

UNITED STATES PATENT OFFICE.

GEORGE L. DULANEY, OF MOUNT JACKSON, VIRGINIA, ASSIGNOR TO REUBEN ALLEN.

MILL-DRESS.

Specification of Letters Patent No. 13,115, dated June 19, 1855.

To all whom it may concern:

Be it known that I, GEORGE L. DULANEY, of Mount Jackson, in the county of Shenandoah, in the State of Virginia, have invented and made certain new and useful Improvements in the Mode and Manner of Forming Mill-Dresses, which I term the "Elbow Mill Dress;" and I do hereby declare that the following is a full, clear, and exact description of the manner and system of producing the same and the operation thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, represents the face of the mill stone, with the form of mill dress, complete.

Section A, shows shape or form of the edge, of the outskirt of the delivery circle g, g, g, g , with its land surfaces h, h, h, h .

Section B, shows the formation of the circle or division f, f, f, f , with the land surfaces f^*, f^*, f^*, f^* .

Section C, shows the formation of the leads and land surfaces, of the circle or division e, e, e, e .

Section D, shows the formation of the leads and land surfaces of the semi-divisional circle d, d, d, d , between c , and e .

Section E, shows form of edge of the feed or slope circle c, c, c, c , if extended in a longitudinal direction.

Description.—To enable others to be skilled in the manner, or mode of forming and producing my system of mill dress, I will herewith give a description thereof, and set forth the advantages attendant thereupon, together with the important results thereby obtained.

It is well known, that of the many essential features attending the process of producing flour, there are none so important as the grinding of the grain in such a way as to promote the greatest possible yield of flour, or meal, with the least possible admixture of the skin, film, hull or coating of the kernel, and at the same time reducing the separation of the flour, and bran, to one simple, or single operation of sifting or bolting, and affording the best quality of product. To accomplish these important desiderata, many experiments and modes of mill dress have been resorted to; but so far, the object aimed at has not been attained to that extent desired, until by the use of my improved elbow mill dress I have entirely succeeded in producing the result, and here-

with will explain the manner hereof in as brief and intelligible a manner as possible.

My elbow mill dress is constructed as follows: Having the mill stone of required size and diameter, and the circle of the circumference true, the area of the surface or face of the stone is divided into four equal portions or circles c, e, f, g , Fig. 1, reckoning from the center of the eye, a , toward the periphery of the stone. The space from the circle f, f, f, f , toward the circle c, c, c, c , must be dressed down, sloping from f to c , forming an annular inclination, about $\frac{1}{4}$ of an inch lower at c than at f . Then divide the space between the circumference of eye a , and the circle c, c , into another equal division, or circle, b, b , thus dividing into equal spaces the surface from outside of eye a , to c, c . From b, b , dress down sloping and regular $\frac{1}{4}$ of an inch toward c, c , thus forming another outward sloping annular circle, which may be termed the feed slope. This slope being formed, and the circles or divisional lines, d, f , being renewed for guidance, divide said space d, f , into 3 equal parts and indicate the same by circle, at e, e^*, e, e^* . Next strike a vertical, and a horizontal line through the center of the stone, thus making 4 equal sections, which again divide, each into 3 equal parts, thus making 12 subdivisions of the whole circumference of the stone, which indicate simply by dots. Then divide each of these 12ths into 7 equal parts, which also indicate by dots, and indicate the true vertical point by a pointer thus. Take a straight edge and range a line from point or dot 3, on the right of the pointer \rightarrow , to the outside of the circumference of the eye a , forming a line from outskirt circle g , to circle f . Next range the straight edge from circle f , (point of contact of line h , of said circle,) to the outside of the slope circle b , and describe, or draw a line from f , to circle e, e , in the direction of line y . Next range the straight edge from circle e , point of contact of line y , and describe a line thence to outside of feed slope c, c, c, c , indicating said line by z . Thus, these 3 lines, so formed, give the main elbow lead, and, having formed 12 similar lines equidistant over the face of the stone, and the outer circumference of the feed slope, being formed into a dodecahedronal or twelve sided shape; next proceed as follows. Divide the circumference of circle f , between each 12th

operation of my improvements in mill dress, what I claim as new and original with self, and desire to secure by Letters Patent of the United States, is as follows:

5 I claim the construction of what I call a compound elbow mill dress, formed by the divisional mode of calculation described; having main elbow leads, gutters, or
10 grooves, formed with secondary, or branch elbow leads or conveys, communicating directly therewith, instead of being a distinct

or separated series; the said compound elbow dress, being formed upon the face of a mill stone having an inward sloping, or depressed surface, together with an outward 15 sloping feed or supply circle, specifically as described, and for the purpose set forth.

GEORGE L. DULANEY.

Witnesses:

O. C. BILLINGS,
R. A. BIRD.