

(No Model.)

C. T. MASON, Jr.

COTTON GIN.

No. 381,564.

Patented Apr. 24, 1888.

Fig. 1.

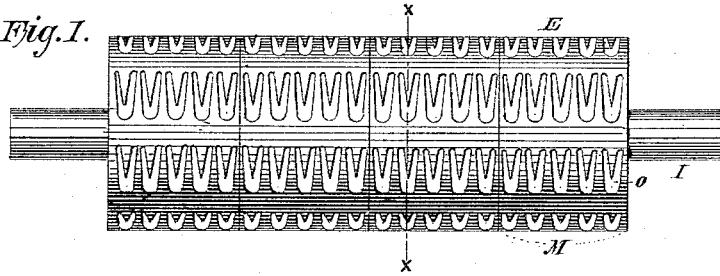


Fig. 2.

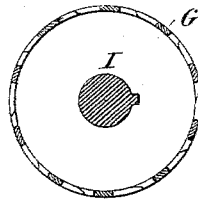


Fig. 3.

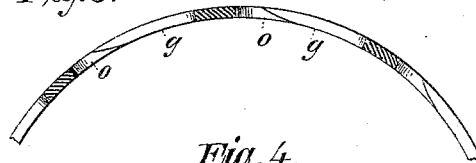
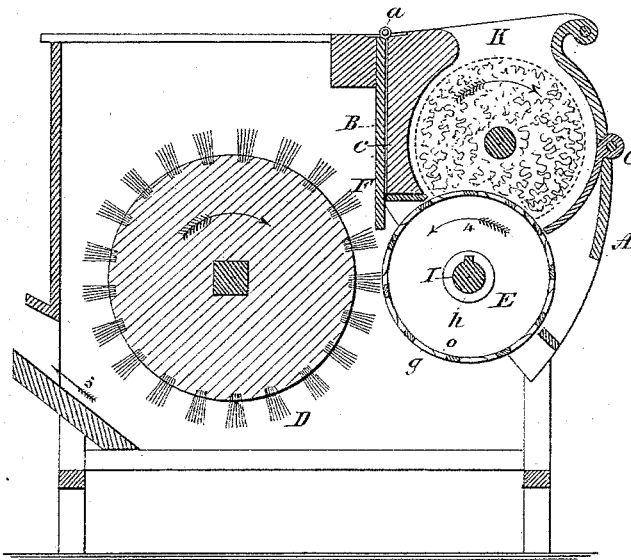


Fig. 4.



WITNESSES:

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INVENTOR.

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# UNITED STATES PATENT OFFICE.

CHARLES T. MASON, JR., OF SUMTER, SOUTH CAROLINA.

## COTTON-GIN.

SPECIFICATION forming part of Letters Patent No. 381,564, dated April 24, 1888.

Application filed April 6, 1885. Serial No. 161,209. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES T. MASON, JR., of Sumter, Sumter county, South Carolina, have invented a new and useful Improvement in Cotton-Gins; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a cylinder containing teeth, which cylinder is to be arranged in a cotton-gin in lieu of the usual circular saws. In Letters Patent Nos. 316,280, 316,378, and 316,379, granted to me on the 21st day of April, 1885, and during the pendency of this application, I have described cotton-gin cylinders of the same general type, but differing in construction from that herein shown and claimed. Thus in Letters Patent No. 316,280 is described a cylinder of which the teeth are set straight, flat, or tangential to the cylinder-surface; in Letters Patent No. 316,378 is described a cylinder having teeth with points disposed at the level of the general surface, with a shallow recess in front of each tooth, and in Letters Patent No. 316,379 is described a cylinder having a corrugated surface, with teeth conforming to the curves of the corrugations. I do not claim herein the subject-matter of the claims made by me in the aforesaid Letters Patent.

My present invention consists in a cotton-ginning cylinder having a uniformly-circular periphery, with openings in said periphery, and in each of said openings a tooth having its point disposed on the same level as the cylinder-surface.

In the accompanying drawings, Figure 1 is an elevation of a ginning-cylinder constructed in substantial accordance with my invention. Fig. 2 is a sectional view of the same on the line *xx* of Fig. 1. Fig. 3 is a detailed sectional view of a portion of the periphery of the cylinder. Fig. 4 is a section of a cotton-gin of known form containing my invention.

Similar letters of reference indicate like parts.

On referring to Fig. 4, it will be noticed that I employ no ribs or grating.

A is the grate fall or breast hinged to the main frame at *a*.

B is the back board; C, the seed-board, and D the brush for removing the lint from the cylinder.

E is the ginning-cylinder, which in the machine occupies substantially the same position as the saw-gin cylinder in common use, the grate grid or ribs being removed and a bar, F, secured to the concave *c*. This bar I make, preferably, of steel. In operation it should be adjusted near to the surface of the cylinder E. I have found one-sixteenth of an inch to be a good working distance.

The grate fall or breast A, being hinged, as already stated, is adjustable nearer to or farther from the frame, and as the bar F is secured in said breast the movement of the latter may bring said bar nearer to or farther from the cylinder-surface. I show no means of securing the breast A in different positions as adjusted; but these will readily suggest themselves to any gin-builder or other person skilled in the art.

The cylinder E consists of a sheet or thin plate of metal, G, preferably steel, which is bent in a cylindrical shape, having its meeting edges secured together around circular heads. Said cylinder may consist of a number of smaller sheets of metal, M, as indicated in Fig. 1, the same being secured to any suitable disk-shaped supports attached to the sleeve *h*, which is adapted to receive the splined shaft I, Fig. 4.

Before the sheet or thin plate G is secured upon its supports I form therein, by punching or cutting, a number of slots or openings, *o*, disposed longitudinally across the surface, or in the direction of the axis of the cylinder to be formed. In each slot or opening I form a pointed tooth, *g*, preferably from the material of said sheet and integral with it, said tooth lying lengthwise the slot. The said teeth have their points disposed on the level of the cylinder-surface—that is, their bodies conform to the curve of the cylinder-periphery, which is uniformly circular—and their points lie in the same curved plane. By reason of the tooth being tapered and pointed and arranged in the slot, there is an open space extending directly in front of the point of the tooth and around the same on both sides. This is the opening already referred to, in which the cotton can enter by its elasticity and softness when pressed against the periphery of the cylinder.

Referring more particularly to Fig. 4, the operation of my invention is as follows: The

seed-cotton is placed in the receptacle K, and meets the toothed surface of the cylinder E, which rotates in the direction of the arrow 4. The teeth upon said cylinder engage only with  
5 the cotton-lint and carry the same past and under the bar F, which prevents seeds and other foreign substances being drawn around the cylinder with the lint. As the cylinder continues its revolution, the lint is removed  
10 from its teeth by the brush-wheel D, from which the cotton passes out of the machine in the direction of the arrow 5. By reason of its teeth being constructed and disposed as hereinbefore set forth, they will engage only cotton,  
15 and not the leaves, woody substances, or other "trash" contained therein.  
I claim as my invention—

1. A ginning-cylinder having a uniformly-circular periphery and in said periphery openings, and in each of said openings a single  
20 tooth having its point disposed on the level of the cylinder-surface.

2. A ginning-cylinder having an envelope or bearing-surface uniformly circular and containing a series of elongated slots or openings,  
25 each of said openings being provided with a single tooth attached at one end and extending lengthwise of the slot, but in the same plane with the adjacent portion of the envelope.

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Witnesses:

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