VARIOUS INVESTIGATIONS OF THE BEATEN STUFF. Part I. (STUDIES ON THE BEATING OF THE PULP. IV.*)

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SUMMARY

(1) It has been shown that the wetness of the beaten stuff is increased by dabbling it in beaters or by stirring it in any vessel, and that the higher the consistency of the stuff is, the more the wetness is increased. (2) It has been proved that the beaten stuff does not combine chemically with water and that the water taken by the stuff is no other than the water of imbibition. (3) Dilute acidic or alkaline solution prevents the increase of the wetness of the stuff by standing. Mercuric chloride solution behaves similarly. On boiling with alkaline of any concentration, the stuff greatly loses the wetness. (4) Brown mechanical pulp considerably increases its wetness when bleached. (5) The wetness of the mixture of the two different stuffs can not be calculated from the wetness of its component.

(Research Laboratory Mitsubishi Paper Mills, Ltd.)

* III.: This Jour., 1928, 4, English Abst., p. 39.

STUDIES ON THE STRUCTURE OF VEGETABLE FIBRES. III*. SPIRAL STRUCTURES OF PINE NEEDLE, BANANA, HEMP, RAMIE, MULBERRY AND SPONGE-CUCUMBER FIBRES.

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The photomicrographs of the bead-like swelling, and the spiral structure of the cuticle of the following fibres which were swollen by the hydration after weak thanthation have been given (see Japanese text):

Fibre from Japanese pine needles (*Pinus densiflora*); banana fibre; hemp and ramie fibres; fibre from the bast of mulberry; fibre from sponge-cucumber (fruit).

(Research Laboratory, Mitsubishi Paper Mills, Ltd., Tokyo)

* II.: This Jour., 1929, 5, English Abst., 25.