

J. H. WELCH & E. P. HANN.

DRESS FOR MILLSTONES.

No. 178,820.

Patented June 13, 1876.

Fig.1.

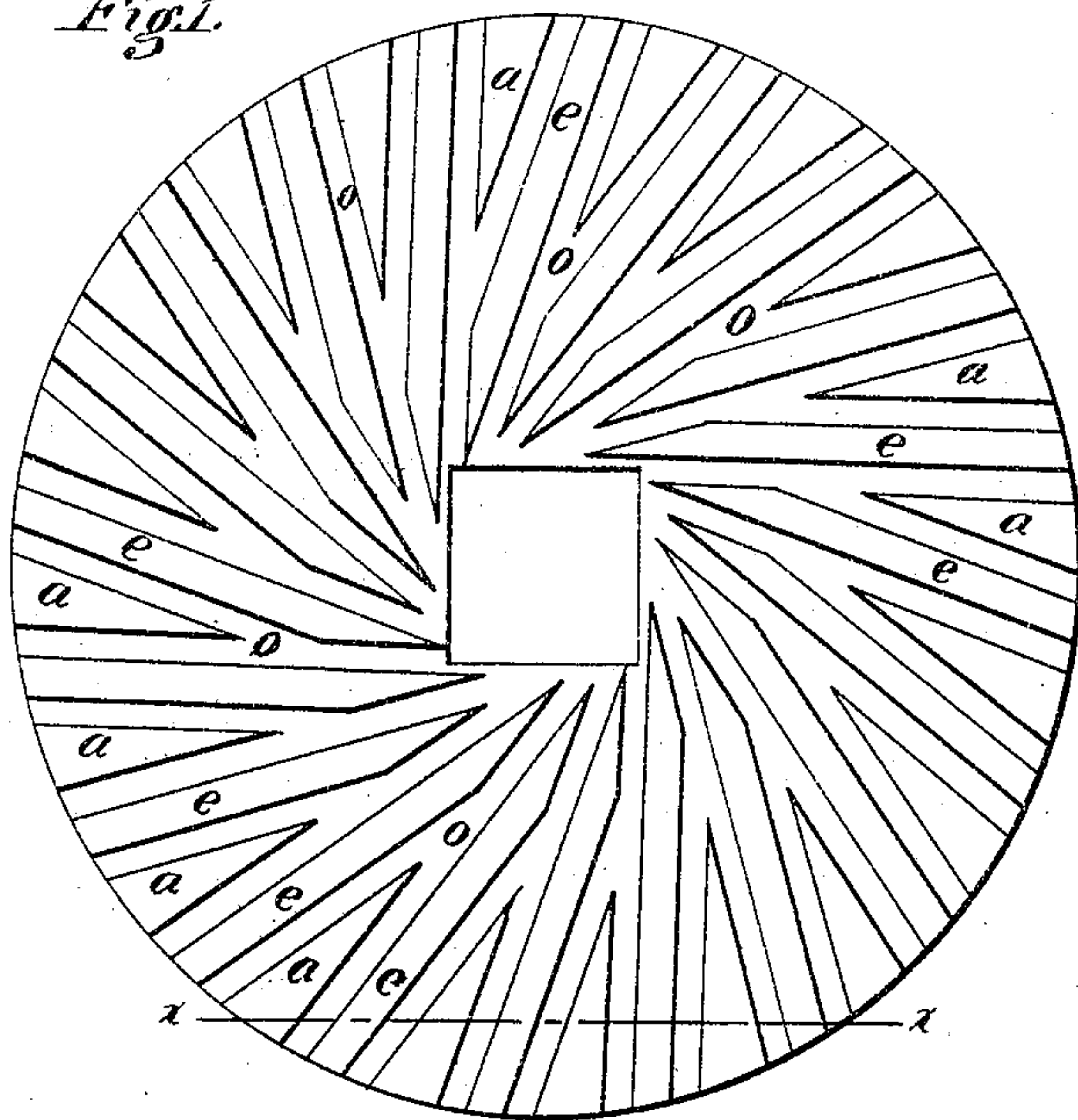


Fig.2.

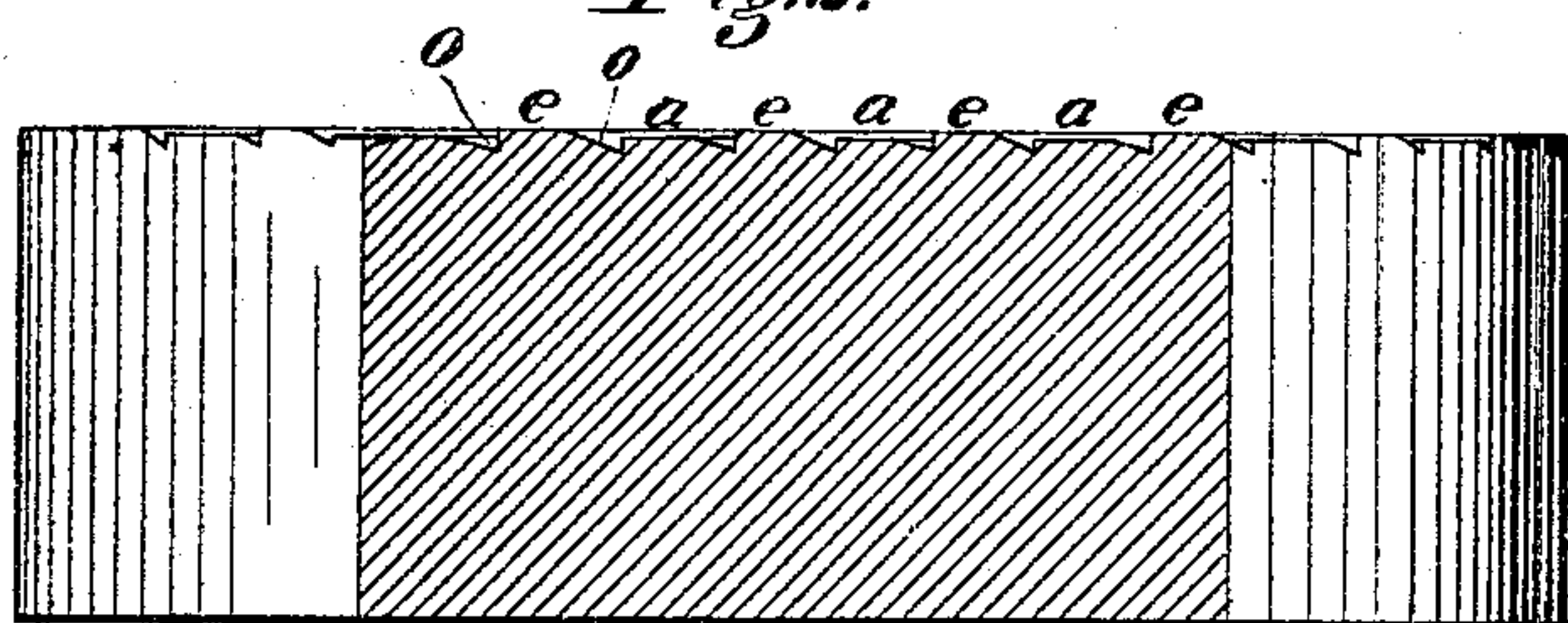
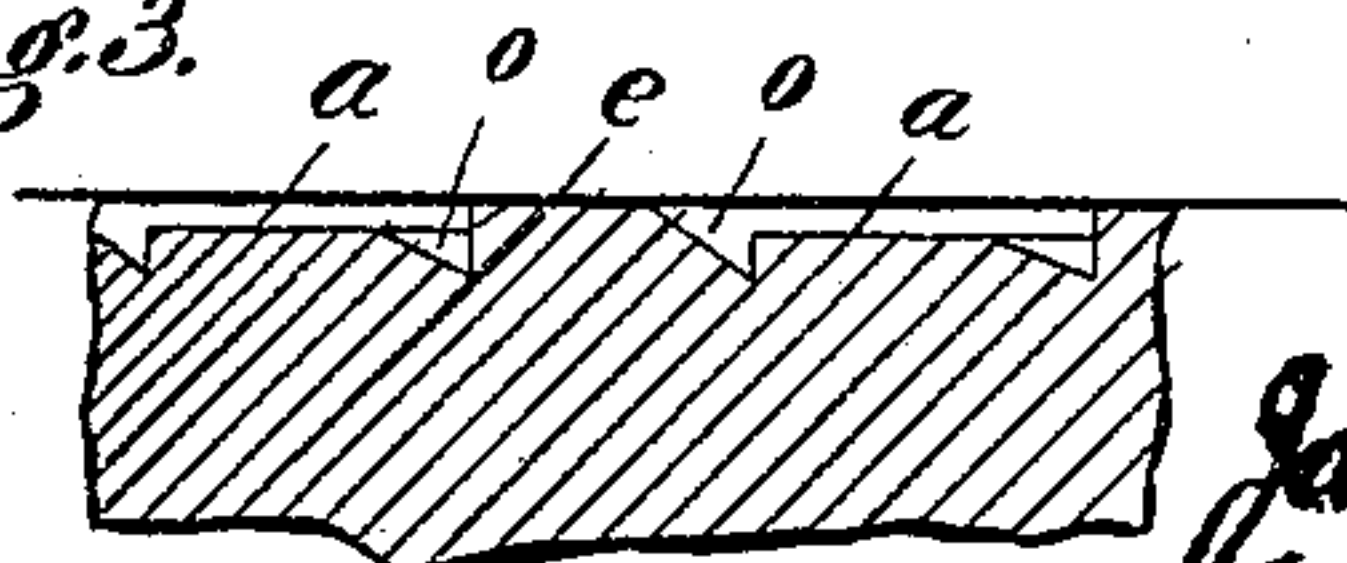


Fig.3.



Witnesses:

Oliver J. Twitchell.
Will H. Dodge.

Inventor:

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Edward P. Hann
By Dodge & Son
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UNITED STATES PATENT OFFICE.

JAMES H. WELCH AND EDMOND P. HANN, OF GEORGETOWN, DISTRICT OF COLUMBIA, ASSIGNORS OF PART OF THEIR RIGHT TO R. W. WELCH AND E. P. WELCH, OF SAME PLACE.

IMPROVEMENT IN DRESS FOR MILLSTONES.

Specification forming part of Letters Patent No. 178,820, dated June 13, 1876; application filed May 24, 1876.

To all whom it may concern:

Be it known that I, JAMES H. WELCH and EDMOND P. HANN, of Georgetown, in the county of Washington and District of Columbia, have invented certain Improvements in Dress for Millstones, of which the following is a specification:

Our invention consists of a novel dress for millstones, in which a portion of the lands of the grinding-face of the stone is dressed off or made lower than the other portions, as and for the purpose hereinafter set forth.

Figure 1 is a plan or face view of a lower millstone on our plan. Fig. 2 is a side elevation of the same, shown partly in section, as indicated by the line *xx* of Fig. 1; and Fig. 3 is a sectional elevation enlarged, to more clearly illustrate the invention.

Since the introduction of middlings-purifiers, or machines for the separation of the middlings from the shorts and other materials, whereby the middlings can be cleaned and used as flour, it has become desirable, in the grinding of the grain, to produce a larger yield or proportion of the middlings; and it is to accomplish this object that our invention is designed; and to this end it consists in so dressing the stone that portions of the grinding-surface, or, as they are technically termed, the "lands," shall be lower than others, thereby affording an opportunity or space for the middlings to escape, and thus prevent their being ground into fine flour.

This dress may be applied to either the upper or lower stone; but as, in grinding, the meal or ground material rests on the surface of the lower stone, it is obviously better to apply the dress to the lower stone; and we have, therefore, shown it so applied in the drawings.

In Fig. 1 the face of the stone is shown divided into a series of long and short lands—the longer lands *e* extending from the periphery to the center, or near the center, while the shorter lands *a* extend only about half-way from the periphery to the center. The longer lands *e* are dressed to a uniform height, while the shorter lands *a*, as shown in Figs. 2 and

3, are so dressed as to make their surface somewhat lower than that of the lands *e*. As these lands *a* extend only about half-way to the center, it will be seen that about one-half of the diameter of the face of the stone, or a little more, is composed entirely of the higher lands *e*, while the remaining portion is composed of alternate high and low lands. The result of such a construction or dress is that the grain, as it is fed in at the center, is first crushed upon the central portion of the higher lands *e*, while the middlings, as they are separated from the bran, &c., fall upon the lower lands *a*, from which they are discharged centrifugally, without being further pulverized or converted into fine flour. At the same time, the bran, being of a different form, is carried on across the face of the lands *e*, and is thereby thoroughly cleaned of the adhering particles of flour. As shown in the drawings, the lands are separated by intervening furrows *o* in the usual manner. The difference in height between the lands *a* and *e* should be such that while the middlings, while lying on the lands *a*, shall not be crushed or further ground, there shall not be room for any unbroken kernels to escape without being ground.

When the dress is thus applied to the lower or bed stone the upper stone, or runner, should be dressed with its lands of uniform height, in the usual manner. It is, however, obvious that both the upper and lower stones may be thus dressed with high and low lands; but in that case there should be but half the difference between the height of the lands in the respective stones; but we do not consider this plan as good, for the obvious reason that the middlings would be ground more, and therefore the desired result would be less perfectly accomplished.

We do not confine ourselves to any particular style of dress other than that of the high and low lands, as it is obvious that our invention may be applied with any of the various styles of dress, of which many kinds are known to millers. Neither is it necessary that the high and low lands should alternate or be arranged in the special order shown; nor that

they should occupy the exact proportions of surface shown, these being matters to be determined by practical experiment and test.

Having thus described our invention, what we claim is—

1. A millstone having that portion of its face upon which the grain is ground after it has been crushed at the center composed of a series of lands the faces of which shall stand at different heights, substantially as and for the purpose set forth.

2. The combination, in a millstone, of the higher lands *e* and the lower or depressed lands *a*, substantially as set forth.

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Witnesses:

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