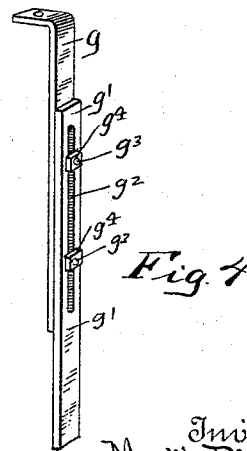
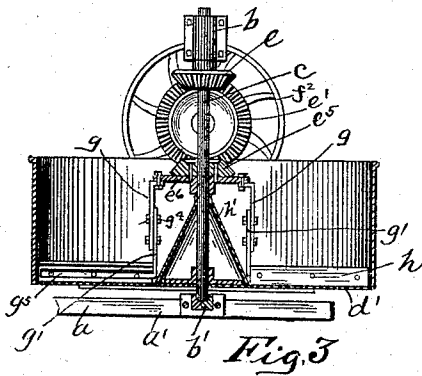
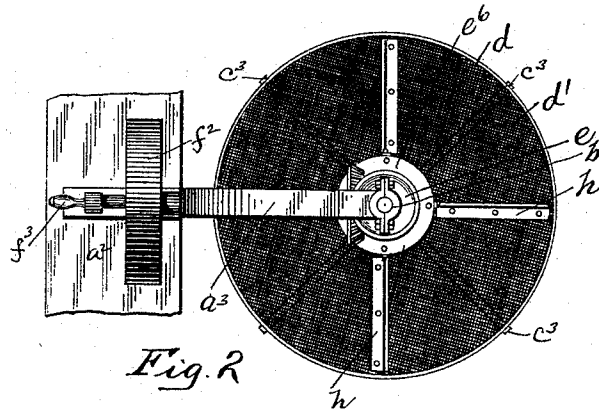
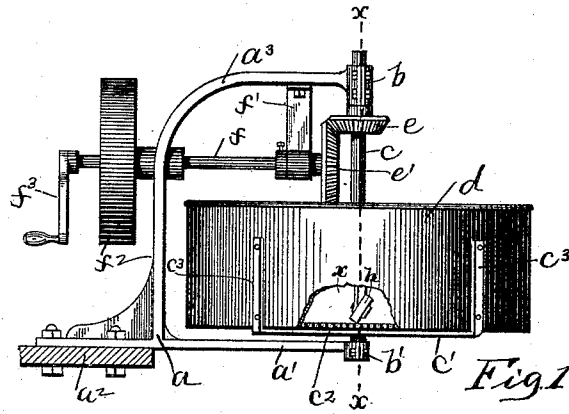


(No Model.)

M. EBERLE.
FLOUR SIEVE.

No. 495,545.

Patented Apr. 18, 1893.



Witnesses
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UNITED STATES PATENT OFFICE.

MARTIN EBERLE, OF COLUMBUS, OHIO.

FLOUR-SIEVE.

SPECIFICATION forming part of Letters Patent No. 495,545, dated April 18, 1893.

Application filed September 12, 1892. Serial No. 445,712. (No model.)

To all whom it may concern:

Be it known that I, MARTIN EBERLE, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Flour-Sieves, of which the following is a specification.

My invention relates to the improvement of flour sieves, and has particular relation to that class of flour sieves adapted for use in professional baking establishments.

The objects of my invention are to provide an improved sieve of this class by means of which particles of flour may be thoroughly and rapidly separated and discharged; to so construct the same as to admit of large quantities of flour or other similar substances being sifted therethrough in a comparatively short space of time and to otherwise produce a reliable and speedy sifting device in a simple and inexpensive form. These objects I accomplish in the manner illustrated in the accompanying drawings, in which,

Figure 1 is a side elevation of my improved sifting machine. Fig. 2 is a plan view thereof. Fig. 3 is a central sectional view on line *x x* of Fig. 1 and Fig. 4 is a view in perspective of one of the scraper holding-arms, shown detached.

Similar letters refer to similar parts throughout the several views.

a represents the supporting frame of my device which consists essentially of a horizontal arm *a'* which may be secured as shown in the drawings, to any suitable supporting frame-work or table *a²*, from which said arm projects. From this arm *a'* rises adjoining its connection with the supporting frame-work *a²*, an upwardly extending frame-arm *a³*, the upper portion of which extends outwardly above and parallel with the lower frame arm *a'*, the outer ends of said arms *a³*, *a'* being in vertical alignment. The outer end of the upper frame arm *a³* supports a suitable boxing *b*, while the outer end of the lower frame arm *a'* supports a boxing or socket piece *b'*. Resting in this lower boxing *b'* is the lower end of a vertical shaft *c*, the upper portion of which bears within the boxing *b*.

c' represents a sieve case supporting frame which consists of crossed or intersecting arms *c²*, which at their centers or points of inter-

section are fitted upon the lower portion of the shaft *c* above the boxing *b'*. These frame arms *c²* extend outwardly and terminate in upward extensions *c³*.

d represents a sieve case having its upper end open and having its lower side perforated or provided with a suitable screen *d'* and resting upon the horizontal portions of the frame arms *c²*, the walls of said case being connected as shown with the frame-arm extensions *c³*.

Keyed or otherwise secured upon the upper portion of the shaft *c* adjoining the boxing *b* is a beveled gear wheel *e*. *f* represents a horizontal shaft at right-angles with the shaft *c*, which has its outer portion bearing in the vertical portion of the frame arm *a³* and has its inner end bearing in a suitable hanger *f'* suspended from the upper horizontal portion of said arm *a³*. The inner end of this shaft *f* carries thereon, a bevel gear wheel *e'*, the upper portion of which gears with the wheel *e* of the shaft *c*. The outer end of the shaft *f* is provided as shown, with a suitable belt wheel *f²* on the outer side of which said shaft may be provided with a hand-crank *f³*. Opposite the lower portion of the wheel *e'*, the shaft *c* has mounted loosely thereon a bevel gear wheel *e⁵* which gears with said wheel *e'* and to the under side of which is rigidly secured as shown, a plate or disk *e⁶*, also loose on said shaft. From the outer edge portion of the disk *e⁶* depends at suitable intervals vertical arms *g*. These arms *g* are provided with downward extensions consisting of arms *g'*, the upper portions of which are provided with elongated slots *g²* through which pass bolts *g³*, the latter entering bolt holes in the arms *g*. These arms *g* and *g'* are adapted to be connected by clamping the same together by turning nuts *g⁴* upon the bolts *g³*. The lower ends of the arms *g'* are at points near the bottom of the case *d* provided with horizontal extensions *g⁵* arranged slightly above and parallel with the case bottom. These extensions *g⁵* carry thereon horizontal scraping arms *h*, the lower edges of which are adapted to bear and scrape against the perforated bottom of the case. As shown in the drawings, I preferably provide the lower portion of the shaft *c* with a conical casing as indicated at *h'*, the base of

which is substantially of equal diameter with the disk e^6 .

The operation of my improved sieve is as follows: The flour or other similar substance 5 to be sifted is poured or otherwise conveyed through the open upper side of the case d and rotary motion is imparted to the shaft f either through power imparted to the wheel f^2 or crank f^3 . This rotation of the shaft f 10 and the consequent rotation of its gear wheel f' results in the rotation of the wheel e and the shaft c and in the wheel e^5 about said shaft. The rigid connection of the case d with the shaft c results in the rotation of 15 said case in one direction, while the scrapers h are rotated in the opposite direction through the rotation of the gear wheel e^5 about said shaft c and the connection of said gear wheel e^5 with said scrapers. From this operation 20 it will be seen that an effective scraping action will be attained through the contact of the oppositely moving sieve and scrapers. These scraper arms are preferably so supported upon the bars or arms g^5 as to retain 25 them at an angle of about forty-five degrees with the perforated case bottom, thus greatly facilitating the forcing of the flour over and through the screen. It is evident that in the operation above described, large quantities of 30 flour or similar substance may be rapidly screened through the sieve and that the scraping action imparted thereto will serve to pulverize any lumpy or hardened particles contained in the flour, while the screen will at 35 the same time prevent the entrance there-through of foreign material which may be

contained therein. It is evident that by loosening the nuts g^4 , the arms g g' may have imparted thereto such vertical adjustment as may be necessary to retain the scrapers h in 40 the desired contact with the perforated bottom of the sieve.

It will be observed that my improved sieve is of exceedingly simple construction and operation and that the same may be employed 45 not only for sifting of flour, but for pulverizing the baked products thereof, if desired, inasmuch as crumbs and broken pieces of cake, bread &c., may be crushed and forced 50 through the sieve by the shearing or grinding action of the blades against the sieve bottom.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

In a rotary sieve, the combination of the 55 frame-work, a shaft c journaled therein, a sieve casing d carried on said shaft and having a perforated bottom, a fixed wheel e on said shaft, of a wheel e^5 loose on said shaft, 60 arms g supported from said wheels e^5 , slotted arms g' adjustably connected with said arms as described, scrapers h supported at an angle as described from said arms g' and means for 65 rotating said wheels e and e^5 simultaneously in opposite directions, substantially as and for the purpose specified.

MARTIN EBERLE.

In presence of—

C. C. SHEPHERD,
LINCOLN FRITTER.