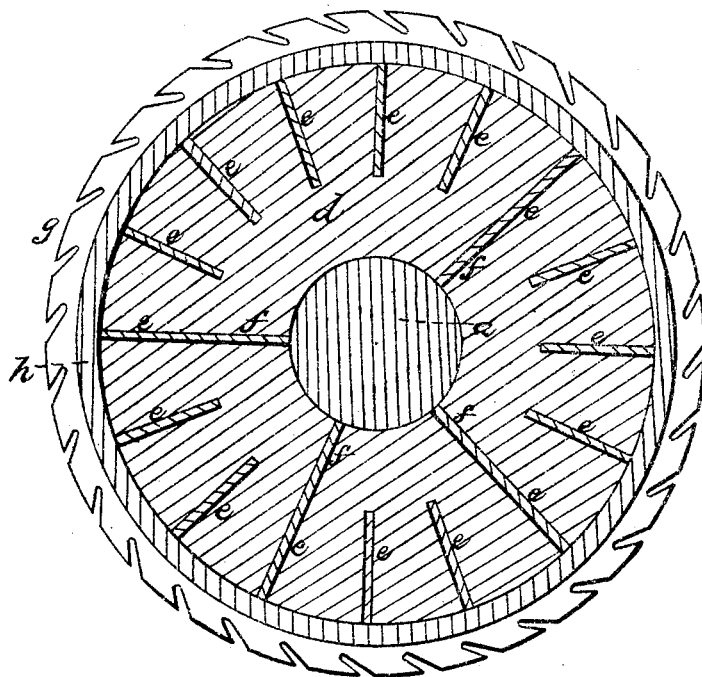


*C. L. Coddard*  
*Burring Cylinder*

*N<sup>o</sup> 49,625.*

*Patented Aug. 29. 1865.*

Fig. 1.



Witnesses:

*Wm H Bishop*  
*A. De Lacy.*

Inventor:

*C. L. Coddard*

C. L. Goddard.

Barring Cylinder.

No 49,625.

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Fig. 2.

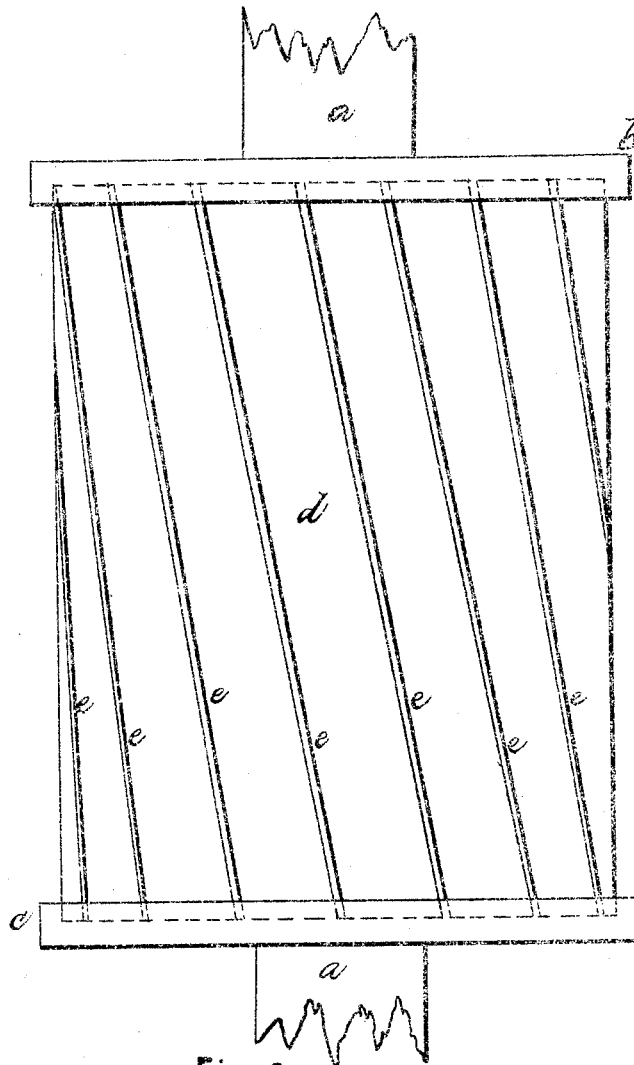
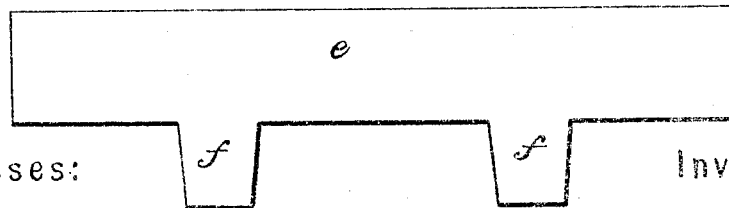


Fig. 3.



Witnesses:

Wm H Bishop  
A. DeLacy

Inventor:

C. L. Goddard.

# UNITED STATES PATENT OFFICE.

C. L. GODDARD, OF NEW YORK, N. Y.

## IMPROVEMENT IN CYLINDERS OF WOOL-BURRING AND SIMILAR MACHINES.

Specification forming part of Letters Patent No. 49,625, dated August 29, 1865.

*To all whom it may concern:*

Be it known that I, C. L. GODDARD, of the city, county, and State of New York, have invented a new and useful Improvement in the Construction of the Cylinders of Machines for Separating Burrs and other Foreign Substances from Wool and other Fibers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a cross-section of a cylinder constructed on my improved plan; Fig. 2, a view of the surface of the inner cylinder on which the toothed rings are mounted, and Fig. 3 a separate view of one of the metal strips.

The same letters indicate like parts in all the figures.

Serious difficulties have been experienced in the construction of the burring-cylinder of machines for burring wool. It is well known that the burring-cylinder is composed of a series of thin metallic rings, with gullets cut into their peripheries to form long-backed teeth, and interposed packing-rings, both series of rings being slipped onto a cylinder and clamped between two heads. When the inner cylinder is made of solid metal it is too heavy. To avoid the weight they have in general been made hollow, either of sheet metal wrought to the required form or of cast metal cast of the form required. When made of sheet metal much skill and experience are required to make the surface cylindrical and connect it with the shaft so that it will turn true; but even when made accurately they were liable to spring, and it soon became necessary to make them double—that is, of two thicknesses of sheet metal—a mode of construction which required more skill and labor, and which therefore materially increased the cost, and even when so made they are liable to be sprung out of true. When made of cast metal much skill is required to get the metal of uniform thickness and weight all around; otherwise, by centrifugal force, when rotated at high velocity, they would be sprung out of true, and thereby become injured and waste fibers.

By the mode of construction which I have invented I avoid all the defects of the modes heretofore practiced and make a cylinder that will not spring, even when run at the highest velocity, as true as the solid cylinder, as light as the sheet or cast hollow cylinder, as durable as any of them, and at less cost than the cheapest of them.

The shaft *a* I turn perfectly true, particularly along that part of its length which is to be within the length of the cylinder. Near one end it is formed with or has a metallic head, *b*, secured to it, and near the opposite end it is suitably formed to receive the other head, *c*, by which the two series of rings are clamped. I then take a block of wood, *d*, which has been thoroughly steamed and kiln-dried, and bore a hole through the length of it, and in the center, and of such a size that it can be driven onto the shaft so tight that it will not turn thereon, taking care not to spring the shaft in driving; but before driving it on I turn the ends so that they shall be true, and that the whole block shall be of the required length to hold the rings when clamped. After the block has been put on the shaft I turn its outer periphery to the required size to receive and fit the inner periphery of the rings; but before putting on the rings I cut radial gains into this wooden cylinder to within a short distance of the shaft, and into these gains I fit and insert strips of metal *e*, preferring iron or steel, and reduce the outer edges of these strips so that they shall form part of the surface of the cylinder. I cut these gains diagonally from end to end to cut the fibers of the wood, so that in no part shall any of the fibers of the wood between the metal strips extend from end to end of the cylinder. This will effectually prevent the wood from working if, by accident, the steaming and kiln-drying failed to kill the wood. Or, instead of cutting the gains diagonally, I form the cylinder of numerous pieces of wood cut diagonally and united with glue or other cement.

I prefer to make the inner edge of the metallic strips *e* with projections *f* at given intervals, and extend the gains through to the shaft in corresponding parts of the length, so that the projections *f* shall extend to and rest on the shaft. After the inner cylinder has been thus prepared the toothed rings *g* and interposed packing-ring *h* are slipped on and clamped between the heads *b* and *c*, and the outer periphery finished in the usual way.

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

The manner of constructing the inner cylinder of burring-machines of metal strips and wood combined on a metal shaft, substantially as and for the purpose specified.

Witnesses: C. L. GODDARD.

WM. H. BISHOP,

A. DE LACY.