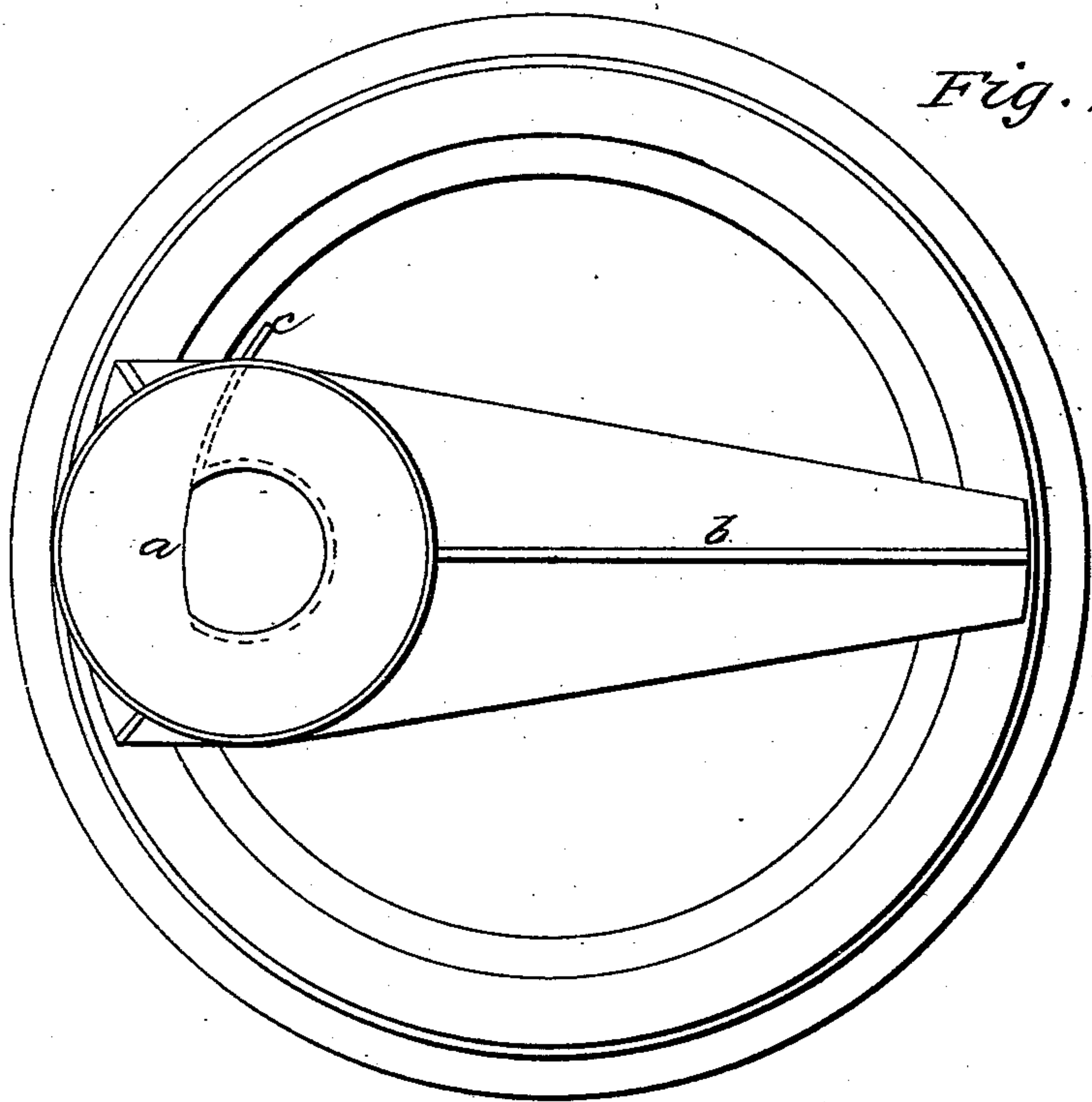
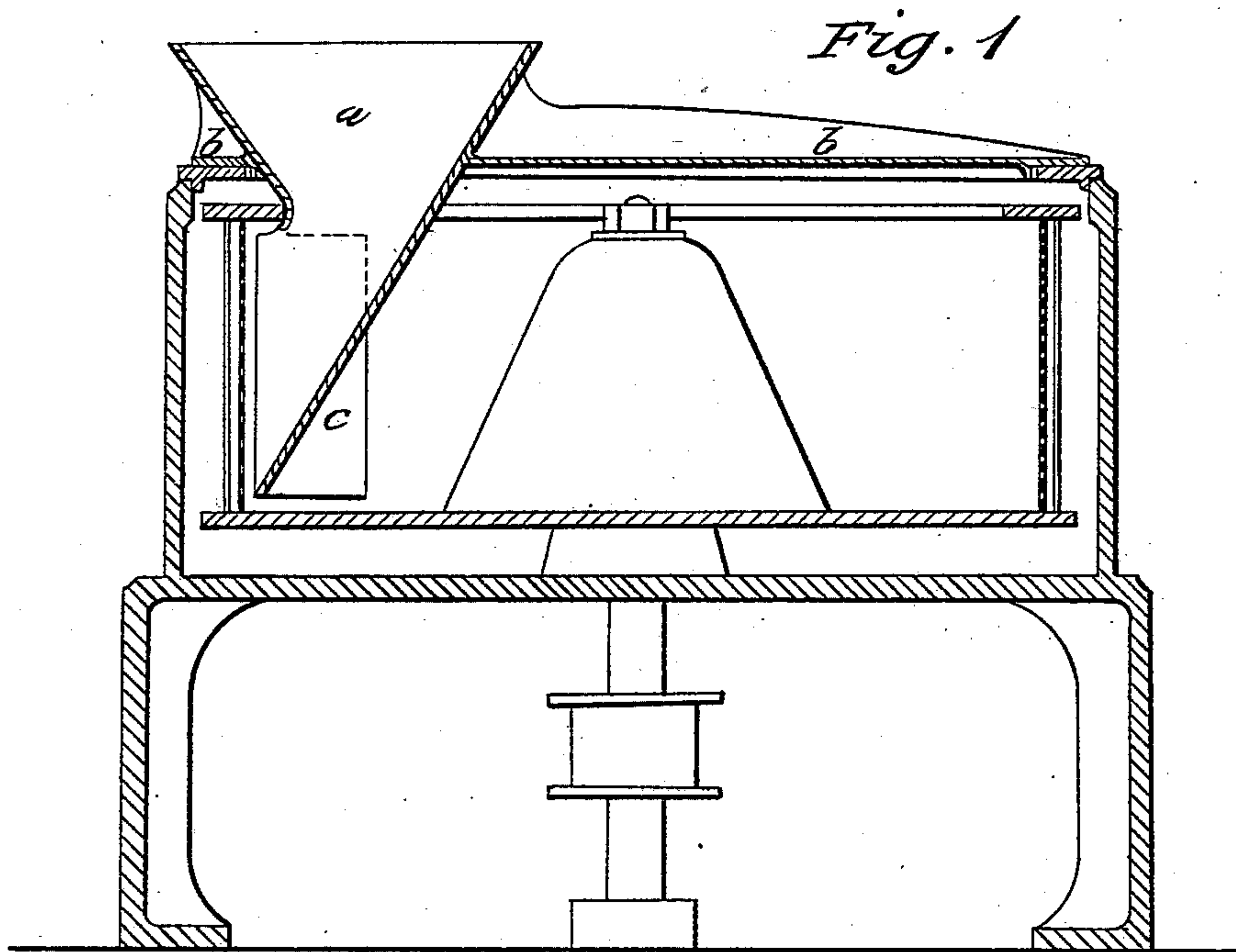


H. MERRILL.
Centrifugal Sugar-Machine.

No. 64,183.

Patented April 23, 1867.



Witnesses:
Henry Ford
Wm Remble Hall

Inventor:
Helem Merrill

United States Patent Office.

HELEM MERRILL, OF BROOKLYN, NEW YORK.

Letters Patent No. 64,183, dated April 23, 1867.

IMPROVED FEEDER FOR CENTRIFUGAL MACHINES.

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, HELEM MERRILL, of Brooklyn, in the county of Kings, and State of New York, have invented a certain new and useful machine, which I term a Feeder for Centrifugal Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, making a part of this specification, and to the letters of reference marked thereon.

In the ordinary use of the centrifugal machine for draining and drying sugar, the semi-fluid mass is put into the cylinder, and the operation of the machine distributes it over the surface of the sieve; the only provision for regulating the distribution consisting in the internal cone rising in the middle from the bottom of the machine. But as the tendency of the gravitation of the sugar is in partial opposition to the centrifugal force, a much thicker layer of material is retained against the bottom part of the cylindrical sieve than is permitted to rise to the upper part by the action of the machine, and the resulting quality of the sugar is unequal in a corresponding degree. Whatever lifting is accomplished with any portion of the mass from the bottom is in direct opposition to the force of gravity. It is obvious that the uniform drainage of the sugar can only be effected by a uniform action of the machine, which, in turn, necessarily depends upon the uniform distribution of the sugar or other material with which the machine may be charged. And in a similar manner, when it is desired to wash the granulated sugar by the application of water or of refiner's liquor, or to bleach it by the use of steam, the best result can only be obtained by operating upon an even thickness of material.

The object of my invention is to insure the spreading of the mixed mass of molasses, sirup, and granulated sugar in a uniform layer over the interior surface of the rotating sieve while it is in motion, so that there can be no thin parts, at the top or elsewhere, to be unduly drained and too much washed, or other parts so thick that they are likely to be insufficiently drained and not enough washed. To accomplish this object, my invention consists of a movable hopper mounted on a frame that rests upon the stationary outer case of the machine, and which is extended inside the revolving sieve to the bottom near to one side, with an opening next the sieve that is so graduated in width, being wider at the top, that it delivers the same quantity at the top as at the bottom. The hopper is contracted at the bottom, inside the machine, so that its conical sloping sides also contribute to deliver the material uniformly from the opening against the sieve; and the uniform thickness of the layer is insured by a blade projecting from the side of the hopper opposite to the motion and extending the height of the sieve, and spreading the material like a trowel, set to a gauge as it is distributed upon the revolving sieve from that supplied to the stationary hopper.

To enable others skilled in the arts to which it appertains to make and use my invention, I will proceed to describe its construction and operation with reference to the drawing.

Figure 1 is a sectional elevation of a centrifugal machine showing the application of the feeder of my invention in position for use; and

Figure 2 is a plan of the same.

The wide-mouthed hopper *a* is tapered to a point at the bottom, so that the open side next the sieve is triangular in form, and is carried by the ribbed plate *b* that rests upon the stationary part of the machine. The blade *c* projects from the side of the hopper inside the machine and opposite to the motion, and is curved in conformity with the cylindrical surface of the sieve. The material placed in the hopper is carried out by the motion of the sieve, and spread uniformly by the blade. In cases where the conical hopper and triangular opening are not sufficient to prevent an increased thickness towards the bottom, the blade *c* may be made with inclined ribs or corrugations, by which the material will be lifted upward as it is taken from the hopper by the rotation of the machine.

The hopper may be shifted from machine to machine as they successively require to be filled, and it may be regulated or gauged to apply the precise thickness of sugar or other material that experience determines to be the best for the most effective action of the machine. It may also be used, if desirable, to lay up a wall or coating of wet clay inside the layer of sugar, by which the sugar may be speedily whitened by claying, in addition to the usual centrifugal action.

I claim as my invention—

A hopper, constructed substantially as described, for the purpose of delivering and distributing a uniform layer on the sieve of a centrifugal machine while in motion.

HELEM MERRILL.

Witnesses:

HENRY TORSTRICK,
WM. KEMBLE HALL.