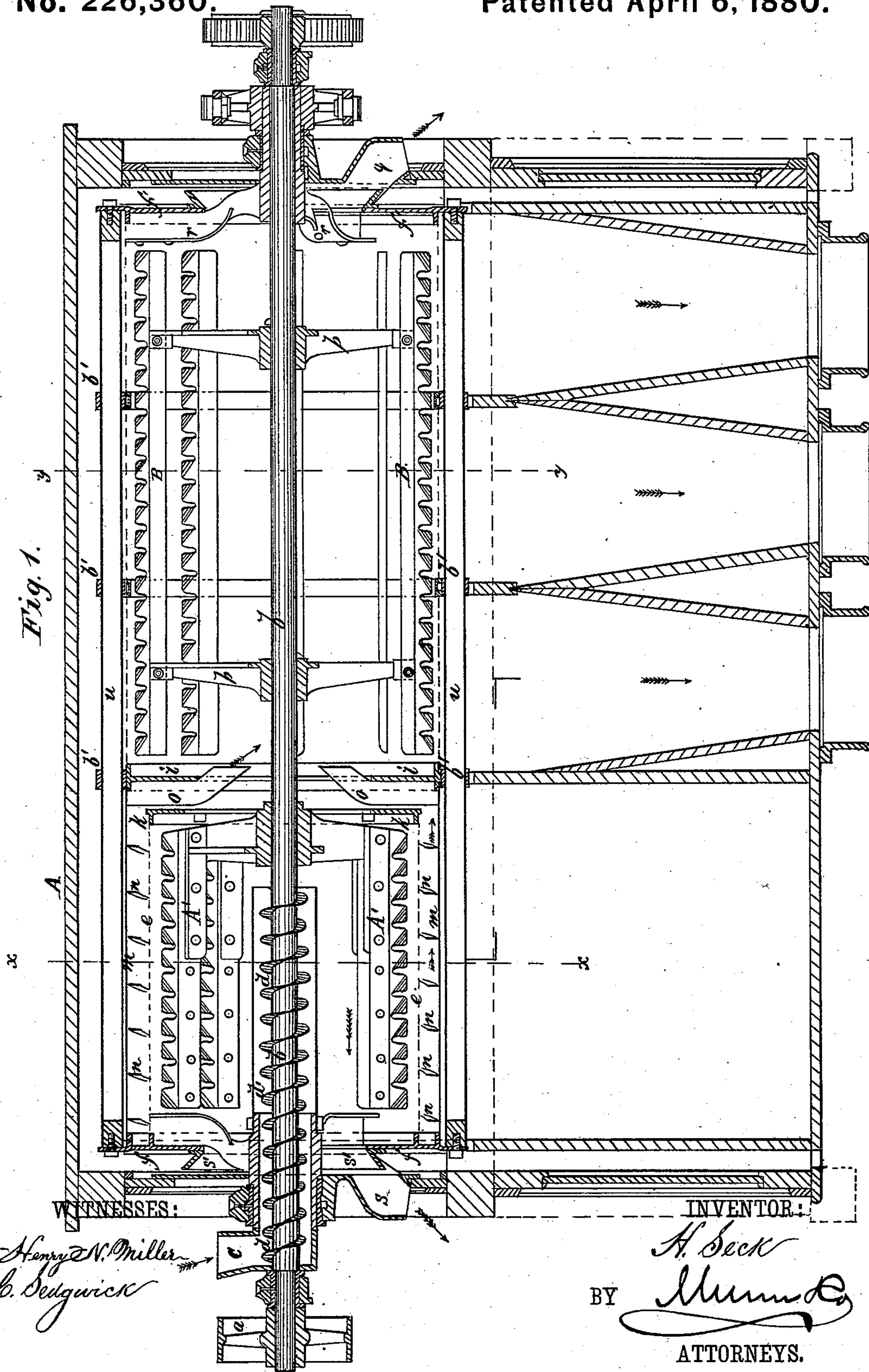


H. SECK.
Flour Bolting and Dressing Machine.
No. 226,360.
Patented April 6, 1880.

Fig. 1.



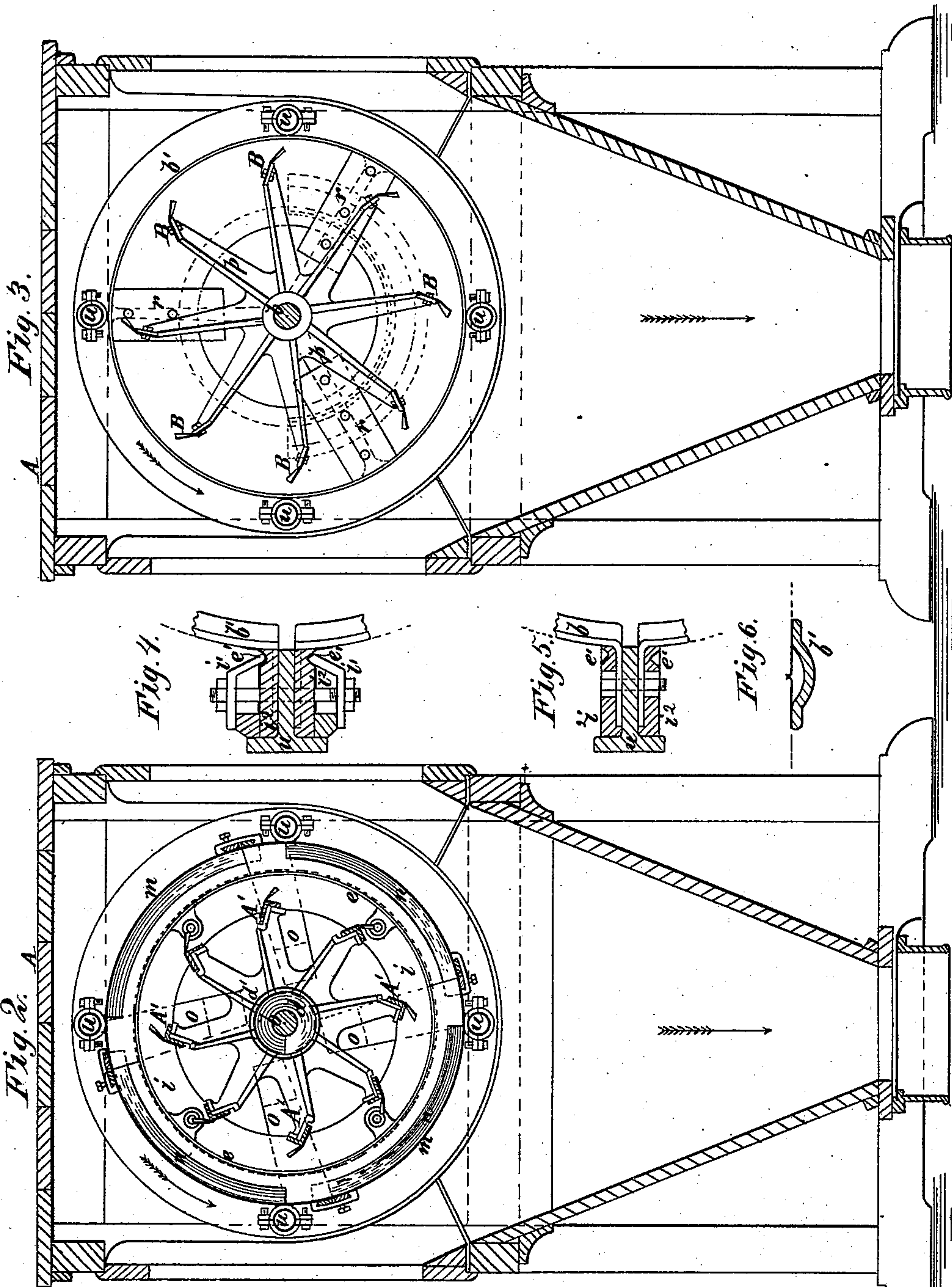
WITNESSES:

Henry N. Miller
C. Sedgwick

INVENTOR:

H. Seck
BY *Mum Co.*
ATTORNEYS.

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UNITED STATES PATENT OFFICE.

HEINRICH SECK, OF FRANKFORT-ON-THE-MAIN, GERMANY.

FLOUR BOLTING AND DRESSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 226,360, dated April 6, 1880.

Application filed December 10, 1879.

To all whom it may concern:

Be it known that I, HEINRICH SECK, of Frankfort-on-the-Main, Germany, have invented a new and Improved Centrifugal Dressing and Bolting Machine, of which the following is a specification.

This invention consists in a preparatory bolting-machine so combined with a fine-dressing machine that it serves for separating the husks, bran, and coarser particles from the meal, and for sorting the meal itself into different degrees of fineness at one operation.

The whole machine is so constructed that all coarse particles, husks, bran, and the like are separated before the meal reaches the bolting-silk or screening-cloth serving to finely sort the flour.

The construction and operation will be particularly described with reference to the accompanying drawings, wherein—

Figure 1 is a vertical longitudinal section of the machine. Fig. 2 is a vertical transverse section on line *x x* of Fig. 1. Fig. 3 is a similar section on line *y y* of Fig. 1. Figs. 4, 5, and 6 are detail sections in larger size.

Similar letters of reference indicate corresponding parts.

A is the casing of the bolt, and *b* the reel-shaft running lengthwise of case and fitted for revolution by means of power applied to pulley *a*. On the opposite ends of shaft *b* are two loose sleeves revolving independently of the shaft and carrying circular metal disks *f f'*, that are connected together at their periphery by rods *u*, of T or angle section, attached parallel with shaft *b* to form a skeleton-frame, along the length of which semicircular metal hoops *b'* are attached for carrying the bolting-cloth, as hereinafter described. The greater part of the length of the reel constitutes the fine-dressing machine, and is separated from the other portion by an intermediate disk, *i*. The other portion or head of the reel constitutes the preparatory dressing or bolting machine, and is fitted with a cylindrical covering, *m*, of sheet metal, on the inner surface of which there are fitted spiral flights or conveyers, for a purpose hereinafter mentioned.

The sleeve or hollow axle carrying the end disk, *f*, of this part of the machine is of sufficiently large internal diameter to allow free

passage of the helical or screw blade *d*, which is fixed on shaft *b* and extends nearly to the end of the preparatory-dressing machine. The blade *d* is surrounded by a tube, *d'*, that is firmly attached to the sleeve and opens into the feed-spout C.

The meal is introduced through the hopper or spout C, and is carried forward by the screw-blade *d*, which revolves at a considerably higher speed than the drum.

Upon the shaft *b*, within the casing *m*, are radial arms carrying beaters *A'*, and within the casing *m* is a finely-perforated cylinder, *e*, of sheet metal or wire-gauze, fixed upon a flanged head, *k*, on shaft *b* and a flange on head *f*. The flights *n* at the inside of the casing *m* form channels around the cylinder *e*, which terminate at the disk *i* in scoops or chutes O, that lead to the interior of the fine-dressing machine.

At the head *f*, in the interior of cylinder *e*, is a concentric opening or chute, *S'*, that opens into the fixed spout S, leading outside the machine. The meal carried in by spiral *d* drops into cylinder *e*, where it is caught by the beaters *A'*, which, by their centrifugal action, drive the finer particles through the perforations of the cylinder *e* into the spiral channels of conveyers *n*, by which the meal is carried forward and delivered by spouts O to the fine-dressing machine. The coarser particles, such as the husks and the bran, that remain inside of cylinder *e* are driven by the beaters toward the feeding end of the machine and escape by spout S.

To produce a most effective action on the meal the beaters *A'* are constructed of thin metal blades, extending parallel to the central shaft, each blade being divided by transverse slits into a number of small blades, with narrow spaces intervening, each one of which acts separately upon a small quantity of the meal. Each small blade is, furthermore, so bent that the bran and husks caught by them are impelled in an oblique direction and driven toward the feeding end of the machine, as stated.

In the fine-dressing portion of the machine are beaters B, of the same construction as described, fixed to radial arms *p*, carried by shaft *b*, so that as the meal enters the com-

partment through chutes O, as described, it is caught by the blades bent in the opposite direction to those in the preparatory machine and thrown against the bolting-cylinder, the finer particles passing through, while the coarse particles are driven toward the outer end and pass into chutes *r*, which conduct them to the fixed delivery-spout *q*.

The bolting-cloth may be of different degrees of fineness in the direction of its length, so that as the meal travels along it will, on passing through the cloth, be separated into quantities of corresponding degrees of fineness, and delivered by separate chutes.

The method of attaching and stretching the bolting-cloth is shown in Figs. 4, 5, and 6, in which *u* are the T-rods, running from end to end of the machine.

b' are the hoops having the section profile seen in Fig. 6. Over these is drawn the bolting-cloth, which is held down along the sides by angle-irons *i'* being bolted down on wooden laths *i''*, which latter are provided with a groove, *e'*. The different lengths of cloth are provided with a suitable binding, so that they can be sewed together at their sides in such manner that the whole cylinder is covered with two pieces of cloth composed of different lengths of the required grades of fineness sewed together. These lengths will be so arranged that the juncture is situated at the center of the grooved hoops *b'*, over which is to be drawn a cord or other suitable device, thus further stretching the cloth by compressing it into the groove of the hoop. The ends of the cloth receive metal hoops, sewed in and attached by means of screws to the ends of the cylinder.

The central shaft of the machine is driven by a pulley at one end, while at the other end

it has a pinion gearing with a spur-wheel on a counter-shaft, which also carries a pinion gearing with a spur-wheel on the sleeve or hollow shaft that carries the screening-cylinders, so that these are driven from the central shaft at a greatly-reduced speed.

In some cases two preparatory bolting-machines may be constructed with one and the same central shaft and placed end to end, no finishing-reel being used, but the sheet-metal covering *m* being replaced by bolting-cloth of one or more finenesses, as required.

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

1. In dressing and bolting machines, in combination with the fine-dressing machine and upon the same shaft, the perforated cylinder *e*, casing *m*, and spiral conveyers *n*, provided with the feed-spout C and delivery-spouts S and O, arranged at opposite ends of casing *m*, substantially as and for the purposes set forth.

2. The combination of a bolting-cylinder divided into two compartments, one of which is adapted to deliver into the other the material bolted through its cloth, and provided with a separate discharge for the coarser matters, and the shaft *b*, revolving within the bolting-cylinder, and carrying beaters adapted to conduct the materials in the two compartments in opposite directions, as described.

In testimony that I claim the foregoing I have hereto set my hand this 11th day of June, 1879.

HEINR. SECK.

Witnesses:

FRANZ WIRTH,
F. HASSLACHER.