

Dec. 7, 1926.

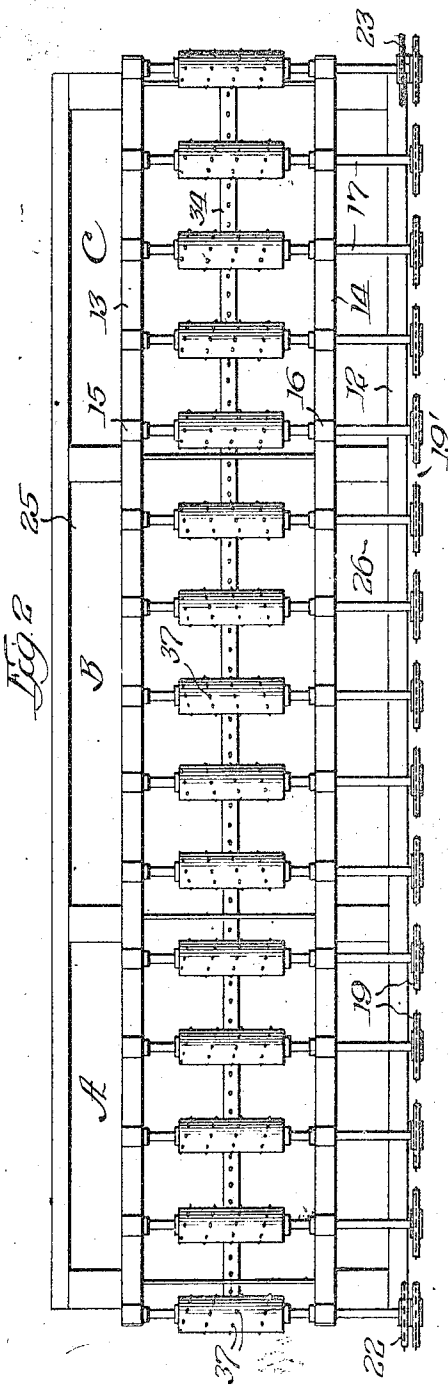
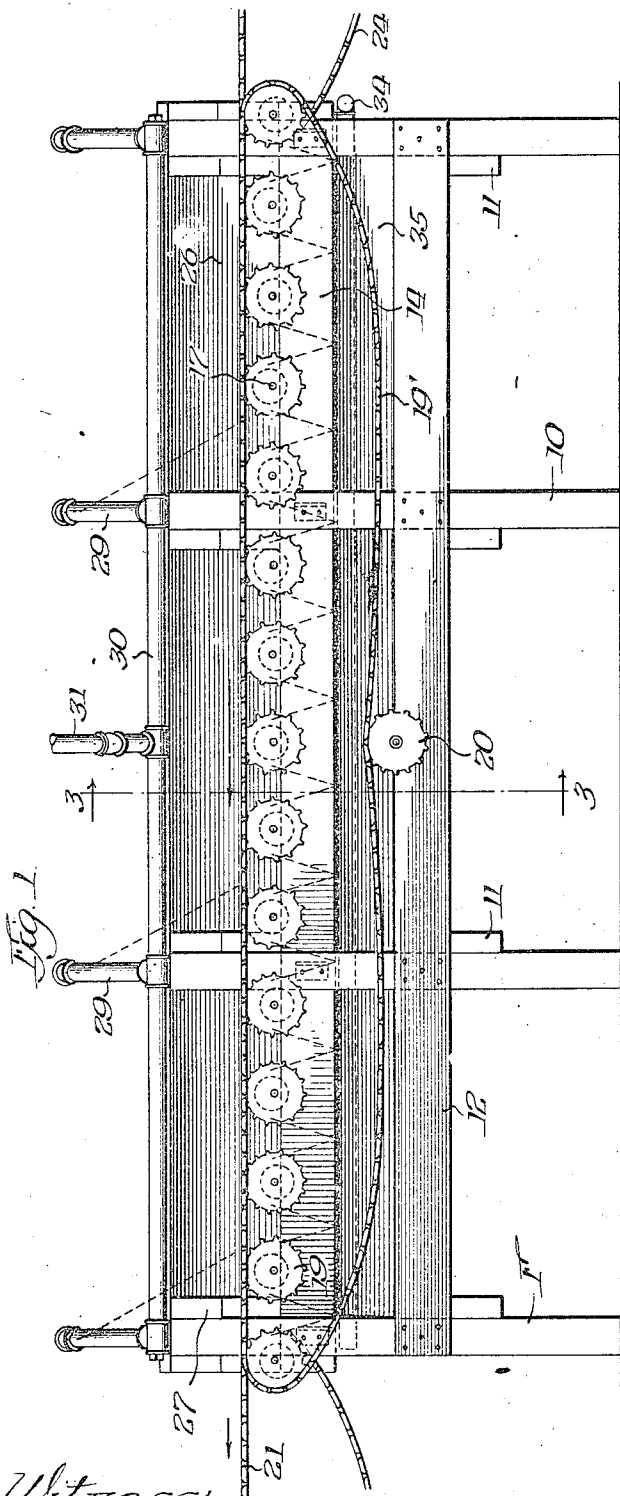
1,609,474

J. C. JACOBSON

LOG WASHER

Filed July 22, 1925

2 Sheets-Sheet 1



Witness:
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John C. Jacobson
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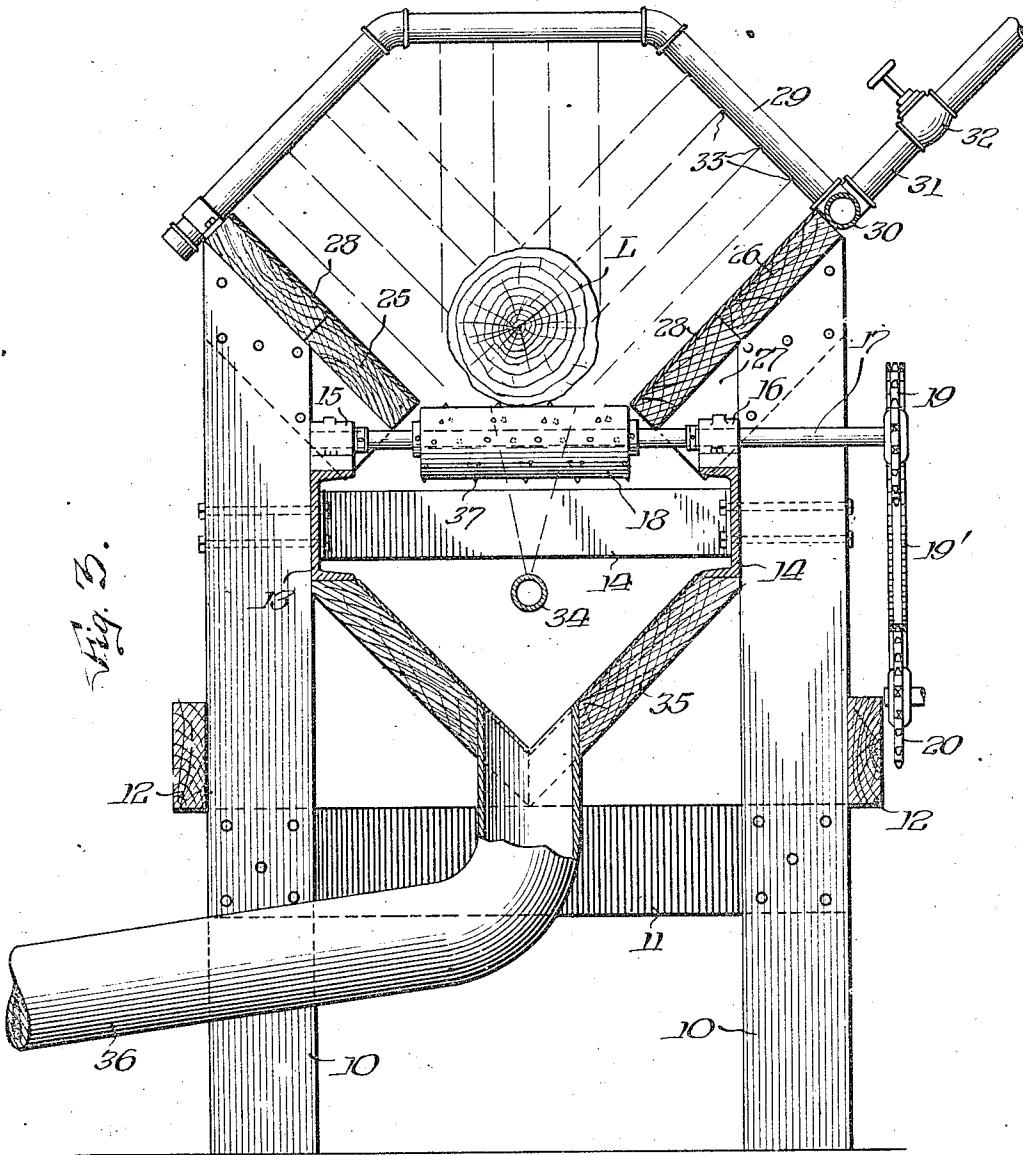


Fig. 3.

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Patented Dec. 7, 1926.

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UNITED STATES PATENT OFFICE.

JOHN C. JACOBSON, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR TO HERBERT W. GUETTLER, OF CHICAGO, ILLINOIS.

LOG WASHER.

Application filed July 22, 1925. Serial No. 45,205.

My invention relates to log washers, particularly adaptable in the paper making industry for washing off the logs following the rossing operation.

One of the important objects of the invention is to produce improved washing mechanism which can be interposed in the conveyor train to wash the logs after rossing while traveling toward pulp grinders, chippers or other apparatus. Another object is to provide a washing structure in the form of a conveyor link adapted to be readily interposed in the log conveyor train, and provided with washing water directioning means and water discharging means, so that the logs will be washed en route to their destination.

Another important object is to produce improved arrangement of conveyor rolls adapted to vertically reciprocate or agitate the logs and also provided with pegs or spurs arranged to cause the logs to roll from side to side while they are vertically reciprocated and while they are traveling along the washer, whereby all sides of the logs will be subjected to the cleaning water. Another object is to direct streams of water powerfully against all sides and ends of the logs and in different directions, so that the cracks and crevices will be thoroughly cleaned out.

The above and other features of my invention are incorporated in the structure shown on the accompanying drawings, in which:—

Figure 1 is a side elevational view of the washer;

Fig. 2 is a plan view; and

Fig. 3 is an enlarged sectional view on line 3—3 of Fig. 1.

The washer supporting structure has the vertical frames F, each comprising the side uprights 10 and the connecting cross pieces 11. At their lower ends the frames are longitudinally spaced and connected by the beams 12. Near their upper ends the frames are spaced and held by the opposed longitudinally extending channel beams 13 and 14, which are connected together by cross plates 14. These panel beams support the bearing fittings 15 and 16, in which are journaled the driving shafts 17 for the rolls 18. At one side of the washer the shaft supports the wheels 18 which are engaged by the driving chain 19 whose lower run is

supported on the idler sprocket wheel 20. The washer may constitute a link in a conveyor train for the logs, for conveying the logs from one field of operation to another. As shown, the washer driving chain 19 is driven by means of the chain 21 which drives the conveyor section ahead of the washer section, this chain engaging the sprocket wheel 22 on the shaft of the adjacent end roll of the washer. The washer chain 19, in turn, by means of the sprocket wheel 23, drives the driving chain 24 for the conveyor section behind the washer link. The logs come from the conveyor mechanism driven by the chain 24 and travel over the rolls of the washer structure and then are received by the conveyor section driven by the chain 21.

To keep the logs L on the conveyor rolls, inclined sides or trough walls 25 and 26 are provided, the boards forming these walls being nailed to the brackets 27 extending from the uprights 10. To protect the walls against wear by the logs, they are faced with sheet metal 28.

Arching transversely over the trough formed by the side walls 26 and 28 in conjunction with the rolls, are the pipe extensions 29 which extend from the trunk pipe 30, to which water is conducted from the supply pipe 31 under control of a valve 32. The extensions 29 may be arcuate, or they may be polygonal as shown, and are provided with jet openings 33 whereby vertical and diagonal streams are directed against the top and sides, respectively, of the logs L. Centrally below the rolls is the longitudinally extending pipe 34 which has orifices which direct water streams against the underside of the logs. The streams may be given any desired angles of inclination, so as to strike the logs on the slant. As shown in Fig. 1, the streams are inclined to be directed towards the oncoming logs, and the streams from the lower pipe 34 are also inclined. The streams thus strike the logs at all sides and from various directions and will thoroughly clean out the cracks and crevices.

The dirty water is all collected in a V-shaped trough 35 supported between the beams 13 and 14 and the cross pieces 11 and underneath the pipe 34. The collected water runs from the trough into a discharge pipe 36 and from there to the sewer or other

suitable place. The side walls 25 and 26 collect the water and guide it into the discharge trough.

The rolls 18 are tapped to receive pegs or spurs 37, the spurs being arranged helically on each roll. I have shown three sections of rolls, A, B and C. The pegs of the sections A and C are arranged in the same direction, so that the logs will have a tendency to roll towards one side of the supporting trough, whereas in the intermediate section the pegs are arranged in the opposite direction, so that the log will be forced towards the other side of the trough, the result being that as a log travels through the washer 6, it will be drawn first to one side and then to the other of the trough, so that the entire log area will be exposed to the water streams.

In order to vertically reciprocate or agitate the logs so that dirt particles may be loosened therefrom, the rolls are applied off center on their supporting shafts. Such offset from the center is alternately in opposite directions, so that while one set of rolls is moving bodily downwardly the alternate rolls are moving upwardly, the result being that first one set and then the other receives the logs, so that the logs are vertically reciprocated or agitated while they are being rolled back and forth laterally, and while they are traveling through the washer link. Very thorough cleaning and washing thus results.

Having described my invention, what I claim is:

1. In a wood washer, the combination of a supporting structure, a row of conveyor rolls on said structure, means for driving said rolls, propulsion projections on said rolls for engaging and propelling logs along said rolls as they are rotated, means for directing streams of water against the logs as they are propelled along said rolls, and means vertically vibrating said rolls whereby to cause continuous vertical reciprocation of the logs during their travel over the rolls.

2. In a washer of the class described, the combination of a supporting structure, a row of conveyor rolls on said structure, means for rotating said rolls whereby logs received thereby will be propelled thereover, means for directing streams of water to the logs during their travel along the rolls, means on said rolls for causing said logs to

reciprocate laterally on said rolls during their travel thereover, and means vertically oscillating said rolls whereby to cause continuous vertical oscillation of the logs during their travel thereover.

3. In a log washing machine, the combination of a supporting structure, a row of conveyor rolls thereon, means for rotating said rolls, means on said rolls causing vertical reciprocation thereof and of logs conveyed thereover, and means for directing streams of water against the logs during their travel.

4. In a log washer, the combination of a supporting structure, a row of conveyor rolls thereon, means for driving said rolls, said rolls being eccentrically mounted whereby to cause vertical reciprocation of logs traveling thereover, and means for directing streams of washing water from different directions against the logs as they travel over said rolls.

5. In a log washer of the class described, the combination of a supporting structure, a row of conveyor rolls journaled on said structure, means for rotating said rolls, propulsion pegs arranged helically on said rolls and such helical arrangement being in opposite directions on alternate sets of rolls whereby a log traveling over said rolls will be given lateral reciprocation, and means for directing streams of water from various angles against the logs during their travel over said rolls.

6. In a log washer of the class described, the combination of a supporting structure, a row of conveyor rolls, shafts supporting said conveyor rolls for rotation means for rotating said rolls, said rolls being alternately offset eccentrically in opposite directions, whereby a log traveling thereover will be vertically reciprocated, and means for directing streams of washing water to the logs during their travel over the rolls.

7. In a log cleaning machine, the combination of a supporting structure, a row of conveyor rolls thereon, means for rotating said rolls, means causing vertical oscillation of said rolls during rotation thereof whereby the logs traveling thereover will be vertically reciprocated, and means for directing streams of water against the logs during their travel.

In witness whereof, I hereunto subscribe my name this 15th day of July, 1925.

JOHN C. JACOBSON.