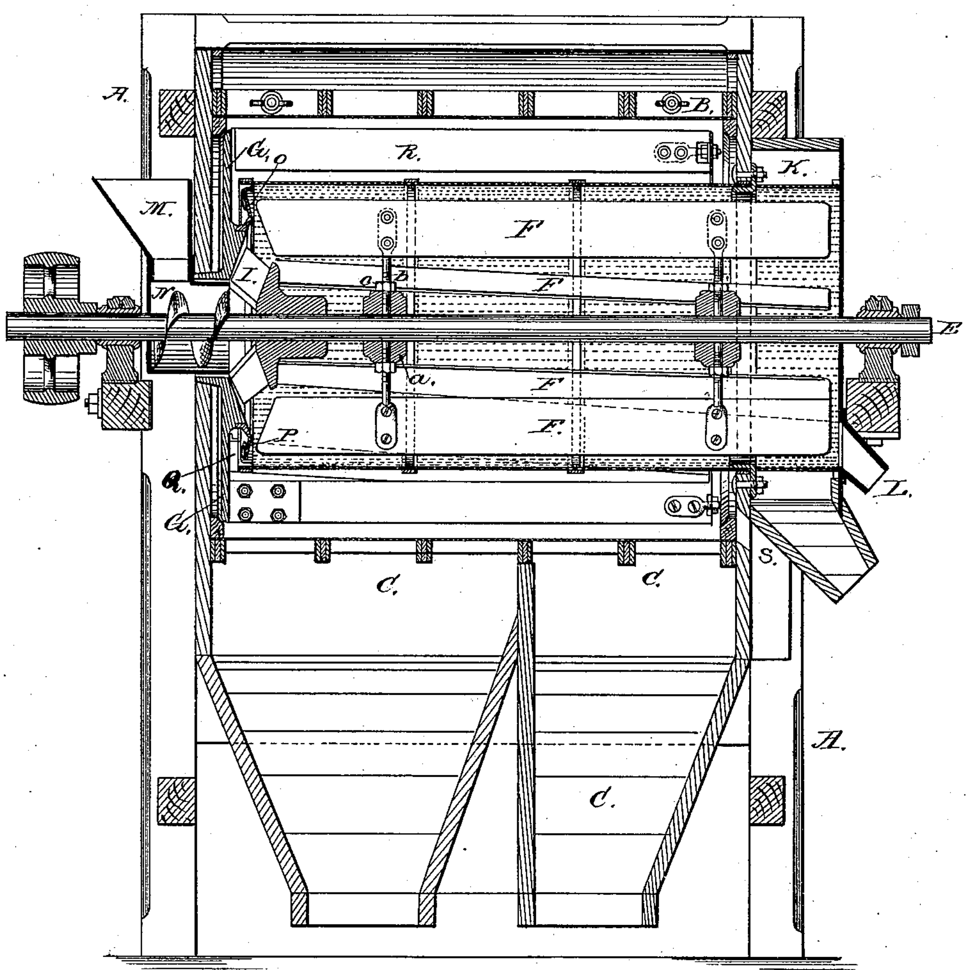
F. FEISTEL.

FLOUR-BOLTING MACHINE.

No. 190,202. Patented May 1, 1877.

Fig. 1.



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3 Sheets—Sheet 2.

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Fig. 2.

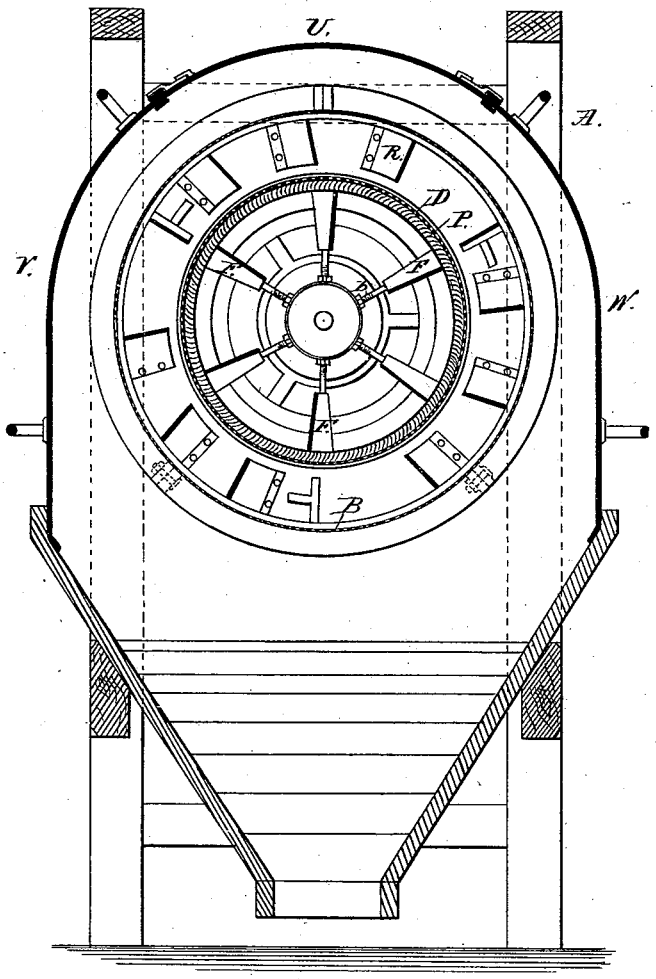

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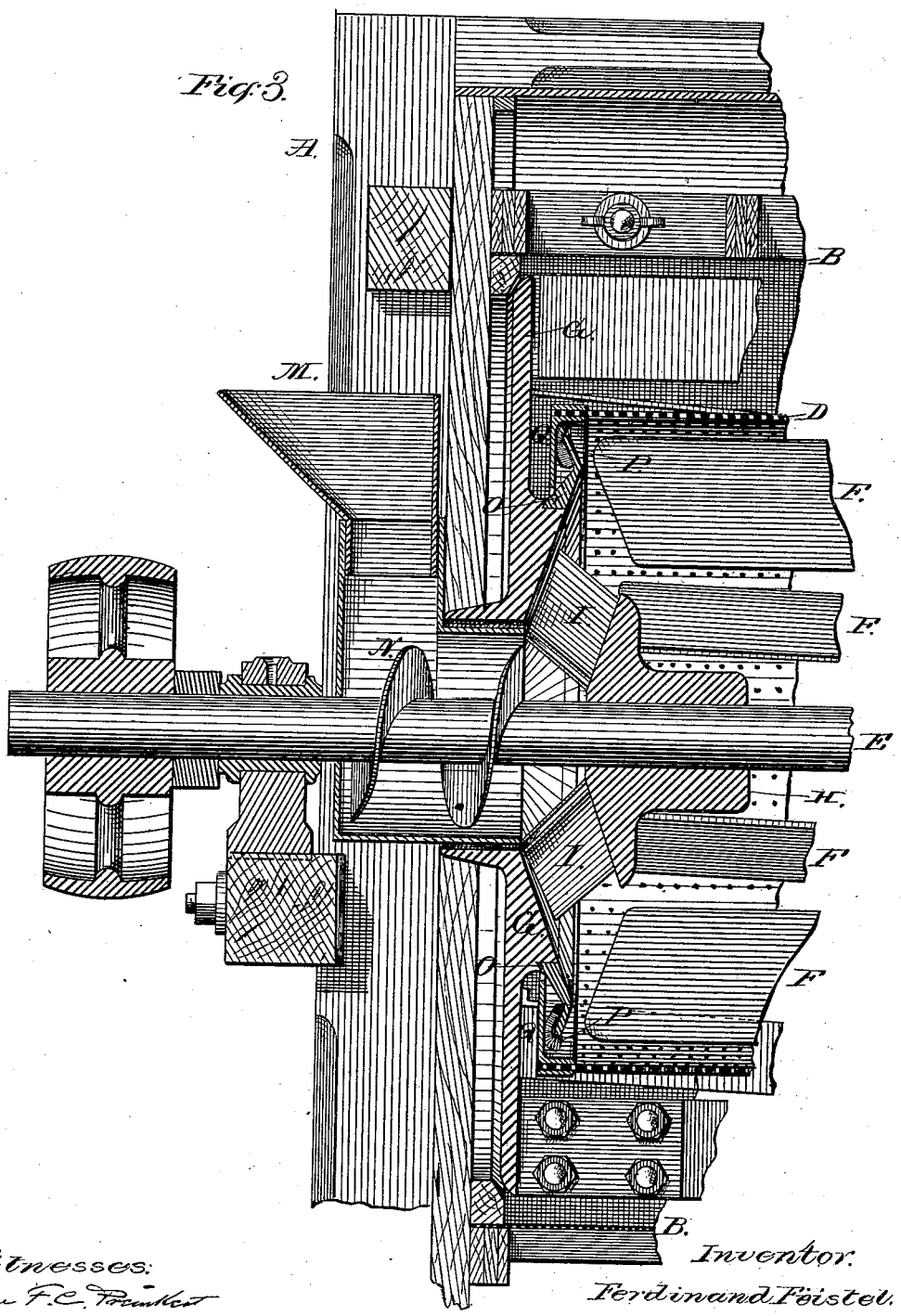
Fig. 3.



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UNITED STATES PATENT OFFICE.

FERDINAND FEISTEL, OF BERLIN, PRUSSIA.

IMPROVEMENT IN FLOUR-BOLTING MACHINES.

Specification forming part of Letters Patent No. **190,202**, dated May 1, 1877; application filed March 31, 1877.

To all whom it may concern:

Be it known that I, FERDINAND FEISTEL, residing at Berlin, Prussia, have invented certain Improvements in Flour-Dressing Machine, of which the following is a specification:

The object of the present invention is to construct a flour-dressing machine in which the different grades of flour and the middlings are separated from the offal or bran in a perfect and simple manner without causing the entire mass of meal or "chop" from the stones to enter the gauze-covered bolting-reel.

The invention consists in the combination of an inner reticulated cylinder, made of wire-gauze or foraminous metal, an outer gauze-covered bolting frame or cylinder, and two sets of beaters, located one inside the inner cylinder and the other between the latter and the outer bolt. The meal or chop from the stones or mill enters the inner cylinder, and the beaters revolving therein serve to agitate the mass, so as to cause the different grades of flour and fine middlings to pass into the outer or surrounding bolt, where the flour is acted upon by the beaters and separators according to grade. The offal and bran pass out at the tail-end of the inner cylinder, and the coarse middlings are sifted through an end section of said cylinder.

The invention also consists in other minor details of construction, which will be hereinafter more fully described.

In the accompanying drawings, forming part of this specification, Figure 1 is a longitudinal vertical section of a flour-dressing machine constructed according to my invention. Fig. 2 is a transverse section of the same. Fig. 3 is an enlarged sectional view of one end portion of the machine.

The frame of the machine, which is denoted by the letter A, supports a stationary gauze-covered bolting frame or cylinder, B, the bolting cloth or covering of which is of different grades of fineness, the meshes at the reception end being closer than toward the discharge. Below the bolt B are located hoppers or spouts C, which receive the different grades of flour sifted through at the different portions of the length of the bolt, and serve to deliver the same into bags or conductor trunks or tubes. Inside the bolting-cylinder B is arranged an inner reticulated cylinder, D, made generally of foraminous metal or wire-gauze, and firmly secured to one end of the frame of the machine by bolts and flanged plates. Through the center of the cylinder D passes an axial shaft, E, which is journaled in bearings at the ends of the frame, and carries a series of obliquely or spirally arranged beater-plates, F, which are adjustably secured to collars *a* on the shaft by means of screw stems and nuts *b c*. The revolving shaft E carries an end plate, G, which is formed with a hub shaped portion, H, encircling the shaft and attached thereto. Passages I are made through this hub-shaped portion of the end plate G, for the purpose of conducting the meal or chop, as it comes from the mill or stones, into the reticulated cylinder, where it is subjected to the action of the beaters revolving therein, for sifting the different grades of flour and fine middlings through said reticulated cylinder, while the offal and bran pass out through a spout, J, in the closed end wall of the reticulated cylinder at the tail-end of the machine. The end portion K of said cylinder is made with larger holes than the remaining portion, so as to permit the coarse middlings to pass through the same into a discharge-spout, L. The chop or meal is fed into a receiving-hopper, M, which contains a screw, N, for feeding the mass into the reticulated cylinder D. The feed-screw is fixed on the revolving beater-shaft, so as to turn therewith. To the inner side of end plate G is attached a ring, O, which is armed with brushes or bristles P, that run in contact with the vertical portion of a flanged end cap, Q, applied to the inner reticulated cylinder, thereby preventing the passage of the meal or chop into the outer bolting-cylinder. The end plate G extends nearly to the inner surface of said outer bolting-cylinder, and has attached to it near its outer portion beaters R, which are attached at their opposite ends to a ring, S, encircling the reticulated inner cylinder D. These beaters are also arranged diagonally or spirally, and serve to act upon the mass sifted through the inner cylinder, for agitating the same, and causing it to be uniformly distributed over the entire inside area of the bolting-cylinder, so as to be sifted through the same.

The middlings or fine stuff which cannot

pass through the bolting-cloth is discharged through an opening, S, at the tail-end of the machine. As shown more fully in Fig. 2, the bolting-cylinder is inclosed in a sheet-metal casing, which is made of three sections, U V W, suitably secured to each other, so that the side sections V W can be readily removed for obtaining access to the bolting-reel. In the present instance I have shown two concentrically-arranged bolting-cylinders, the inner one of which serves to separate the coarse stuff and distribute the flour or matters sifted through the same uniformly over the inside surface of the outer bolt.

It will be obvious that more than two cylinders can be employed so as to cause an inner cylinder to serve as a separating and distributing cylinder for one surrounding the same.

I do not claim, broadly, the combination of an inner perforated cylinder or shaft with a bolting-reel for receiving the chop or meal and separating the bran and coarse matters.

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

1. The combination, in a flour-dressing machine, of an inner distributing and separating cylinder, an outer bolting-cylinder, an inner set of revolving beaters, and an outer set of beaters revolving around the inner cylinder or within the bolting-cylinder, substantially as and for the purpose set forth.

2. The combination of the revolving shaft E, end plate G, having hub portion H, with openings I therein, and the outer set of beaters R, attached to said end plate, with the bolting-cylinder B, inner separating-cylinder D, and feeding-hopper M, as and for the purpose set forth.

3. The combination of the ring-brush O P with the end plate G and the inner cylinder D, having end cap Q, substantially as and for the purpose set forth.

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

FERDINAND FEISTEL.

Witnesses:

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