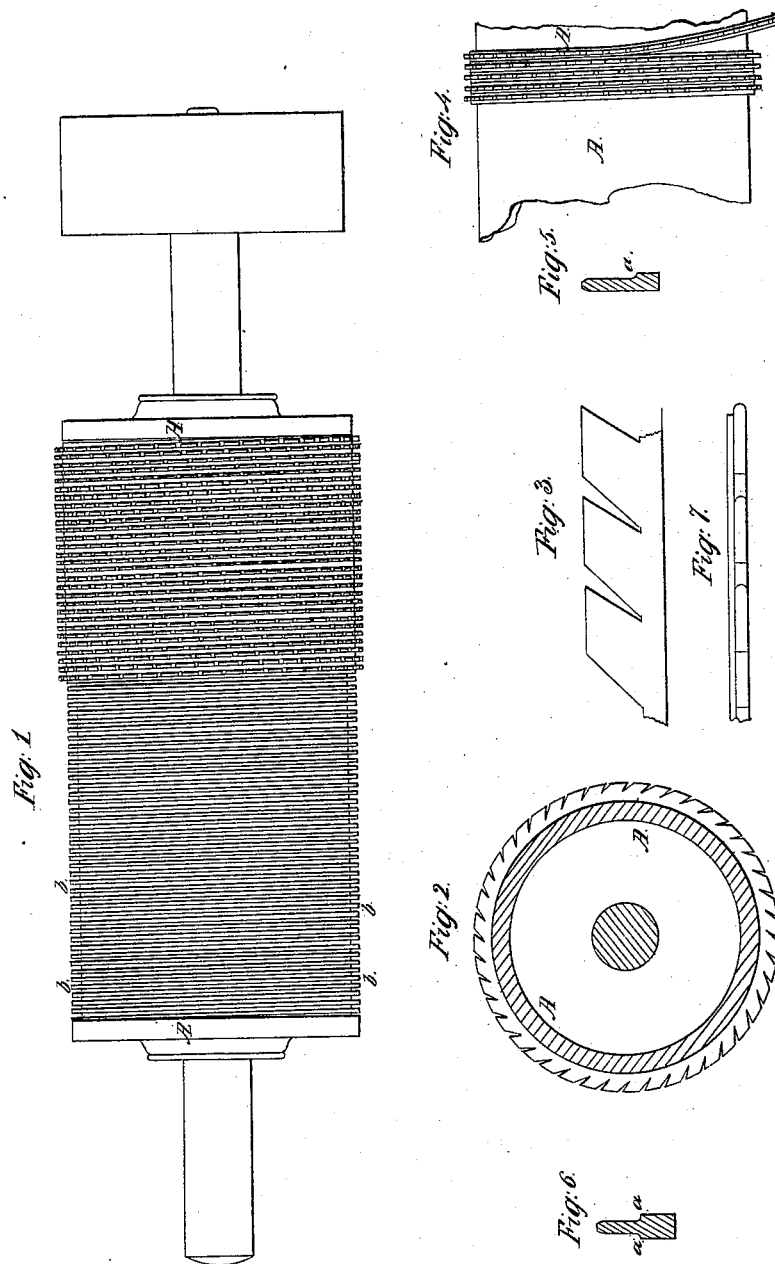


F. A. CALVERT.  
CYLINDER FOR BURRING, OPENING, PICKING, CARDING, &c., COTTON,  
WOOL, &c.

No. 6,044.

Patented Jan. 23, 1849.



# UNITED STATES PATENT OFFICE.

FRANCIS A. CALVERT, OF LOWELL, MASSACHUSETTS.

## MANUFACTURE OF CYLINDERS FOR BURRING OF WOOL, &c.

Specification of Letters Patent No. 6,044, dated January 23, 1849.

*To all whom it may concern:*

Be it known that I, FRANCIS A. CALVERT, of Lowell, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Cylinders for Burring, Opening, Picking, Carding, and Performing all other Similar Operations on Cotton, Wool, or other Fibrous Materials, and that the following description, taken in connection with the accompanying drawings, hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvements by which my invention may be distinguished from others of a similar kind, together with such parts as I claim and desire to have secured to me by Letters Patent.

The cylinders, which have heretofore been devised, and which are now in general use for the production of the several effects on cotton, wool, &c., above specified, have mainly been composed of a series of saw or toothed circular plates, arranged on a hollow or solid shaft, the plates being set on said shafts at proper intervals apart, by inserting between them disks of wood or pasteboard, of less diameter than said plates; or by winding wire between the said plates: the object of providing said spaces being to permit the fibers of the cotton, &c., to pass freely into the said spaces, while the teeth of the plates disengage the burs and other foreign substances from the same.

This method of constructing said cylinders is quite expensive, and the object of my improvements is, to produce them at a much less cost to the manufacturer, while at the same time they are as durable, perfect and effectual in the production of the desired results, as those now in use; my new method of construction superseding the use of disks of wood, &c., and of any packing between the toothed plates.

The figures of the accompanying plate of drawings, represent my improved cylinder.

Figure 1 is a plan of the same. Fig. 2 is a transverse vertical section, and Figs. 3, 4, 5 and 6 are detail views, which will be hereinafter referred to.

The essential characteristics of my improvements, consist in winding upon a me-

tallic cylinder, A A, Figs. 1 and 4, of proper diameter, toothed wire either in a spiral direction from each side to the center thereof, or straight about the same; the said toothed wire being formed and produced, substantially, as follows.—The wire, which is common iron wire, is taken first in its cylindrical shape, and by being passed through calender rolls, is pressed into a flat shape, which consolidates, and strengthens the metal. It is then passed through a planing machine, by which a shaving can be taken off from one or both sides of the same, so as to leave a flange, as shown in Figs. 5 and 6, at *a, a, a*. The teeth are then formed by punching or cutting out, at proper intervals along the wire, pieces of the same, so as to leave the teeth of the required shape for the production of the desired effect; the shape of the teeth being shown in Figs. 2 and 3. The wire of the shape described, and represented in the drawings, may be produced in other modes; but this is deemed by me to be the cheapest and most successful.

In order to fasten the wire upon the periphery of the cylinder, A A, so as to produce a proper working or burring surface, spiral grooves *b b—b b*, &c., Fig. 1, are cut upon a cylinder, as shown in Fig. 1, and the wire is wound in the same, and staked therein, as shown in said figure, by forcing the metal of the cylinder over the flanges of the wire; by which arrangement it is firmly held in position. Another mode of fastening the wire upon the periphery of the cylinder is, by winding, and soldering the same, by any of the well known methods, upon said periphery, either in a straight or spiral direction, as shown in Fig. 4; which forms as perfect a burring cylinder, &c., as can be produced by the method, just above explained.

Having thus described my improved mode of constructing a cylinder for burring, opening, &c., cotton, wool and other fibrous materials, I shall state my claim as follows.

What I claim as new, and desire to have secured to me by Letters Patent is—

A cylinder for burring, opening, picking, carding, and performing all other similar operations, on cotton, wool, &c., formed or produced by winding toothed wire, (having flanges and teeth, as hereinabove specified,)

upon the periphery of a metallic cylinder,  
either in a spiral or straight direction,  
whether the said wire be fastened thereon in  
spiral grooves, and properly staked, or by  
5 soldering or otherwise, as hereinabove sug-  
gested.

In testimony that the foregoing is a true

description of my said invention I have  
hereto set my signature this fourth day of  
May, A. D. 1848.

FRANCIS A. CALVERT.

Witnesses:

EZRA LINCOLN, Jr.,

GRIDLEY V. F. BRYANT.