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W. L. BURNER.

SIFTING MACHINE OR SCREEN.

APPLICATION FILED AUG. 6, 1903.

NO MODEL.

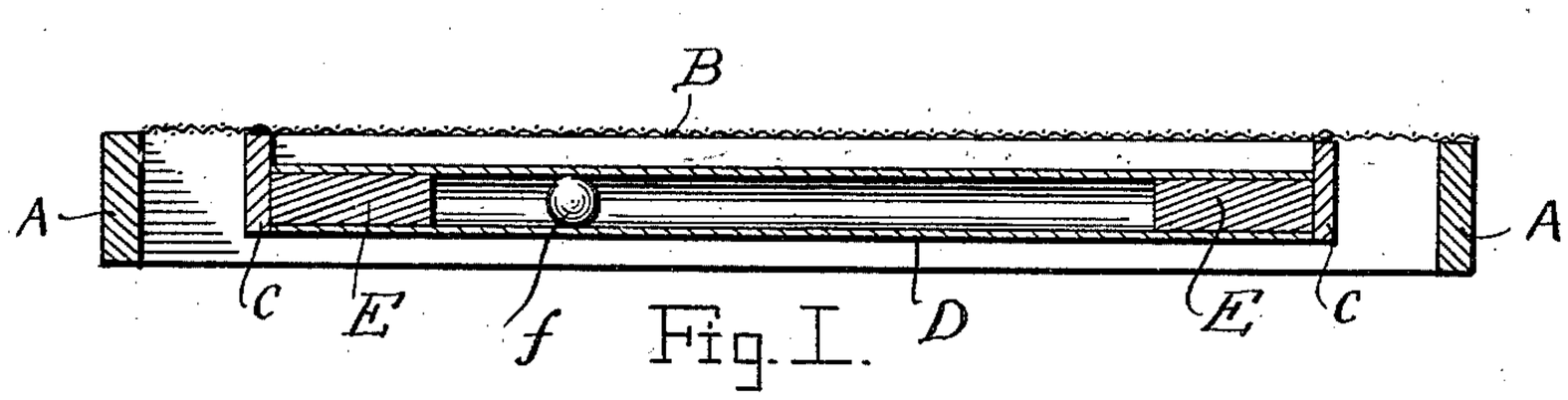

Fig. 1.

Fig. 2.

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No. 755,445. Patented March 22, 1904.

UNITED STATES PATENT OFFICE.

WILLIAM L. BURNER, OF COLUMBUS, OHIO.

SIFTING MACHINE OR SCREEN.

SPECIFICATION forming part of Letters Patent No. 755,445, dated March 22, 1904.

Application filed August 6, 1903. Serial No. 168,511. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. BURNER, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Sifting Machines or Screens; and I do 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 more particularly to sifting-machines having flat sieves the carrying-frames of which by any of the well-known means are given a succession of horizontal or approximately horizontal movements in a circular or curved direction or which are rocked in a rectilinear direction, or it may also be used on those screens or reels which are made round, hexagon, or of any number of sides; and the object is to provide a novel means of keeping the sieves or sieve-surfaces of such sifting apparatus clean by removing therefrom such particles of the flour, middlings, meals, or other material to be sifted or other obstructions as may have settled between the meshes or have adhered to the bottom of the sifting-surfaces. The usual means of keeping sieves clean are by brushing the sieves with brushes or by vibrating or jarring the sieve-frames.

My invention pertains to the vibrating method, and more particularly to the manner of applying the vibration to the cloth so as to be effective and without greatly jarring the sieve-frame proper or sieve-box.

In machines of this class, as the sieve-frame must be made fast to or form a part of the sieve box or frame to which is given the motion necessary to give a sifting action, a jar or vibration of the sieve-frame is destructive to the frame, as it requires a heavy jar to produce the desired effect on the sieve-surface. To overcome this objection and to apply the jar or vibration more directly to the sieve-surface or cloth is the object of my invention.

The features of construction are made clear by reference to the accompanying drawings, in which—

Figure 1 is a longitudinal section of the sieve-frame and sieve, to which is attached the vibrating or jarring mechanism, also shown in section. A A are the ends of the sieve-frame, which is removed from the sieve-box, to which it is attached when in use. B is the cloth or sieve-surface to which is attached the cleaning or jarring device, which consists of the frame C C, attached to the cloth or binding of cloth inside of the sieve-frame proper and connected with the cloth or binding only. The ends C C are connected by means of the hollow tube D, into each end of which are placed the plugs E E and inside the tube the ball *f*. Fig. 2 shows a top view of the same with cloth partially removed and tube broken away, showing ball.

This completes the apparatus, and its action is as follows: The sieve being placed in the sieve-box and given any motion suitable to produce the sifting actions causes the ball to roll from end to end of the tube, striking the plugs at each end. This produces a jar or vibration, which is communicated to the sieve-surface by means of the inside frame and vibrating more particularly that part of the sieve-surface inclosed by the inside frame. As the cloth, sieve-surface, or binding thereof is the only connection between the inside frame and the seive-frame proper, it forms a flexible support between the two, and the vibrations are not communicated in any great degree to the sieve-frame proper.

Where the sieve-surface is of heavy material, such as perforated metal, or in any case, the connection between inside and outside frame may be formed of any suitable flexible material instead of being a part of the sieve-surface.

Strips or blocks to which the tube with ball is attached may be substituted for the inside frame, and other methods besides the ball may be used to produce the jar or vibration.

I wish it understood that I do not confine myself to the special construction and arrangement of parts in accompanying drawings, but consider falling within the scope of my present invention any sifting apparatus provided with cleaning devices of similar principle and applied in a similar manner. It also may consist of a larger number of small frames or other

suitable devices attached to the sieve-surface and vibrated by different balls or other means of producing a jar or vibration.

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

1. A bolting-sieve comprising a cloth and a frame, and having a cleaning device comprising an open jarring-frame independent of the first-named frame and attached directly to the under side of the cloth and provided with a raceway extending from end to end thereof, and a roller-weight in said raceway movable longitudinally therein by the motion of the sieve and delivering blows at the ends of the raceway to the ends of the jarring-frame, the latter serving to jar the cloth.

2. A bolting-sieve comprising a cloth and a frame, and having a cleaning device comprising an open jarring-frame independent of the first-named frame and attached directly to the under side of the cloth and provided with a tubular raceway extending from end to end thereof, plugs in the ends of said tubular raceway bearing against the ends of the jarring-frame, and a weight-roller in said tubular raceway acting by the motion of the sieve to apply blows against the said plugs and thereby communicate concussion through them and the jarring-frame to the cloth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM L. BURNER.

Witnesses:

S. GRAHAM SMITH,

E. B. WHARTON.