"Pulp Processing Apparatus"

This invention relates to pulp processing apparatus for use in producing wet pulp product from waste-paper.

Pulp moulding equipment for this purpose is commonly available from various manufacturers and such existing equipment is capable of producing pulp with reasonable efficiency. However, the equipment conventionally used consists of a number of discrete pieces of apparatus which must be installed in the desired location and linked together to provide a complete processing system. Installation is thus time consuming and needs to be carried out on a more or less permanent basis.

It is an object of the present invention to obviate or mitigate this disadvantage of the known equipment.

According to the present invention there is provided pulp processing apparatus comprising paper in-feed means, together with associated pulping means, dilution means in the form of a chamber in which pulp may be diluted with a liquid, moulding means and water supply means all being co-operatively mounted within a common framework to form a self contained pulp processor.

Preferably the common framework itself forms or is

contained within a structure of standard international container dimensions.

Preferably also, the apparatus includes external connection means for the attachment of service supplies.

Preferably also, the pulping means comprises one or more hydropulper devices.

Preferably also the dilution means comprises a tank which feeds the moulding means via a consistency meter.

Preferably also the moulding means is provided with a vacuum pump.

Embodiments of the present invention will now be described, by way of example with reference to the accompanying drawings, in which:

Fig 1 is a plan view of pulp processing apparatus in accordance with the present invention; and

Fig 2 is a side view of the apparatus of Fig 1.

Referring to the drawings, pulp processing apparatus in accordance with the invention comprises a general framework 1 of standard container dimensions within which all the components of the processing apparatus are mounted. The processing apparatus comprises a waste-paper loading area 2 adjacent to a pair of hydropulpers 3 connected by pipes 4 and associated valves 5 to a pulp tank 6. The pulp tank 6 is in turn connected by pipes 7 and 8, valves 9 and a pulp pump 10

to a dilution tank 11 which in turn feeds into a moulding machine 12 via a consistency meter 13 and valve 14. A vacuum pump 15 is connected to the moulding machine 12. A water tank 16 feeds the hydropulpers 3 and the dilution tank 11 via pipes 17 and valves 18 by virtue of a pump 19.

In operation waste-paper is fed into the hydropulpers 3 from the storage area 2 and is mashed with water from the water tank 16 to form a basic pulp which feeds into the pulp tank 6 through the pipes 4. The pulp mixture is pumped from the tank 6 by the pulp pump 10 via pipes 7 and 8 to the dilution tank 11 from where it in turn feeds into the moulding machine 12 via the consistency meter 13. The meter 13 controls the addition of water to the dilution tank 11 to maintain the correct consistency of pulp for the moulding machine 12. The moulding machine 12 operates in conjunction with the vacuum pump 15 to produce the finished pulp product. Level control monitors 20 operate to monitor the levels in the various tanks.

As the apparatus is standard container sized it fits easily into transportation systems for transport to an operating site. In addition being self contained it can be brought into service on site simply by connecting up the necessary services and then switching on.

Various modifications and improvements may be incorporated without departing from the scope of the invention which is to be indicated by the appended Claims rather than by the foregoing description.

CLAIMS

1 Pulp processing apparatus comprising paper in-feed means, together with associated pulping means, dilution means in the form of a chamber in which pulp may be diluted with a liquid, moulding means and water supply means all being co-operatively mounted within a common framework to form a self contained pulp processor.

2 Pulp processing apparatus as claimed in Claim 1, wherein the common framework itself forms or is contained within a structure of standard international container dimensions.

3 Pulp processing apparatus as claimed in Claim 1 or Claim 2, wherein the apparatus includes external connection means for the attachment of service supplies.

4 Pulp processing apparatus as claimed in any one of the preceding claims, wherein the pulping means comprises one or more hydropulper devices.

5 Pulp processing apparatus as claimed in any one of the preceding claims, wherein the dilution means comprises a chamber which feeds the moulding means via a consistency meter.

6 Pulp processing apparatus as claimed in any one of the preceding claims, wherein the moulding means is provided with a vacuum pump.

7 Pulp processing apparatus substantially as hereinbefore described, with reference to and as shown in the accompanying drawings.

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