

D. EDWARDS.
Sugar-Mixing Apparatus.

No. 210,769.

Patented Dec. 10, 1878.

Fig. 1.

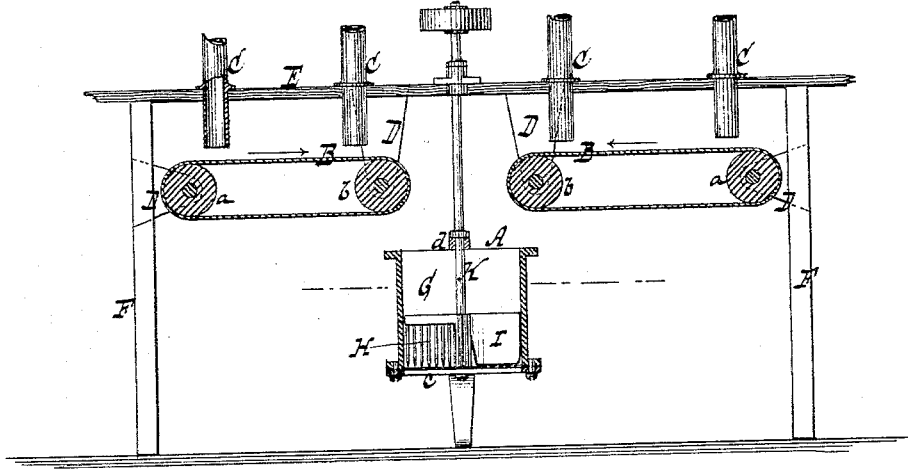


Fig. 2.

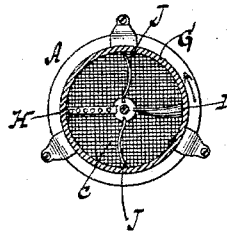
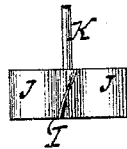


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

DAVID EDWARDS, OF NEW YORK, N. Y.

IMPROVEMENT IN SUGAR-MIXING APPARATUS.

Specification forming part of Letters Patent No. **210,769**, dated December 10, 1878; application filed October 31, 1878.

To all whom it may concern:

Be it known that I, DAVID EDWARDS, of the city, county, and State of New York, have invented a new and useful Improvement in Mixing Soft Sugars, which invention is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a longitudinal vertical section of a machine used in carrying out my invention. Fig. 2 is a horizontal section of the mixing-cylinder. Fig. 3 is a side elevation of the stirrer.

Similar letters indicate corresponding parts.

The sugar discharging from a centrifugal machine usually has different colors or shades and is somewhat lumpy, and it is customary to mix the same for the market so that the product has a uniform color and body.

The object of my invention is to provide for mixing the sugar with less labor, greater dispatch, and equal or better results than by the means usually adopted.

My invention consists of pipes emanating from two or more tanks or centrifugal machines arranged to discharge the sugar upon an endless traveling apron, which discharges the sugar at one of its ends into a mixing-cylinder, thereby producing an apparatus which will deliver the sugar into the mixing-cylinder without intermediate handling; farther, in the combination, with a mixing-cylinder having a foraminous bottom, of a stirrer or agitator consisting of a toothed blade or rake for keeping the mass of sugar contained in the cylinder in a loose condition, an oblique blade adapted to force the sugar against and through the bottom of the cylinder, and one or more propelling-blades for keeping the mass in motion, the several blades being secured to a revolving spindle.

In the drawings, the letter A designates the mixer of my machine. B represents the endless feed-aprons, and C pipes emanating from supply-tanks or centrifugal machines. (Not shown.) In the present example of my invention two aprons are used, and the mixer A is situated between the adjacent ends thereof. I arrange the aprons B on rollers *a b*, mounted in brackets D, which are fastened to a beam, E, and posts F. The discharge-pipes C of the

supply-tanks extend through the beam E, and terminate a short distance above the feed-aprons.

A revolving motion is imparted to the apron-rollers *a b* by any suitable mechanism, in a suitable direction to cause the aprons B to move toward the mixer A, as indicated by arrows, and hence if any sugar discharges from the pipes C, it is caught on the aprons and thereby deposited in the mixer.

By this means I save the labor of shoveling the sugar into the mixer, and am enabled to carry on the operation of mixing sugar with great economy.

The mixer A consists of a cylinder or tub, G, which is provided with a foraminous bottom, *c*, and with a stirrer or agitator, herein-after described, by which latter the particles of the sugar dropped into the cylinder are rubbed or forced through the holes in the bottom thereof, the effect of which is that the mass is intimately mixed up, and any lumps contained therein are broken up. The process of treating sugar in this manner forms an important feature of my invention.

The bottom *c* of the mixing-cylinder is preferably made of wire-netting, and made detachable, so that a bottom having coarser or finer meshes or holes can be substituted therefor.

The stirrer or agitator of the mixer consists of a toothed blade or rake, H, an oblique blade, I, two (more or less) propelling-blades, J, and of a spindle, K, carrying the several blades. The spindle K has its bearings in the beam E and in a bridge, *d*, extending across the mixing-cylinder.

When a revolving motion is imparted to the spindle K in the direction of the arrow indicated in Fig. 2, the sugar contained in the cylinder D is stirred up and kept in a loose condition by the action of the rake H, while it is forced against and through the bottom *c* of the cylinder by the action of the oblique blade I, and at the same time is kept in motion by the propelling-blades J. The propelling-blades J are preferably curved, as shown, so as to keep the sugar as much as possible in the center of the mixing-cylinder.

What I claim as new, and desire to secure by Letters Patent, is—

An apparatus for mechanically conveying

sugar from centrifugal machines or tanks to a mixing-cylinder, for disintegrating the same, consisting in the combination, substantially as hereinbefore set forth, of one or more pipes extending from the centrifugal machine or tank, an endless imperforate apron immediately beneath the end of the said pipe or pipes, and a cylinder arranged at the end of and beneath the imperforate apron, and provided with a perforated bottom and a rotary agit-

ing device for disintegrating the sugar delivered into the cylinder by the endless apron, as and for the purpose described.

In testimony that I claim the foregoing I hereunto set my hand and seal this 26th day of October, 1878.

DAVID EDWARDS. [L. S.]

Witnesses:

W. HAUFF,
CHAS. WAHLERS.