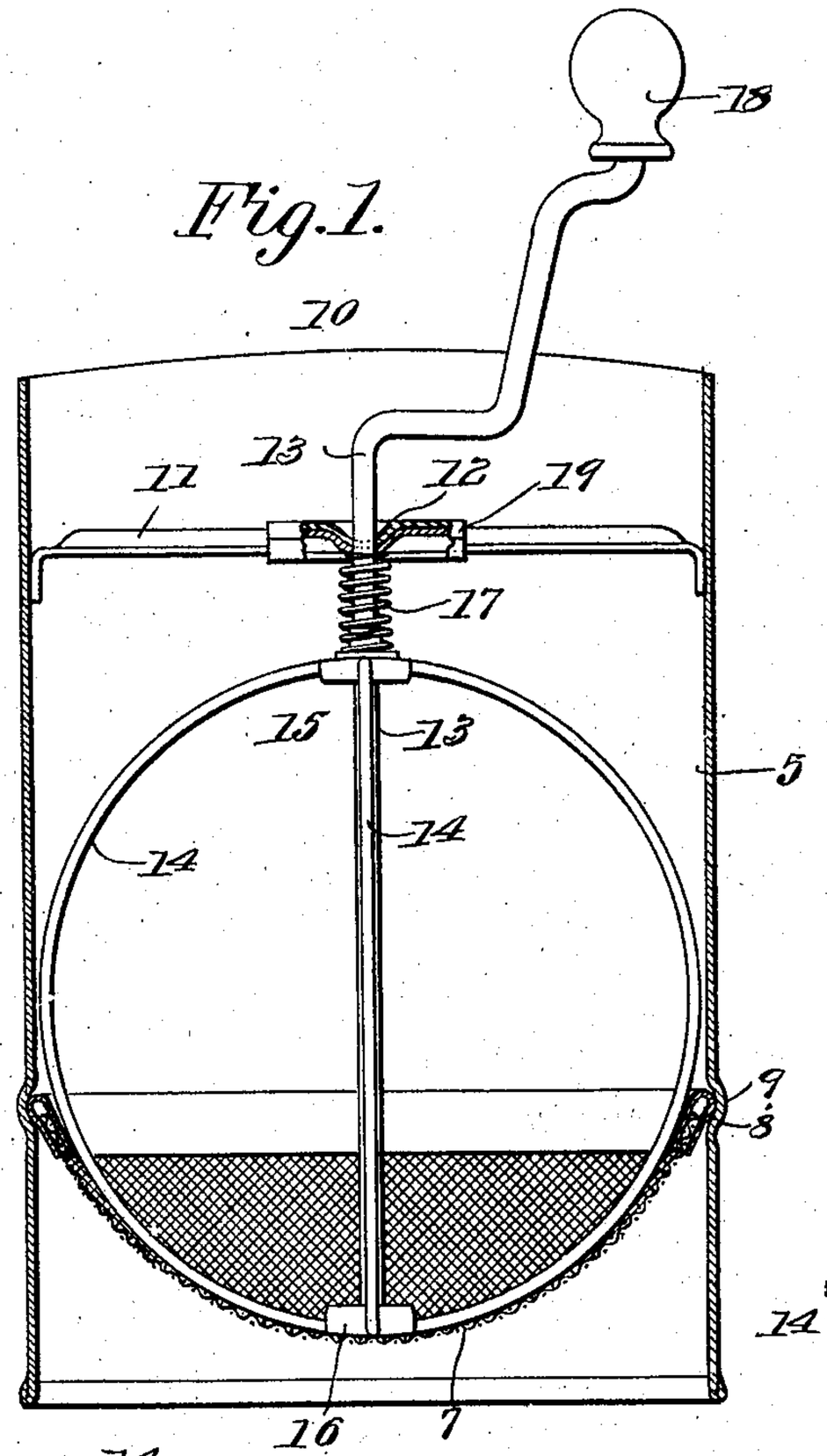
No. 816,136. PATENTED MAR. 27, 1906.

G. J. SWEETEN.

ROTARY FLOUR SIFTER.

APPLICATION FILED MAY 6, 1905.

Fig. 1.



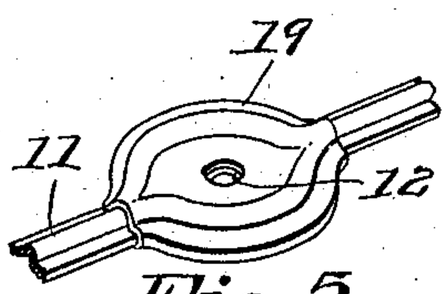


Fig. 5.

Fig. 4.

Fig. 2.

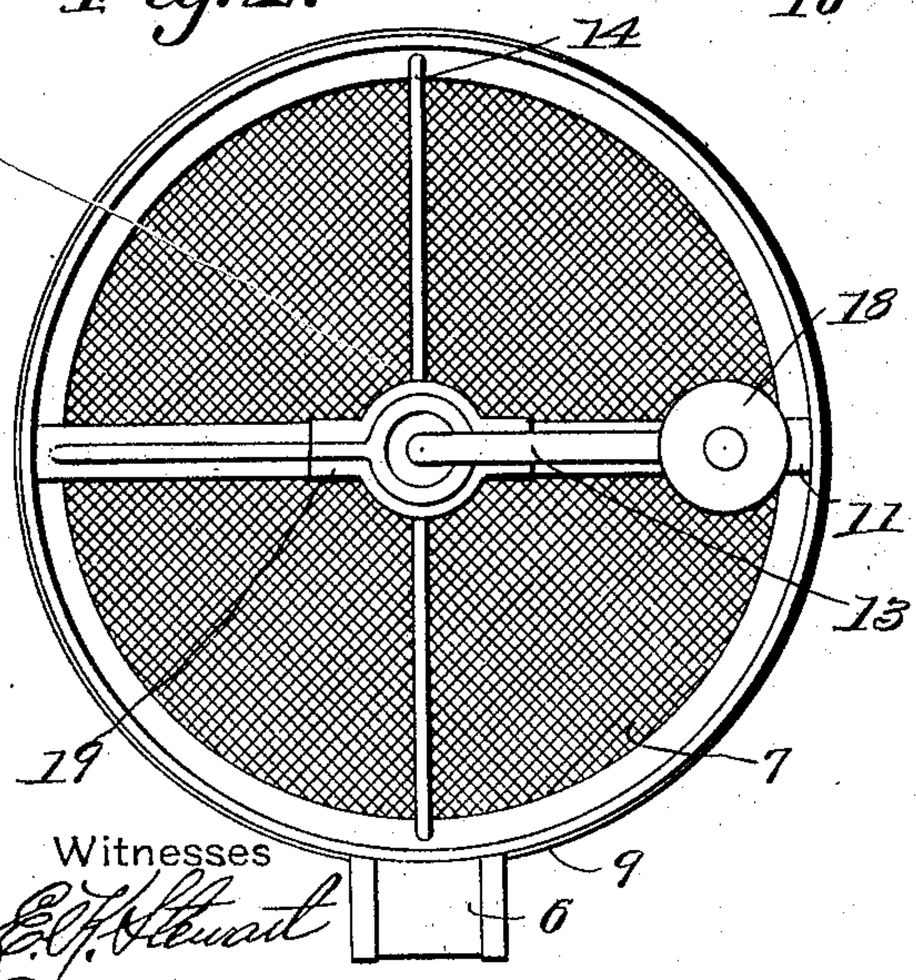
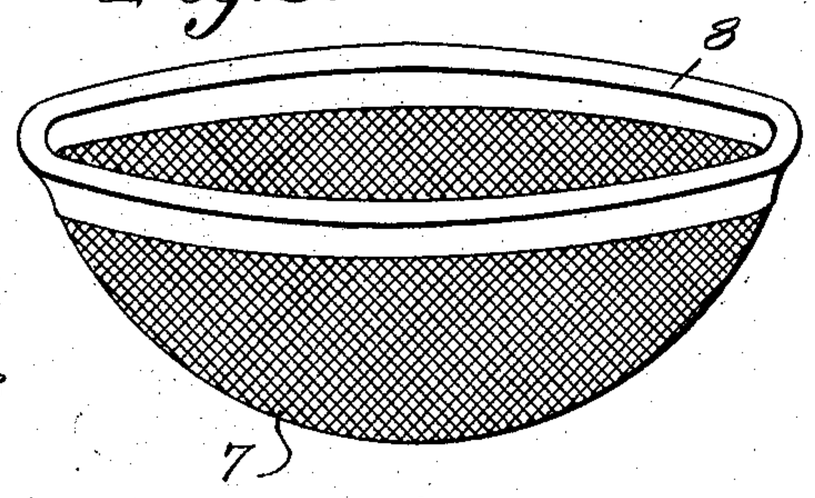


Fig. 3.



Witnesses

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ROTARY FLOUR-SIFTER.

No. 816,136. Specification of Letters Patent. Patented March 27, 1906.

Application filed May 6, 1905. Serial No. 259,213.

To all whom it may concern:

Be it known that I, GEORGE JULIAN SWEETEN, a citizen of the United States, residing at Russellville, in the county of Pope and State of Arkansas, have invented a new and useful Rotary Flour-Sifter, of which the following is a specification.

This invention relates to sifters for domestic purposes, and more particularly to a sifter especially designed for sifting flour and similar materials.

The object of the invention is to provide a simple, inexpensive, and durable device of this character capable of being conveniently supported in the hand and one in which the material will be subjected to a constant agitation during the sifting process.

A further object of the invention is to provide a sifter in which the reticulated bottom thereof is detachable to thereby permit the same to be readily removed and replaced by a new one when worn or otherwise injured from constant use.

A still further object is to provide a device having a continuous sifting-surface, the agitator being centered in a bearing disposed above the reticulated bottom and normally held in contact with the latter by means of a coil-spring, thereby permitting said agitator to move upwardly in crushing lumps of flour or other material and also to permit the agitator to be retracted when necessary in order to release any particles of flour which may adhere to and clog or otherwise obstruct the reticulated bottom of the sifter.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended, it being understood that various changes in form, proportions, and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

In the accompanying drawings, forming a part of this specification, Figure 1 is a vertical sectional view of a sifter constructed in accordance with my invention. Fig. 2 is a top plan view of the same. Fig. 3 is a perspective view of the reticulated bottom detached. Fig. 4 is a bottom plan view of a portion of the agitator. Fig. 5 is a detail perspective view of the reinforcing-plate and a portion of the transverse brace.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The device consists of a vessel or receptacle 5, preferably cylindrical in shape, as shown, and formed of metal or other suitable material, said vessel being provided with a suitable handle 6 and having its upper end open and its lower end provided with a reticulated bottom 7, composed, preferably, of wire-gauze constituting a sifter, as shown. The bottom 7 is provided with a spring-metal reinforcing-ring 8 and is detachably secured within the vessel by engagement with an annular rib or depression 9, whereby said perforated bottom may be readily removed when worn or otherwise injured from constant use or other causes and replaced by a new one. Extending transversely across the open end 10 of the vessel and soldered or otherwise rigidly secured to the vertical walls of the latter is a brace or bar 11, provided with a central depression having an opening 12 formed therein, adapted to receive the vertical shaft 13 of a rotary agitator, the latter preferably comprising a plurality of curved arms 14, connected to the shaft at the upper end thereof by a casting 15 and at the lower end of said shaft by a similar casting 16. The lower face of the casting 16 is curved to conform to the contour of the screening-surface of the detachable bottom and is yieldably held in contact therewith by a coil-spring 17, interposed between the casting 15 and the brace or bar 11. The shaft carrying the agitating-arms 14 is mounted for vertical movement in the opening 12, which latter serves to properly center the agitator within the vessel 5, so that under normal conditions the coil-spring will force the casting 16 in contact with the screen, but permit the agitator to move upwardly in crushing lumps of flour or other material.

By having the shaft mounted for vertical movement in the manner described the agitator may be also vibrated against the perforated bottom or screen in order to detach any particles of flour which may adhere to or clog the mesh of the latter, thus insuring a continuous and unobstructed screening-surface at all times.

The shaft 13 terminates in a crank-handle 18, by means of which the device may be conveniently operated, and where said shaft passes through the opening in the transverse bar the latter is preferably reinforced by a sheet-metal disk 19, the edges of which are

folded or crimped around the edges of the bar, as shown.

From the foregoing it is apparent that there is produced a device of simple construction during the operation of which the material will be constantly agitated to prevent packing and feed evenly and rapidly to the screen or sifter.

Having thus described the invention, what is claimed is—

In a device of the class described, a cylindrical vessel having its opposite ends open and provided with an annular retaining flange, a detachable reticulated bottom adapted to engage said rib and having its central portion curved toward the lower end of the vessel, a brace extending transversely of the vessel at the upper end thereof and provided with a central depression having an opening formed therein, a reinforcing-disk secured to the brace at said depression and provided with an opening adapted to register with the opening in the depression, an operating-shaft journaled in said openings and having a free vertical movement, a pair of spaced castings carried by the shaft the lower one of which is curved to conform to the bottom of the reticulated bottom, a plurality of curved agitator-arms secured to the upper casting and intersecting the longitudinal axis of the vertical shaft at the lower casting, a coil-spring interposed between the upper casting and the central depression for normally holding the agitator-arms in yieldable engagement with the reticulated bottom, and a handle carried by the free end of the operating-shaft.

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

GEORGE JULIAN SWEETEN.

Witnesses:

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R. C. HARBISON.