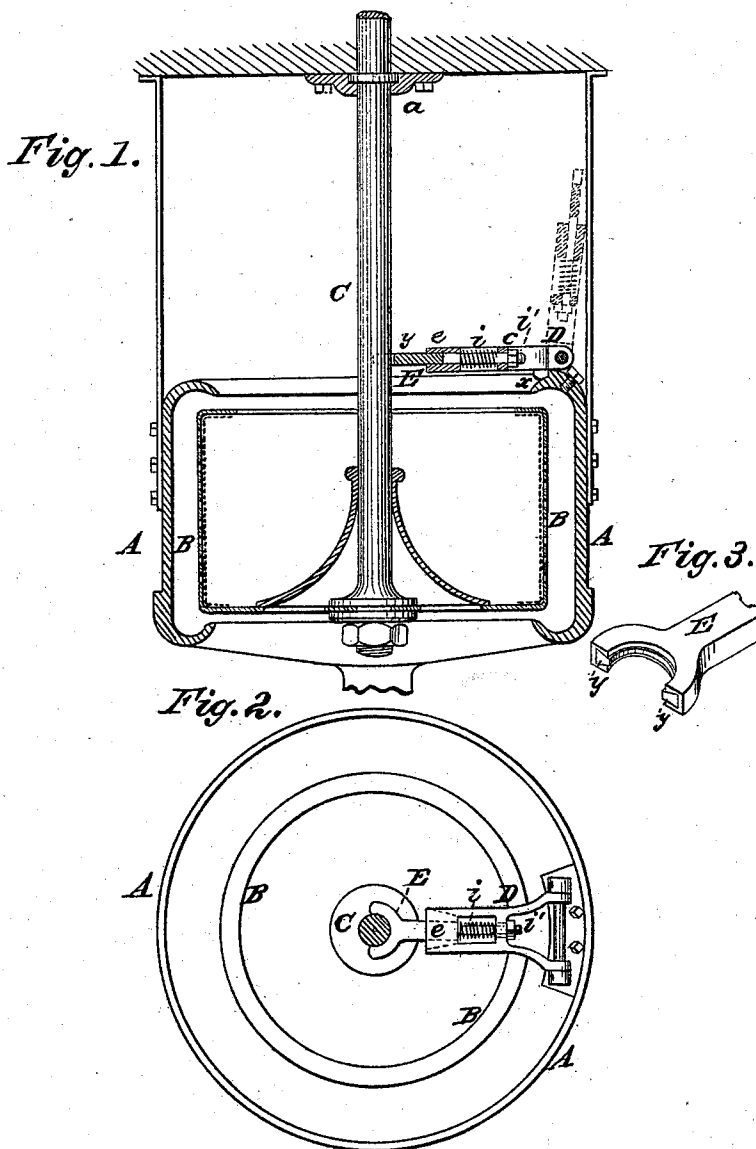


R. J. BARR.
Centrifugal Sugar-Machine.

No. 80,702.

Patented Aug. 4, 1868.



Witnesses:

John Parker
Thomas McHrain.

Inventor:

Robert J. Barr
by his atty.
Henry H. Brown

United States Patent Office.

ROBERT J. BARR, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 80,702, dated August 4, 1868.

IMPROVEMENT IN CENTRIFUGAL MACHINES FOR FILTERING, DRAINING, AND DRYING.

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, ROBERT J. BARR, of Philadelphia, Pennsylvania, have invented an Improvement in Centrifugal Drying-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention consists of a forked bar, having a yielding bearing, and so secured adjacent to and bearing against the suspended shaft of a centrifugal drying-machine, that the gyration of the said shaft is prevented, while the ready introduction or removal of the material to be dried is not interfered with.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figure 1 is a vertical section of my improved centrifugal drying-machine,

Figure 2 a plan view, and

Figure 3 a perspective view of a portion of my invention, drawn to an enlarged scale.

A is a stationary cylindrical case, which is suspended from the ceiling, or otherwise supported, and B is a cylindrical vessel with perforated sides, which is suspended within the case A by a vertical shaft, C, the only bearing of the shaft being that to which a collar, *a*, near the upper end of the shaft, is adapted.

To the casing A is hinged a frame, D, and through cross-pieces *c c* of the latter passes a bar, E, forked at its inner end, which embraces the shaft C, and around the bar, between a shoulder on the same and the cross-piece *c*, is coiled a spring, *z*, the force of which, and the consequent pressure of the bar upon the shaft, is regulated by a nut, *z'*.

The opening in the cross-piece *c*, through which the bar E passes, is wider than the bar, so that the latter can vibrate laterally to a limited extent, for a purpose described hereafter.

In the inner edge of the forked end of the bar E is a dove-tailed groove or channel, *y*, filled with lignum-vitæ or other hard wood, which projects slightly beyond the edge of the bar, and serves as a bearing for the shaft, (see fig. 3.)

In the centrifugal machines first constructed, for drying sugar and other materials, the shafts rested in steps and bearings which maintained them permanently vertical, heavy foundations and a large amount of room being required, while the machines, as well as the buildings in which they were used, were subject to constant and destructive vibrations.

Most of these objections are overcome by removing the "steps" and suspending the shafts, as above described. The tendency of the shaft, however, to vibrate or gyrate at its lower end during its revolution, and when the material is not evenly distributed in the vessel B, renders necessary the constant services of an attendant, who bears with a forked bar against the side of the shaft whenever the latter begins to gyrate.

By my above-described improvements the labor and expense of an attendant are avoided, the forked bar E bearing constantly against the shaft, and speedily reducing any gyration resulting from the vessel B being unevenly loaded, but yielding sufficiently, before the gyration is reduced, to prevent the violent shocks and vibrations which occur when an unyielding bearing is employed.

It should be understood that the forked rod is prevented from falling to a point below that shown in fig. 1 by lugs *x x* on the side of the case A, which serve to support the hinged frame D.

It is during the time of charging the machine that the shaft is most liable to gyrate, and the forked rod most needed, and the latter being of inconsiderable width, and occupying but a small space at one side of the machine, does not interfere with the operation of charging, while, after stopping the machine preparatory to removing the contents of the vessel B, the hinged rod and its frame can be readily thrown back out of the way, as indicated by the dotted lines in fig. 1.

Without limiting myself to the precise construction and arrangement of parts herein described, I claim as my invention, and desire to secure by Letters Patent—

1. A forked bar, E, having a yielding bearing, and arranged adjacent to and bearing with its forked end against the suspended shaft of a centrifugal drying-machine, substantially as and for the purpose described.
2. The said bar, secured in a frame hinged to the outer casing or other permanent part of the machine, for the purpose set forth.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

R. J. BARR.

Witnesses:

JOHN WHITE,

C. B. PRICE.