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PROCESS FOR FILLING BOILERS FOR CELLULOSE WITH SULPHITE SOLUTION.

No Drawing. Application filed January 12, 1921, Serial No. 436,851, and in Germany September 4, 1920.

The soaking of the boilers for cellulose in sulphite solution or the filling of the same with the sulphite solution which is required for the boiling process has hitherto been executed in such a manner that when the solution entered the boiler the air could escape from the same easily and rapidly without the production of a notable pressure in the boiler. When the filling was effected with cold solution or with a solution which was only slightly heated, this working method could be applied without difficulty.

With hot solution however the inconvenience made itself felt, that during the filling sulphurous acid separated from the solution which was not absorbed by the wood but escaped from the boiler with the escaping air. Herefrom results that the proportion of sulphurous acid in the solution becomes low, the trituration of the wood being consequently insufficient.

According to the novel process this difficulty is overcome by forcing the hot solution into its boiler with the aid of a pressure pump, the boiler being closed and shut off by means of a safety valve which shuts the boiler tightly until a certain pressure is attained and then allows the gas or air to blow off. This safety valve is adjusted and regulated, according to the prevalent conditions, specially according to the kind of boiling and according to the proportion of sulphurous acid and to the temperature of the solution to be forced in, so that the pressure produced in the boiler leaves, at a determined temperature, always sufficient sulphurous acid in the solution. Thus it is obtained that also such sulphite solutions which are heated to high temperature (e. g. 900° C. and more) can be used directly and without any difficulty for the filling of boilers for cellulose, this being a great progress in consideration of the utilization of heat in the production of sulphite cellulose.

I claim:

1. An improved process for filling cellulose boilers consisting in forcing heated sulphite liquor by means of a pressure pump into a closed boiler, said liquor being of such a concentration that it can be used immediately for the digesting operation.

2. An improved process for filling cellulose boilers consisting in forcing heated sulphite liquor by means of a pressure pump into a boiler closed up to a certain pressure, said liquor being of such a concentration that it can be used immediately for the digesting operation.

3. An improved process for filling cellulose boilers with hot sulphite liquor, decomposition of said liquor during preliminary heating having been prevented by suitable means, consisting of forcing said hot undecomposed sulphite liquor by means of a pressure pump into a closed boiler.

4. An improved process for filling cellulose boilers with hot sulphite liquor, decomposition of said liquor during preliminary heating having been prevented by suitable means, consisting of forcing said hot undecomposed sulphite liquor by means of a pressure pump into a boiler closed up to a certain pressure by an adjustable safety valve.

In testimony whereof I affix my signature.

DR. HANS CLEMM.