H. W. PROUTY.

FLOUR SIEVES.

No. 179,425. Patented July 4, 1876.

Fig. 1.

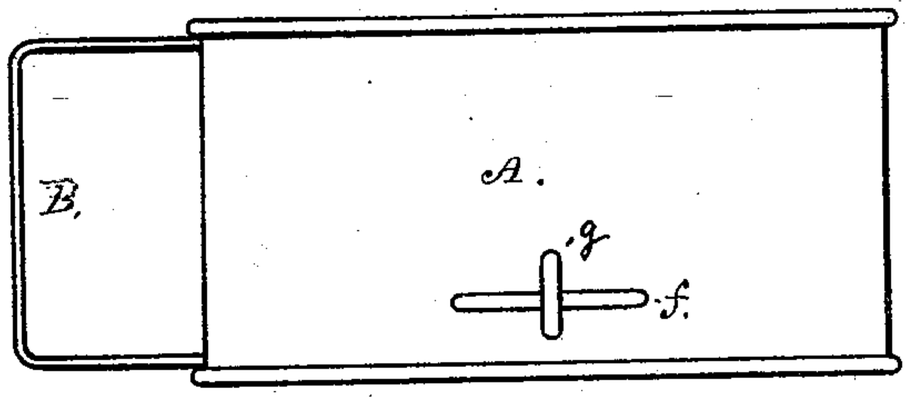


Fig. 2.

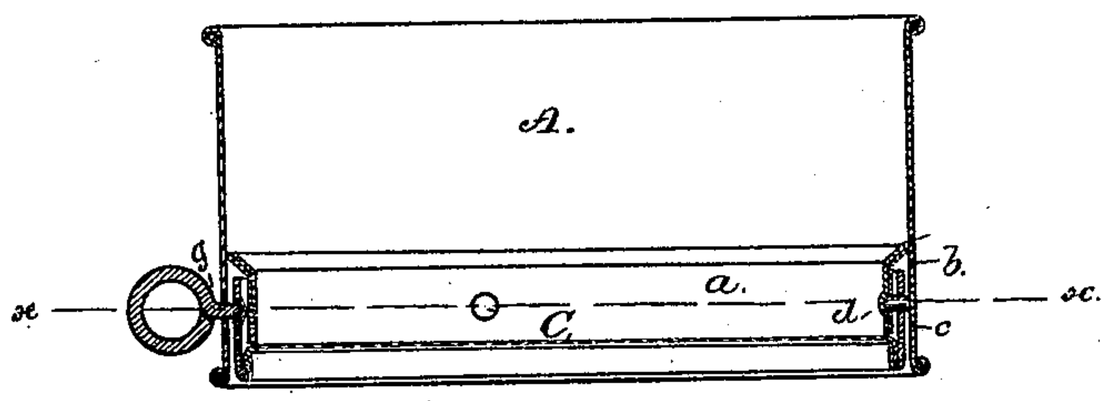
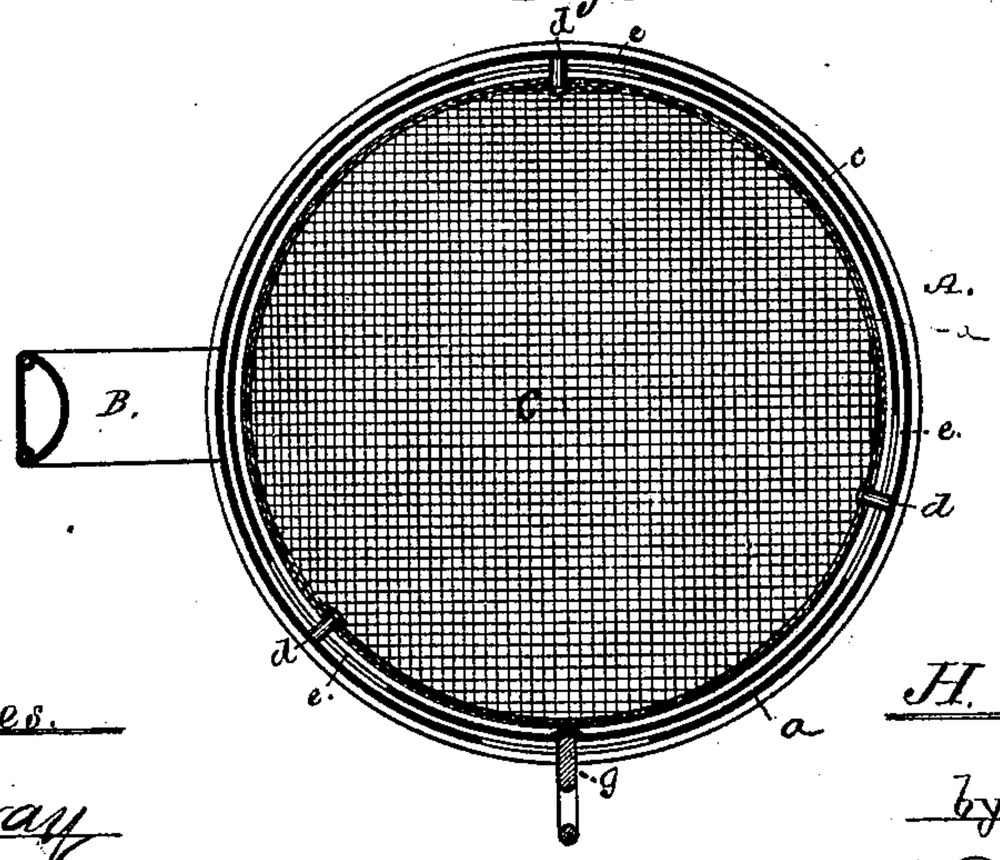


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE

HENRY W. PROUTY, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN FLOUR-SIEVES.

Specification forming part of Letters Patent No. **179,425**, dated July 4, 1876; application filed March 28, 1876.

To all whom it may concern:

Be it known that I, HENRY W. PROUTY, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Sieves for Sifting Flour; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

In such drawing, Figure 1 denotes a side elevation, and Fig. 2 a central and vertical section, of a sieve embodying my improvement. Fig. 3 is a horizontal section on line *x x* of Fig. 2.

My invention may be said to be an improvement based upon the old-fashioned hand-sieve, used from time immemorial, which consisted of a short wooden cylinder or hoop having a wire-gauze or net-work stretched across and fixed rigidly near its lower end, by means of a narrow circumscribing wooden band. In using such sieve the flour was scooped into the sieve by dipping the latter into the flour bin or barrel, or the flour was taken from the bin or barrel and put into the sieve, the hand of a person being placed in the flour to move it around, and force it through the meshes of the sieve. As an alleged improvement upon this method of forcing the flour or meal through the meshes of the sieve, a series of arms, paddles, rollers, brushes, and other equivalent devices have been mounted upon a shaft suitably supported, and placed within the body of a sieve so that when the shaft was rotated such arms or other devices were successively brought around in close proximity with the meshes of the sieve, and thereby operate like the hand of a person to force the flour or material to be sifted through the meshes of the sieve.

In carrying out my invention, I employ a still different method of causing the material to be sifted or passed through the meshes of the sieve, whereby I dispense with the use of the hand, or any arms, rollers, or other devices disposed within the body of the sieve, as the active agent for forcing the material through the sieve, the object being to produce a simple and effective means of sifting flour, &c., free from objections incident to this class of articles, as heretofore constructed; and my invention consists in an improved sieve having its parts constructed in the peculiar manner hereinafter described and claimed.

In the drawing, A denotes the body of the sieve, which is formed of tin or other suitable material, and having a cylindrical shape, and provided with a handle, B. Within the body A, and near the lower part thereof, and concentric therewith, I arrange an annulus, *a*, whose upper end is curved and soldered to the inner face of the part A, an annular space or chamber, *b*, being thus formed between the parts *a* and A, as shown in Figs. 2 and 3. C denotes the bottom of the sieve, the same consisting of wire gauze or netting, having its edges secured within a metallic hoop or band, *c*, whose upper end is inserted in the annular chamber, *b*, which is of sufficient breadth to permit the band to be freely rotated or vibrated therein. The lower edge of the band extends nearly down to the lower edge of the body A. The band *c* is maintained in the chamber *b* by means of three, or any suitable number of studs, *d*, affixed to the annulus *a*, and projecting outward through slots *e* formed in the band *c*, as shown in Fig. 3, these slots being elongated horizontally in order to allow the bottom of the sieve to have reciprocating segmental movements imparted to it. Thus it will be seen that the sieve is suspended entirely by devices arranged on its periphery, so that the entire area of the meshed bottom is left unobstructed for the passage of the flour or substance to be sifted through the apparatus.

The object of the annulus *a* and the arrangement of the superior end of the band *c* within the chamber *b*, formed as described, is to prevent the flour from escaping outwardly over the top of the band, and cause it as it descends in the body A to fall directly upon the meshes of the sieve.

Affixed to the outer face of the band *c* and extending horizontally through a slot, *f*, in the body A is a rod or lever, *g*, having an eye or knob upon its outer end. The slot *f* is elongated horizontally, and is of such length

as to allow the rod *g* to be reciprocated the requisite distance to give the desired vibratory action to the bottom or movable part of the sieve, the ends of the slots serving as stops to the lever, which, as it is vibrated, strikes alternately against the same, thus producing a continuous series of concussive blows, such as will not only cause the mass of flour to continuously descend in the body of the sieve, but to most effectually shake the flour impinging upon the gauze or netting through the same.

I would remark that the annulus *a* may be applied to the outer face of the body A instead of the inner surface; but the latter method makes the article more compact, and gives it a neater appearance.

From the above it will be seen that my improved sieve is formed in two parts, viz., with a stationary body and movable bottom, and the latter provided with means of enabling it to be vibrated or reciprocated so as to produce a series of movements or concussions whereby the flour is impelled through the meshes of the sieve with great rapidity and ease. It will also be seen that in sifting flour with my improved sieve, any impurities or foreign matters in the flour are not ground up, and mixed with the sifted material as is the case with sifters having rollers, bars, or any other devices which are brought in close proximity with the meshes of the sieve. It will also be obvious that by my peculiar method of hanging the bottom or movable part of the sieve, (viz., upon the three studs *d*,) such movable part is so balanced and suspended as to be capable of being vibrated with great ease and rapidity.

Having described my invention, what I claim is—

1. The combination of the separate reciprocating meshed bottom C, with the body A, having a handle, B, rigidly applied thereto, in manner and for the purpose set forth.

2. In a flour or meal sieve, having a stationary body, A, and a vibratory reciprocating meshed bottom, C, and means for reciprocating the latter, as described, the bottom C suspended by devices entirely at its perimeter, as and for the purpose set forth.

3. In a flour or meal sieve, the combination, with the body A, provided with the chamber *b*, of the reciprocating meshed bottom C, suspended at its perimeter, as described, and having its upper edge disposed within the said chamber, as and for the purpose set forth.

In testimony that I claim the foregoing as my own invention I affix my signature in presence of two witnesses.

HENRY W. PROUTY.

Witnesses:

F. P. HALE,

F. C. HALE.