M. MARTIN.

Flour-Bolting Machine.

No. 206,186. Patented July 23, 1878.

Fig. 1.

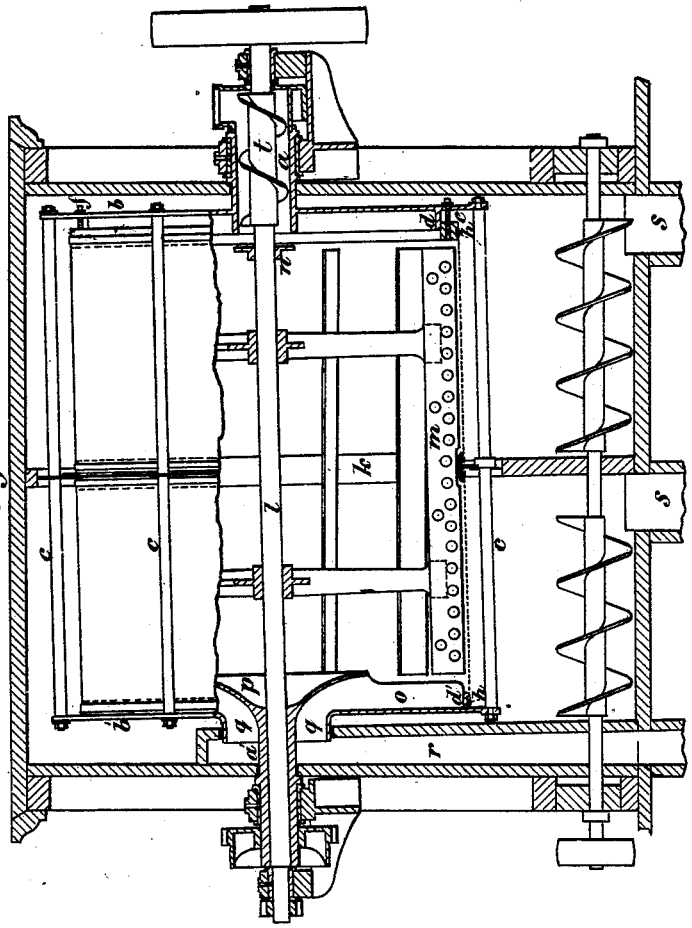


Fig. 3.

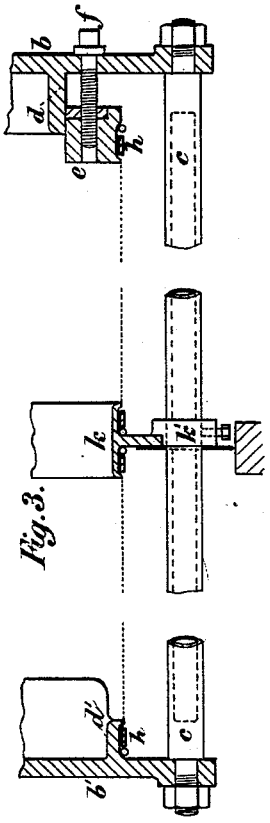
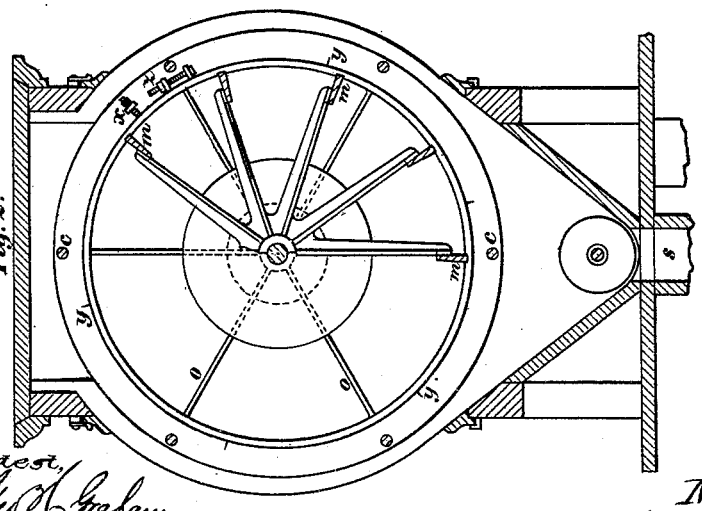


Fig. 2.



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UNITED STATES PATENT OFFICE

MORITZ MARTIN, OF BITTERFELD, PRUSSIA.

IMPROVEMENT IN FLOUR-BOLTING MACHINES.

Specification forming part of Letters Patent No. **206,186**, dated July 23, 1878; application filed March 6, 1878; patented in France, November 14, 1876; in Austria, January 12, 1877.

To all whom it may concern:

Be it known that I, MORITZ MARTIN, of Bitterfeld, Prussia, have invented a Centrifugal Flour-Dressing Machine, of which the following is a specification:

This invention relates to a flour-dressing machine in which the meal is sifted by being thrown against the gauze by a system of rotating blades or beaters while the cylinder slowly revolves in the same, or, if preferred, in opposite direction.

On the the annexed sheet of drawings this machine is represented in two views, Figure 1 being a vertical longitudinal section, and Fig. 2 a transverse section. Fig. 3 shows details on a larger scale.

The cylinder-frame consists of two disks, *b* and *b'*, connected together near the edges by the stays *c c*. The disks are provided, respectively, with the hollow trunnions *a* and *a'*, supported in proper bearings. The gauze or bolting-cloth is fixed at one end to the periphery of the circular rib *d'*, Figs. 1 and 3, on the face of the disk *b'*; or, if preferred, the said rib may be on the disk *b*. At the other end it is fastened to the ring *e*, sliding on the circular rib *d* of the opposite disk—*i. e.*, the disk *b* of the drawing. This ring can be adjusted by the screws *f* for stretching the gauze lengthwise.

A shaft, *l*, passing through the hollow trunnions *a* and *a'*, and revolving in separate bearings, is provided inside of the cylinder with two or more sets of arms, carrying the blades or beaters *m m*, which are, by preference, made of wood. The shaft *l* is driven, by a strap and pulleys or otherwise, at a speed high enough to cause the beaters *m* to scatter the meal by centrifugal action over the whole surface of the gauze, so that the flour passes through the meshes of the same, while the bran and the incompletely-reduced particles of the grain are retained on the inside. The cylinder meanwhile also revolves, although but slowly, it receiving its motion from the shaft *l* by any suitable gearing. The beaters *m* are by preference perforated for the purpose of causing them better to stir up the meal and to throw but small quantities of the same against the gauze at once, whereby a speedy deterioration of the latter is prevented. The blades, when perforated, may also be driven at a higher speed, which makes the sifting process more intense.

The meal is introduced into the cylinder through the hollow trunnion *a* at the front end, and within this trunnion it is propelled forward by a worm on the main shaft *l* and thrown against a small disk, *n*, so as to spread it out. The cylinder must be placed slightly at an incline, or the blades or beaters *m* arranged somewhat obliquely—*i. e.*, in a screw-line of long pitch, so that the meal slowly moves toward the back end or bottom of the cylinder, or the inclination of the cylinder is combined with the oblique position of the beaters, as may be preferred.

After the flour has been sifted off, the bran, &c., is taken up by radial ribs *o* on the bottom disk *b'*. These ribs lift the same, and thereupon let it slide behind a conical, flaring, or otherwise suitably-shaped disk, *p*, fixed to the said ribs, or cast together with them. This disk conducts the material toward the openings *q*, arranged around the trunnion *a'*, so that it is discharged into the channel *r*. The flour, passing through the gauze, falls into the lower part of the casing which incloses the cylinder, and is there conveyed into one or more channels, *s*, by means of a creeper or otherwise.

If the cylinder is to be provided with two sheets of gauze, whether of equal or of different fineness, and if the latter should thereby become too long to be properly stretched, a ring, *k*, is fixed by lugs *k'* to the stays *c*, as shown in detail by Fig. 3. The parts of this ring, as well as of the ring *e*, to which the gauze is to be fixed, should be of equal diameter with the outside of the rib *d'*. The two sheets of gauze are fastened with one edge to the ring *k*, and with the other respectively to the rib *d'* and to the ring *e*. In a similar manner three or more sheets may be applied.

The mode of fastening the gauze is as follows: A cord having been sewed to the edges of the gauze, the latter is attached at two corners to the rings *e* and *k*, respectively, and to the rib *d'* by the clamping-screws *x*. Its edges are then hooked on pins *y* provided therefor. The screws *x* having been slackened, the end corners of the gauze are pushed under them and

the screws tightened again. The overlapping gauze ends must be glued together. A strap, *h*, of iron or other suitable material, is subsequently laid around each edge of the gauze, and drawn tightly by the screw *z* into the shallow grooves of the ribs, respectively, of the rings, thereby firmly uniting these parts. The gauze is finally stretched lengthwise by the adjusting-screws *f* until it has become perfectly smooth and taut.

If it be deemed advisable to place the stays *c* inside of the gauze, they should be flat or square in section, and the ring *e* must be slightly modified in shape. Moreover, in this case, instead of the ring or rings *k*, one or more plain rings, to which the gauze should not be attached, are or may be permanently fixed to the stays.

I claim as my invention in the described improved flour-dressing machine—

1. The cylinder consisting of the two disks *b* and *b'*, provided with the hollow trunnions *a* and *a'* and the circular ribs *d* and *d'*, and having the stays *c* and the ring *e*, adjustable by screws *f*, substantially as described.

2. The means of fastening the gauze to the rib *d* of the disk *b'*, or to the rings *e* or *k* of the cylinder, consisting of the adjustable strap *h*, as and for the purpose described.

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

M. MARTIN.

Witnesses:
ROBT. C. POPHAM,
HENRY SPRINGMANN.