

(No Model.)

J. H. BROWN.
MILLSTONE DRESS.

No. 509,294.

Patented Nov. 21, 1893.

Fig. 1.

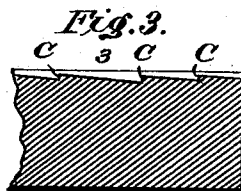
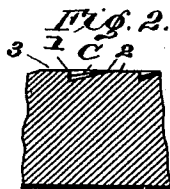
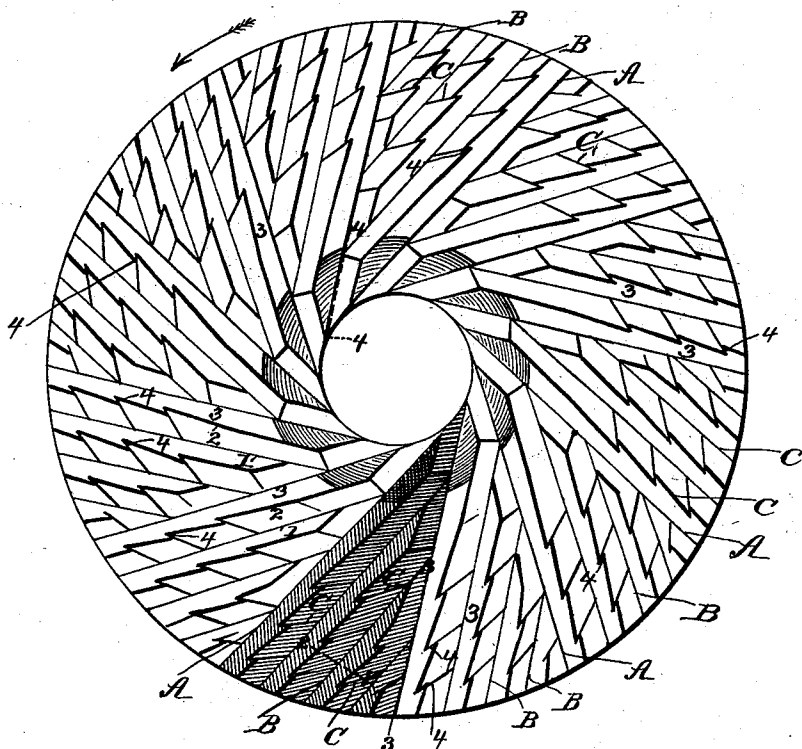
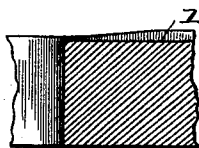


Fig. 4.



WITNESSES:

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JOSEPH H. BROWN, OF MADISON, GEORGIA.

MILLSTONE-DRESS.

SPECIFICATION forming part of Letters Patent No. 509,294, dated November 21, 1893.

Application filed September 29, 1892. Serial No. 447,341. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. BROWN, residing at Madison, Morgan county, in the State of Georgia, have invented a new and useful
5 Improvement in Millstone-Dresses, of which the following is a specification.

My invention is an improvement in millstone dresses and has for an object among others to overcome in a measure the action
10 of centrifugal force in carrying the coarse particles of grain and at the same time prevent the fine particles from being ground over and over producing heating and undue wear of the stone and to prevent any uneven wear
15 of the stone and the invention consists in the novel constructions, combinations and arrangements of parts as will be hereinafter described and pointed out in the claims.

In the drawings—Figure 1 is a face view of
20 a millstone having my improved dress, and Figs. 2, 3 and 4 are detail sections on lines 2—2, 3—3 and 4—4 of Fig. 1.

In forming the dress from a solid disk, the plane surface is incised with the grooves forming the main furrows A and the sub or auxiliary furrows B more fully described herein-
25 after.

In the construction shown, the millstone has the main furrows A and auxiliary furrows B
30 extending to the skirt or peripheral edge of the stone and at the center the face of the stone is sloped slightly toward the eye or draft circle to form a bosom to aid in the feed of grain to the stones and to prevent the excessive wear of the stone incident to the formation of the lands to the eye of the stone. Across the main and auxiliary furrows I form shoulders C facing inwardly toward the eye of the stone and preferably made vertical and of an
40 equal height from the deepest side 1 of the furrows to the point 2 where they run into the feather edge of the land 3 the land extending at 4 for a short distance in rear of the stop and guide shoulder C affording a wide land at
45 such point. By furnishing a wide land I avoid the rapid wearing down of the stone and in case there should be any considerable wear of the stone at the point where the shoulder leads into the land the latter will be sufficiently wide
50 to enable the stone to be used a long time without redressing. It will be noticed that the upper edge of the shoulder C has a gen-

eral inclination downward toward the deep side of the furrow leaving at such deep side of the furrow above the shoulders a practically unobstructed passage by which the fine
55 particles may pass out to the skirt of the stone without being obliged to pass up over the lands and be re-ground by the coarser particles. By this it is meant that as the abrupt
60 edges of the shoulders C are below the plane of the land where they run into the steep side of the furrow an interval is thus left for the escape outward of particles small enough to pass over such shoulders below the plane of
65 the lands while all particles not yet sufficiently reduced and large enough to project above such plane when in the deepest part of furrow B are compelled to pass upward along the shoulders C to the point where they will be
70 re-crushed. This outward escape of the fine particles is important as it avoids the unnecessary re-grinding and heating of the grain and also the unnecessary wear of the stone and also by separating the fine from the coarse
75 particles from time to time insures a more perfect grinding of all as it prevents the fine ground particles from interfering with the proper grinding of the coarse particles. While the fine ground particles are permitted to pass
80 out along the deep side of the furrows the coarse particles will be thrown by centrifugal force up along the shoulders C to the land where they are ground and pass over into the next furrow the fine particles passing thence
85 out and the coarse being carried on to contact with the following land and so on.

In practice the lower stone is dressed similarly to the upper one shown, except that the shoulders C of the upper and lower stone are
90 arranged to alternate with each other as will be readily understood. It will be seen that I make the lands wide near the eye of the stone where the crushing and heaviest part of the work is performed.
95

Ordinarily in rapid moving stones the surfaces may be picked as shown but it will be understood that for slow moving stones it will not be necessary to cross pick the lands.

It will be understood that the auxiliary
100 furrows B might be arranged upon scroll lines instead of straight as shown but the construction as shown is preferred.

It will be seen that the arrangement de-

scribed and shown affords an unobstructed outward passage for the fine ground particles and at the same time stops and directs the coarse particles to the feather edge and grinding surfaces thus avoiding the regrinding and heating of the fine parts and insuring the proper grinding of all thus improving the product and preventing any unnecessary wear of the stone.

- 10 The stones with the dress can be run farther apart and thus will run with less friction and cooler than ordinarily as the coarse particles being directed into contact with the lands and being prevented from being thrown straight out avoids the necessity of running the stones so near together. Also as the coarse particles are stopped and prevented from being thrown out by centrifugal force the stones can be run faster than the ordinary stones.

It will be noticed that the surfaces between the transverse shoulders are inclined from the top or crown of one shoulder to the base of the next outer one and such inclination is both transversely to and in the direction of length of the furrows.

Having thus described my invention, what I claim is—

1. An improved millstone dress comprising the series of outwardly extending furrows sloping upward from their deep side to the opposite land or feather edge and provided with the transverse inwardly facing shoulders

arranged at the deep side of the furrow below the level of the adjacent land whereby to provide an unobstructed outward passage at such side for the fine particles, and leading from said deep side of the furrow up to the opposite land whereby to direct the coarser particles up to said land, the surfaces between the transverse shoulders being inclined gradually from the top or crown of one shoulder to the base of the next outer one all substantially as and for the purposes set forth.

2. A millstone provided with the outwardly extending furrows and the lands between the same, and provided across the outwardly extended furrows with inwardly facing stop shoulders made of even height and arranged at the deep side of the furrow below the surface of the adjacent land providing above their said ends an outward passage for the fine particles and extending thence up to the opposite land, a portion of said land extending inwardly in rear of the upper end of said shoulder the surfaces between the transverse shoulders being inclined both transversely to and in the direction of length of the furrows and from the top or crown of one shoulder to the base of the next outer one all substantially as set forth.

JOSEPH H. BROWN.

Witnesses:

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