(No Model.)

# J. D. FIELD.

## FLOUR BIN AND SIFTER.

No. 456,806. Patented July 28, 1891.

Fig. 1.

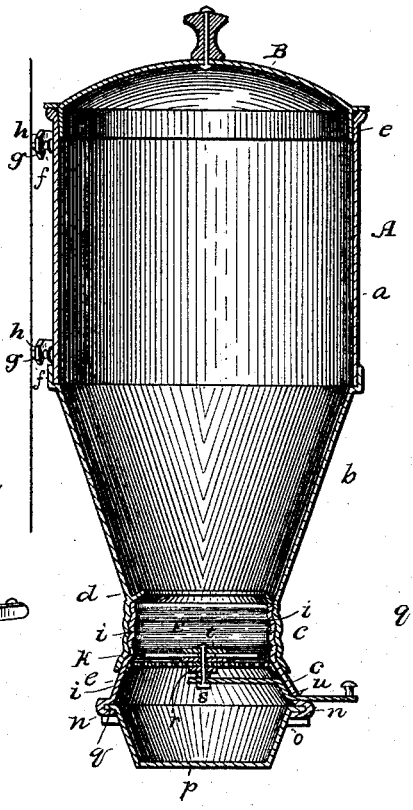



Fig. 4.

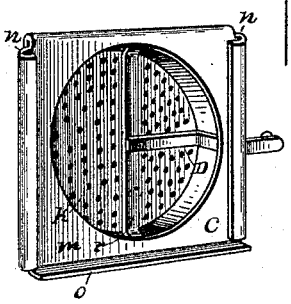



Fig. 5.

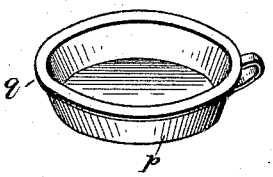



Fig. 2.

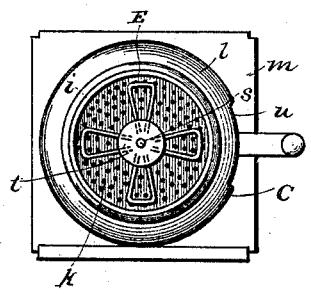
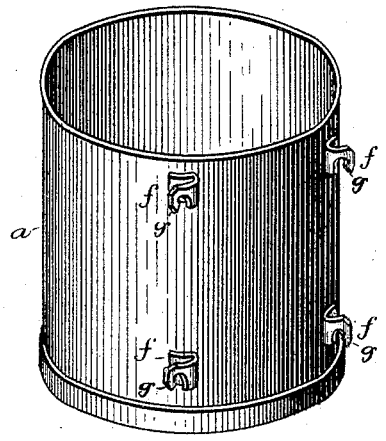



Fig. 3.




ATTEST.

Victor J. Evans.

M. A. Redmond.

INVENTOR.

James D. Field.

By W. A. Redmond

Atty.

# UNITED STATES PATENT OFFICE.

JAMES D. FIELD, OF TOPEKA, KANSAS.

## FLOUR BIN AND SIFTER.

SPECIFICATION forming part of Letters Patent No. 456,806, dated July 28, 1891.

Application filed January 15, 1890. Serial No. 336,993. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES D. FIELD, a citizen of the United States, residing at Topeka, in the county of Shawnee and State of Kansas, have invented certain new and useful Improvements in Flour Bins and Sifters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to bins for storing and sifting flour, and particularly to such bins and sifting devices as are intended for household or family use; and it has for its object to provide a simple, durable, and comparatively inexpensive article for the purpose named which may be easily operated, readily attached to and detached from its support, and all parts of which may be readily accessible for the purpose of repair and cleansing; and it consists, first, in providing a bin having an open bottom, the wall of which is interiorly screw-threaded; second, in providing the sieve-supporting plate with an exterior screw-threaded open top adapted to fit said bottom; third, in providing an upwardly-extending flange within the bin to prevent the escape of flour between said screw-threaded parts; fourth, in providing means for the ready attachment of the pan to the sieve-plate, and, fifth, in the peculiar arrangement, attachment, and construction of the sieve-plate and sieve and the agitators, as hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a vertical section through the bin; Fig. 2, a plan view of the sieve-plate; Fig. 3, a detail view of the cylindrical portion of the bin; Fig. 4, a perspective view of the bottom of the sieve-supporting plate, and Fig. 5 a detail view of the pan.

Similar letters refer to similar parts throughout all the views.

A represents the bin or receptacle for the flour, which consists of a cylindrical vessel *a*, having a tapering or conical bottom *b*, the lower portion *c* of which flares outwardly and is formed with interior screw-threads, as clearly shown in Fig. 1. This lower screw-threaded portion *c* is formed at its upper end with a tapering or upwardly-extending circular flange *d*, said tapering portion *b* and portion *c* being rigidly soldered or otherwise secured together at the outer edge of the flange or where the same is bent inward. A cover or cap B, having a flange *e* adapted to fit within the vessel *a*, prevents the escape of flour-dust from the vessel, and also excludes dust and dirt therefrom. To the exterior of and at one side of the vessel *a*, near its upper and lower edges and at equal distances apart, are secured in any suitable manner the catches *f*, each of said catches being formed of a single piece or strip of sheet metal, which is bent at about its center until its sides or ends diverge at an angle to each other, and at one end a piece is removed from one portion or end thereof, in order to form the recess or hook *g*, the object of which is to support the bin from the hooks or screws *h*, secured to the wall of the room when the article is used, said hooks *g* being simply placed above and in line with screws or hooks *h* in the wall, and then drawn down until the hooks *g* engage the wall hooks or screws *h*. Thus it will be seen that a firm support is provided for the bin, from which it may be readily detached, when necessary, by simply raising it up until its catches are released from the hooks or screws.

The sieve-supporting plate C is formed with the cylindrical exteriorly-screw-threaded portion *i*, adapted to fit within the screw-threaded bottom of the bin and extend within the same to a point immediately below the flange *d*, the latter thus covering the opening between the two parts and excluding or preventing the entrance of the flour between them.

Immediately at the bottom or lower edge of the cylindrical portion *i* of the sieve-supporting plate a sieve *k* is secured in any desired manner, said sieve-supporting plate flaring outwardly beneath its cylindrical portion, as at *l*, and terminating in the square base *m*. At two of its sides the base *m* is bent under parallel with its body portion to form grooves *n*, and at its rear side it is bent downwardly at a right angle to form a stop *o* to prevent the pan or receptacle *p*, into which the flour is sifted, and which is provided all round its upper edge with the circular flange *q*, adapted to fit in the grooves *n* to support said pan in

position to receive the sifted flour, from being pushed through, or stops the pan in the proper position to receive the flour from the sieve.

The flour is agitated and sifted through the sieve by means of the agitators or stirrers E, which are formed of bent wires having their ends clamped or otherwise secured between the disks *t*, said disks being secured to the pin *s* slightly above the upper surface of the sieve. The pin extends down through the center of the sieve and passes through a bar *r*, said bar being firmly secured at each end to the upper part of the flaring bottom *l* immediately beneath the sieve and forms a support for the latter. To the lower end of the pin *s* one end of a lever D is rigidly secured, said lever extending in a straight line to the inclining or flaring portion *l* of the sieve-supporting plate, and is then bent downwardly and outwardly to correspond to the shape of said portion *l*, and then bent outwardly at right angles, passing through a slot *u*, formed in the plate, so that said lever may be operated back and forth in said slot in order to move or give a half-turn to the agitators E and thus stir and agitate the flour on the sieve and reduce the lumps therein, so that the flour will be sifted through the sieve into the pan or receptacle beneath. As will be noticed, the agitators are arranged at right angles to each other and when operated the wires forming the same will be made to traverse every part of the surface of the sieve.

Owing to the shape of the bin, a large quantity of flour may be stored therein and entirely protected from dust and dirt, as well as the loss in transmission occasioned by the use of the sifting device separate from the bin in which the flour is kept, while at the same time the arrangement or device for sifting flour may be of a size to accommodate the small quantity of flour ordinarily used at a time by families. The pan is formed with a flat bottom and flaring walls, having the flange *q* extending therefrom all around its circumference, and takes the place of the drawer usually employed in this class of devices, practically forms a bottom for the bin, does not require expensive framing in which to support it, and may be used independently of the bin, if desired. The sieve-plate and bin may be readily separated, owing to their screw connection, for cleaning or repairing bin or any of its parts, while the flange *d* effectually prevents the escape of the flour between the two parts. The sieve-plate is intentionally screwed into the bin-bottom instead of onto or outside of the same, in order to prevent the entrance of dust between the screw-threads from the outside, as might occur were it screwed onto instead of into the bottom and a place left for the dust to lodge and work its way down into the flour on the sieve.

Having thus described my invention, what what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a flour-bin having lower flanged screw-threaded portion, of the sieve-supporting plate having a screw-threaded portion and flanges, and a stop at right angles to the flanges, and a pan having flanges to engage the flanges of the said plate, substantially as specified.

2. The combination, with a flour-bin having a flaring screw-threaded open bottom, of the sieve-supporting plate having a conical screw-threaded upper portion, a sieve secured beneath said screw-threaded portion, agitators arranged above said sieve, a bar beneath said sieve, and a lever for operating said agitators arranged beneath said bar, substantially as described.

3. The hereinbefore-described flour bin and sifter, consisting of the cylindrical vessel having a tapering bottom portion, a screw-threaded open bottom and a circular flange arranged within said tapered portion, a sieve-supporting plate having a screw-threaded upper portion, a tapered portion having a slot therein, and a square base having grooves formed on two sides thereof, a stop formed on one side of said base, a sieve secured within said supporting-plate, a bar arranged beneath said sieve, agitators arranged above said sieve, a pin, a lever attached to the lower end of said pin, and a pan having a circumferential flange adapted to fit said grooves, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES D. FIELD.

Witnesses:
D. W. NELLIS,
I. F. SMALL.