

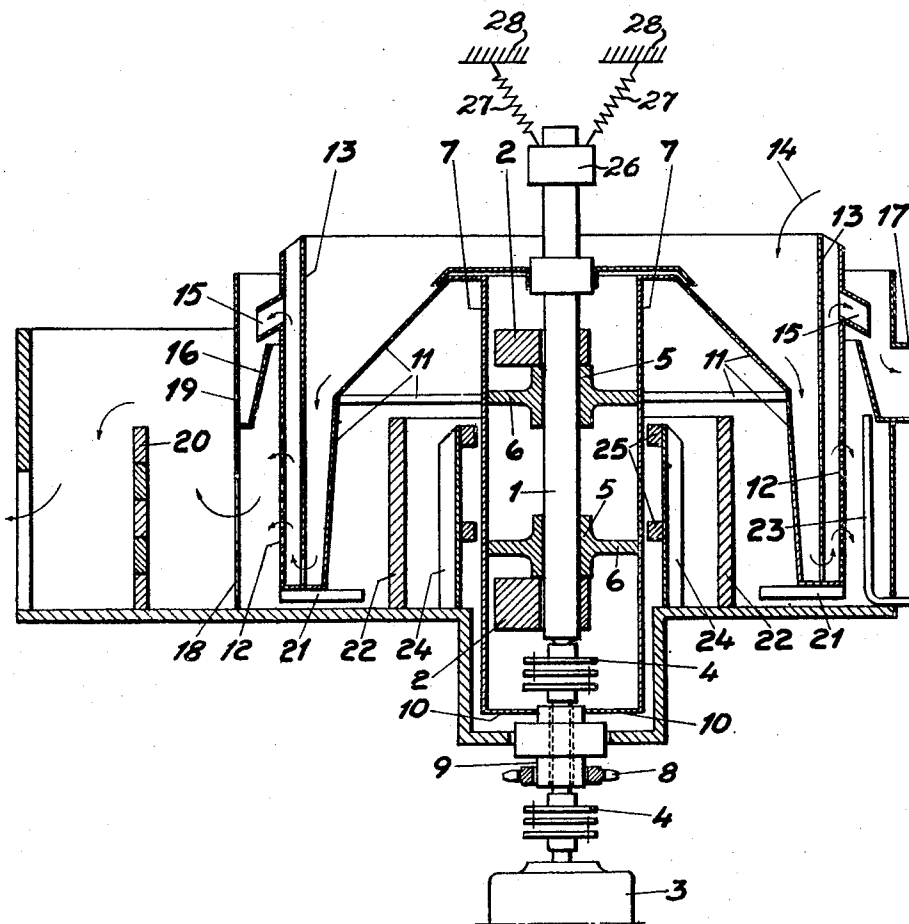
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APPARATUS FOR SCREENING FIBROUS SUSPENSIONS

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APPARATUS FOR SCREENING FIBROUS
SUSPENSIONS

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1 Claim. (Cl. 92—35)

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Previously there is already known a method and a device for screening, desiccating or washing fibrous suspensions, in which a liquid out of the suspension, if desired with an additional portion of the suspended stock, is passed through an exclusively resiliently suspended horizontal screening mechanism which is rotated by a substantially horizontal shaft and to which vibratory motions are imparted. Such method and means have proved to be advantageous for certain purposes. For other purposes it has, in accordance with the present invention, proved to be more advantageous if the suspension be passed through an upright screening mechanism rotated around a vertical axis, said screening mechanism being set in vibratory motions in vibration planes perpendicular to the axis of rotation.

I attain this object by the means set forth in the detailed description which follows, and as illustrated by the accompanying drawing.

The shaft 1 is provided with the unbalances or eccentrics 2 and rotated by the motor 3, the rotation of which is transmitted to the shaft by means of the universal joint 4. The shaft 1 is supported by collar bearings 5 through which and the arms 6 the vibratory motions are transmitted to the cylinder 7. Said cylinder is rotated by means of sprocket wheel 8, hub 9 and arms 10. By means of the support 11 the cylinder 7 carries the screening plates 12. The intermediate wall 13 conducts the suspension being fed at the top in the direction of the arrow 14 to the bottom end of the vibrating and rotating screening plates 12, whence the suspension passes upwards along the screening plates. Waste and coarse refuse are removed via overflows 15 into the receptacle 16 and thence into the discharge tube 17. The portion of the suspension, which has passed through the slots or screening openings is removed through the opening 18 in the cylinder 19 and via the adjustable overflow 20. The wings 21 force the suspension outwards from the centre. In case of stoppage the cylindrical intermediate wall 22 prevents the suspension from running down into the collar of the sprocket wheel. The spraying spout 23 is stationary and keeps the slots clean. The U- or T-irons 24 are provided with shock absorbers 25,

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which moderate the vibrations of the cylinder 7 at starting and stopping. The upper bearing 26 for the shaft 1 is suspended on springs 27 from stationary supports 28. Thus, the shaft 1 together with the screen 12 are elastically and resiliently suspended and are free to vibrate.

The apparatus described can be modified in various respects. The screening plates need not be cylinder-shaped but can also be tapered or polyhedral. The means of producing vibratory motions need not consist of a shaft provided with eccentrics, but the vibratory motions can also be produced by electromagnetic or pneumatic means.

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

Apparatus for screening, desiccating or washing suspensions of solids, particularly fibrous suspensions, comprising at least one inlet for the suspension and an outlet for the screened material, a rotatable screening member in the shape of a hollow body of revolution having a vertical axis of rotation disposed within said inlet and outlet, a rotatable vertical shaft extending centrally through said rotation body and rigid with said screening member for rotating the same, eccentric members on said rotatable shaft for producing vibrations, when rotating said shaft, and means for transmitting such vibrations to said screening member, said vibrations taking place in planes located transversely of the axis of rotation of said screening member.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,620,865	Blackden	Mar. 15, 1927
1,821,684	Wiener	Sept. 1, 1931
2,293,978	Jonsson	Aug. 25, 1942
2,301,301	Chaplin	Nov. 10, 1942
2,367,961	Piponius	Jan. 23, 1945
2,406,618	Lindgren	Aug. 27, 1946