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SIEVE FOR WOOD PULP PLANTS.

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1,313,145. Patented Aug. 12, 1919.

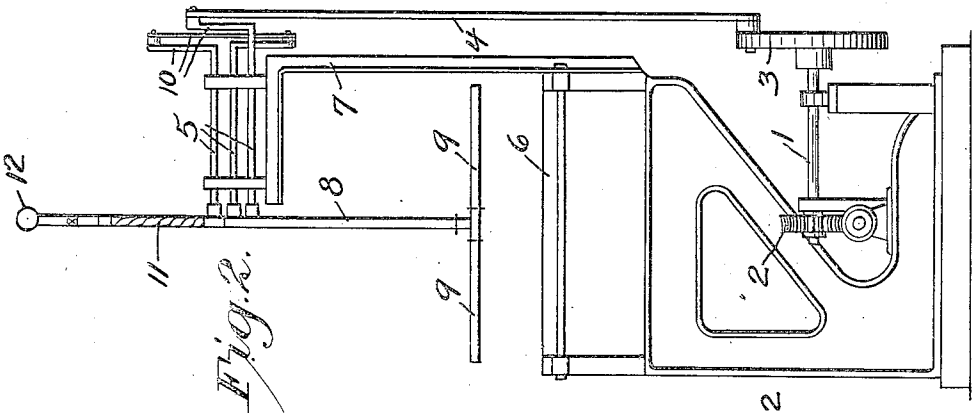


Fig. 2.

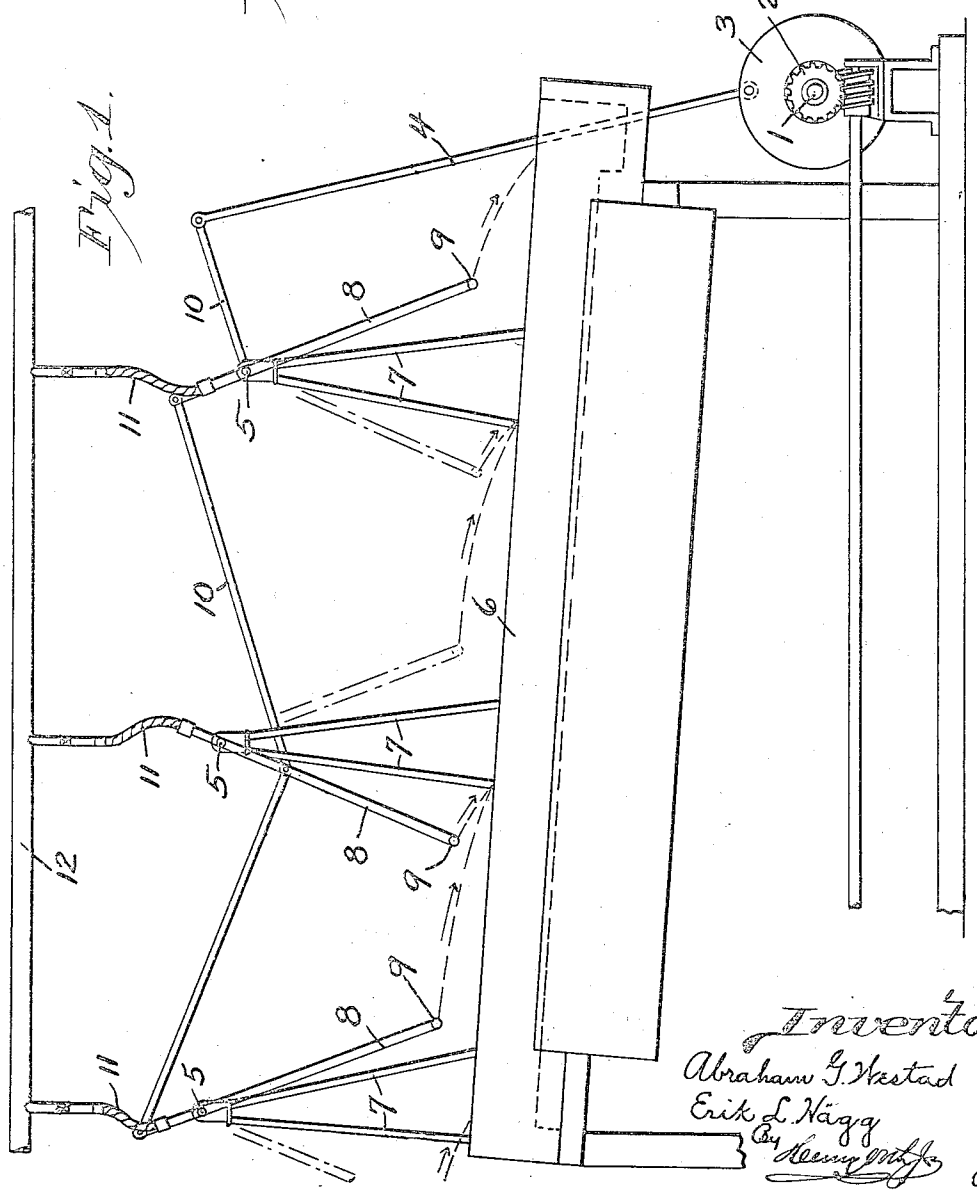


Fig. 1.

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SIEVE FOR WOOD-PULP PLANTS.

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To all whom it may concern:

Be it known that we, ABRAHAM GRÖNVOLD WESTAD and ERIK LUDVIG HÄGG, both subjects of the King of Norway, of Hunsfos, Norway, have invented certain new and useful Improvements in Sieves for Wood-Pulp Plants; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

As is well known the pulp in wood pulp plants is conveyed from the sand catcher to the sieves, where the last and most accurate sorting operation takes place.

When the pulp arrives at the sieves it is suitably diluted so that it flows evenly downward, but during the sieving operation the remaining pulp gets thicker and thicker owing to all the impurities, which do not pass through the sieves.

Finally on the two last sieves there remains a considerable amount of coarse stuff, splints and the like, which accumulates by and by so that the sieves can not be utilized to their full capacity. Usually a spuling hose is at hand by means of which the last sieve is spuled at intervals, but then the pulp as well as the coarse stuff and the splints are removed thus causing an extensive waste of material.

It has been proposed to arrange a scraper which rotates slowly and scrapes the last sieves, but this arrangement is unsatisfactory, as the scraper will take away the valuable pulp together with the coarse stuff and also with this scraping arrangement the sieve plates are easily filled up, so that they are of no use. It has also been proposed to arrange spuling tubes oscillating above the sieving plates, and the present invention has for its object a particular arrangement of such spuling tubes by means of which an effective cleaning of the sieve plates is effected.

This result is attained by arranging the oscillating spuling tubes in such coöperating relation to each other and so locating the jet holes of the same that they continually act to move the pulp in the same direction, the pulp from one end of the effective area of a spuling tube being carried farther in the same direction by means of the next spuling tube, etc.

In the accompanying drawing Figure 1 is a side elevation and Fig. 2 an end view of a machine provided with an apparatus according to the invention.

At one end of the small shaft 1, which is driven by means of screw gear 2 transversely to the sieve axis, there is mounted a crank 3 connected with a driving rod 4. The latter is connected by means of a crank arm to shaft 5 mounted above the sieve plates 6 by means of brackets 7 fastened on one side of the sieve frame.

Shaft 5 carries on its free end a water tube 8, which is connected by means of flexible hose 11 to a stationary water tube 12, and the free lower end of the tube 8 carries a horizontal tube 9 parallel to the sieve and perpendicular on the longitudinal axis of the same. The length of tube 9 corresponds to the breadth of the sieve. A plurality of shafts 5 are located above the sieve each shaft being oscillated exactly contrary to the adjacent shafts by means of rods 10 connected with the crank arms of each shaft alternately above and below the axis of oscillation.

The cross tubes 9 at the lower end of each oscillating tube 8 are provided with a plurality of jet holes in such a manner that the jets are all directed in the same way along the sieve plate.

During the oscillation of the jet tubes each row of jets will cover a certain area of the sieve plate and the relative position of the oscillating tubes are so chosen, that adjacent jet areas slightly overlap in order that all the stuff driven by means of one oscillating jet tube to a certain part of the sieve plate is taken up by the next jet tube and carried farther in the same direction.

I claim—

1. In combination with a sieve for wood pulp plants and the like, a plurality of spuling tubes located above the sieve plates and having their jet holes directed the same way along the sieve plate, and means for oscillating said spuling tubes lengthwise of and above the sieve plates, the sieve areas spuled by the jets of each tube overlapping slightly, whereby the stuff carried to a certain part of the sieve by means of one spuling tube is carried farther in the same direction by means of the next spuling tube.

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2. In combination with a sieve for wood pulp plants and the like, a plurality of oscillatory shafts located above and parallel to the sieve plates, water tubes carried by said shafts having the form of an inverted T, flexible tubes connecting the shank ends of said tubes to a water supply, the cross pieces of the tubes being provided with jet holes approximately parallel to the longitudinal axis of the sieve, and means for oscillating said shafts lengthwise of the screen in opposite relation to each other, whereby the sieve areas spuled by the jets of each tube overlap slightly and the stuff carried to a certain part of the sieve by means of one spuling tube is carried farther in the same direction by means of the next spuling tube.

In testimony that we claim the foregoing as our invention, we have signed our names in presence of two subscribing witnesses.

ABRAHAM GRÖNVOLD WESTAD.
ERIK LUDVIG HÄGG.

Witnesses:
L. PETERSEN,
RUDOLF ANDERSEN.