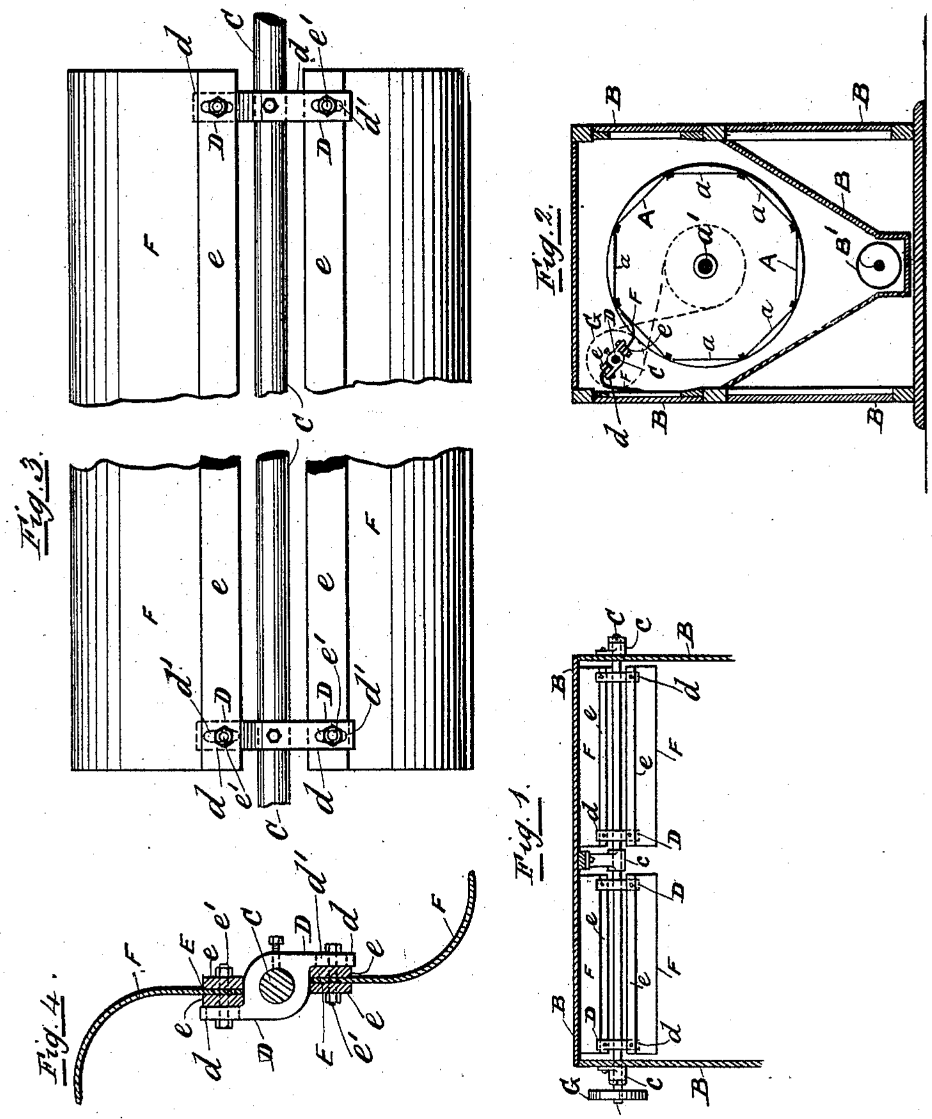
(No Model.)

W. WHITE.

FLOUR DRESSING MACHINE.

No. 418,361. Patented Dec. 31, 1889.



Witnesses.

Inventor:

William White
per attys

UNITED STATES PATENT OFFICE.

WILLIAM WHITE, OF LEEDS, COUNTY OF YORK, ENGLAND.

FLOUR-DRESSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 418,361, dated December 31, 1889.

Application filed February 23, 1887. Serial No. 228,470. (No model.) Patented in England August 24, 1885, No. 10,015.

To all whom it may concern:

Be it known that I, WILLIAM WHITE, a subject of the Queen of Great Britain, residing at Leeds, in the county of York, England, have invented new and useful Improvements in Flour-Dressing Machines, (for which I have obtained a patent in Great Britain, No. 10,015, bearing date August 24, 1885,) of which the following is a specification.

The object of my invention is to provide improved apparatus for cleaning the meshes of the silk or wire covered reels used in flour-dressing machines.

In my improved apparatus the brushes consist of strips of flexible material secured to a rotary frame and adapted to first strike the cylinder, to partially beat out the dust, and then sweep over the surface of the cylinder by presenting their overlapping sides thereto. By this arrangement the cylinder is more effectually cleaned and there is less wear on the reticulated covering.

In the accompanying drawings, Figure 1 is a longitudinal elevation of a revolving sweeping apparatus; Fig. 2, a transverse section of same, taken at right angles to Fig. 1, and showing the application of my invention to the reel of the machine. Figs. 3 and 4 are respectively a longitudinal and transverse section of sweeping apparatus, drawn on a larger scale.

Similar letters of reference refer to like parts throughout the views.

A is the reel, covered with silk or wire; B, the frame-work or casing of the machine; B′, an Archimedean screw working in a trough at the bottom of the machine, and is employed for removing any material as it falls from the reel, all of which parts are of ordinary construction.

The revolving beating and sweeping apparatus I employ consists of a revolving shaft C, carried in bearings *c*, attached by any convenient means to the outside of the frame-work B, so as to permit of the shaft passing within the framing parallel to the axis of the reel, but outside the latter. On the shaft are mounted two or more castings D, (four are shown in the drawings,) provided with any desired number of arms or projections *d*. For ordinary purposes two arms to each casting will be found sufficient. On each arm *d* is mounted and carried an adjustable clamp E, formed by fastening two rails *e* together (preferably, though not necessarily so) by the same bolts or screws *e′* that secure the rails *e* to the arms. Slot-holes *d′* are formed or provided in each arm *d*, through which the bolts *e′* pass, which permit of the rails *e* and beating and sweeping strips or pieces F being adjusted in any desired position on the arm *d*. Each set of rails *e* may extend either across the whole face of the reel A, or they may be made in two or more portions or sections, as shown in the drawings. The parts just described constitute the brush-holding frame. Between each set of clamping-rails *e* is fixed a strip or piece F, of cloth, felt, india-rubber, or other elastic or flexible material, of the same length as the rails *e*, and of such a width that during its rotation it will first beat and then sweep or clean one of the flattened surfaces or angles *a* of the reel A. This is effected by making each strip wider than the shortest distance between the brush-holding frame and the outer surface of the cylinder, so that in operation the strip when it comes in contact with the cylinder bends and presents its side to lie upon and sweep over the reticulated covering. The revolutions of the sweeper and reel are so timed that as one strip F is passing off a flattened surface or angle *a* another strip is just commencing to beat, and by its trailing motion to sweep the next succeeding flat or angle *a*.

It will be readily understood that for polygonal reels the width of the pieces or strips will vary in accordance with the breadth or size of the angles or flattened surfaces on the reel; but for cylindrical reels the strips or pieces F are of such a width and so arranged that as one strip or piece passes off the periphery of the reel another strip commences to sweep at the point or place where the former one left off.

The herein-described reel-cleaning apparatus is so arranged that it will also commence its beating and sweeping action upon the reel-covering as soon as the latter has passed its zenith, so as to clean the meshes of the covering prior to again coming in con-

tact with the flour within the reel. By making that portion of the cleaning apparatus which comes in contact with the reel-covering of an elastic flexible material instead of a hard and slightly-yielding material—such as a brush—less damage is thereby done to the covering. Further, by employing elastic flexible strips such as herein described, when they are brought in contact with the covering during their rotation, they first beat against the periphery of the reel as they are bending themselves to their work, which loosens the substance choked in the meshes, and then the trailing and sweeping action takes place.

I have found by experiment that if the sweeping mechanism is timed to make two to two and a half revolutions to one of the reel satisfactory results may be obtained; but I wish it to be distinctly understood that I do not limit myself to this speed, as it may be varied as circumstances require.

A continuous rotary motion is preferably conveyed to a pulley G on the sweeper-shaft C from the beater-shaft *a'* or from any other convenient moving part of the machine by ordinary means.

By the above-described means or apparatus every portion of the reel, whether polygonal or cylindrical, is regularly and constantly swept and cleaned while it is in motion, and any dust adhering to or accumulating in the covering of the reel is removed.

I claim as of my own invention—

The combination of the casing, the reticulated cylinder mounted therein, the brush-shaft within the casing outside the cylinder and parallel with the axis thereof, the brush-holding frame, the brush-strip F, of flexible material, secured thereto, extending from one end of the cylinder to the other, and parallel with its axis, the width of said strip being greater than the shortest distance between the outer surface of the cylinder and the outer edge of the brush-frame, so that in operation the strip first strikes the cylinder and then bends and presents its adjacent side, which lies upon and sweeps over the surface of the cylinder.

In testimony whereof I have hereunto set my hand to this specification, in the presence of the two subscribing witnesses, at Leeds, England, this 5th day of February, 1887.

WILLIAM WHITE.

Witnesses:
W. FAIRBURN-HART,
ADAM C. HART.