

W. BARR.  
Graters for Cider Mills.

No. 139,105.

Patented May 20, 1873.

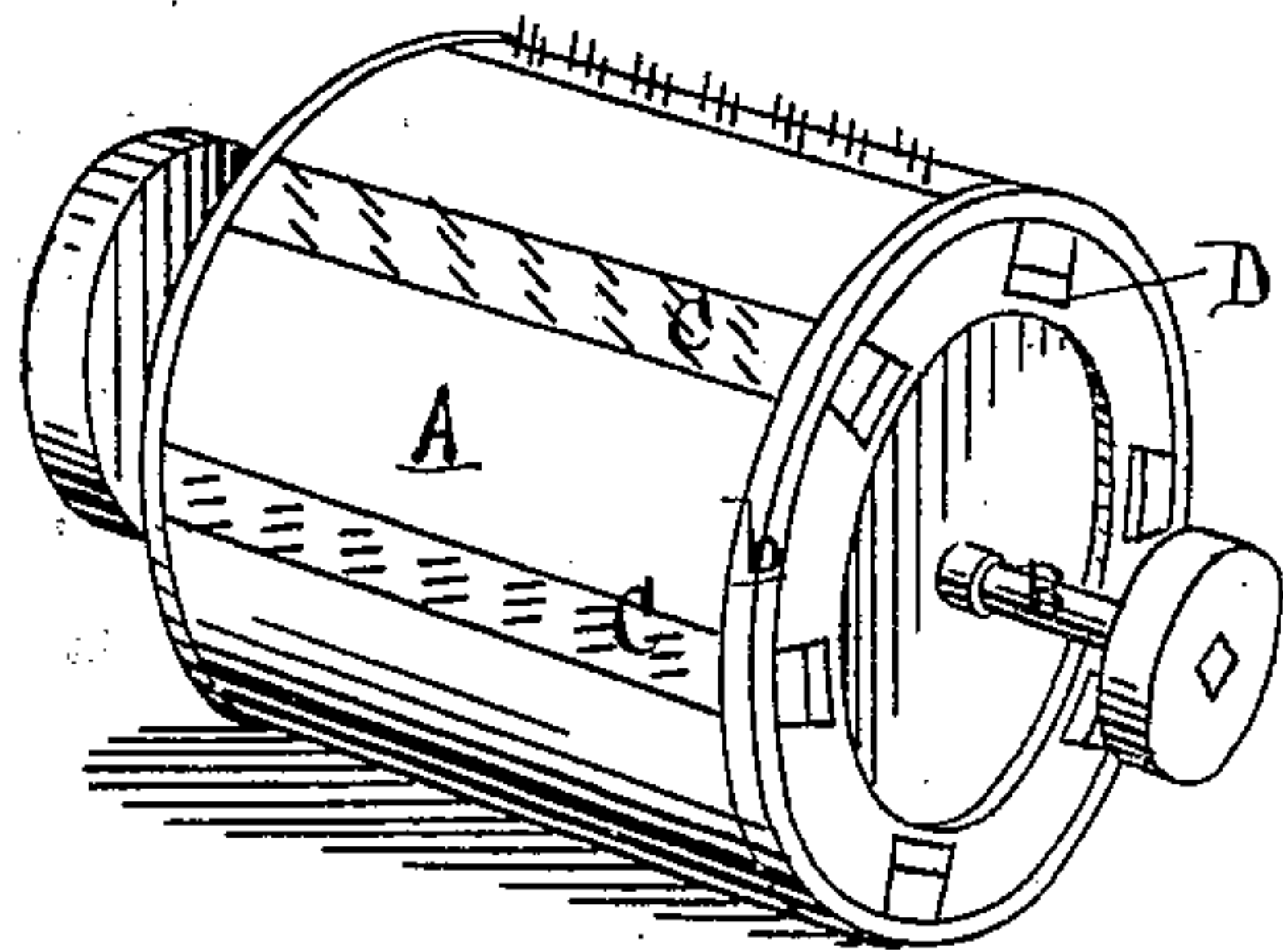


Fig. 1.

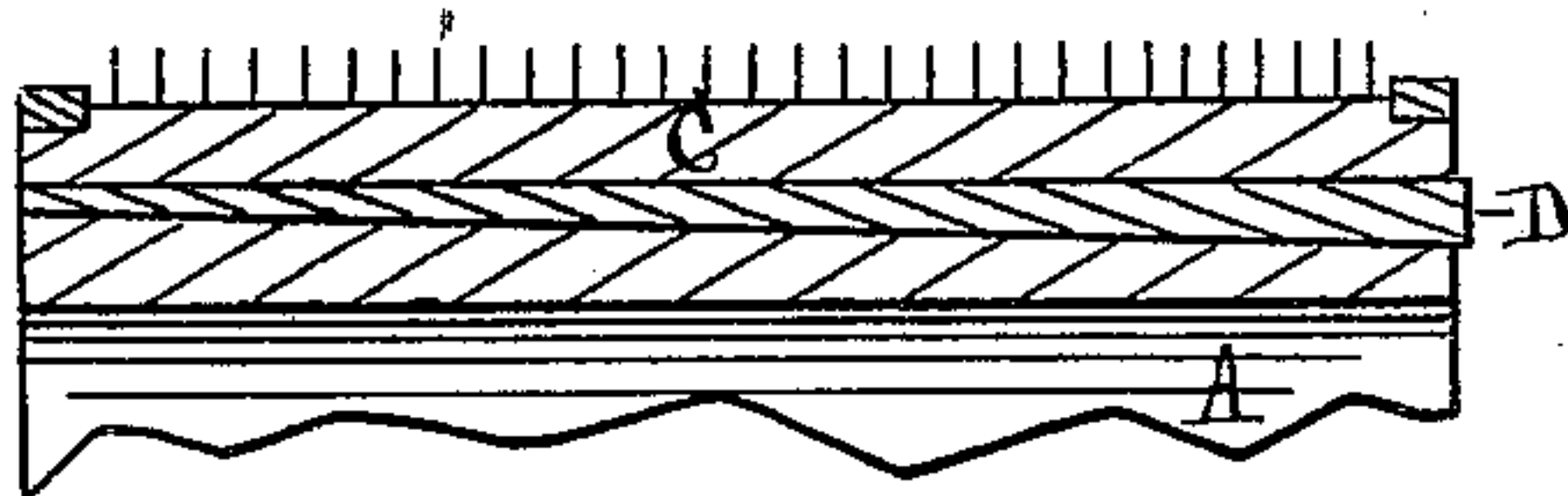


Fig. 2.

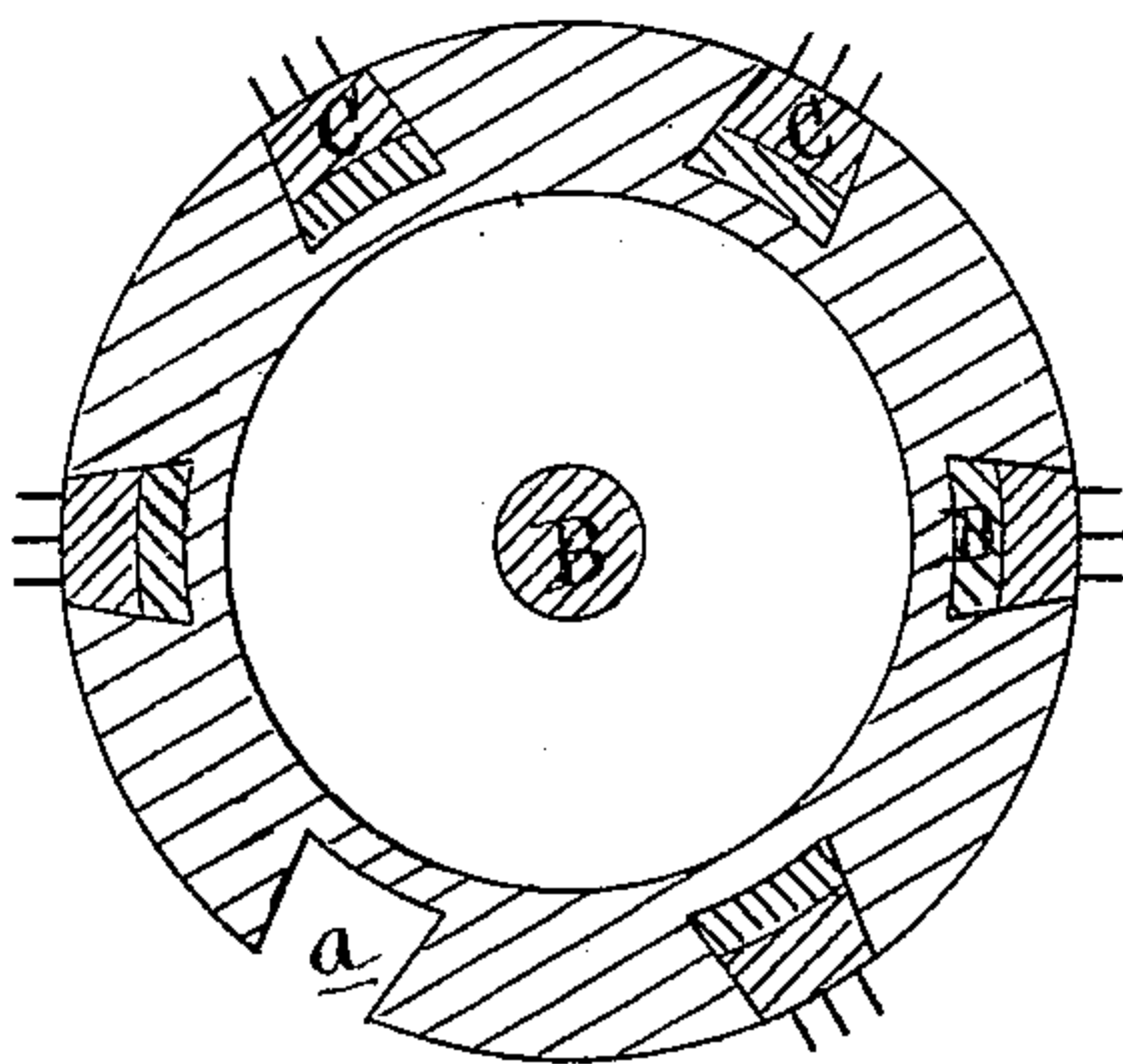


Fig. 3.

ATTEST :

H. S. Sprague  
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INVENTOR:

Watson Barr  
By Atty—  
H. S. Sprague

# UNITED STATES PATENT OFFICE.

WATSON BARR, OF YPSILANTI, MICHIGAN.

## IMPROVEMENT IN GRATERS FOR CIDER-MILLS.

Specification forming part of Letters Patent No. **139,105**, dated May 20, 1873; application filed March 17, 1873.

*To all whom it may concern:*

Be it known that I, WATSON BARR, of Ypsilanti, in the county of Washtenaw and State of Michigan, have invented a new and useful Improvement in a Grater for Cider-Mills; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, and being a part of this specification, in which—

Figure 1 is a perspective view of my grater. Fig. 2 is a longitudinal section taken through one of the teeth-staves. Fig. 3 is a cross-section.

Like letters refer to like parts in the several figures.

The nature of this invention relates to an improvement in the construction of the graters or grinding-drums of cider-mills, and has for its object to facilitate the removal of the stave which carries the teeth, when from any cause one or more teeth are disabled, and its replacement by a fresh stave supplied with its full complement of teeth; and it consists in providing the cast-iron grater-drum with a series of longitudinal dovetail-grooves for the reception of wooden staves provided with projecting steel teeth, the said staves being secured in place by a wedge driven in the groove under each one.

In the drawing, A represents a cast-iron drum, cored hollow, and mounted on a shaft, B; in the periphery of the drum a series of longitudinal dovetail-grooves, *a*, are formed. C are wooden staves having rows of steel teeth or graters driven in their faces, and are of such shape and section as to adapt them to

fit the outer parts of the grooves *a*, in which position they are maintained by driving a long wedge, D, under each in the base of the groove. *b* is a band of wrought-iron shrunk in a recess turned at each end of the drum, and the ends of the staves are rabbeted to receive the bands, and thereby allow the staves to come up flush with the surface of the drum; these bands form no part of the present invention, as they are placed on the drum for a purpose other than to prevent the staves from moving longitudinally in their grooves.

As it frequently happens in grinding apples that some of the teeth of a stave are broken by stones or other foreign substances getting into the mill, by driving out the wedge the stave having the broken teeth may be removed and replaced by another having a full complement of teeth, in a few moments.

The extra staves can be kept on hand, and those requiring new teeth can be supplied at leisure, so that the mill need not be stopped for repairs longer than is necessary to exchange staves, which can be done without removing the hopper or any part of the machinery.

What I claim as my invention, and desire to secure by Letters Patent, is—

The staves C, provided with grating-teeth and the wedges D, in combination with the dovetail-grooves *a* in the drum A, as and for the purpose set forth.

WATSON BARR.

Witnesses:

H. F. EBERTS,  
H. S. SPRAGUE.