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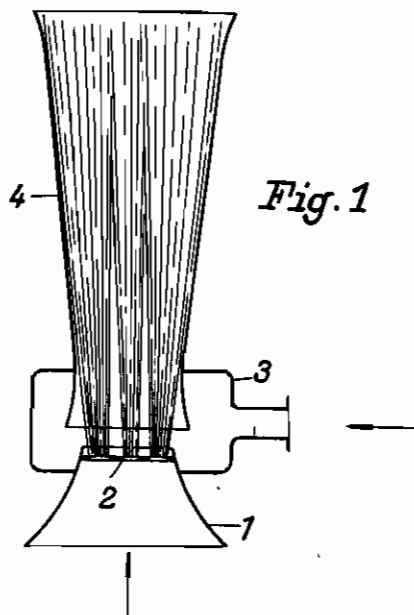


Fig. 1



Fig. 2

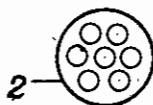


Fig. 3

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# ALIEN PROPERTY CUSTODIAN

## METHOD FOR BLEACHING CELLULOSE

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The invention concerns a method for bleaching cellulose. The letters patent protects in such a method the purpose of pumping the material to be treated with a pump through an injector, whereby owing to the underpressure caused in the nozzle by the action of pumping chlorine is aspirated and immediately brought in direct contact with the cellulose by the eddy-currents before and within the diffusor of the injector.

Such a method intends to dissolve the largest possible quantities of chlorine gas in the material if one pumps the mixture of cellulose and water in the form of one single jet into the injector a relatively considerable dissolution of chlorine gas takes place. Owing to the flow and eddy-currents a thorough mixture is attained causing the chlorine to be quickly and extensively absorbed by the cellulose and this process proceeds so rapidly that the chlorine does not find time enough to oxidise the cellulose itself. Only a chlorination of the lignine takes place.

The present invention concerns an improvement or further development of the fundamental idea of the invention. The effect according to the fundamental invention is to be increased by dispersing the material to be treated into several jets in an injector, this effect being attained by supplying the material in the injector under pressure and by aspirating or pressing the chlorine gas (delivered in this way to the injector) in the intervening spaces between the jets.

A means of performing the method according to the invention consists for example in using an injector with several nozzle-exit-openings for the egress of the material to be dispersed radio-formly into several jets. Of course also several nozzles can be arranged in the injector. But it

is advisable to use a single-nozzle tube and to install a distributing mouthpiece with several openings at its end. The openings in the mouth-piece may be given different shapes.

By the method and the device according to the invention the jet-surface, whose effect is an aspiring one, is partly brought to a multiple of the surface of the single jet, whereas on the other hand the chlorine gas has the possibility of penetrating between the different jets and of mixing itself intimately with the cellulose. All the different jets enter the diffusor of the injector together with the aspirated quantity of chlorine gas, the latter being as usual of a circular section. In the diffusor the different jets are again united. As already mentioned the intensive whirling movement of the mixture of the material and the water in the diffusor provides a thorough mixing-up of the aspirated chlorine gas with the mixture of cellulose and water.

The drawing shows a form of the device according to the invention.

Fig. 1 shows a form of the injector according to the invention in section.

Figs. 2 and 3 show two different forms of the mouth-piece in plane projection.

One sees a nozzle-tube 1 which is closed by a disturbing mouthpiece with several openings 2. The distributing mouthpiece or the openings in it can have the shape to be seen in Figs. 2 and 3. Chlorine gas is pumped into an aspiration chamber 3 and thrown with the projecting jet into the diffusor 4, where it is distributed between the jets and owing to the intimate mixture completely dissolved.

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