

ALBERT FESCA.

Improvement in Centrifugal Machines for Draining Sugar.

No. 125,036.

Patented March 26, 1872.

Fig: 1.

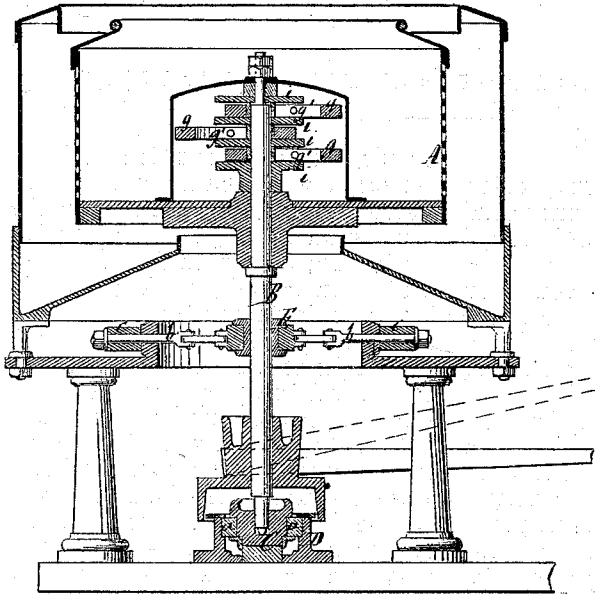


Fig: 3.

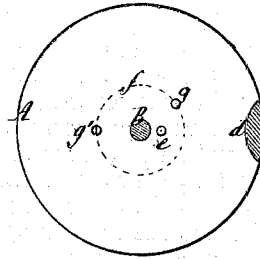


Fig: 4.

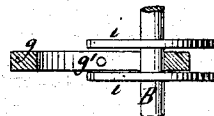


Fig: 5.

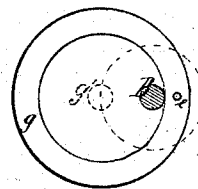


Fig: 6.

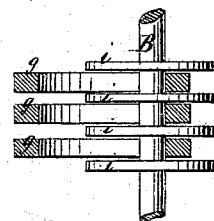
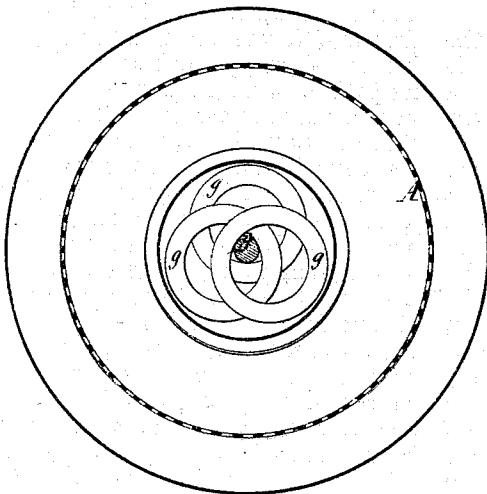


Fig: 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

ALBERT FESCA, OF BERLIN, PRUSSIA.

IMPROVEMENT IN CENTRIFUGAL MACHINES FOR DRAINING SUGAR, &c.

Specification forming part of Letters Patent No. 125,036, dated March 26, 1872.

To all whom it may concern:

Be it known that I, ALBERT FESCA, of Berlin, Prussia, have invented a new and useful Improvement in Regulators for Centrifugal Machines; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a vertical central section of my invention. Fig. 2 is a sectional plan or top view of the same. Figs. 3, 4, 5, and 6 are diagrams serving to illustrate my invention.

Similar letters indicate corresponding parts.

This invention consists in the arrangement of two or more balance-rings hung loosely on the spindle of a centrifugal machine in such a manner that by said rings, which have a tendency to adjust themselves automatically, a self-regulating counter-balance is obtained for any overweight on one side of the drum of the centrifugal machine, and by these means the steadiness of the motion of said machine is materially improved.

In the drawing, the letter A designates the drum of a centrifugal machine, which is mounted on a vertical spindle, B, to which a rapid revolving motion is imparted by a belt, or by any other suitable means. The foot of this spindle has its step in a block, C, which is confined by India-rubber blocks *a a* in a central position inside of the circular box D, while the middle of the spindle runs in a box, E, which is retained in a central position by rods *b b*, and India-rubber springs *c c*. The object of this arrangement (which, however, forms no part of my present invention, and which is merely mentioned for the purpose of illustrating all the advantages of my governor) is to allow the spindle to accommodate itself to any slight overcharge on one side of the drum. If the drum A (see Fig. 3) receives an overcharge, *d*, on one side, its centrifugal axle *e* will not coincide with the geometrical axle B; and if the bearings of the spindle are yielding, said spindle will accommodate itself, at least to a certain extent, to the position of the centrifugal axle, and the motion of the drum becomes more steady than it is if the bearings of the spindle are rigid. But if the overcharge

on one side of the drum is considerable, which cannot be well avoided when the charge consists of solid pieces, the yielding of the bearings is not sufficient to produce a steady motion of the machine. If with the geometrical axle B is connected a weight, *g*, Fig. 3, which revolves in the circle *f* round said axle, and if, by an overcharge, *d*, the centrifugal axle of the drum is brought to the point *e*, the weight *g*, by its centrifugal force, has a tendency to place itself in a position furthest from the centrifugal axle, and after a few revolutions of the drum it will occupy the position *g'*, where it acts as a centrifugal counter-charge to the overcharge *d*. The weight *g* is represented in my governor by a ring (see Figs. 4 and 5) the center of gravity of which is at *g'*, and which is confined between two disks, *i i*, mounted firmly on the spindle B. If the drum A has an overcharge on one side, the ring *g* will place itself in the position shown in Figs. 3 and 4, where its center of gravity is at the greatest distance from the centrifugal axle *e*. Now, if two or more such disks are arranged on the spindle B, one above the other, as shown in Fig. 1 of the drawing, they represent a corresponding number of weights, *g'*, each of which may move in its path *f*. Said rings will adjust themselves in a variety of positions, such, for instance, as that shown in Fig. 2, when they are in mutual centrifugal balance; or they may take the position shown in Fig. 6, in which case they produce their maximum centrifugal effect on the spindle B. Between the two extreme positions of the rings *g* an infinite number of intermediate positions are possible, whereby the rings produce a centrifugal effect between zero and the above-mentioned maximum effect, and said rings are able to balance any one-sided overcharge of the drum within the limits corresponding to their maximum and minimum centrifugal effect.

Whenever the drum is set in motion the rings *g g g* will adjust themselves quickly, so as to balance any one-sided overcharge of the drum, and if there is no overcharge, the rings readily find the position shown in Fig. 2, where they balance each other. By means of these balance-rings, therefore, the centrifugal axle of the drum A is always made to coincide with its geometrical axle, and the motion of said

drum is rendered steady, for, as soon as the two axes coincide, the tendency of the rings to move round the spindle B stops, and the drum has found its centrifugal balance.

The arrangement of the rings *g*, between the disks *i i*, has the object to produce a certain amount of friction which opposes the motion of the rings in their path, thereby preventing said rings, on receiving a sudden impulse, from flying beyond the point of equilibrium, and enabling them to find their centrifugal balance in a short time.

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

1. The combination of two or more loose rings, *g g*, with the spindle B of a centrifugal machine, substantially in the manner herein shown and described.

2. The combination of friction-disks *i i* with the rings *g g* and spindle B of a centrifugal machine, substantially in the manner herein set forth.

ALBERT FESCA.

Witnesses:

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