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(54) **Means for defibrating and sorting pulp in paper and cellulose industry.**

(57) A means for defibrating and sorting pulp in paper and cellulose industry, comprising a defibrating means (1,2) consisting of a rotor (2) and a stator (1), wherebetween is established a defibrating zone, and of a sorter (2,3) consisting of the same rotor (2) and another stator (3), wherebetween is established a sorting zone, and said stator (3) of the sorter is formed to be sieve-like, and said means comprising a pulp feed (4), accept removal (7) and reject removal (6). At present, defibrating and sorting processes have to be carried out using separate apparatus, which is expensive and space-consuming. With the aid of the present invention, the problem is solved in that the angle (α) between the centre-line (8) of the shaft of the rotor (2) and the defibrating zone is 75 to 105° and the angel (β) between the sorting zone and the centre-line (8) of the shaft of the rotor (2) is 75 to 105°, and that the defibrating zone and the sorting zone are located in the same pulp space (5).

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Description

Means for defibrating and sorting pulp in paper and cellulose industry

The present invention concerns a means for defibrating and sorting pulp in paper and cellulose industry, comprising a defibrating means consisting of a rotor and a stator, wherebetween is established a defibrating zone, and a sorter consisting of the same rotor and another stator, wherebetween is established a sorting zone, and the stator of said sorter having been formed to be sieve-like, and said means comprising a pulp feed, removal of accept and removal of reject.

Apparatus in present use are usually separate defibrators and sorters. Also such apparatus exists which both defibrates and sorts simultaneously.

However, existing technology is embarrassed by numerous problems. One problem is that several units are required, whereby the price is high and much space is needed. Simultaneous defibrating and sorting require a heavy and expensive construction. It is also a fact that simultaneous defibrating and sorting are not controllable. As a rule, defibrating and sorting take place at different consistency.

The object of the present invention is to provide a means similar to that described above for defibrating and sorting pulp in paper and cellulose industry, but which is not true of current problems. The means of the invention is characterized in that the angle between the centre line of the rotor shaft and the defibrating zone is 75 to 105°, and the angle between the sorting zone and the centre-line of the rotor shaft is 75 to 105°, and that the defibrating zone and sorting zone are located in the same pulp space.

As advantages of the invention may be mentioned, for instance, that without changing the sorting process the defibrating efficiency can be steplessly regulated. By pre-defibrating, the fibre flocs can be dispersed, whereby only particles which are not fit to be included in the accept pulp are removed. Similarly, the defibrating stage or the sorting stage may, if desired, be cut out from the means. When the speed of rotation range is properly chosen, the fluidizing effect of the defibrator enables efficient sorting in the same consistency range.

The invention is described in the following in detail be referring to the drawing attached, in which the figure presents the means of the invention for defibrating and sorting pulp.

In the figure is indicated the stator of the defibrating means by reference numeral 1 and the rotor of the defibrating means by reference numeral 2, said rotor being rotating, as its name indicates. Between the rotor and the stator is defined a defibrating zone, in which the material fed in through the feed 4 is defibrated. From the defibrating zone the material progresses to a sorting zone defined between the rotor 2 and the stator 3. The stator 3 of the sorter is made to be sieve-like in that it passes the defibered material. That part of material which cannot go through the sieve 3 escapes, under centrifugation force action, through the reject exit connector 6. The defibrated material passing through the sieve exits through the accept exit connector 7.

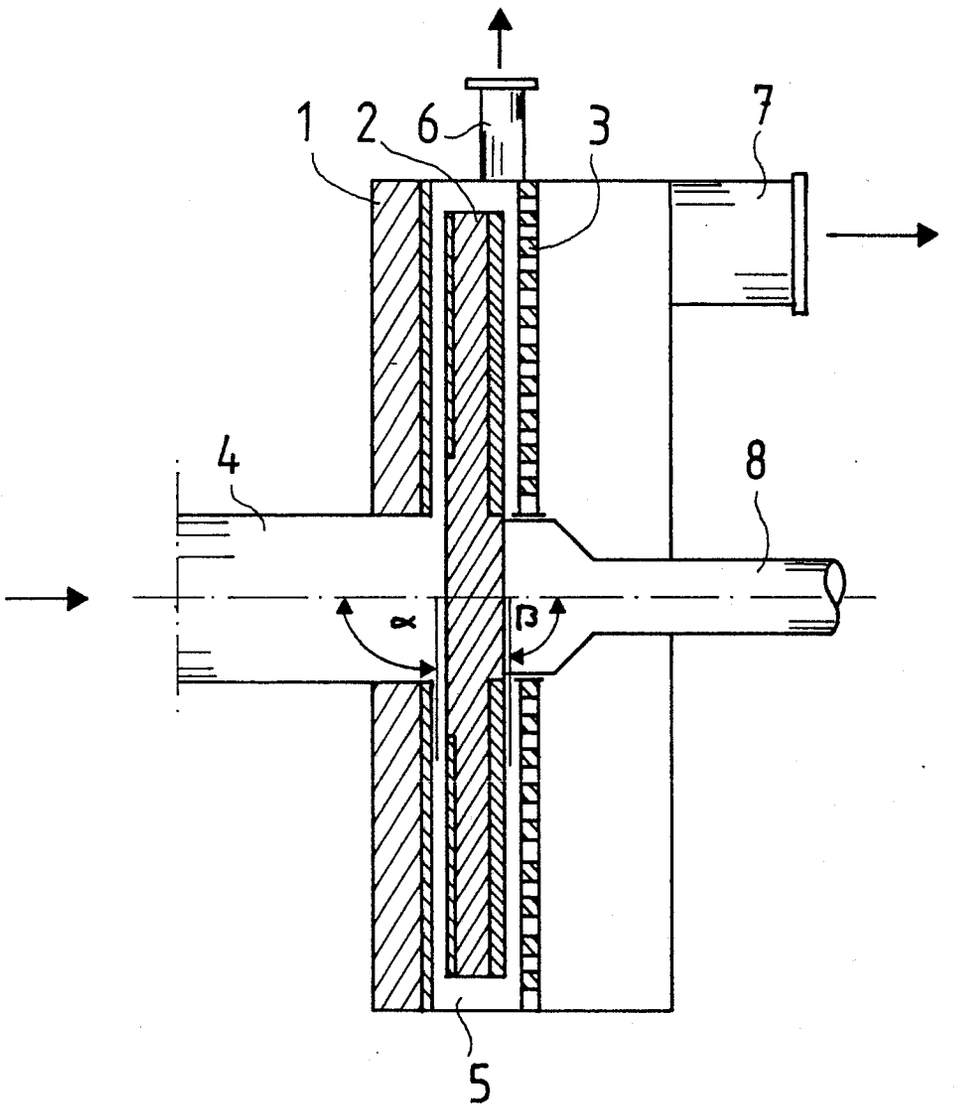
In the means of the invention for defibrating and sorting material, the angle α between the defibrating zone and the centre-line 8 of the shaft of the rotor 2 is 75 to 105°, preferably 90°. The angle β between the sorting zone and the centre-line 8 of the shaft is likewise 75 to 105°, preferably 90°.

It is also essential in the invention that the defibrating zone and the sorting zone are in the same pulp space 5.

It is obvious to a person skilled in the art that the invention is not confined to the embodiment example presented in the foregoing and that it may be varied within the scope of the claim stated below.

Claims

A means for defibrating and sorting pulp in paper and cellulose industry, comprising a defibrating means (1,2) consisting of a rotor (2) and a stator (1), wherebetween is established a defibrating zone, and of a sorter (2,3) consisting of the same rotor (2) and another stator (3), wherebetween is established a sorting zone, and which stator (3) of the sorter is being formed to be sieve-like, and said means comprising a pulp feed (4), accept removal (7), and reject removal (6), characterized in that the angle (α) between the centre-line (8) of the shaft of the rotor (2) and the defibrating zone is 75 to 106° and the angle (β) between the sorting zone and the centre-line (8) of the shaft of the rotor (2) is 75 to 105°, and that the defibrating zone and the sorting zone are located in the same pulp space (5).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