

United States Patent Office.

CARL WANDEL, OF WALDAU, NEAR BERNBURG, NORTH GERMAN CONFEDERATION,
ASSIGNOR TO F. O. MATTHIESSEN, AND W. A. WIECHERS, OF NEW YORK CITY.

Letters Patent No. 92,406, dated July 6, 1869.

IMPROVEMENT IN THE MANUFACTURE OF GRANULATED SUGAR.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern :

Be it known that I, CARL WANDEL, of Waldau, near Bernburg, in the Duchy of Anhalt, North German Confederation, have discovered a new and useful Improvement in the Manufacture of Granulated Sugar; and I do hereby declare that the following is a full, clear, and exact description of the same.

There are two methods in ordinary use for the manufacture of that product of refined sugar known as "granulated sugar." The one of these consists in shaving off or grinding hard white loaf-sugar, and the other, in taking soft white sugar made by the centrifugal machine, and drying it on heated plates or granulating-tables. Both of these methods are comparatively expensive, and otherwise objectionable, and under the last mentioned plan it is necessary to keep constantly stirring the sugar on the tables, to prevent too long contact of any one portion of the sugar over another with the heating-surface, or otherwise the sugar becomes colored, and waste ensues, which cannot, in fact, under the most careful management, be altogether avoided.

The present invention removes these objections, and has for its object the manufacture of granulated sugar in a more economical and perfect manner, without waste or loss; and

The invention consists in making such product directly in the centrifugal machine, by injecting dry steam or hot air against the wall of sugar therein. This may be done without or prior to removal of the soft white sugar, as obtained in the ordinary or any suitable centrifugal machine, either before or after the same has been washed with water, or any other suitable cleansing liquid, as, for instance, by in-

jection through a hose and nozzle against the wall of sugar on the inside of the machine whilst running, which is the ordinary method, and which leaves the sugar with more or less of moisture in it, generally from two (2) to five (5) per cent. To dry the sugar, and effect its granulation while in the machine, I similarly inject, that is, by hose and nozzle, provided with a stop-cock, or other suitable means, against the interior of the wall of sugar as it is rotated, dry steam or hot air. Thus, if steam be used, it is first passed through any properly constructed superheater, on its way from the boiler to the nozzle that directs it against the sugar, with or without the aid of an injector, or other mechanical auxiliary.

Or, if hot air be used, the same similarly injected against the sugar by, for instance, forcing air through any suitable heater, to and through the distributing-hose and nozzle, by means of an injector, blower, force-pump, or other mechanical device. The dry steam, or hot-air, thus injected against the sugar is made to permeate it, in the same manner as the liquoring or washing is effected by hose and nozzle, and thus the drying and granulation of the sugar secured while in the centrifugal machine.

What is here claimed, and desired to be secured by Letters Patent, is—

The manufacture of granulated sugar, while in the centrifugal machine, by the injection of a current or currents of superheated steam, or hot air, against the wall of sugar therein, substantially as specified.

CARL WANDEL.

Witnesses:

HENRY T. BROWN,
J. O. DONNER.