

(No Model.)

E. R. HEWITT.

PREPARATION OF GLUE STOCK FOR BOILING.

No. 533,296.

Patented Jan. 29, 1895.

Fig: 1.

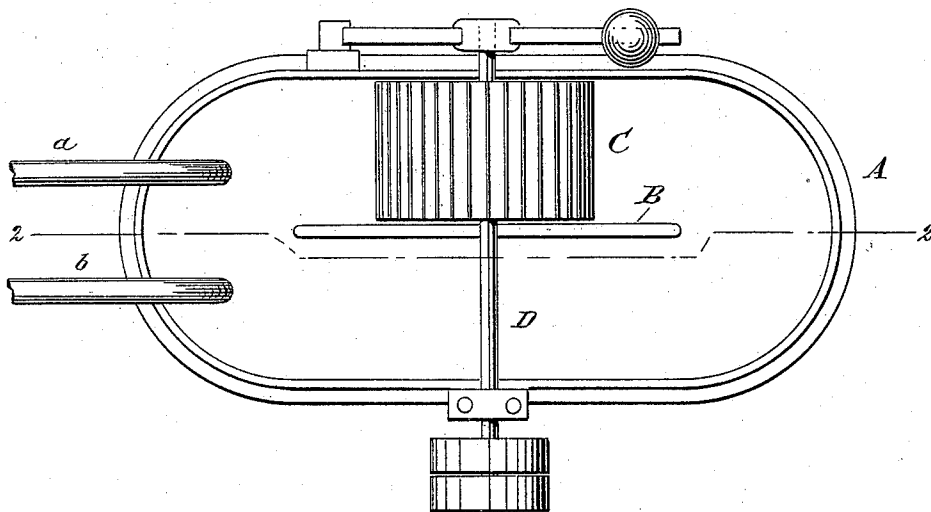
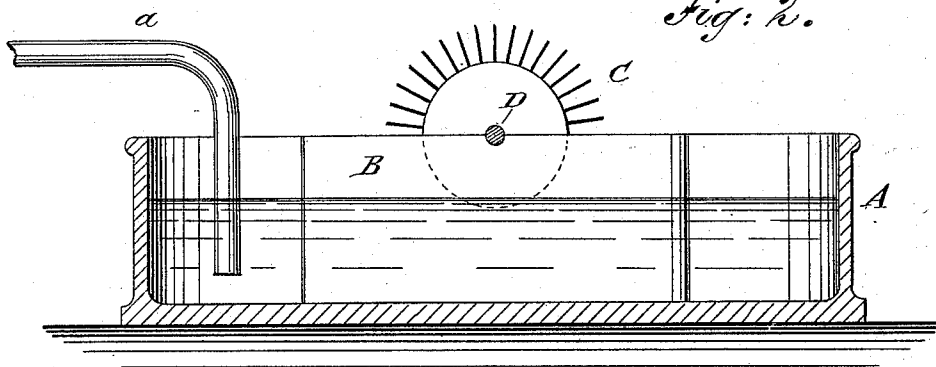


Fig: 2.



WITNESSES:

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PREPARATION OF GLUE-STOCK FOR BOILING.

SPECIFICATION forming part of Letters Patent No. 533,296, dated January 29, 1895.

Application filed June 13, 1894. Serial No. 514,368. (No specimens.)

To all whom it may concern:

Be it known that I, EDWARD R. HEWITT, of New York city, in the county and State of New York, have invented new and useful Improvements in the Preparation of Glue-Stock for Boiling, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, in which—

Figure 1 is a plan view of apparatus used in carrying out my invention; and Fig. 2 is a vertical longitudinal section taken on line 2—2 in Fig. 1.

Similar letters of reference indicate corresponding parts in both views.

15 An old and common method of neutralizing lime in glue stock consists in submitting the limed stock to the action of carbonic acid by drying stock in the air or hanging it in baskets in a running stream; but this method has proved defective on account of the difficulty experienced in bringing the carbonic acid into contact with the lime or other alkali used in the treatment of the stock, so that while a portion of the lime is converted into carbonate of lime, enough alkali generally remains in the stock to render the last run alkaline, which is detrimental; and furthermore, the time required for neutralizing with carbonic acid is so long that the stock is in danger of spoiling.

30 I have discovered that although sulphurous acid is ordinarily a stronger acid than carbonic acid, and will displace the latter from combinations with metals, under certain conditions it will not displace carbonic acid in glue stock, but will render the stock acid. My improved process therefore consists in neutralizing the alkali as far as possible with carbonic acid, and then adding sufficient sulphurous acid to complete the process and leave the stock neutral or slightly acid.

35 In carrying out my invention, I take glue stock, either whole or after it has been cut into small pieces and limed by any known process, and wash it in a revolving barrel washer or in any other convenient way, and then submit it to the action of carbonic acid until the greater portion of the lime in the stock is converted into carbonate of lime. I

then submit the stock to the action of sulphurous acid to neutralize the last traces of alkali, leaving the stock neutral or slightly acid.

Instead of treating the stock first with carbonic acid and then with sulphurous acid, I may use a mixture of these acids.

The sulphurous acid is intended to neutralize the remaining lime, and by its antiseptic properties prevents the decomposition of the stock. If the lime in the glue stock converted into sulphite of lime amounts to more than two per cent. of the weight of the dry glue, there is danger of the sulphite of lime coming out on the surface of the glue on drying. If part of the lime is converted into carbonate and part into sulphite, a larger proportion of lime may exist in the glue without danger of efflorescence on drying.

I prefer to use stock which has been treated with a saturated solution of lime in water containing an excess of lime, milk of lime, or a lime solution to which a small quantity of soda has been added. It is found by experience that stock must be soaked in the lime solution from one week to six months, the time depending on the temperature and the nature of the stock. The addition of soda hastens the process of liming.

Stock which is slightly acid with sulphurous acid, renders into glue under the influence of heat and moisture, more quickly than glue in the presence of carbonic acid.

In the drawings I have shown one form of apparatus for carrying out my invention, but I do not confine myself to this form.

85 The oblong tank A, is divided longitudinally through the middle by a partition B, on one side of which is placed a paddle wheel C, supported on the shaft D. The glue stock is placed in the tank A, and kept in circulation by the revolving paddle wheel C. Two pipes *a*, *b*, are provided, which dip in the water, one for the introduction of carbonic acid and the other for sulphurous acid.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The method of preparing glue stock for

boiling, which consists in treating the limed stock first with carbonic acid, and then with sulphurous acid for completing the neutralization of the lime in the glue stock, substantially as described.

5 2. The method of preparing glue stock for boiling, which consists in liming the glue stock, washing it, then submitting it to the

action of carbonic acid, and then following the carbonic acid treatment with the application to the glue stock of sulphurous acid, substantially as described.

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Witnesses:

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F. W. HANAFORD.