

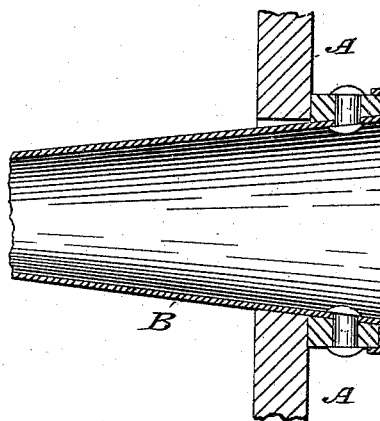
(No Model.)

C. STEFFEN.  
CENTRIFUGAL MACHINE.

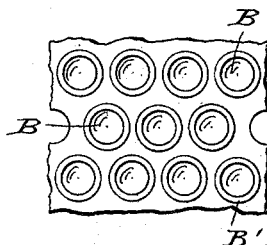
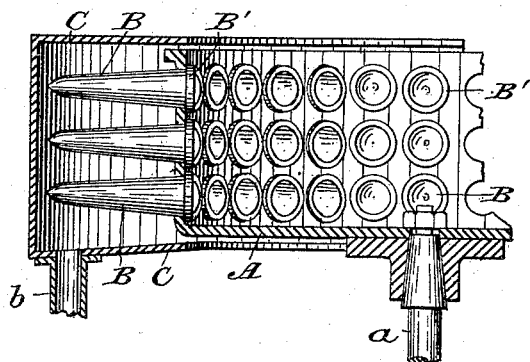
No. 489,643.

Patented Jan. 10, 1893.

*Fig. 3.*

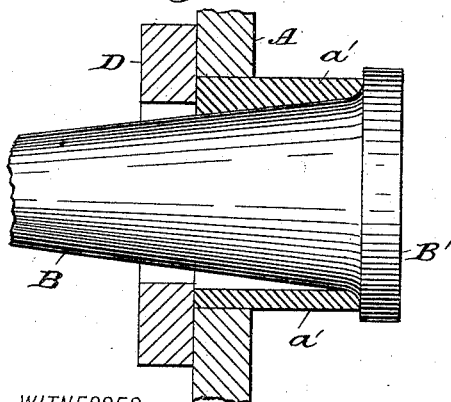


*Fig. 1.*

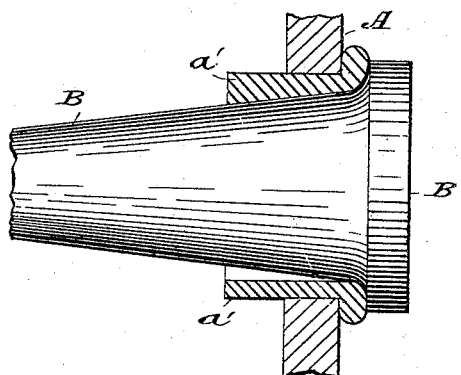


*Fig. 1a*

*Fig. 2.*



*Fig. 4.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

CARL STEFFEN, OF VIENNA, AUSTRIA-HUNGARY.

## CENTRIFUGAL MACHINE.

SPECIFICATION forming part of Letters Patent No. 489,643, dated January 10, 1893.

Application filed August 3, 1888. Serial No. 281,918. (No model.) Patented in Germany June 16, 1888, No. 49,120.

*To all whom it may concern:*

Be it known that I, CARL STEFFEN, of No. 2 Heugasse, in the city of Vienna, Austria-Hungary, have invented certain new and useful Improvements in the Construction of Centrifugal Machines for Treating Sugar in Loaf Form, of which I declare the following to be a specification.

The invention has been patented to me in Germany, No. 49,120, dated June 16, 1888.

This invention relates to the construction of a centrifugal machine for treating sugar in loaf form.

The well known centrifugal machines for driving fluid out of sugar loaves are all so constructed that the loaf mold is placed with its tip on the bottom of the drum, whereby only a relatively small number of molds can be placed in the said drum, which has the disadvantage that such centrifugal machines prove expensive in comparison with the work done by the same.

The construction of my improved centrifugal machine is such that the loaf molds need not be placed with their apexes on the bottom of and within the rotary drum, but are inserted in the lattice like or perforated wall of the said drum and are so retained in the orifices or borings of the same and between the same and the outer stationary mantle of the said centrifugal machine that the periphery of the drum is utilized to the fullest extent for receiving a large number of loaf molds thus producing an enormously increased capacity in comparison with the centrifugal machines now in use.

In the accompanying drawings Figure 1 is a vertical section of a part of one of my centrifugal machines. Fig. 1<sup>a</sup> represents a modified arrangement of the openings or orifices in the rotary drum for receiving the loaf mold. Fig. 2 is a vertical section on an enlarged scale of a conical and a cylindrical bearing for retaining the loaf molds in the drum of centrifugal machines of larger diameter. Figs. 3 and 4 represent bearings for the loaf molds for centrifugal machines of medium diameter, also on an enlarged scale.

A is the rotary drum which receives its mo-

tion from the driving shaft *a* and is provided in its periphery with suitable bearings for receiving the loaf molds B. The bearings represented in the accompanying drawings, or any other suitable bearings may be employed.

C is the outer stationary curb surrounding the rotary drum and the loaf molds, the bottom of which is inclined downward toward the periphery and is provided with a suitable tube or pipe *b* for leading off the fluid saccharine mass passing off from the sugar in the molds.

Various forms of bearings for the loaf molds are represented in Figs. 2, 3, and 4. Each of the loaf molds is provided with a ring B' which is either riveted to the mold (Fig. 3), conically driven onto old molds (Fig. 4), attached to the mold in other suitable manner, or made of one piece with the same in order to securely hold the molds in their bearings when subjected to centrifugal force in driving the liquor out of the loaf contained in the molds B. The bearings for the loaf molds B in the wall of the drum of the centrifugal machine can be made by fitting a conical or cylindrical piece of tube *a'* into the openings in the said drum substantially as shown in Fig. 4.

For drums of larger diameter I prefer the construction represented in Fig. 2, according to which strong wrought iron rings D are fixed around the openings in the drum in order to avoid a rupture of the same when the drum is rotated. The loaf molds are held by cylindrical or conical pieces of tubing *a'* similar to those shown in Fig. 4, said pieces of tubing having preferably their bearing against the strong rings D.

Centrifugal machines constructed in this manner can not only be employed for driving off all fluid from sugar loaves but also for forcing clearing or washing liquor through the same.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what I claim is:

In combination with a rotary drum A pro-

vided with a series of perforations in its periphery, sleeves *a'* fitting said perforations and held therein against the centrifugal action, said sleeves having cone shaped openings and the conical molds B having a shoulder overlapping the end of the sleeve, substantially as described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

CARL STEFFEN.

Witnesses:

B. RO,

ANTHONY STEFFEN.