

UNITED STATES PATENT OFFICE.

FRANZ O. MATTHIESSEN, OF NEW YORK, N. Y.

IMPROVEMENT IN PROCESSES OF REFINING SUGAR.

Specification forming part of Letters Patent No. **162,243**, dated April 20, 1875; application filed April 12, 1875.

CASE B.

To all whom it may concern:

Be it known that I, FRANZ O. MATTHIESSEN, of New York, N. Y., have invented an Improved Process of Refining Sugar, of which the following is a specification:

My improvement relates to a modification of that process of refining sugar whereby the entire sugar-mass is converted into coffee-sugar without leaving any fluid remainder in the form of sirup.

As I have invented several modifications in this process, for which I am about applying for patents, I shall, for convenience, designate the present application as Case B.

The modification of the process to which the present application refers includes the boiling of the clarified sugar-liquor in the vacuum-pan until the usual crystallization has taken place; but, instead of mechanically separating the crystals and reboiling the sirup, the entire contents of the vacuum-pan is discharged directly into shallow trays or pans, and, being thus divided into thin layers, is subjected to gentle heat in the open air, and a consequent prolongation of the processes of evaporation and crystallization, until nearly all the water contained in the material operated upon has been evaporated, and it has acquired the condition of a granular mass substantially like what is known as coffee-sugar, the slight portion of sirup present being adherent to the sugar-crystals. The heat of

the sirup itself as it comes from the vacuum-pan is thus utilized for the purpose of promoting evaporation, but an additional application of heat will usually be required to prevent the cooling of the sugar-mass and complete the operation. Care must be taken not to allow the temperature to exceed 212° Fahrenheit, and it is preferable to conduct the process to completion at a lower temperature than that.

The distinctive characteristic of the present invention is the immediate subjection of the divided sugar-mass discharged from the vacuum-pan to a process of gentle evaporation in the open air.

I claim as my invention—

The improved process of refining sugar herein described, which consists, in addition to the ordinary boiling of the clarified sugar-liquor in the vacuum-pan, in dividing the hot sirup and crystallized sugar discharged from the vacuum-pan into small masses or thin layers, and subjecting such small masses or thin layers to a process of gentle evaporation, conducted in the open air, and prolonged until sufficient water has been expelled from the material operated upon to convert it into a granular mass, as set forth.

F. O. MATTHIESSEN.

Witnesses:

M. L. SENDERLING,
O. H. KRAUSE.