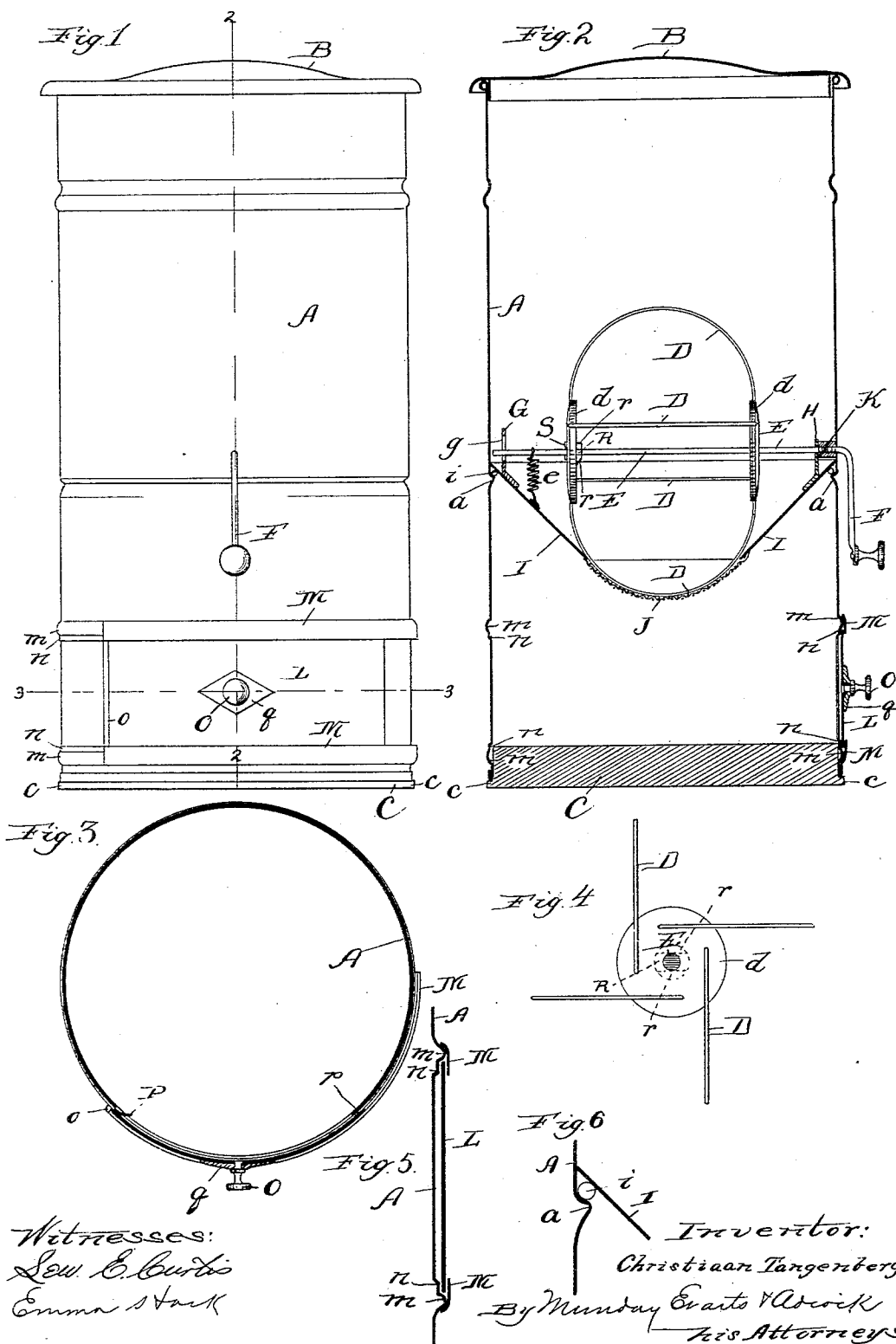


(No Model.)

C. TANGENBERG.
FLOUR BIN.

No. 476,430.

Patented June 7, 1892.



UNITED STATES PATENT OFFICE.

CHRISTIAAN TANGENBERG, OF CHICAGO, ILLINOIS.

FLOUR-BIN.

SPECIFICATION forming part of Letters Patent No. 476,430, dated June 7, 1892.

Application filed November 9, 1891. Serial No. 411,289. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAAN TANGENBERG, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Flour-Bins, of which the following is a specification.

This invention relates to the construction of flour-bins for kitchen use.

The object of the invention is to so improve the ordinary construction of these bins as to obviate many of the existing objections thereto.

The nature of my improvement I have fully disclosed in the accompanying drawings, wherein—

Figure 1 is a front view of the bin. Figs. 2 and 3 are sections thereof upon the lines 2 2 and 3 3, respectively, of Fig. 1. Fig. 4 is a section of the stirrer, and Figs. 5 and 6 are detail sections of portions of the bin.

My bin is preferably made in the form of a cylinder, and its walls are usually constructed of sheet metal. This cylinder is shown at A. It is provided with a removable cover B and a permanent bottom C, the latter of wood. A stirrer, composed of bent wires D and carrying-disks *d*, is supported upon a shaft E and operated by a crank-handle F, located outside the bin. The shaft E is supported in brackets G and H, which are secured to and rest upon the hopper-shaped sieve-floor, which is preferably composed of a truncated sheet-metal portion I and the central wire-cloth or sieve portion J. The cylinder A is furnished with an interior bead *a*, which serves to support this screen and floor, as is plainly apparent from Figs. 2 and 6; but the combined stirrer, floor, and sieve may be removed upwardly through the top of the bin whenever repairs or cleaning are necessary, the crank-handle being removably attached. By supporting the stirrer in this manner upon the sieve I facilitate the taking out of the stirrer and sieve, and this is important, because pieces of paper and other foreign matter are apt to become lodged in the sieve or entangled among the arms of the stirrer and prevent the perfect working of the sieve. It will be noticed that the bracket G has an elongated slot *g* to receive the shaft E and that a spring *e* encircles the shaft at the end supported by

said bracket and is secured to the floor I. This spring exerts a constant downward pull upon the shaft and insures contact between the stirrer-arms and the sieve when the arms pass over the latter. The spring at the same time will yield should any foreign matter—such as paper—come between the arms and the sieve and thus prevent any rupture of the apparatus. These stirrers have customarily been supported positively at a fixed distance from the screen and in the course of a short period of use the contact between the stirrer-arms and the sieve becomes destroyed either by the bending of the arms or the gradual giving down of the sieve or the wearing away of the parts, but this spring keeps up the proper close contact of the parts at all times.

The arms D, which are formed of wire bent into U shape, are secured to their carrying-disks, so as to stand tangentially to the axis, as plainly indicated in Fig. 4. This obviates much of the bending and getting out of shape which occurs with prevailing constructions.

The crank-handle is coupled to the shaft by means of a coupling block or piece K, which is threaded upon the shaft E at one side and receives the crank-handle at the other side. This coupling-block serves another function, also, in that it prevents longitudinal movement of the shaft and retains it in its supporting-brackets. The coupling is enabled to do this by reason of its contact with the cylinder A on one side and with the bracket H upon the other.

I have heretofore spoken of the taking out of the sieve and its supporting-cone I. Being thus removable, I find it desirable to stiffen it by a marginal wire *i*, secured to its under surface, as plainly indicated. This wire rests upon the bead *a* and prevents any tendency of the cone to bend or collapse and increases its rigidity.

The door by which access is had to remove the screened flour is shown at L and is a sliding door, upper and lower ways in which it may be moved to one side of the opening being provided upon the cylinder A, and the construction of these ways is such as to prevent any rubbing by the door upon the portion of the case covered by the door when it is open. In the construction of these ways I

impart to the cylinder A the outward bends, forming beads *m* both above and below the door, and adjacent to each of these beads is an offset *n*. The door is confined to the case 5 by the upper and lower guards M, secured to the outside of the beads *m*, and projecting one down and the other up, so as to form recesses between the offsets *n* and said guards, in which the door may slide. The offsets *n* 10 hold the door at a slight remove from the surface of the cylinder A, as indicated at Fig. 5, so that when the door is opened and moved around in the ways thus constructed there is no rubbing by the door against any portion 15 of the cylinder A, except said offsets *n*, and the finish of the cylinder remains uninjured by the movements of the door. The guards M extend from the doorway a sufficient distance to support the door when open, as will 20 be noticed in Fig. 3.

I deem it desirable to provide the door with a device which will prevent its being entirely separated from the bin, and a very simple way of accomplishing this is to provide its forward 25 end with an interior hook P, which, when the door is opened to the full extent, will engage with the side *p* of the door-opening and lock the door against further movement in that direction. The ways provided for the door may 30 be closed at the opposite side of the door-opening, as shown at *o*, and thus prevent removal of the door in that direction, also. The hook P may be conveniently formed by bending some portion of the metal forming the 35 door inward, as illustrated at Fig. 3. The door-knob O is secured to the rosette *q*, soldered or stamped upon the door, and this rosette gives room for the securing of the shank of the knob without creating any protuberance upon the inner surface of the door which 40 would be likely to scratch or mar the surface of the cylinder A when the door is opened.

The bottom C is provided with an outward bead *a*, as seen at Figs. 1 and 2, and the bottom 45 of the case A extends down to this bead, but does not cover it. My purpose in this construction is to avoid marring the bottom of the cylinder A in shipping the bin and in

moving it about. If allowed to extend clear to the lower surface of the bottom C, the metal 50 would become jammed and marred, particularly if the bin were tipped upon its edge.

For the purpose of securing the stirrer upon the shaft E and also keying it thereto I secure rigidly to the shaft a projection or projections 55 R (shown at dotted lines in Fig. 4) and provide upon one side of one of the disks projections *r*, between which is formed a recess adapted to receive and engage with the projections R. At the other side of said disk a 60 linchpin S is passed through the shaft. Said projections R and the linchpin confine the stirrer against endwise movement upon the shaft.

By inclining the stirrer-arms tangentially, 65 as shown, I avail myself of their flexibility to ease their passage over the sieve, obtaining in this way a greater amount of flexibility than would be had if the arms stood out radially. This is important in my bin, because 70 of the constant pressure by the arms upon the sieve caused by the spring *e*.

I claim—

1. The flour-bin provided with a removable sieve, a stirrer having a vertically-yielding 75 horizontal axis, and a spring for keeping the stirrer in contact with the sieve, both the stirrer and spring being supported upon the sieve and removable therewith, substantially as 80 specified.

2. The combination, with the flour-bin having the beads *m* and offsets *n*, adapted to maintain the door at such a remove from the bin as will prevent injury to the finished surface, of the sliding door L and the guards M, 85 substantially as specified.

3. The combination, with the bin and the sliding door therefor, of ways for the door set off from the body of the bin, so as to hold the door at a remove from and prevent injury to 90 the finish of the bin, substantially as set forth.

CHRISTIAAN TANGENBERG.

Witnesses:

EMMA HACK,
LEW. E. CURTIS.