

H. PACKER.
GRINDING-RINGS.

No. 180,263.

Patented July 25, 1876.

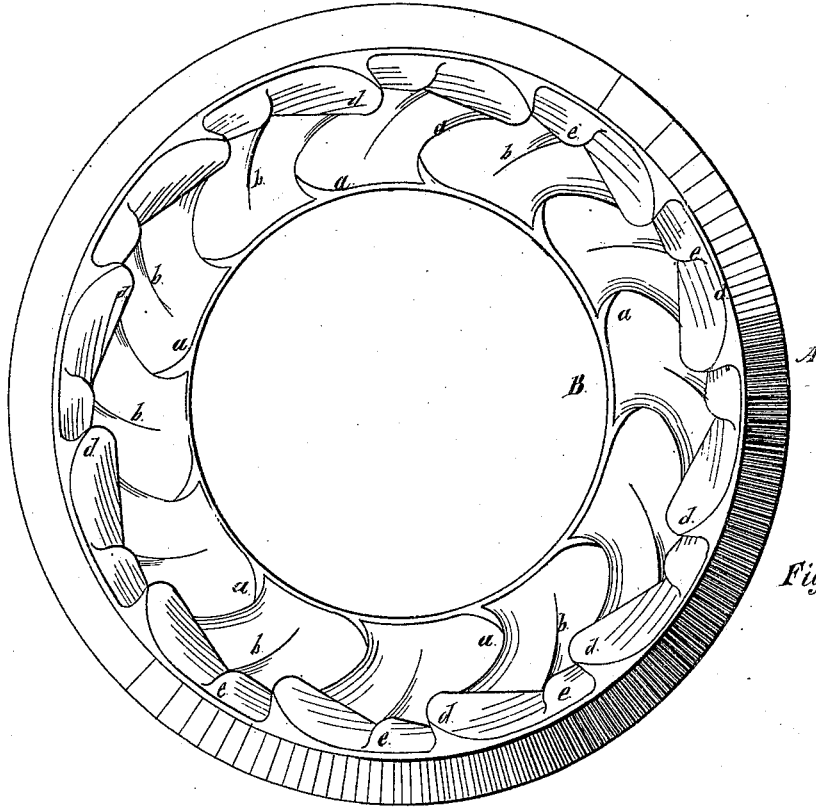


Fig. 1.

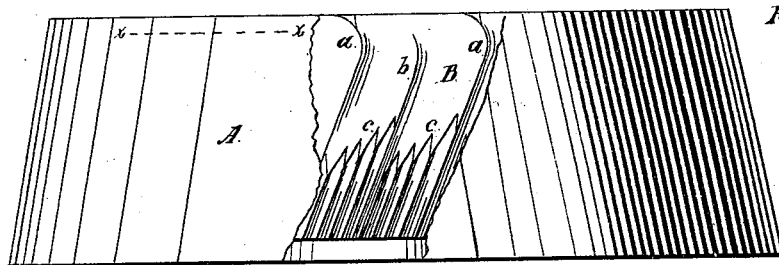


Fig. 2.

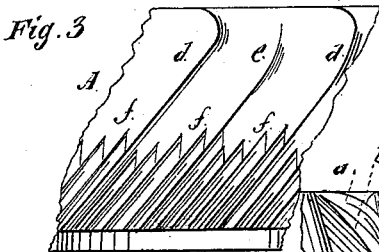


Fig. 3.

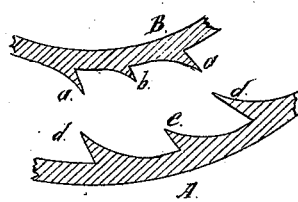


Fig. 4.

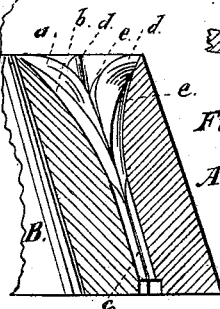


Fig. 5.

Witnesses
Wm Bond
J. F. Adams.

Inventor
Harvey Packer.

By Wm Bond, Attorneys.

UNITED STATES PATENT OFFICE.

HARVEY PACKER, OF SANDWICH, ILLINOIS.

IMPROVEMENT IN GRINDING-RINGS.

Specification forming part of Letters Patent No. **180,263**, dated July 25, 1876; application filed April 28, 1876.

To all whom it may concern:

Be it known that I, HARVEY PACKER, of Sandwich, De Kalb county, State of Illinois, have invented a new and useful Improvement in Rings for Grinding Shelled Grain, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view, showing the rings where the grain enters. Fig. 2 is a side elevation, with a portion of the outer ring cut away; Fig. 3, a detail showing a portion of the interior of the outside ring; Fig. 4, a detail showing a section of the two rings separated one from the other, taken at line *x*, Fig. 2, looking downward; Fig. 5, a section on line *y* of Fig. 1.

My invention consists in the peculiar form of the grinding-ridges, the chief peculiarity being that the large projecting ridges, where the grain enters, are cut under or made of a hooked form, so as to present cutting-edges instead of crushing-edges, as heretofore.

I have invented devices by the use of which these rings can be molded or cast whole, notwithstanding this peculiar form of the grinding-ridges, which will be made the subject of another application.

In the drawings, A represents the outer ring, and B the inner ring. *a* are grinding-ridges upon the outside of the inner ring B. They stand at an angle, as shown, and are cut under, so as to be considerably hooking in form, as shown in Fig. 4. Between these ridges *a* is a second series of shorter ridges, *b*, placed at the same angle and cut under, as before described. These ridges *a b* are both carried to the delivery edge of the ring, and between them are small grinding-ridges *c*. *d* are long grinding-ridges upon the inside of the outer ring A, similar in form to the ridges *a a*. *e* are shorter grinding-ridges, located between the ridges *d*, corresponding with the ridges *b* upon the inner ring. They are carried to the outer or delivery portion of the ring, and between them are finer grinding-ridges *f*.

All the ridges upon the outer ring A are placed at an angle opposite to that of those upon the inner ring B, so that they cross each other. The furrows between these ridges form feed-drifts. The rings are conical in form, as represented.

In use, the ring B is placed upon one end of a horizontal shaft, while the outer ring is stationary.

The shape of the rings and the angle of the grinding-ridges *a*, *b*, *d*, and *e* are such that the tendency is to draw the inner ring into the outer one; but the relative position of the two rings, one to the other, can be adjusted by any of the well-known devices.

I am aware that grinding-rings of various forms are in use; but, owing to the difficulty of casting, or from some other cause, the grinding-ridges corresponding with the large ridges in my rings have been so made that they only serve the office of crushing or breaking the grain; but these ridges in my rings are comparatively sharp, and they cut the grain instead of crushing it, thereby saving power, and doing better work and more of it.

The grain can be conveniently fed by means of a screw-feed, and the form and position of the rings are such that the grain is not likely to clog.

What I claim as new, and desire to secure by Letters Patent, is as follows:

1. A grinding-ring having a series of grinding-ridges cut away upon the under side, so as to be hooked in form and present cutting-edges, as shown by *a* and *d* in the drawings, substantially as and for the purpose specified.

2. A grinding-ring having a series of grinding-ridges cut away on the under side, so as to be hooked in form, in combination with a second series of similar but shorter ridges, *b*, and a series of smaller ridges, *c*, substantially as and for the purpose described.

HARVEY PACKER.

Witnesses:

WESTEL W. SEDGWICK,
E. S. JOHNSON.