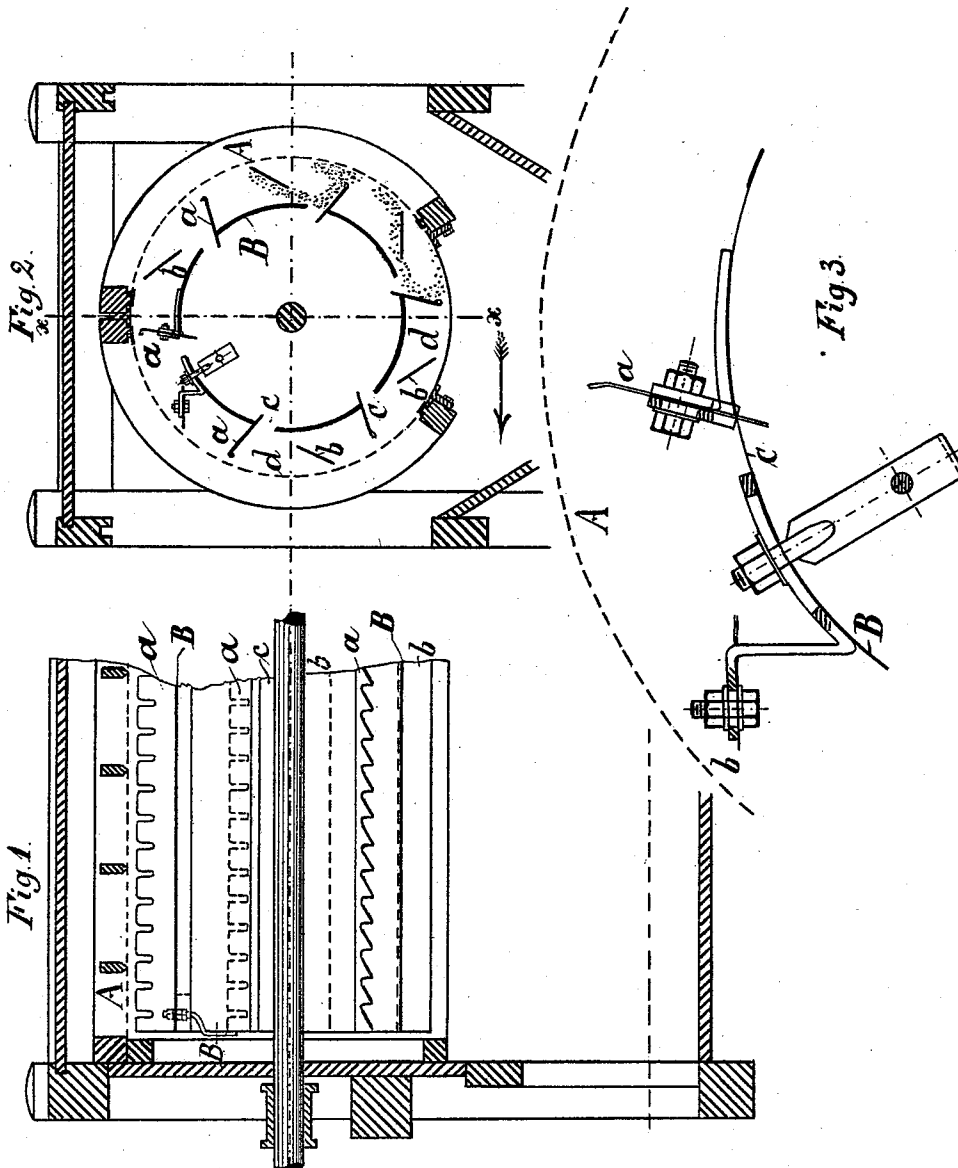


(No Model.)

H. SECK.
SIFTING APPARATUS.

No. 536,546.

Patented Mar. 26, 1895.



Witnesses:
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UNITED STATES PATENT OFFICE.

HEINRICH SECK, OF DRESDEN, GERMANY.

SIFTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 536,546, dated March 26, 1895.

Application filed October 9, 1894. Serial No. 525,401. (No model.)

To all whom it may concern:

Be it known that I, HEINRICH SECK, of Dresden, in the Kingdom of Saxony and German Empire, have invented a certain new and useful Improvement in Sifting Apparatus, of which the following is a specification.

This invention relates to sifting machines, and more particularly to machines of the class generally known as centrifugal sifting machines, said machines usually embodying a rotatable frame or casing, spanned with bolting cloth, and a frame rotatably mounted therein and provided with wings or beaters which, upon the said frame being rotated, act, in conjunction with the centrifugal force, to throw the material to be sifted against the inner surface of the bolting cloth. As is well known, the said wings may either extend spirally in a longitudinal direction, or they may be twisted, pitched or "set" so as thereby to cause the material to be conveyed through the machine in a longitudinal direction. The sifting machines of this class as heretofore generally constructed, have presented this objection that the wings, while propelling the material outwardly and, at the same time, conveying the same through the machine, would allow a comparatively limited portion only of the surface of the bolting cloth to perform a proper sifting action, while by far the greater part of the sifting surface would remain out of contact with the material to be sifted. The object of my present invention is to remove this objection and to provide means for securing a more efficient sifting effect in machines of this class, and, at the same time, to secure other advantages which will be more fully hereinafter referred to.

My invention, therefore, consists in providing between each two of the propelling wings of a centrifugal sifting machine, one or more additional or auxiliary elevating or sucking wings or blades, the said auxiliary wings being so arranged as to properly seize the material and to allow it to slide down along the inner surfaces to be thereunder seized by the propelling wings and thrown against the sifting surface, the said auxiliary wings also acting to produce an air draft and, thus, regular pulsations of air which assist in causing the material to be properly brought under the action of the propelling wings, and which pro-

duce a most efficient sifting action, the material being by these means equally distributed over, and brought into thorough contact with, the entire sifting surface.

In the accompanying drawings illustrating my invention Figure 1 is a vertical longitudinal section (on the line $x-x$ of Fig. 2) of a sufficient portion of a sifting machine provided with my improvements, to render the arrangement and operation thereof properly understood. Fig. 2 is a corresponding vertical transverse section, and Fig. 3 an enlarged sectional view of a peripheral portion of the drum showing the arrangement of the propelling and of the auxiliary wings thereon.

A illustrates the rotary frame or casing spanned with bolting cloth. Within the same is journaled the drum B, the latter being either of cylindrical shape, as shown, or having a polygonal or other suitable cross section, and having rotary movement imparted to it by any suitable and well known means. The said drum is provided with the propelling wings a each of which may be either slotted or formed with a continuous surface, as may be desired. Between each two of these propelling wings a are mounted the auxiliary elevating or sucking wings b , the same being preferably secured to the drum in the manner illustrated more particularly in Fig. 3, and otherwise essentially conforming in shape to the wings a . c are slits or apertures provided in the walls of the drum B.

The operation of the drum provided with my improved arrangement of wings as described, is as follows, that is to say:—Upon the drum B being rotated the auxiliary elevating wings b will lift the material to be sifted and will then, during their upward movement, allow the same to slide down along the same along their inner surfaces, as indicated in Fig. 2. The said material will thereupon be seized by the propelling wings a and thrown against the inner surface of the sifting or bolting cloth on the frame A. The auxiliary wings b , acting to displace the air from within the space d contained between themselves and the said propelling wings a , will produce within such space a certain rarefaction of the air, thereby causing a current of air which will convey the material to the lifting or elevating wings a . The latter will,

at the same time, produce a pressure current of air moving in a radially outward direction. A continual change of air will thus take place between the drum B and the sifting surface, 5 producing regular pulsations and causing a most efficient sifting action while, at the same time, tending to keep the sifting surface open. It will be seen that by this compound arrangement of wings in a sifting machine, as described, 10 the material to be sifted will be thoroughly distributed over the entire sifting surface, so that the entire area of its inner peripheral surface will be brought into action, while with the arrangement of wings as heretofore generally employed by far the greater 15 part of the said surface would remain practically out of action and a comparatively limited portion only would be utilized for actual sifting.

20 Having thus fully described my invention,

what I desire to claim and secure by Letters Patent is—

In a centrifugal sifting machine, the combination with the rotary frame or casing A provided with a sifting surface, of the inner 25 rotary drum B surrounded by said sifting surface and provided with the air slits c, and having on its outer side the propelling wings a, adjacent to the air slits and the diagonally arranged auxiliary elevating or sucking wings 30 b, mounted between each two of the propelling wings, substantially as and for the purposes described.

In testimony whereof I have signed my name to this specification in the presence of 35 two subscribing witnesses.

HEINRICH SECK.

Witnesses:

HERNANDO DE SOTO,
PAUL ARRAS.