

(No Model.)

L. GATHMANN.
BRUSH GRAIN CLEANER.

No. 250,437.

Patented Dec. 6, 1881

Fig. 1.

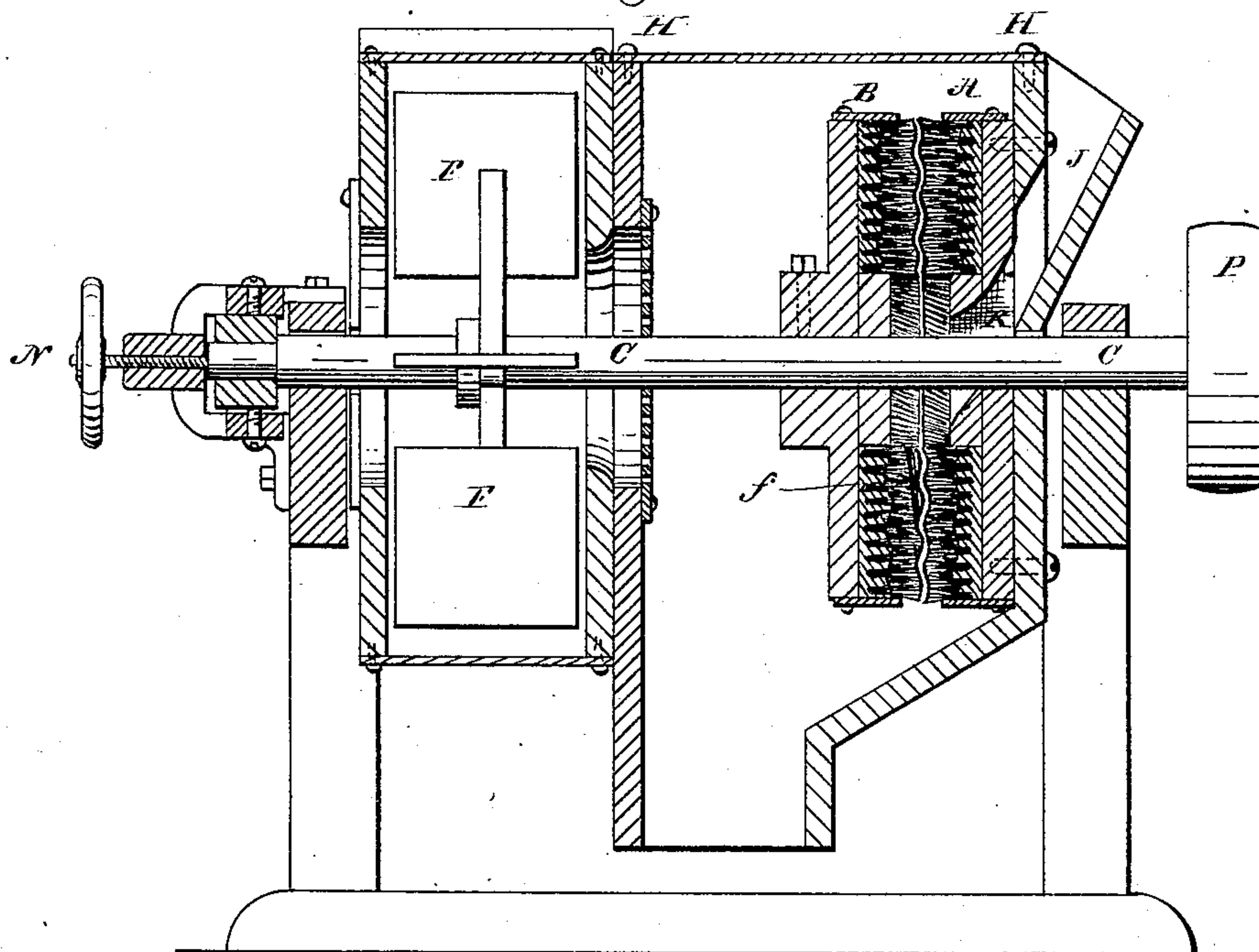


Fig. 3.

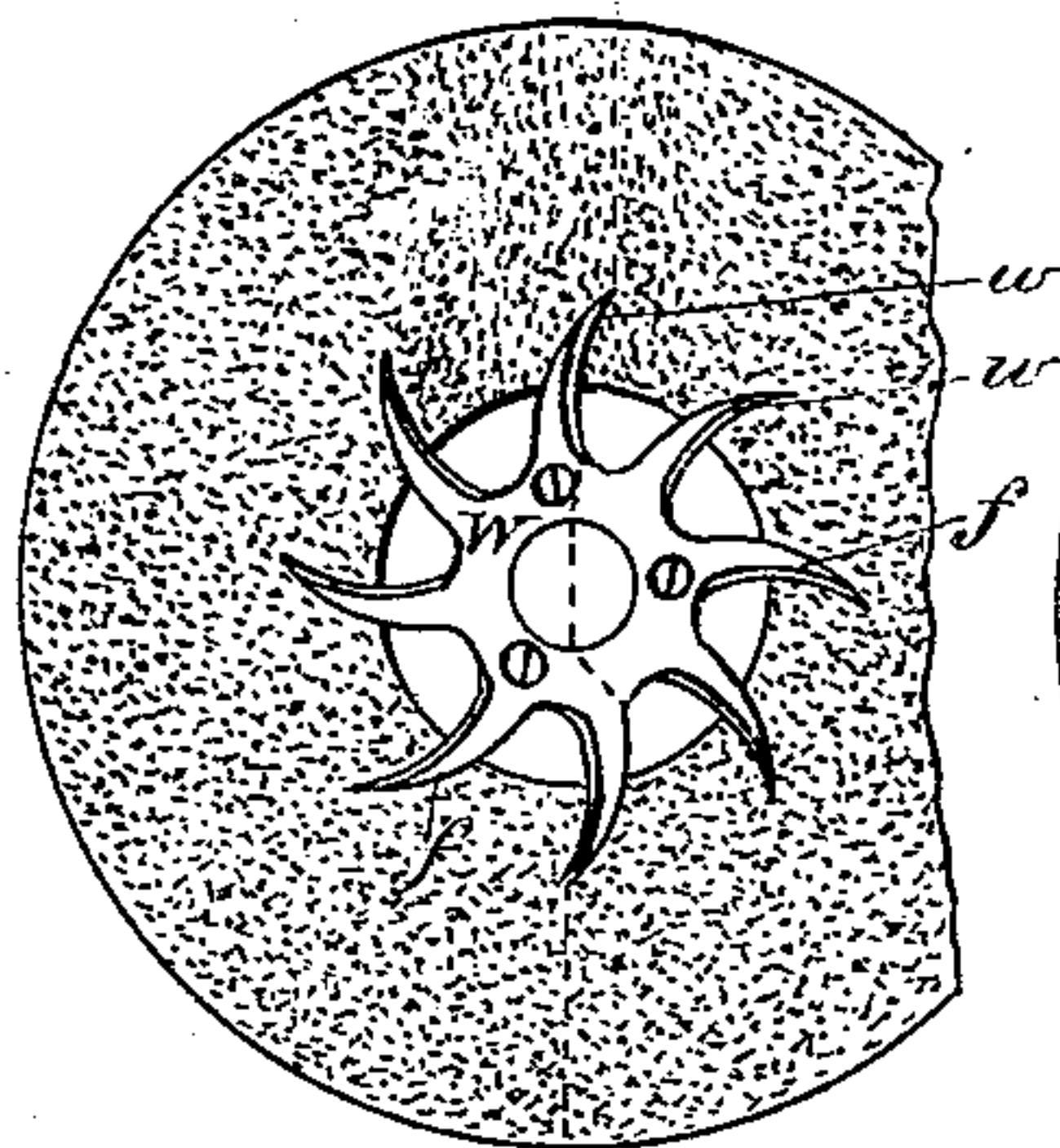


Fig 2.

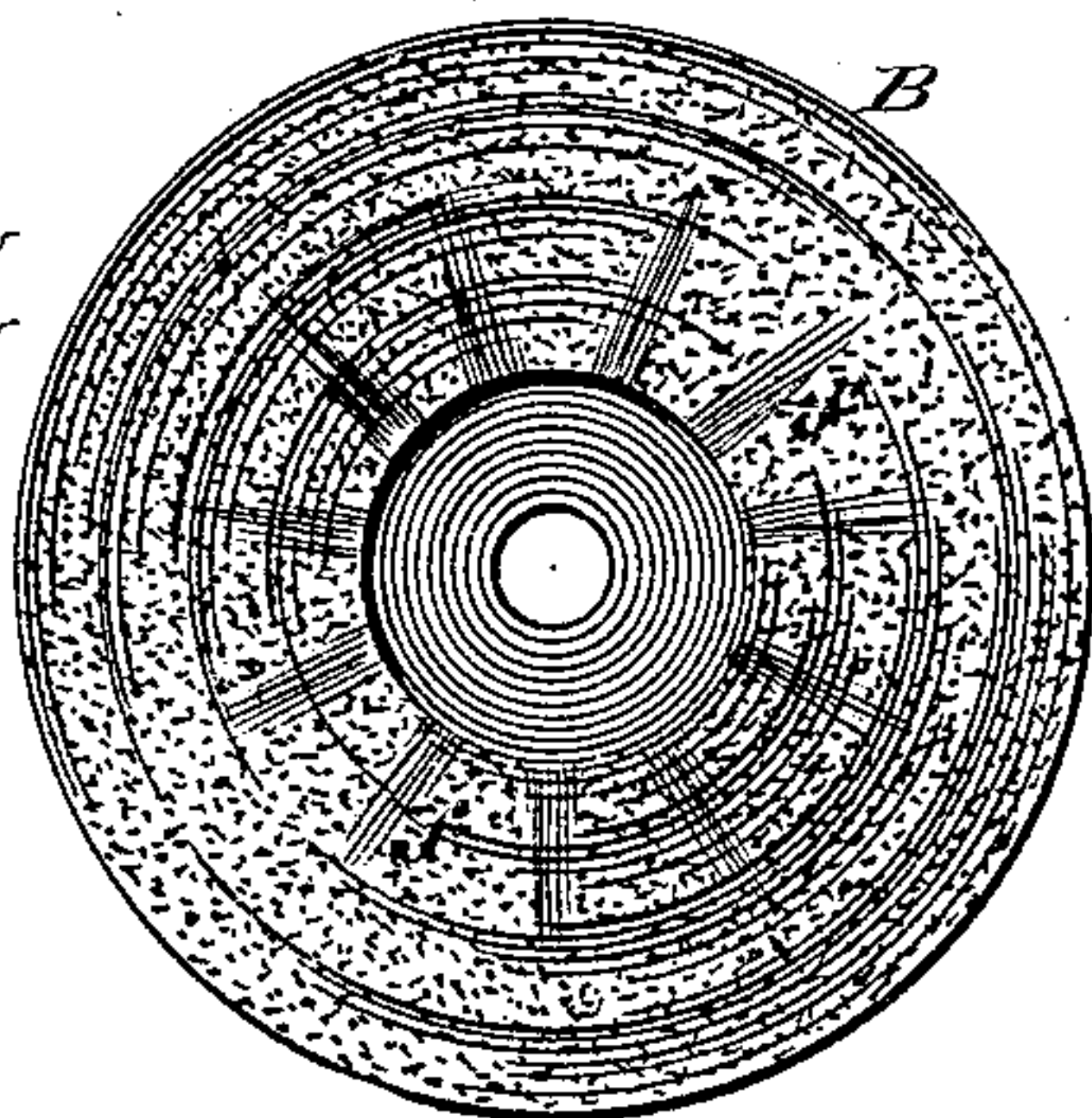
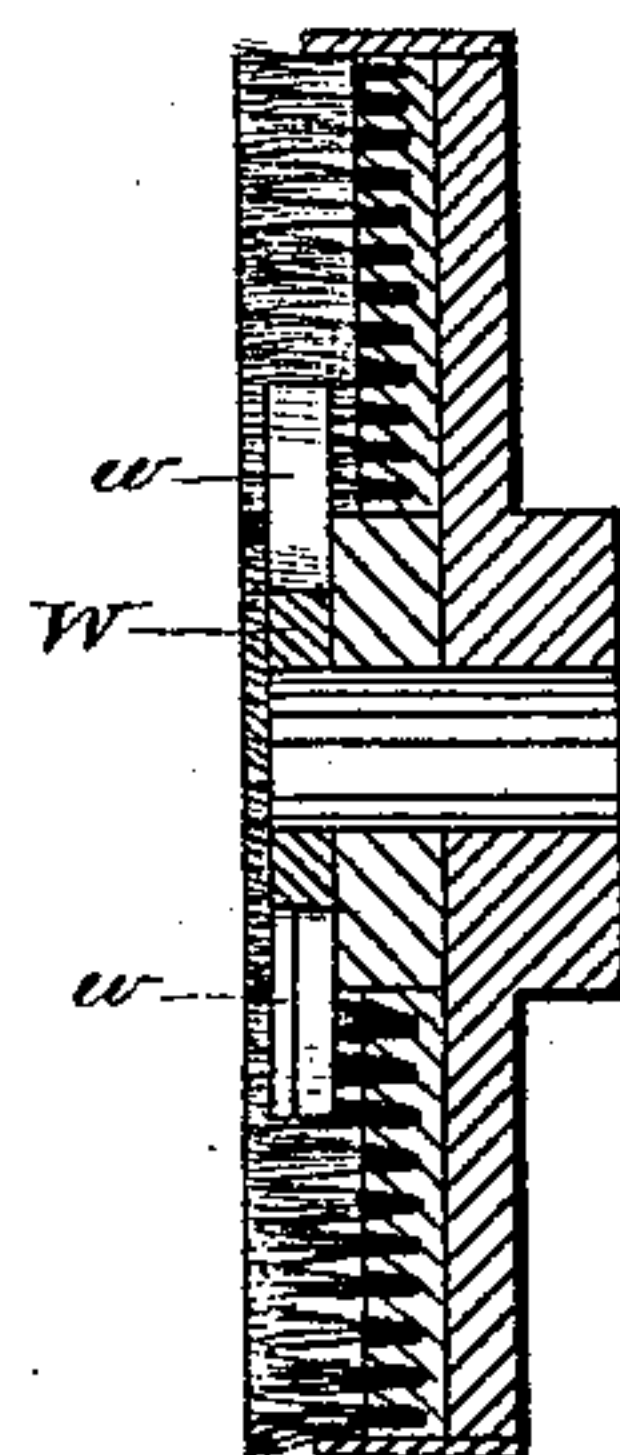


Fig. 4.



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LOUIS GATHMANN, OF CHICAGO, ILLINOIS.

BRUSH GRAIN-CLEANER.

SPECIFICATION forming part of Letters Patent No. 250,437, dated December 6, 1881.

Application filed April 19, 1881. (No model.)

To all whom it may concern:

Be it known that I, LOUIS GATHMANN, of Chicago, State of Illinois, have invented certain new and useful Improvements in Brush Grain-Cleaners; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The improvements herein described relate to features of construction and operation in disk-brush grain-cleaners, said improvements having reference to the control of the grain in its passage outward between the working-faces.

The invention consists in the several novel matters hereinafter set forth and claimed.

Figure 1 is a central vertical section of a double-brush grain-cleaner having a horizontal axis and containing my improvements, the section being taken through the axis of the moving parts. Fig. 2 is a face view of one of the brushes shown in Fig. 1, showing both the corrugations and short furrows in its face. Fig. 3 is a face view of a brush, the furrows of which are produced by wings of a central dispersing-plate; and Fig. 4 is an axial section of the brush shown in Fig. 3.

A is a stationary disk-brush, fixed to the housing H of the machine, and having the central aperture, K, leading from the feed-chute or hopper J.

B is a rotating brush, arranged to oppose its face to that of the brush A, and mounted on the shaft C, driven by the pulley P. The brushes are adjustable toward or from each other by any suitable device for giving longitudinal movement to the shaft C. The remaining parts of the machine being familiar need not be specially described.

The novel features of construction here presented in the brushes are as follows: First, the faces of said brushes are corrugated in circles concentric with the common axis of their relative motion, and the circular prominences of one brush are arranged opposite the corresponding depressions in the other. In brushes of working size these prominences and depressions may be, say, half an inch in height or depth, and the central line of one elevation may be, say, three inches from that of the next.

The effect of this construction in the opposing brush-faces, which bear positively, but of course yieldingly, upon the grain, is to retard the outflow of the grain under centrifugal impulse, more especially when said brushes are set at slight pressure upon each other or at a slight distance apart, so as to bear lightly upon the grain.

A second feature of my improvement consists in the short furrows *ff* in the face of one or both of the brushes A and B, said furrows opening from the eye or center of the brush and terminating inside the periphery. The effect of such furrows is to admit the grain freely between the brushes, which are otherwise too close together to allow the grain to enter between them. As they do not extend to the periphery, the discharge of the grain will not be effected by said furrows, but is dependent, as it should be, upon the facial form or the nearness or pressure of the brushes themselves. The furrows shown in Fig. 2 are indicated as being formed by cutting off the ends of the bristles. In Figs. 3 and 4 I have shown the short passages or furrows *ff* as being produced by the wings *ww* of the dispersing or feed plate W, which wings extend outward beyond the central bosom of the disk and enter the body of the bristles, forcing them apart. Said wings lie a short distance below the face of the brush, as clearly seen in Fig. 4, and thereby leave a space above them for the admission of the grain. The wings *ww*, applied to the runner, are otherwise intended for their usual purpose of throwing the grain outward between the working-faces of the machine.

While I have above described my improvements in connection with a double-brush grain-cleaner, it is evident that they may be employed in a single brush opposed to any suitable face—as, for example, one of wire-netting or perforated metal. In that case, if the corrugated form of brush be used the opposing metal face should preferably be correspondingly corrugated.

It is, of course, immaterial whether the disks be mounted on a horizontal or a vertical axis, and in the use of the corrugations in the brush-face it is plain that they may be angular instead of rounded, as shown, without departure from my invention.

I admit that two rigid disks have been provided with opposite sharply-angular ridges and grooves in place of the rounded corrugations of the brushes described; but such disks could
5 not be run near enough together to bear upon the grain, as contemplated in the use of the brushes, without grinding the grain; and, if separated far enough to avoid grinding, the grain would simply be thrown from one rigid
10 disk-surface to the other. In that case, moreover, the grain is retarded at the angles of the corrugations, where, in the rounded brush-surfaces, it is accelerated, so that in no respect is the effect of such form of rigid plates like that
15 described of the brushes, having mutually interfitting, rounded, annular corrugations, borne yieldingly against each other or upon the grain, as set forth.

I claim as my invention—

20 1. The combination, in a disk-brush grain-cleaner, of a disk-brush and an opposing face,

both having circular and concentric rounded corrugations, the elevations of one face being arranged opposite the depressions of the other, substantially as described, and for the purpose
25 set forth.

2. In a central-feed disk-brush grain-cleaner, the combination, with the brush, of the wings
30 *w w*, lower than the face of the brush, applied to separate the bristles, as shown, forming passages directed outward from the bosom of the disk and terminating inside the periphery, substantially as described, and for the purposes
set forth.

In testimony that I claim the foregoing as
35 my invention I affix my signature in presence of two witnesses.

LOUIS GATHMANN.

Witnesses:

M. E. DAYTON,
JESSE COX, Jr.