

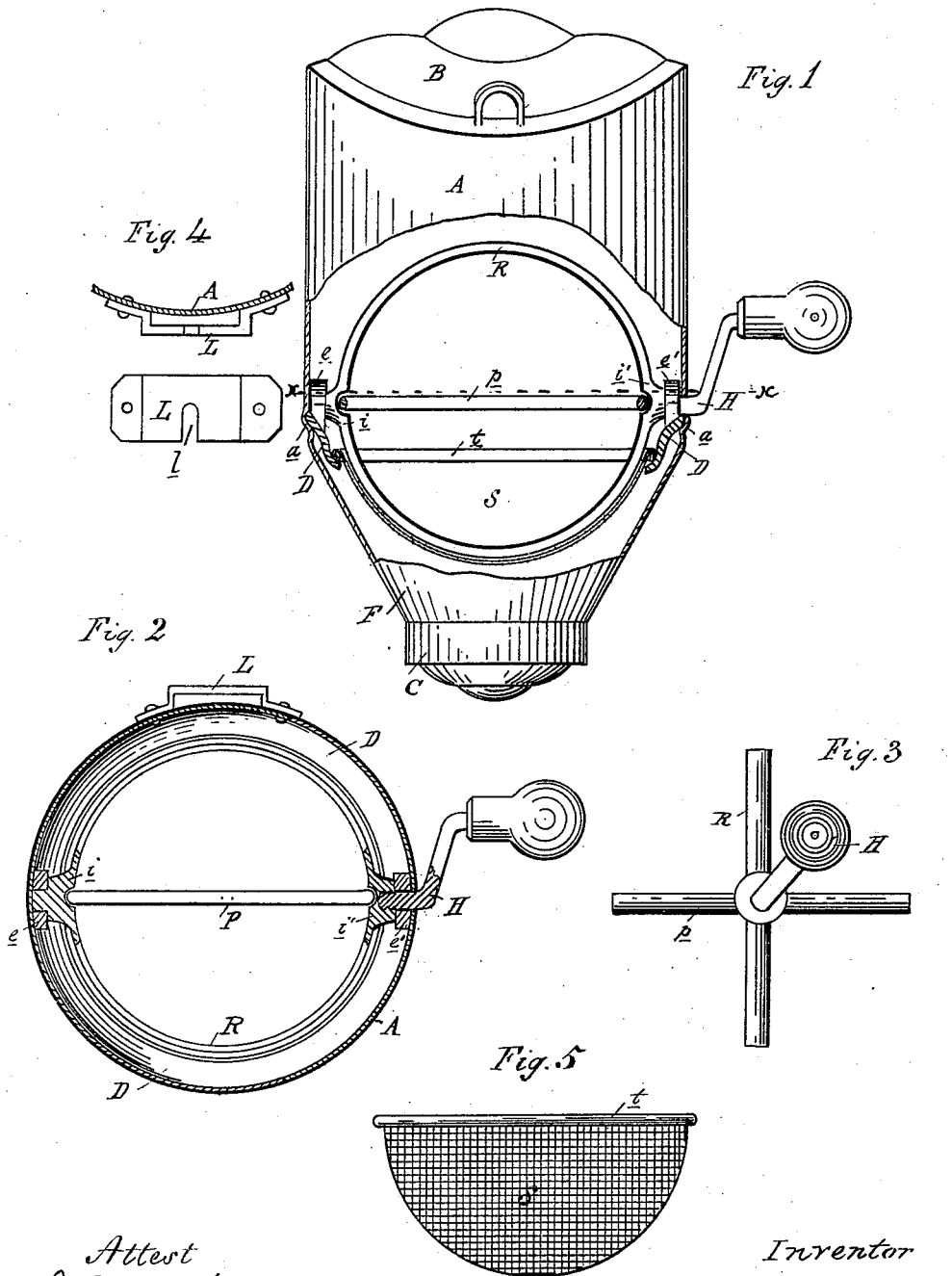
(No Model.)

E. McKENDREE BENSTER.

FLOUR SIFTER.

No. 304,404.

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FLOUR-SIFTER.

SPECIFICATION forming part of Letters Patent No. 304,404, dated September 2, 1884.

Application filed January 16, 1884. (No model.)

To all whom it may concern:

Be it known that I, EMORY McK. BENSTER, of Detroit, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Flour-Sifters; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in the construction of flour-sifters, or flour-sifting machines, in which revolving sweeps or agitators are arranged to pass over the surface of a concave screen, such agitators and screen being placed within a vessel or can.

The invention consists in the peculiar combinations, and the constructions and arrangement of parts, as more fully hereinafter described and claimed.

Figure 1 is an elevation, with a portion of the wall broken out to show the arrangement of the interior parts. Fig. 2 is a horizontal cross-section taken above the deflecting-ring on the line *x x*, Fig. 1. Fig. 3 is an end view in section of the agitator. Fig. 4 is a plan and side view of one of the fastenings by means of which the device is removably attached to the wall or table. Fig. 5 is an elevation of the screen.

In the accompanying drawings, A represents a cylindrical vessel, provided with a top, B. To the rear side of this vessel (one being near the top and one near the bottom) are secured the slotted braces L, adapted to engage with hooks or screw-heads suitably secured in the wall, or to the table to which it is designed to attach the device, the slots *l* allowing such engagement and facilitating the removal of the device when desired.

It will be observed that the braces L not only furnish a means for supporting the device in a vertical position against the table or wall, but they serve the further purpose of bracing the sides of the cylinders, besides forming convenient handles by which to move the sifter from place to place. The lower end of the cylinder terminates in a funnel-shaped portion, F, and the lower contracted end thereof is provided with a removable cap, C. At or near the point of junction between the vertical and conical portion of this cylinder

an annular rib, *a*, is formed on the inside, and a corresponding annular recess on the same side immediately above said rib, as shown in Fig. 1.

D is a deflecting-ring, the upper rim of which is seated in this annular rib and recess, and is provided with ears *e e'*, in which is journaled the agitator, and this deflecting-ring is secured against upward movement by the upper curve of said recess. Upon the lower edge of this deflecting-ring, which turns inward at this point for that purpose, rests the screen or sieve S, which is in the form of the smaller part of a perfect sphere cut off a little below the center, and is made of wire-cloth of a suitable mesh, secured to a metal ring, *t*, at its edge, which rests, when the device is in place, in a seat upon the lower edge of the deflecting-ring.

The agitator is peculiarly made, as follows: *i i'* are two hubs, which are cast integral with the ring R, such hubs being opposite each other, the former, *i*, being extended at its outer extreme into a journal, and the latter, *i'*, being internally threaded to engage with a thread on the inner end of a crank-journal, H, and another ring, *p*, made of large-sized wire of the same diameter as R, by means of grooves cast in the interior ends of hubs *i i'* at right angles with the ring and integral therewith, is centrally inserted and secured in that position by solder or by any other suitable means, so that the agitator is formed in effect of four semicircular arms or partial rings radiating from a common center, and standing at right angles to each other. As before said, the hub *i'* has tapped into it a female thread, and a male thread having a shoulder at its termination is cut upon the end of the crank-journal H, which is designed to screw into said hub till it meets said shoulder. A round hole of similar diameter to the crank-journal H is cut in the right side of the tin cylinder A at the axial center of the screen and agitator, the sieve S being first placed in its seat in the bottom of the deflecting-ring. The left journal of the agitator is journaled from the top in the left ear, *e*, of the deflecting-ring, and the crank-journal H is passed through said hole in the cylinder A and the right bearing or ear, *e'*, of the deflecting-ring, and screwed by means of the crank into the hub *i'* till it

meets said shoulder of crank-journal H, when the device is ready for operation. The agitator is then revolved, that portion of it when in motion and descending below the axis thereof coming into sufficiently close contact with the screen to force the flour, with which the device is filled or partially filled, through the screen, as may be required. By unscrewing the crank the agitator and screen may be successively and easily removed through the top, when it becomes necessary to clean the same or replace either of the parts. By this construction of a device for the purposes described it will readily be seen that a very thorough and effective sifter is presented, which may be made a removable fixture to the wall or table, and hold a sufficient quantity of flour to furnish the material for several successive siftings without the necessity of replenishing from the main supply; and the peculiar form of the agitator enables its arms to be readily forced through the flour, with which the device may be filled, and only acting upon that which rests in contact with the sieve, to perform the office required of such sieve.

What I claim as my invention is—

1. A flour-sifter consisting of a cylinder, A, having tapering lower end, F, removable cover

B, removable cap C, deflecting-ring D, sieve S, supported by said ring, and the agitator R, provided with a handle, H, all combined, arranged, and operating substantially as described.

2. The combination, in a flour-sifter, of the cylinder A, having annular rib *a*, and recess, as shown, of the deflecting-ring D, supported by said rib and recess, and the screen S, supported by said ring, substantially as and for the purpose described.

3. In a flour-sifter, an agitator consisting of the ring R, having cast integral therewith the hubs *i i'*, the hub *i* being extended into a journal and the hub *i'* internally threaded to receive the handle, substantially as described.

4. In a flour-sifter, an agitator consisting of the ring R, having cast integral therewith the hubs *i i'*, the hub *i* being extended into a journal and the hub *i'* internally threaded to receive the handle, and each hub provided with grooves, and the ring *p*, secured in said grooves, substantially as described.

EMORY MCKENDREE BENSTER.

Witnesses:

H. S. SPRAGUE,
JAY CLARK.