



W. A. McFARLAN & T. C. CARPENTER.  
BRAN DUSTER.

No. 8,124.

Patented May 27, 1851.

Fig. 4.

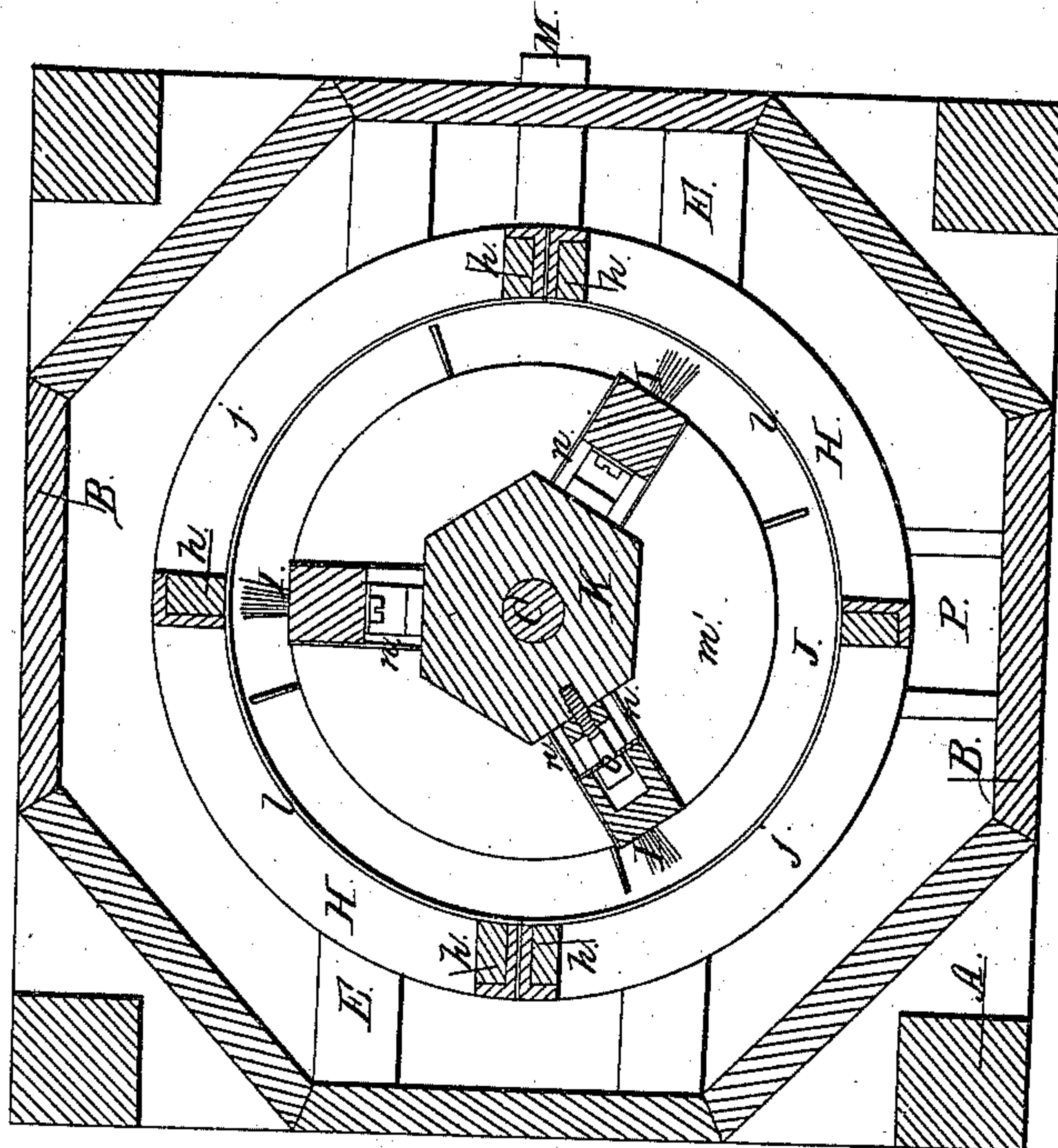
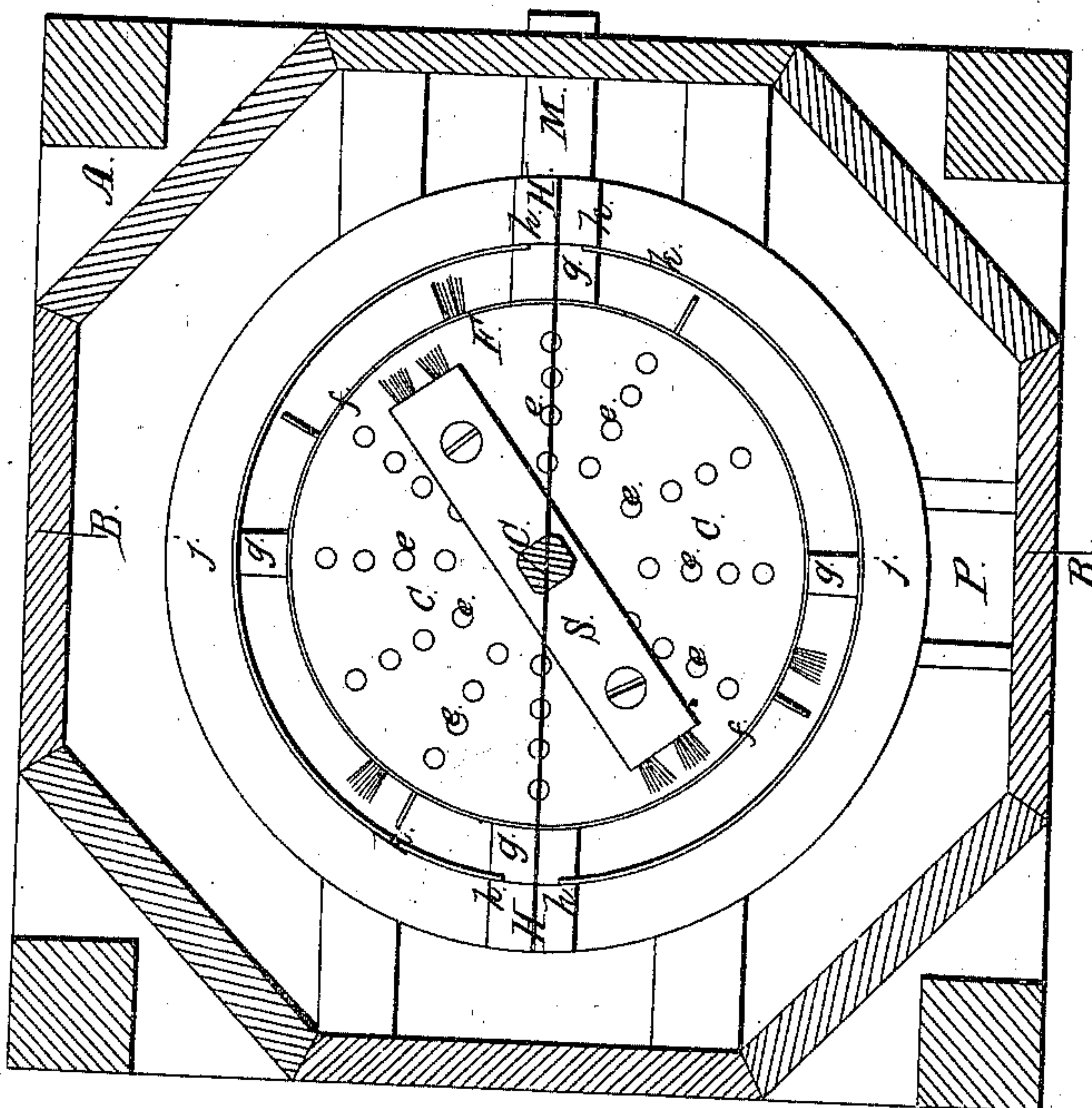


Fig. 3.





# UNITED STATES PATENT OFFICE.

WM. A. McFARLAN AND THOS. C. CARPENTER, OF WILMINGTON, DELAWARE.

## BRAN-DUSTER.

Specification of Letters Patent No. 8,124, dated May 27, 1851.

*To all whom it may concern:*

Be it known that we, WILLIAM A. McFARLAN and THOMAS C. CARPENTER, of Wilmington, in the county of New Castle and State of Delaware, have invented certain new and useful Improvements in Bran-Dusting Machines; and we do hereby declare that the following is a full, clear, and exact description of our invention, reference being had to the accompanying drawings, which form part of this specification, and in which—

Figure 1 represents a view in perspective of our improved bran duster, Fig. 2 is an elevation of the same with half the outer casing removed; Fig. 3 is a horizontal section of the machine at the line  $x x$  of Fig. 2 and Fig. 4 is a similar section at the line  $z z$  of the same figure.

Our improvements consist, of a combination of devices by whose operation the bran entering the machine is thoroughly rubbed and scoured, and is equally distributed to a bolting apparatus beneath by whose action the fine flour and bran are separated.

In the accompanying drawings A is the frame of the machine, it consists of four posts connected by suitable crossties and supports a chest B within which the dusting of the bran is effected. An upright shaft C extends through this chest, the step  $a$ , in which its lower extremity rests, being secured to a bridge tree D which crosses the lower extremity of the frame, while its upper extremity is supported in a box  $b$  secured to a similar bridge tree D' which crosses the upper extremity of the frame.

The greater portion of the upright shaft within the chest is surrounded by a cylindrical case which rests upon a pair of beams E E that extend across the chest. The portion F of this case, nearer the top of the chest, constitutes the scouring chamber into which the bran is fed through an aperture G in the top of the chest. This scouring chamber is closed at its top by the top  $d$  of the chest, and at the bottom by a plate  $c$  whose surface is intended to form protuberances  $e$ . The cylindrical sides  $f$  of this chamber are formed of perforated plates as represented at Figs. 2 and 3 which are secured to blocks  $g$  that project inward from the bars of a skeleton cylindrical frame H; the latter rests upon the annular flange  $i$  of a circular disk shaped base J, which forms the bottom of the bolting apparatus, and is

supported by two cross beams E, E. That portion of the upright shaft, C, within the scouring chamber has a bush S secured to it.

The cylindrical frame is divided into two semicylindrical sections each of which is formed of a series of upright bars  $h, h, h$ , and half hoops  $j, j$ . These bars and half hoops are made of cast iron as shown in section at Fig. 4, and are filled in with wood in order to furnish a soft material into which nails can be driven. That portion of this frame which encircles the scouring chamber is closed in by nailing to its interior two semicylindrical plates  $k$  against which the bran ejected through the perforations of the sides  $f$  strikes and thence drops to the bolting apparatus beneath.

The bolting apparatus consists of a series of brushes acting in combination with a gage cylinder, within which the brushes revolve. The gage cylinder is formed of sheets of wire gauze  $l$ , nailed fast to the interior of the skeleton cylindrical frame, which is bored out truly cylindrical previous to the attachment of the gauze. The brushes I are mounted upon a frame secured to the upright shaft C. This frame consists of a central block K and of two heads  $m, m$ , the latter have radial slides  $n$  formed upon their inner faces in which the extremities of the brush stocks are constructed to slide. These brush stocks are prevented from moving outwards beyond determined limits by means of bolts  $o$  whose heads are received in sockets, which are formed in the brush stocks, and are closed by perforated plates through which the stems of the bolts are passed. They are pressed out as far as the bolts will permit by spring  $p$  which allow the brushes to yield to external pressure and move inwards towards the shaft. The lower face of the lower head  $m'$  is fitted with scrapers  $r$  which collect the bran falling upon the base plate J and discharge it into a spout M which shoots it out of the machine. A scraper  $s$  is also secured to the upright shaft C immediately above the bottom of the chest, to collect the flour therein and to discharge it through a spout P provided for the purpose.

When this machine is to be used a rapid rotary motion is imparted to the upright shaft by means of a belt which is applied to a belt pulley R secured thereto. The bran is fed through the aperture G into the scouring chamber, it is here acted upon by the



revolving brush (S) and the indented bottom plate (c) by whose action it is thoroughly scoured. The brushes by their centrifugal action eject the scoured bran in all  
5 directions through the perforated sides (f) of the scouring chamber into the annular space within the cylindrical plates k k, whence it drops to the brushes beneath. The  
10 latter rub the flour which adhered to the bran through the meshes of the wire cylinder l, while the bran which can not pass through the meshes falls upon the base plate J, whence it is discharged by the action of  
15 the scrapers through the spout M. The flour falls outside of the wire cylinder upon the bottom of the chest whence it is discharged through the spout P by the revolving scraper s.

The brushes in the distributing chamber  
20 effectually pulverize the lumps and loosen the flour from the bran while the perforations in the rim through which the whole must pass on its way to the bolt, are of such size that when doing full duty they allow no  
25 more feed to pass than the bolt can with advantage dispose of, it follows that if the

bran is sent in undue quantity to one part of the rim of the chamber by one of the brushes the excess is not discharged directly  
into the bolt but remain until the next brush 30 comes round and carries it to a portion of the rim where it can pass through without creating an excess of feed, by which means the bran is distributed equally around the  
entire periphery of the bolt which operation 35 conduces greatly to the regular and thorough separation of the flour from the bran.

What we claim as our invention and desire to secure by Letters Patent is—

The combination of the scouring, beating, 40 and distributing brush with the perforated guard plate surrounding it, whereby the bran to be dressed is more equally distributed and fed to the bolt than has been done by  
45 devices heretofore in use for the purpose.

In testimony whereof we have hereunto subscribed our names.

WILLIAM A. McFARLAN.

THOMAS C. CARPENTER.

Witnesses:

WM. HEMPHILL JONES,  
SAMUEL BEZINES.