No. 896,230. PATENTED AUG. 18, 1908.

J. E. MUELLER.

SIFTER.

APPLICATION FILED MAY 19, 1904.

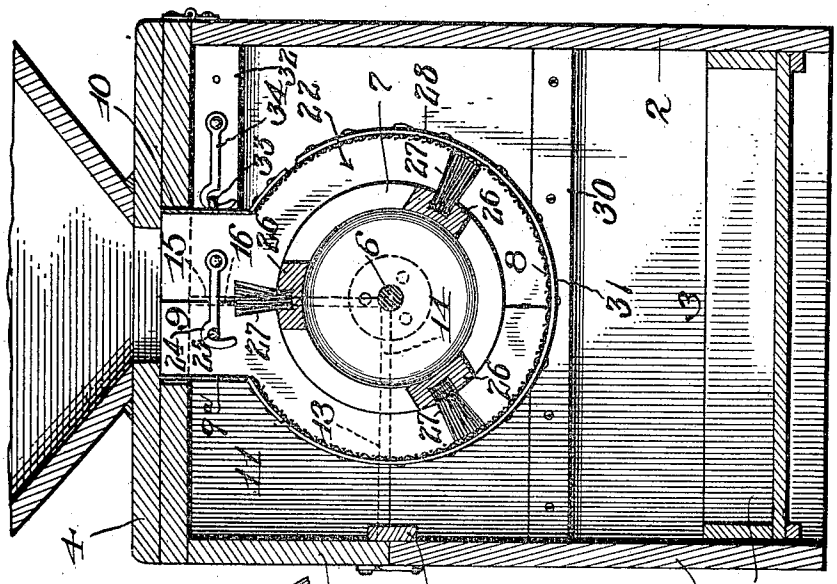


Fig. 2.

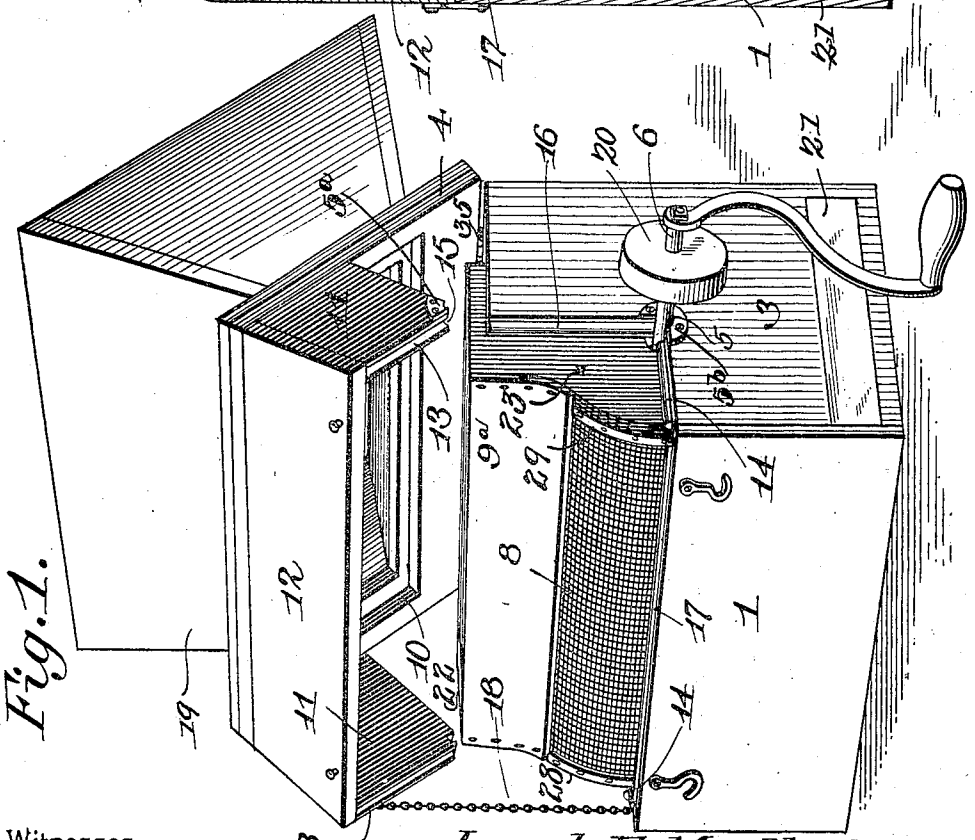


Fig. 1.

Witnesses

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SIFTER.

No. 896,230. Specification of Letters Patent. Patented Aug. 18, 1908.

Application filed May 19, 1904. Serial No. 208,736.

To all whom it may concern:

Be it known that I, JOSEPH EDWARD MUELLER, a citizen of the United States, residing at Cairo, in the county of Alexander and State of Illinois, have invented a new and useful Sifter, of which the following is a specification.

My invention relates to sifters, more particularly to devices of this class wherein the sifter mechanism is detachable from the inclosing casing for cleansing or the renewal of the screen and other parts.

To these ends the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a perspective view of my improved device illustrating the same open to expose the inner mechanism. Fig. 2 is an end elevation, partly in section, of the device closed.

Referring to the drawings it will be seen that the body or casing of my improved device comprises a front wall 1, a rear wall 2, end walls 3, and a lid or cover 4 pivoted at its rear edge to the upper edge of the wall 2 by means of hinges or otherwise.

The end walls 3 are provided with intermediate bearings 5 for supporting a shaft 6, the latter carrying the sifting reel and its associated members, as hereafter explained. The portions of the end walls rearwardly of the shaft bearings extend above the portion forwardly of the bearings, the horizontal upper faces of the forward portion having ribs 14 and the vertical faces of the rear portion having ribs 16, as shown.

Hinged at 21 to the rear wall 2 of the casing is a cover 4 bearing, when closed, upon the upper faces of the upwardly extended rear portions of the ends 3, and with a depending front leaf 12 and end sections 11, the leaf and end sections adapted for bearing upon the upper face of the front wall 1 and the forward or lower portions of the end walls, when closed.

The inner and lower edges of the end sections 11 are provided respectively with grooves or channels 13 and 15 for receiving the tongues or ribs 14—16 on the end members 3 and thus form air, vermin and dust proof joints between the parts. A stop rib 17 is also attached to the front 1 of the casing and extending above its upper rim, to cover the joint between the members 1 and 12 when the cover is closed to form a dust and air tight joint between these parts.

The cover 4 and its attachments 11 and 12 thus form a closure to the upper side of the casing, while at the same time providing for the ready removal of the screen when required.

The bearings 5 are located at the juncture of the horizontal and vertical portions of the ends 3 of the casing and are reinforced by metal plates 5^b upon the end members 3 and metal plates 5^a on the members 11 to prevent the shaft from wearing the wood material of which the casing is constructed.

The sifter portion of the device consists of ends 22—23 each divided longitudinally, the lower portions being circular in shape and the upper portions contracted and extending from the circular portions, the circular portions forming heads to receive the screen material represented at 8, and the contracted extensions connected by imperforate members 9^a, the imperforate members forming a contracted throat leading to the cylinder like screen as shown in Fig. 1.

The two parts 22—23 are detachably connected by hooks 24 and pins 25.

The shaft 6 extends through the screen centrally of the circular lower portion, and is provided with heads 7, connected by longitudinal spaced bars 26 having brushes 27 for engaging the interior face of the screen as the shaft is rotated.

The screen material 8 is secured in place upon the members 22—23 by binding strips 28—29 sufficiently flexible to permit the parts to be separated to insert and remove the reel 7—26—27.

Disposed transversely of the interior of the end walls 3 of the casing are bearing ribs or cleats 30, one of which is shown in Fig. 2 and with concaved upper faces as indicated at 31, the concavities for receiving the lower ends of the end members 22—23 of the screen and thereby supporting them in position.

It will be understood that two of the cleats 30 are employed, one upon the interior of each of the ends of the casing to support both ends of the screen.

The cover 4 is constructed with a longitudinal aperture above the entrance to the screen, this aperture formed with an internal shoulder 10 to bear upon the upper ends of the parts 9 and 9^a of the screen and thus maintain the screen in position to prevent lateral, longitudinal or vertical movement thereto when the cover is closed. The cover 4 is preferably formed of two thicknesses of ma-

terial, with the aperture in the outer thickness smaller than the one in the inner thickness, to produce the shoulder 10, as shown in Fig. 1.

Attached to the inner faces of the elevated portions of the ends 3 of the casing are cleats 32 with their inner ends bearing against the contracted upper portion 9 of the end members 22—23, to form a support to the upper end of the screen to prevent displacement when the cover is elevated as in Fig. 1.

The screen is provided with eyes 33 and the cleats 32 are provided with hooks 34 engaging the eyes to hold the screen in position and prevent it from tilting forward prematurely, when the cover is elevated.

The contracted portions 9 of the end members of the screen and the vertical imperforate sides 9^a of the same are of sufficient length and the cleat 32 sufficiently narrow, vertically, to permit the screen to be elevated bodily a sufficient distance to clear the concaved portions of the cleats 30, and thus leave the front half of the screen free to be opened far enough, when the hooks 24 are released, to remove the reel without disturbing the other parts, or rendering it necessary to remove the whole screen in order to release the reel.

The curved form of the free ends of the hooks 34 permit the necessary flexibility between the parts to accomplish these results.

The device may be constructed in any required size or capacity, either for the smaller domestic sifters, or for the larger devices employed in manufactories, hotels large restaurants and the like.

In the smaller sizes of devices the shaft 6 is supplied with an operating shank 35, and a pulley 20 is also attached to the shaft for receiving a driving belt, when it is required to employ power other than manual to operate the reel.

The lower portion of the casing is preferably provided with a drawer 21 to receive the material passing through the screen, and a feed hopper 19 is arranged above the apertures leading to the screen.

A chain or other element 18 has its opposite ends attached respectively to the lower portion and relatively movable upper portion of the case, whereby the cover and its attendant parts will be retained in proper open position. In attaining these ends I do not wish to be limited to the precise details herein set forth, inasmuch as minor changes may be made therein without departing from the spirit of the invention.

Having thus described the invention, what is claimed is:—

A sifter comprising a casing provided on each of its end walls with a transverse cleat having a curved recess; a removable cylindrical screen with a longitudinal contracted neck at its top, and vertically divided end sections hinged together by the flexibility of the screen, and resting on the recessed cleats; means for detachably fastening said end sections together; a cleat on each of the end walls of the casing against which the neck of the screen bears; means for detachably fastening the screen to said cleats; a sifting reel mounted in the screen; and a hinged cover on the casing with an opening in which the neck of the screen is removably seated.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOSEPH EDWARD MUELLER.

Witnesses:

JOHN LATTNER,

JESSE E. MILLER.