

E. W. MIHOK.  
 FLOUR BOLTER OR DRESSER.  
 APPLICATION FILED SEPT. 30, 1910.

1,016,705.

Patented Feb. 6, 1912.

4 SHEETS—SHEET 1.

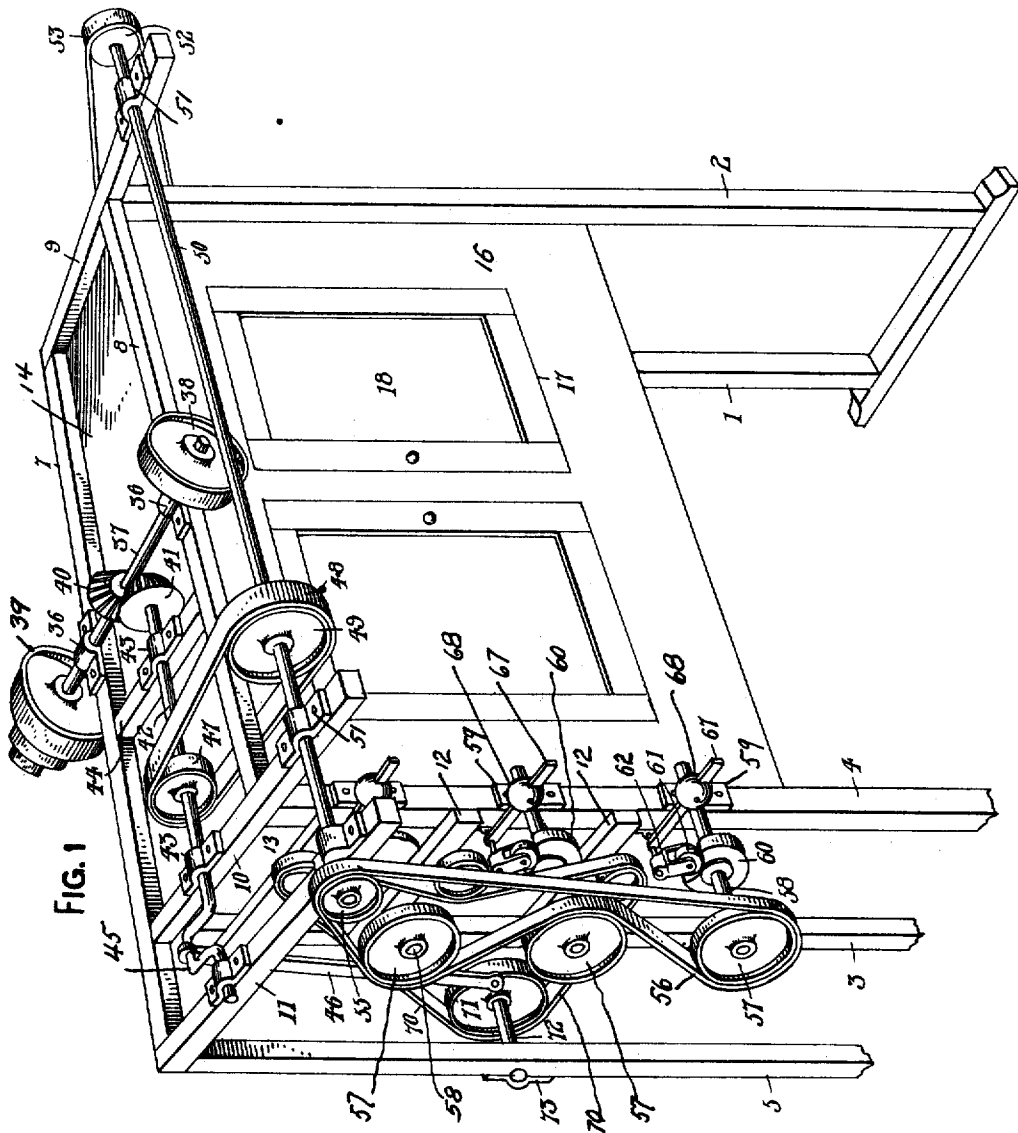


FIG. 1

WITNESSES

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INVENTOR

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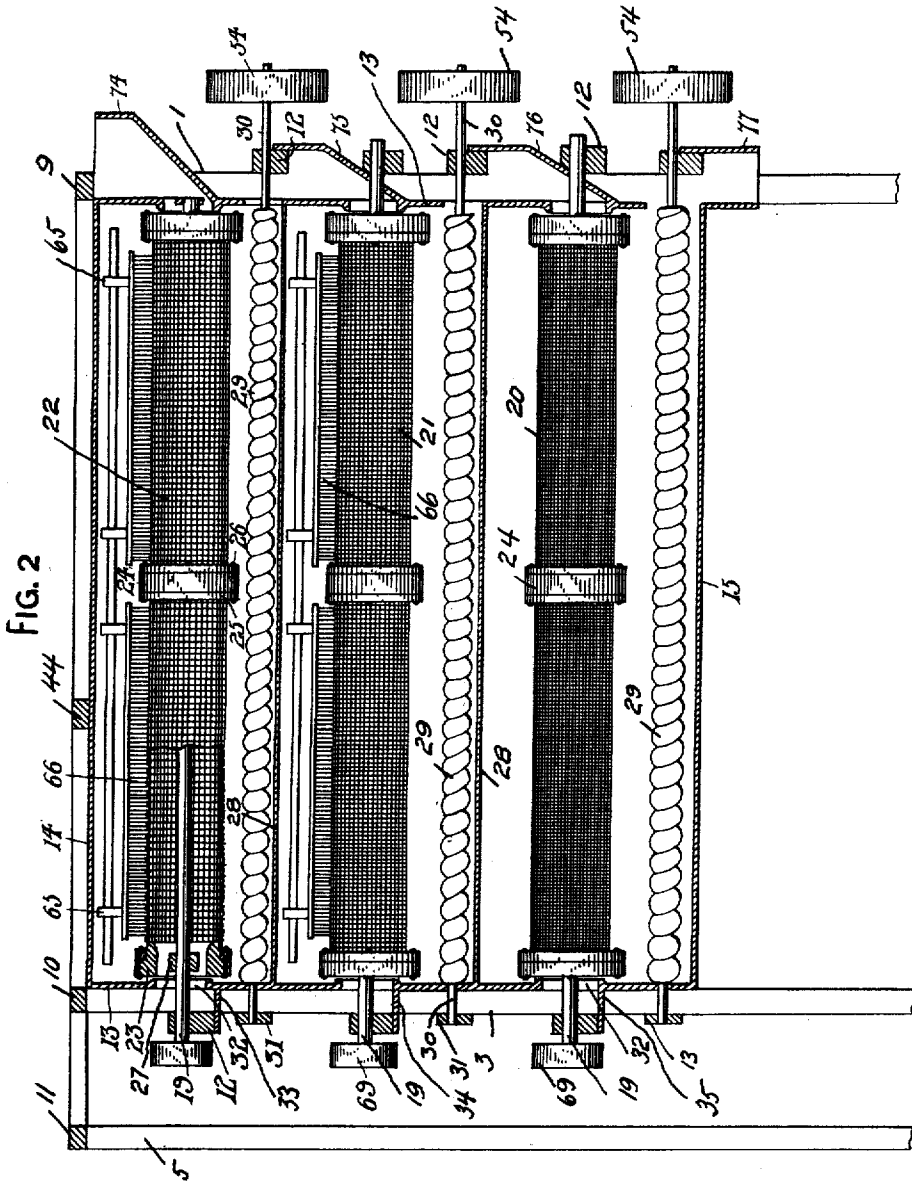


FIG. 2

WITNESSES

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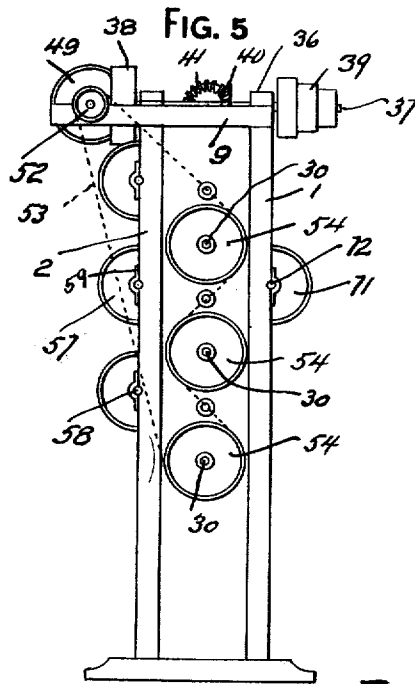
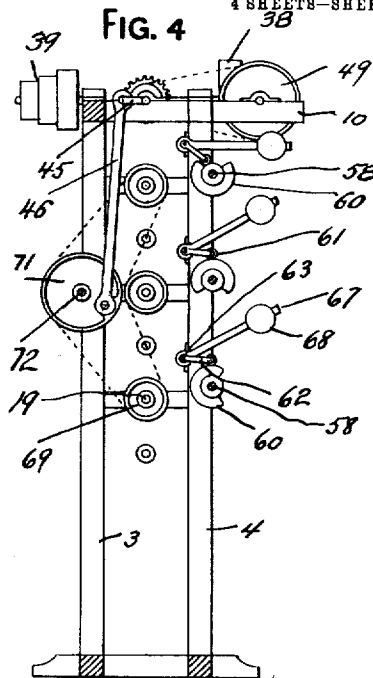
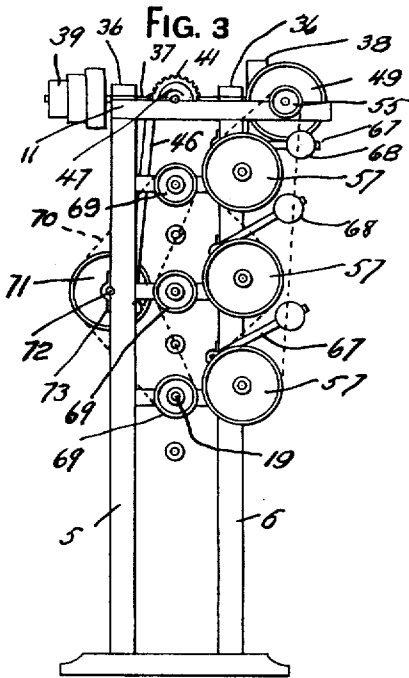
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4 SHEETS—SHEET 3.



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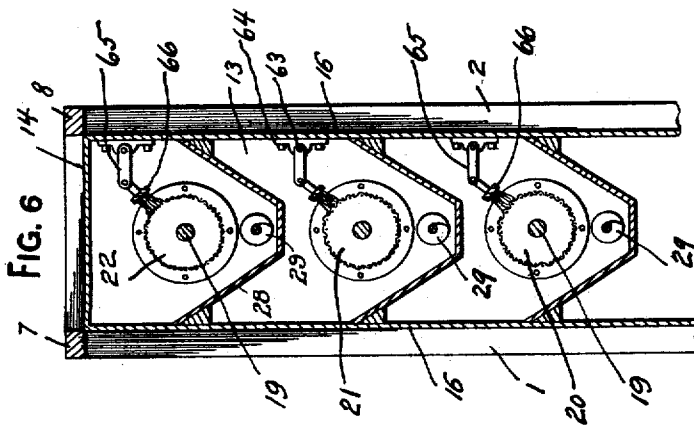
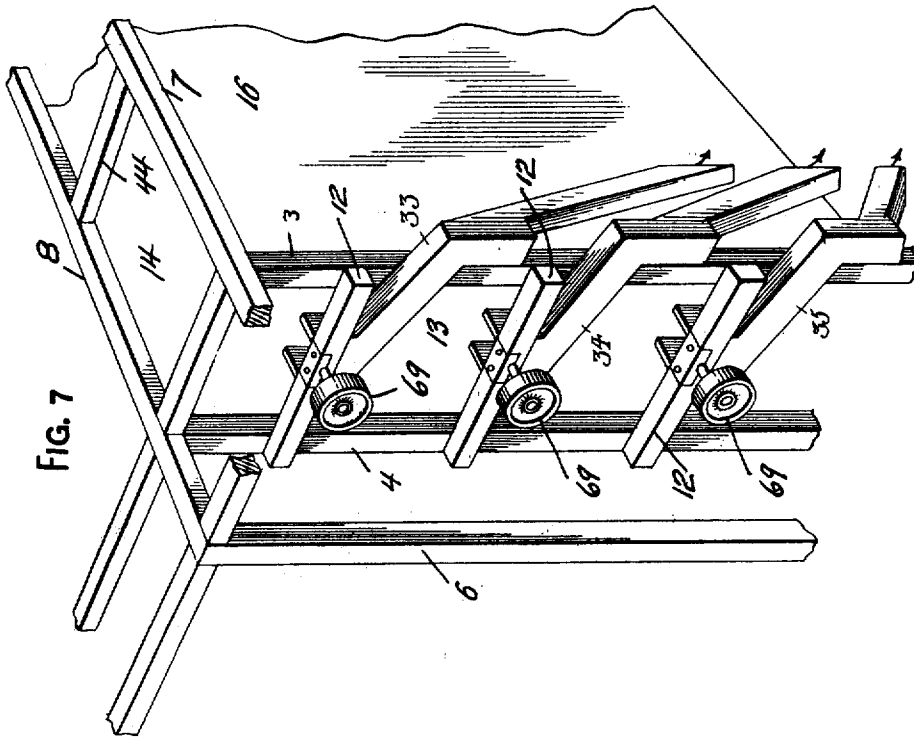
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4 SHEETS—SHEET 4.



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# UNITED STATES PATENT OFFICE.

EMERY W. MIHOK, OF WEST HAMMOND, ILLINOIS.

FLOUR BOLTER OR DRESSER.

1,016,705.

Specification of Letters Patent.

Patented Feb. 6, 1912.

Application filed September 30, 1910. Serial No. 584,665.

*To all whom it may concern:*

Be it known that I, EMERY W. MIHOK, a subject of the King of Hungary, residing at West Hammond, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Flour Bolters or Dressers, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to a flour bolter or dresser, and more particularly to that type of machine in which flour is separated from the offal of various grades, the machine receiving the meal or chop from the stones and disseminating the various ingredients, whereby different grades of flour and offal can be obtained.

20 The primary object of the invention is to provide a machine or mill for expeditiously separating the various ingredients in the production of flour, and to accomplish the above result by a machine that is inexpensive to manufacture, strong, durable, easy to operate, free from injury by ordinary use and efficient for the purposes for which it is intended.

30 A further object of the invention is to provide a plurality of superimposed revolvable sieves for quickly separating various grades of offal and of obtaining a grade of flour that depends simply upon the number of sieves employed.

35 With the above and such other objects in view as may hereinafter appear, the invention consists of the novel construction, combination and arrangements of parts to be hereinafter specifically described and then claimed.

40 Reference will now be had to the drawings forming a part of this specification, wherein there is illustrated a preferred embodiment of the invention, but it is to be understood that the structural elements thereof are susceptible to such changes as fall within the scope of the appended claim.

50 In the drawings:—Figure 1 is a perspective view of the machine, partly broken away. Fig. 2 is a longitudinal view of the machine, partly broken away. Fig. 3 is an end view of the machine. Fig. 4 is a vertical sectional view of the machine showing the brush actuating cams. Fig. 5 is a view of the opposite end of the machine from that shown in Fig. 3. Fig. 6 is a vertical cross sectional view of a portion of the machine. Fig. 7 is a perspective view of a

portion of the machine showing the arrangement of delivering spouts.

60 To put my invention into practice, I provide a suitable framework or housing for holding the various sieves and the mechanism for operating the sieves. The mechanism is automatic throughout and after the meal and chop have been deposited in the machine or mill successive steps are performed until the desired grade of flour is obtained.

70 The frame or housing comprises standards 1, 2, 3 and 4, and auxiliary standards 5 and 6. The standards 1 to 4 inclusive have the upper ends thereof connected by longitudinal beams 7 and 8, and transverse beams 9 and 10. The auxiliary standards 5 and 6 are connected by a transverse beam 11 and this beam is connected to a prolongation of the beam 7. The standards 1 to 4 inclusive are connected by additional transverse beams 12, serving functionally as bearings as will hereinafter appear. The standards 1 to 4 inclusive are adapted to support the housing comprising end walls 13, a top wall 14, a bottom wall 15, and side walls 16, said walls having doorways 17 and doors 18, thereby permitting the interior of the housing or casing being easily reached when it is necessary to repair or examine the contents thereof.

90 In the braces 12, which are equally spaced, there are journaled longitudinal shafts 19, and mounted upon the shafts are superimposed bolters or sieves, identical in construction, with the exception that the lowermost sieve designated 20 is of a finer grade than the sieves designated 21 and 22. Each sieve comprises end heads 23 and an intermediate head 24, said heads being cylindrical and supporting cloth of hair or other substance with the meshes of various sizes. To secure the cloth to the heads 23 and 24 retaining rings 25 are employed, which are bolted or otherwise secured to the heads 23 and 24. The heads 23 and 24 have spiders 27 keyed or otherwise secured to the shafts 19, said spiders permitting meal and chop passing in one end of the sieve and out the opposite end.

105 Arranged in the housing and supported by the side walls thereof are longitudinal troughs 28 adapted to receive flour from the sieves 20 to 22 inclusive, said troughs having inclined walls to deflect the flour to the bottom of each trough. In the bottom of

each trough directly beneath the sieve thereof is a spiral conveyer 29, having the operative shaft 30 thereof journaled in some of the braces 12 and additional braces 31.

5 The end wall 13 at one end of the machine is provided with openings 32, and located at said openings and supported by the end wall are troughs 33, 34 and 35, adapted to receive offal from the sieves 20, 21 and 22 respectively. These spouts extend downwardly at  
10 an angle to one of the side walls and then downwardly at an angle upon the front side of the machine, whereby the offal can be discharged into suitable chests or receptacles.

15 Reference will now be had to Fig. 1 of the drawings showing the principal operating mechanism. The beams 7 and 8 are provided with bearings 36 for the main operating shaft 37, this shaft having one end  
20 thereof provided with a balance wheel 38 and the opposite end with a stepped belt wheel 39. Mounted upon the shaft 37 between the frames or beams 7 and 8 is a beveled gear wheel 40 meshing with a similar  
25 wheel 41 mounted upon a longitudinal shaft 42, journaled in bearings 43, carried by the beams 10, 11 and an additional beam 44. The shaft 42 between the beams 10 and 11 has a cranked portion 45, to which is loosely connected a pitman 46, for a purpose that will  
30 presently appear. The shaft 42 has a belt or sprocket 47, and passing over this wheel is a belt or chain 48, which passes over a wheel 49 mounted upon a shaft 50, journaled in bearings 51, carried by the beams 9 to 11  
35 inclusive. One end of the shaft 50 has a belt or sprocket wheel 52 for a belt or sprocket chain 53 which passes over belt or sprocket wheels 54 mounted upon the protruding ends of the shafts 30 of the conveyers 29, these conveyers being operated in  
40 unison.

The opposite end of the shaft 50 is provided with a belt or sprocket wheel 55, for  
45 a belt or sprocket chain 56. This belt or sprocket chain passes over belt or sprocket wheels 57, mounted upon shafts 58, journaled in bearings 59, carried by the standards 4 and 6. Upon the shafts 58 are  
50 mounted cam wheels 60, and engaging these cam wheels are rollers 61 revolubly carried in radially disposed bearings 62 mounted upon the ends of shafts 63, journaled in  
55 bearings 64, carried by the beams 2 and 4. The shafts 63 extend through the housing and are provided with radially disposed arms 65 supporting longitudinal brushes 66 adapted to engage the periphery of each of the sieves 20 to 22 inclusive. The shafts 63  
60 adjacent to the bearing 62 are provided with arms 67 and adjustably mounted upon these arms are weights 68. These weights are adapted to normally retain the rollers 63 in engagement with the cams 60, and it is  
65 through the medium of the brushes 66 that

the sieves have the outer surfaces thereof cleansed, the brushes being removed from the sieves approximately once during the movement in one direction of the sieves, whereby such matter that might adhere to the  
70 brushes will be deposited into the troughs 28.

The shafts 19 adjacent to the standards 3 and 4 are provided with belt or sprocket wheels 69, and passing over these wheels is a belt or sprocket chain 70, which also passes  
75 over a belt or sprocket wheel 71 mounted upon the shaft 72, journaled in bearings 73, carried by the standards 3 and 5. It is to this wheel that the pitman 46 is connected, whereby as the shaft 42 revolves an oscillatory movement will be imparted to the  
80 wheels 71, wheels 69 and the sieves 20 to 22 inclusive. When the shaft 42 is revolved, the pitman 46 oscillates the wheel 71, but attention is directed to the fact that the  
85 lower end of the pitman 46 is connected to the outer side of the wheel 71, whereby the oscillatory movement of said wheel will not cause the pitman 46 to contact with the shaft 72. The oscillatory movement imparted to  
90 the shaft 72 is sufficient to oscillate the shafts 19, whereby the greater part of the sieves 20 to 22 inclusive will be carried into engagement with the brushes, the brushes having a cleaning action to remove small  
95 particles from the sieves. The difference in diameter between the wheel 71 and the wheel 69 is sufficient to increase the oscillation of the sieves compared to the oscillation of the wheel 71, and by reference to Fig. 4 and the  
100 pitman 46, the position of the pitman in this figure representing the limit of one stroke of the pitman and the other limit of stroke would be upon the opposite side of the shaft 72 at a point at an angle to the shaft 72 substantially that of the point of the lower end  
105 of the pitman 46. In other words, the oscillation of the wheel 71 would be approximately three-fourths of the rotation and such oscillation would be increased when  
110 imparted to the sieves 20 to 22. It is the rocking or oscillating movement of the sieves that thoroughly separates the various ingredients according to the fineness or mesh of the sieves.

The end wall 13 contiguous to the standards 1 and 2 is provided with chutes 74, 75,  
115 76 and 77, the chute 74 communicating with the end of the sieve 22, the chute 75 transferring the flour from the conveyer 29 beneath the sieve 22 to the end of the sieve 21; the chute 76 transferring the flour from the conveyer 29 beneath the sieve 21 to the end of the sieve 20, and the chute 77 discharging the flour from the chute 29 beneath the sieve 20.  
120

It is apparent from the foregoing that the machine embodies a plurality of superimposed oscillatory sieves for separating  
125 the finer particles from the coarser, together

with spiral conveyers and chutes for providing a continuous sifting operation, and as a very large number of bolters or sieves can be used, a machine of a large capacity  
5 can be constructed. It is in this connection that I reserve the right to use the machine for bolting various kinds of cereals and granular material.

What I claim is:—

- 10 In a bolting machine, a housing provided with a series of superposed compartments, an oscillatory sieve arranged in each of said compartments, a brush arranged in the upper portion of each of the upper compartments and engaging the sieves in said compartments during the oscillation of the  
15 sieves, oscillatory shafts having said sieves fixed thereto and moving therewith, annular members fixed to one end of said shafts, an

oscillatory annular member of greater diameter than the members carried by said shafts, a driving connection between said member of greater diameter and said members of smaller diameter whereby the shafts will be oscillated and the greater portion of  
20 the sieves will be carried into engagement with the brushes during the oscillation of the shafts, a pitman having one end connected to the outer side of said enlarged annular member for oscillating it, and means  
25 for driving said pitman.  
30

In testimony whereof I affix my signature in the presence of two witnesses.

EMERY W. MIHOK.

Witnesses:

STEPHEN KADLECHIK,  
H. C. EVERT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."