(No Model.)

N. W. HOLT.

ROLLER MILL.

No. 259,858. Patented June 20, 1882.

Fig. 1.

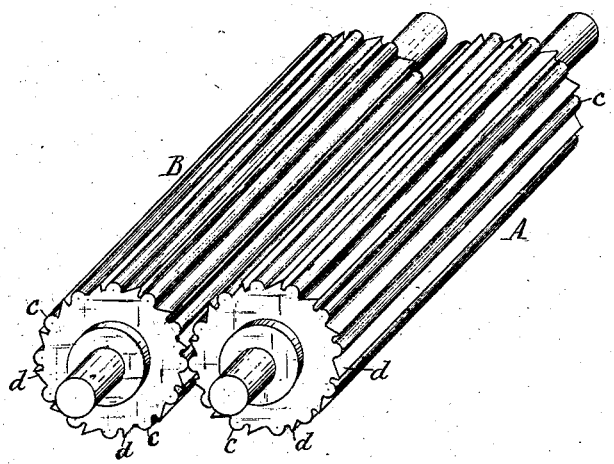


Fig. 2.

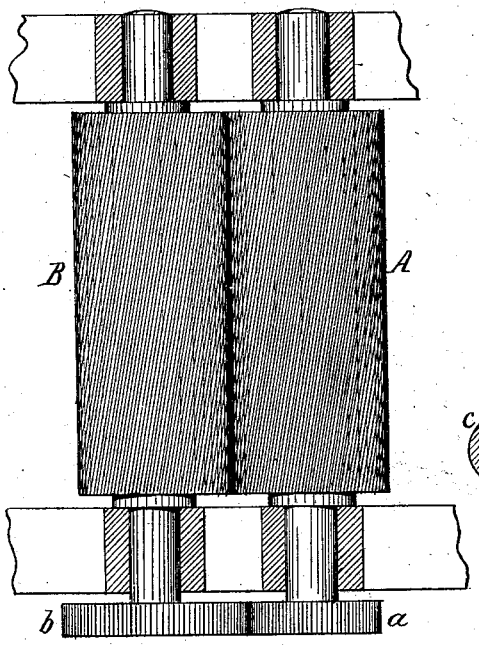


Fig. 3.

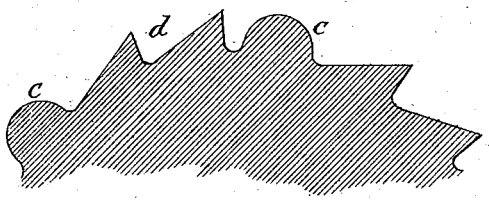


Fig. 4.

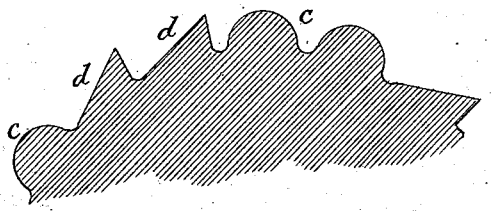
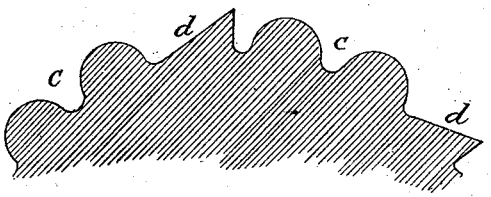


Fig. 5.



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UNITED STATES PATENT OFFICE.

NOAH W. HOLT, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-THIRD TO RICHARD K. NOYE, OF SAME PLACE.

ROLLER-MILL.

SPECIFICATION forming part of Letters Patent No. 259,858, dated June 20, 1882.

Application filed March 28, 1882. (No model.)

To all whom it may concern:

Be it known that I, NOAH W. HOLT, of the city of Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Roller-Mills, of which the following is a specification.

This invention relates to that class of roller-mills which are employed in flouring-mills for reducing grain, seeds, or similar material, and which contain a pair of corrugated or ribbed rollers between which the material is crushed.

My improvement relates more particularly to the construction of the ribs or corrugations on the cylindrical surface of the rollers.

Heretofore rollers have been provided with ribs having sharp edges, and rollers have also been constructed with ribs having blunt or dull edges and with ribs having the form of a cylinder-segment. In the practical operation of these rollers it is found that rollers provided with dull or round ribs do not work satisfactorily upon some kinds of wheat, especially when the wheat is damp, and in the finer reductions of the grain, as they do not properly clean or finish the bran, and that rollers having sharp corrugations cut the bran and produce specks. In order to avoid these difficulties I provide the same roller with sharp as well as round or dull ribs, whereby the advantageous features of both kinds of ribs are combined and their objectionable features to a larger extent neutralized.

In the accompanying drawings, Figure 1 is a perspective view of a pair of rollers provided with my improvement. Fig. 2 is a top plan view of a pair of rollers. Figs. 3, 4, and 5 illustrate different arrangements of the dull and sharp ribs.

Like letters of reference refer to like parts in the several figures.

A and B represent two rollers of a roller-mill, having their shafts connected by gear-wheels *a* and *b*, or any other suitable mechanism, whereby the roller A is rotated with a greater peripheral speed than the roller B. Each roller is provided on its cylindrical surface with longitudinal ribs, which may be arranged parallel with the axis of each roller, as represented in Fig. 1, or spirally, as represented in Fig. 2.

In the rollers employed for the coarser reductions the ribs are preferably arranged parallel with the axis of the roller, or nearly so, and in the rollers used for the finer reductions the ribs are arranged more spirally.

The system of ribs or the dress of each roller is composed of round or dull ribs *c* and sharp ribs *d*, which alternate with each other with greater or less frequency, according to the nature of the work for which the rollers are designed. For the coarser reductions every two round or dull ribs *c* are followed by one sharp rib *d*, as represented in Fig. 5. For reductions of medium fineness the dress may be composed of an equal number of sharp and dull ribs, alternating with each other—for instance, one of each kind, as represented in Fig. 1, or two of each kind, as represented in Fig. 4. For the finer reductions two sharp ribs *d* are followed by a single dull rib *c*, as represented in Fig. 3. Owing to the differential speed of the rollers, a rib of either kind on the slow roller co-operates successively with the dull and sharp ribs on the fast roller, so that the reduction effected by the rollers is due to the joint operation of the dull and sharp ribs, thereby avoiding the objectionable results attending the use of a dress composed entirely of either dull or sharp ribs. The ribs on the rollers used for the coarser reductions are somewhat larger than those used for the finer reductions.

I claim as my invention—

1. A roller for roller-mills, provided on its cylindrical surface with alternating sharp and dull ribs, substantially as set forth.

2. In a roller-mill, the combination of two rollers provided on their cylindrical surfaces with alternating sharp and dull ribs, and means whereby the rollers are rotated with different peripheral speeds, substantially as set forth.

NOAH W. HOLT.

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