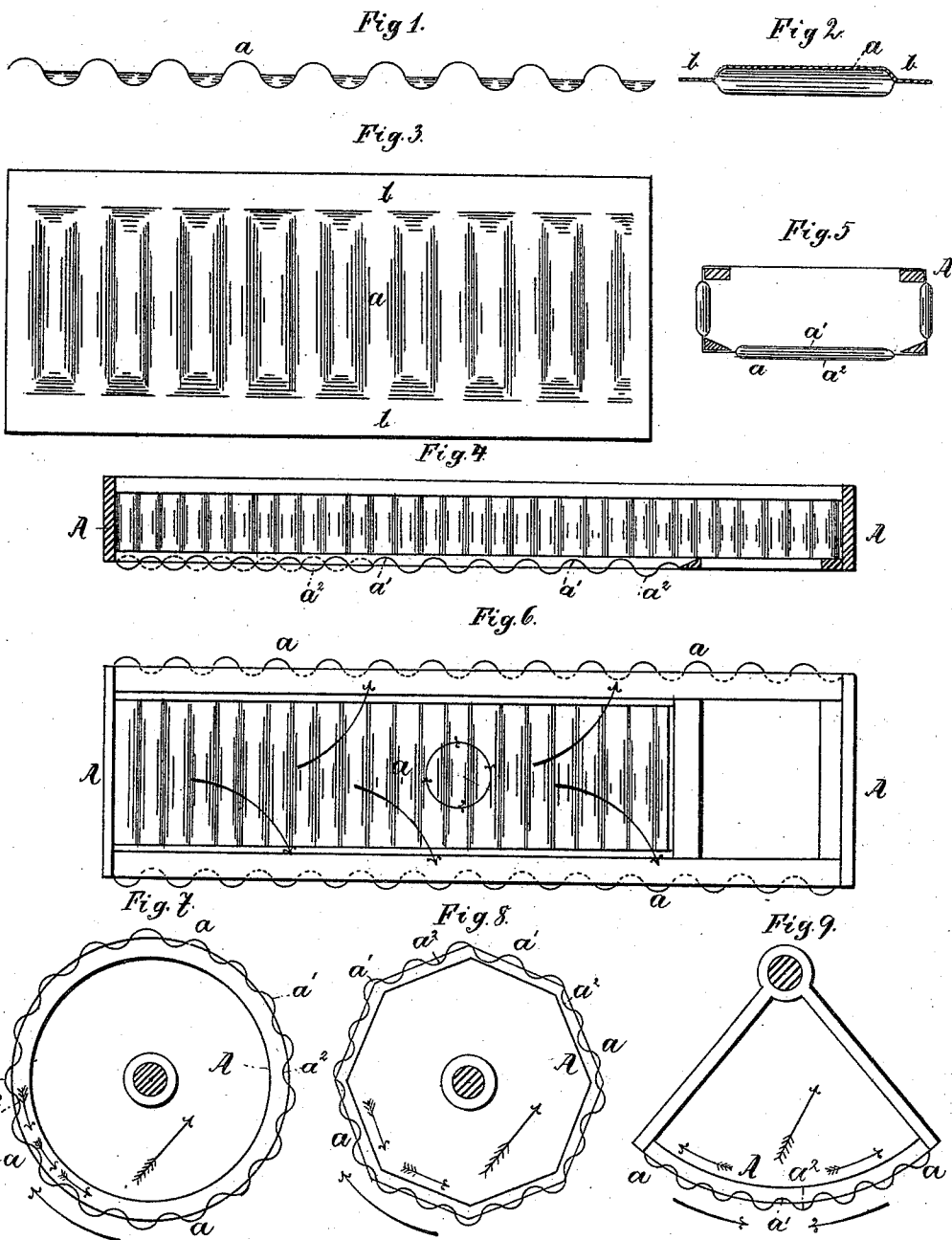


(No Model.)

F. SCHLEE.
FLOUR SIFTING SIEVE.

No. 533,145.

Patented Jan. 29, 1895.



Witnesses
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UNITED STATES PATENT OFFICE.

FRIEDRICH SCHLEE, OF HALLE-ON-THE-SAALE, GERMANY.

FLOUR-SIFTING SIEVE.

SPECIFICATION forming part of Letters Patent No. 533,145, dated January 29, 1895.

Application filed October 29, 1894. Serial No. 527,125. (No model.) Patented in Germany August 28, 1893, No. 76,303; in England August 29, 1893, No. 16,254; in Belgium September 5, 1893, No. 106,225; in France September 5, 1893, No. 232,633; in Italy September 5, 1893, LXVIII, 188, and in Austria-Hungary March 30, 1894, No. 64,839 and No. 97,567.

To all whom it may concern:

Be it known that I, FRIEDRICH SCHLEE, a subject of the Emperor of Germany, residing at Halle-on-the-Saale, in the Kingdom of Prussia, Germany, have invented certain new and useful Improvements in Flour-Sifting Sieves, (for which I have obtained Letters Patent in Germany August 28, 1893, No. 76,303; in Belgium September 5, 1893, No. 106,225; in England August 29, 1893, No. 16,254; in France September 5, 1893, No. 232,633; in Italy September 5, 1893, Vol. LXVIII, No. 188, and in Austria-Hungary March 30, 1894, No. 64,839 and No. 97,567;) 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 sieves and bolting devices used for sifting flour, meal and other powdered substances and formed of silk-gauze or similar material in which the said substances will clog by their adhesiveness, and more particularly to sieves which are constructed with undulatory surfaces for the purpose of remedying this defect by their self-cleaning action.

The said invention consists in the especial construction and combination of parts and in the method of making the same all as hereinafter particularly set forth and claimed.

In the accompanying drawings, Figure 1 represents a longitudinal vertical section of a sieve cloth showing the undulatory surface or waves embodied in my invention. Fig. 2 represents a vertical cross-section of the cloth or fabric embodying my invention. Fig. 3 represents a plan view of the same. Fig. 4 represents a vertical longitudinal section taken on the central line of Fig. 6, of a sieve intended for rotary movement and embodying my invention. Fig. 5 represents a cross-section of the same on the central lines of Figs. 4 and 6. Fig. 6 represents a plan view of the same. Figs. 7 and 8 represent end elevations of different forms of bolting cylinders or cylindrical sieves, the one having a polygonal end frame, the other a circular; and Fig. 9 represents a similar view of a segmental sieve adapted to act by oscillation.

The motion of the material to be sifted is indicated by feathered arrows, unfeathered ones indicating the motion of the sieve.

A designates the sieve frame on which the bolting cloth or sieve fabric *a* is stretched, and nailed or otherwise fastened. This fabric *a* is formed with undulations consisting of outward waves *a'* and inward waves or troughs *a''*. These undulations are arranged either parallel to the movement of the material or so as to cross the same at a right angle, Figs. 7, 8, and 9, or at any angle of inclination as in Figs. 4 and 6. In sieves having a horizontal circular motion whereby the material to be sifted will be thrown centrifugally against the walls, these may also be fitted with undulating sieving surfaces as shown in Figs. 4, 5, and 6. The circle in Fig. 6 indicates the axis of rotation.

The bolting cloth should be fastened taut on the frame, so that only the corrugations of the sieve move up and down, the waves *a'* becoming wave-troughs *a''* and vice versa. This up and down movement of the waves is easily effected by the least pressure and the movements of the sieve. This continual movement of the cloth instantly dislodges all particles and prevents the sifting holes or meshes from being clogged.

The corrugations in my sieve are obtained by dipping both length edges of the bolting cloth in water or some other liquid. While drying these edges will contract and remain contracted, in consequence of which the entire inner surface of the cloth must form waves or folds, Figs. 1, 2, and 3; or else I employ a sieve cloth woven in such a manner that the threads forming the edges of the chain are shorter than the rest of the chain threads, by which means I attain the same result, to wit, a sieve cloth with plain flat edges and corrugated body, in either case the said characteristics of the edges and body of the sieve-cloth after such treatment or manufacture being independent of the sieve frame and continuing when separated therefrom.

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

1. A sieve cloth having a smooth border

and an undulating bolting surface these characteristics being independent of fastening devices substantially as set forth.

2. In combination with a sieve frame, a bolting cloth attached thereto and consisting of a smooth border in its normal condition and an undulating middle part of shrunken material, the said border and middle part being nevertheless integral substantially as set forth.

3. A method of making a sieve consisting in securing the border of the bolting cloth to the frame and then wetting the said sieve and

drying it, thereby shrinking the bolting cloth to form undulations in the space between the frames while the border part of the said cloth is prevented from shrinking by its attachment to the said frame substantially as set forth.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

FRIEDRICH SCHLEE.

Witnesses:

RUDOLPH FRICKE,
OTTO DOEDERLEIN.