OFFICE.

ANTON S. FROSLID, OF SEASIDE, OREGON, ASSIGNOR TO SEASIDE ELECTRIC COMPANY, OF SEASIDE, OREGON, A CORPORATION OF OREGON.

DEVICE FOR SAWING QUARTERED TIMBER.

No. 851,083. Specification of Letters Patent. Patented April 23, 1907.

Application filed April 30, 1906. Serial No. 314,605.

To all whom it may concern:

Be it known that I, ANTON S. FROSLID, a citizen of the United States, residing at Seaside, in the county of Clatsop and State of Oregon, have invented new and useful Improvements in Devices for Sawing Quartered Timber, of which the following is a specification, reference being had to the drawings which form a part thereof.

My invention relates to devices for sawing quartered timber in which the material is completely cut in its passage with the mill carriage under successive saw groups.

The object of my invention is to provide such a device in which Pacific Coast hemlock in particular may be rapidly and economically sawed into boards or planks with the grain vertical or nearly vertical, better adapting it for use as flooring and which device will make practicable the use and marketing of wood which could not heretofore be employed for such purpose because of the want of suitable machinery to properly cut it and the value of which will be increased by my machine. I attain these objects as well as other practical advantages, by the construction, combination and arrangement of parts illustrated in the accompanying drawings, which form a part of these specifications, in which—

Figure 1 is a plan view of the machine; Fig. 2 an end elevation; Fig. 3 a side elevation; Fig. 4 an end elevation of a log showing direction of cuts with relation to grain of the wood.

Like letters and numerals refer to like parts throughout the views.

The log-carriage A is of the ordinary kind used in saw-mills and is provided with any suitable means commonly employed for the traveling of such carriages backward and forward.

For the purpose of carrying quartered timber below and in engagement with my saws as I arrange them, the carriage is provided with a right angled tilting stay-log B pivotally mounted at its angle on the shaft 13 extending longitudinally along the center line of the carriage and having tilting levers G G. The stay-log also has the dogs 6 as means for retaining the quartered timber E in place on the carriage for sawing. At suitable heights above the traveling plane of the carriage, in longitudinal planes on opposite sides, are successive groups of vertical circular saws C C′ and D D′ mounted on the arbors 7, 8, 9, 10 all of which are operated by any suitable power transmitted to the pulleys 11 11′, 12 12′ mounted in the hangers 30 Figs. 1, 2, 3. The group C of these vertical saws is arranged to cut on the left of and in planes parallel with the axis of the shaft 13 of the stay-log and nearest the starting place of the carriage, the saw 31 of this group being of such larger diameter than the saw 32 as may be desired. On the same side, in a parallel plane and nearer the axis of the shaft 13 of the stay-log and beyond the first group of saws, is the group C′ the diameter of its member 33 being as much greater than the diameter of its member 34 as may be desired and at least one of these saws being of a larger diameter than either member of the first group. All saws of the groups C C′ are of a diameter adapting them to cut the log to the proper depths for the first cut.

On the right of and in planes parallel with the axis of the shaft 13 of the stay-log and in a position nearly opposite the saw group C′ is a vertical saw group D, the saw 38 of which is of a diameter adapting it to cut the tilted quarter timber exactly to the depth of the kerf 29 previously cut by the saw 32, the saw 37 being also of a diameter to cut to the depth of the kerf 28 of the saw 31 in the same manner. Nearer to the starting place is a group of saws D′ on the same side, in planes nearer and parallel with the axis of the shaft 13 of the stay-log, and in a position nearly opposite the saw group C, at least one of the members of which is larger in diameter than those of the group D, the saw 36 being of a diameter adapting it to cut to the depth of the kerf 26 previously cut by the saw 33, the saw 35 beng also of a diameter adapting it to cut through the log. The groups D D′ of the saws are operated in reverse direction to that of the saws C C′.

It is necessarily apparent that the quarter log being securely held by the dogs on the carriage, the saws on the side where the first cuts are made, may be arranged in any order desired, but on the opposite side, to which the log is tilted after the first cuts, it is obvious that the saws, beginning in order from nearest the return starting place of the car-

riage, must cut consecutively from the outside, so that the log shall be held in place until all the upper boards are cut and may be removed and the last one held in place until properly cut.

Other changes or arrangements are possible without departure from the scope and principle of my invention. It is intended in all the arrangements that each group of saws shall be adapted to be operated at a speed calculated to accomplish proper and accurate cutting.

In Fig. 5 is shown an end view of a log and the manner in which it is intended the cuts shall be made with relation to the grain of the wood. Such a timber is first sawed in a separate machine being cut in halves on the lines shown by the kerfs 16, 17 and next in quarters on the lines of the kerfs 18, 19, 20, 21. The respective quarters are then sawed in my device first on the lines of the kerfs 26, 27, 28, 29 and then on the lines of the kerfs 22, 23, 24, 25 in the manner already described.

It will now be seen that the quarter E of such a timber being placed upon the carriage and retained in secure position by the stay-log B and dogs 6 the carriage A carrying the same is caused to travel forward in the direction of the arrow X below the first group of saws C when the cuts 28, 29 are made and next the cuts 26, 27 are made by the succeeding group C′. Then by means of one of the levers G G the quartered log as thus cut, is tilted on the stay-log into the position E′ in dotted lines Fig. 2 and the carriage is caused to travel in the direction of the arrow X′ on its return to the starting place. In doing so the log is first brought into engagement with the saws of the group D which cut to the kerfs 28, 29, the log being next brought into engagement with the saw group D′, the saw 36 of which cuts to the kerf 26, and the saw 35 through the log, the boards or planks thus sawed out being then removed to the side. This completely cuts the quarter log into boards having a clear grain practically vertical and with the least possible waste of the material. This operation permits of the manufacture of material for flooring, from timber which it has heretofore been practically impossible to obtain such product from, and the sawing is done speedily and with the greatest economy of labor. The carriage having returned to the starting place the stay-log is tilted into position to receive another quarter timber and the circuit of the saws again made as before without any delay.

It will be seen further that in my arrangement of saws cutting a quarter timber as already described, one half of the total number of saws are adapted to cut only a distance to the lines V–V and V′–V′ Figs. 2, 5, a radius of 45 degrees, while the other half of the saws, whether consecutively or alternately, cut a distance of the thickness of one board beyond the lines V–V or V′–V′. It is thus clear that only by saws arranged in the manner of my invention is it possible to saw an entire quarter timber with the minimum of waste and with the carriage traveling only once backward and forward to engagement with my saws. By the arrangement as shown in Fig. 5 the quarter may be completely sawed on one outward passage of the carriage but by this method more space is required, the horizontally placed saws cannot be so practically operated and the mill in that arrangement would not cut timber so economically nor so accurately as in my preferred arrangement.

Having thus described my invention I claim—

In a machine for sawing quartered logs, the combination between a right angled stay-log or logholder adapted to hold one quarter of the log, mounted upon a traveling log carriage and turning upon an axis fastened to said carriage; and circular saws in any desired number mounted at suitable heights in vertical planes above said carriage, a portion of the number of the saws being directly over the stay-log when one arm or side of the stay-log is in a horizontal position and the remaining portion of the number of the saws being directly over the stay-log when, after a turn of a quarter circle of the stay-log around the axis, this same arm is in a vertical position, and at least in one of these portions of the number of the saws the saws being so mounted that the arbor carrying the saw or group of saws placed at the least height above the carriage shall be nearest the point where the carriage stops after finished trip and the arbor carrying the saw or group of saws placed at the greatest height above the carriage shall be farthest away from this point; substantially as specified.

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