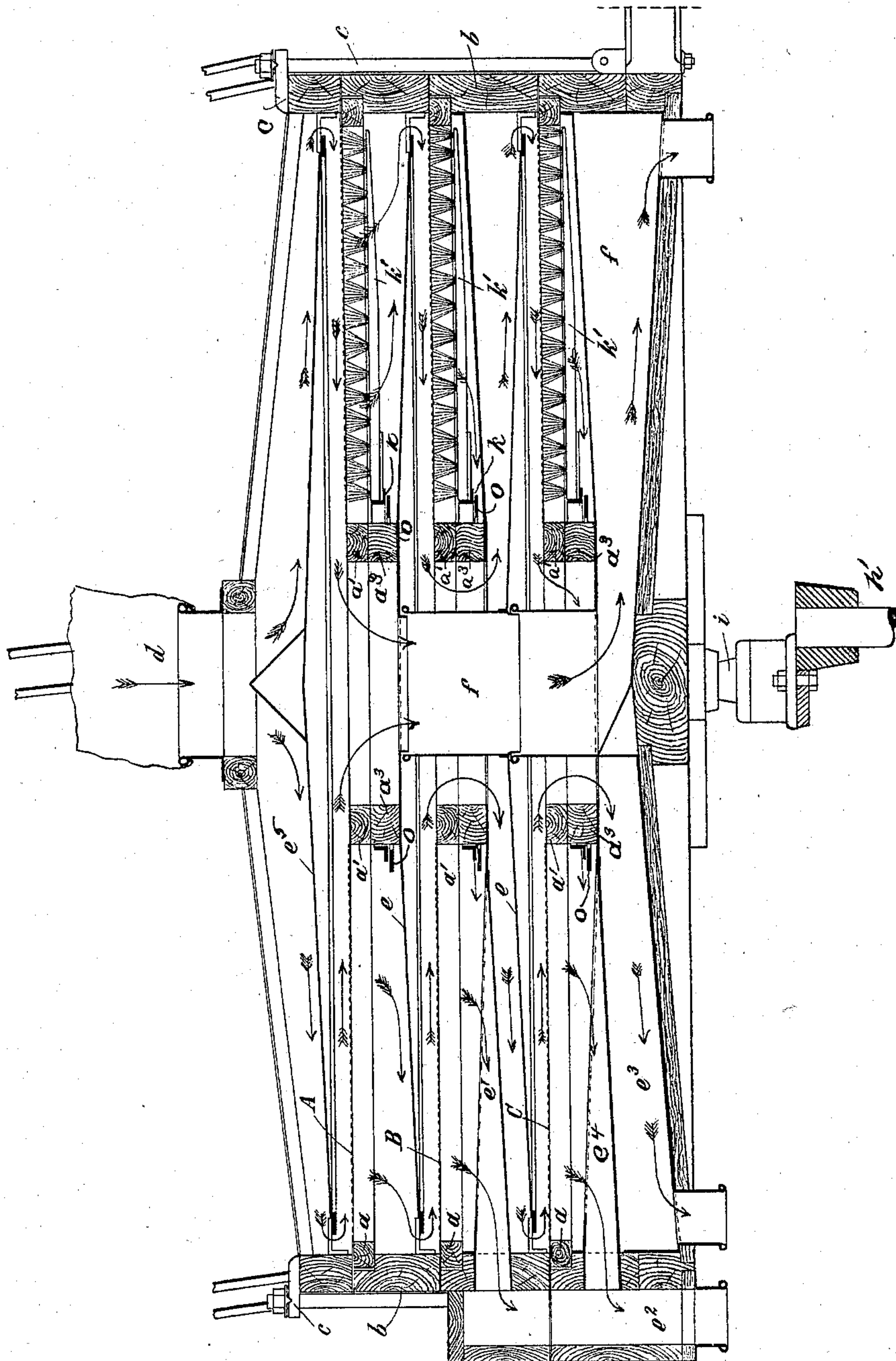


(No Model.)

W. BUNGE.
SIFTING MACHINE.

No. 589,929.

Patented Sept. 14, 1897.



Witnesses:

Geo. O. Cruse.

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UNITED STATES PATENT OFFICE.

WILHELM BUNGE, OF LUBECK, GERMANY.

SIFTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 589,929, dated September 14, 1897.

Application filed March 10, 1894. Serial No. 503,206. (No model.) Patented in Germany July 21, 1893, No. 77,588; in England March 1, 1894, No. 4,338; in Switzerland March 1, 1894, No. 8,321; in France March 6, 1894, No. 236,797; in Belgium March 6, 1894, No. 108,854; in Hungary May 30, 1894, No. 519; in Canada August 4, 1894, No. 46,733, and in Austria August 11, 1894, No. 3,990.

To all whom it may concern:

Be it known that I, WILHELM BUNGE, of Lubeck, in the Kingdom of Prussia and Empire of Germany, have invented a new and
5 useful Improvement in Sifting-Machines, (for which I have obtained a patent in Germany, No. 77,588, dated July 21, 1893; in Great Britain, No. 4,338, dated March 1, 1894; in Switzerland, No. 8,321, dated March 1, 1894; in France,
10 No. 236,797, dated March 6, 1894; in Belgium, No. 108,854, dated March 6, 1894; in Hungary, No. 519, dated May 30, 1894; in Canada, No. 46,733, dated August 4, 1894, and in Austria, No. 3,990, dated August 11, 1894,) of which
15 the following is a specification, reference being had to the accompanying drawing, which forms a part of this specification.

The object of my invention is to provide a
20 horizontal sifting-machine employing a number of sieves which may be easily taken apart from one another for the purpose of cleaning or for varying the size or shape of the sieves or for reducing the number employed, according to the goods to be sifted.

25 A further object of my invention is to obtain a spiral sifting motion of the machine, such as is obtained when sifting is done by hand, this motion being particularly effective in sifting processes. I attain these objects
30 by the mechanism hereinafter described with reference to the accompanying drawing and pointed out in the claim.

The said drawing is a vertical section of my machine.

35 A, B, and C represent a number of sieves secured together to form a horizontal sifting-machine. Each sieve is separate from the others and is composed of the outer ring *b*, the ring *a*, which is supported by the ring *b*,
40 and the smaller inner ring *a'*. The rings *a* and *a'* carry the sifting-cloth, which may be of any material or mesh desired. The ring *a'* has attached to it by any suitable means (not shown) a projecting ring *o*, on which is
45 loosely fitted the ring *k*, of angle-iron, carrying the brush *k'*. By this arrangement as the machine is turned in a spiral direction the brushes are thrown around on the ring *o* and in this manner clean the sifting-cloth.

50 To the bottom of each sieve is secured a

circular cone-shaped plate *e*, provided with a central opening and with an opening at its outer periphery to allow the particles which pass through the cloth to fall onto the sieve below it. As will be seen from the drawing,
55 the heavy particles from the first sieve pass through the central opening and into the chute to be conveyed away, while the finer particles pass through the sieve onto the cone-shaped plate beneath it, which guides them
60 onto the next sieve. The next plate in turn may be provided with a chute, as *e'*, for conveying the finer particles from its sieve into a chute *e''*, while the coarser particles escape
65 through the central opening of its plate onto the next sieve. The cone-plate of this sieve may be provided with a chute *e'''* for conveying away the finer particles, while the
70 coarser particles escape through a central opening onto the next sieve. This construction is provided on each of the sieves, with the exception of the first, which is preferably of the form shown. After the material has
75 passed through the series of sieves that portion of it remaining on the last sieve escapes through the chute *e'''*.

At the top of the machine and surmounting the sieves I locate a cone-shaped plate *e⁵*, on which the material falls from the chute *d*. This plate as the machine is operated scatters the material to its outer edge, where it
80 passes onto the first sieve. It then passes through the several sieves, as above described, its course being indicated by the arrows.

85 The several sieves are secured on each other with a suitable packing between them and are securely held by the clamp *c*, which is carried by a rod mounted on the base of the machine. The base may be of any desired construction and it has connected with it the
90 means by which the device is suspended.

g represents a number of rods (four being used) which are connected at one end to an overhead support and at their other ends to
95 the machine. This desirable movement is obtained by the following means: *i* represents a short shaft rigidly secured at one end to the machine and at its other end eccentrically to the crank *h'*. Thus it will be
100

seen that as the device is rotated it will not be in a horizontal plane, but in a varying one, this being aided by reason of the mounting of the machine by the rods *g* and the eccentric connection with the crank.

5 The operation of my machine is as follows: The machine is set in motion and the material to be sifted fed to it through the chute *d*. It is then guided to the outer edge of the
10 first cone-shaped plate and then onto the first sieve. The finer particles pass through the sieve onto the cone-shaped plate beneath it, which either conveys it to a chute or onto
15 either escape into a chute or onto the next sieve, as the case may be. This is kept up until the material has passed through the entire machine and has been separated into various grades.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

In combination, a series of sieves, having inner rings, the flanges *o* secured to the outer side of said inner rings, the brushes
25 and the rings *k* forming a part of the brush-support and loosely held on the rings *o* to have lateral movement, the said brushes bearing on the under sides of the sieves, and means for giving the sieve a gyrating move-
30 ment about a fixed axis, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

WILHELM BUNGE.

Witnesses:

FERD SCHREIBER,
CHR. KAHL.