(No Model.)

C. R. VALK.

COTTON GIN CYLINDER.

No. 354,955. Patented Dec. 28, 1886.

Fig. 1.

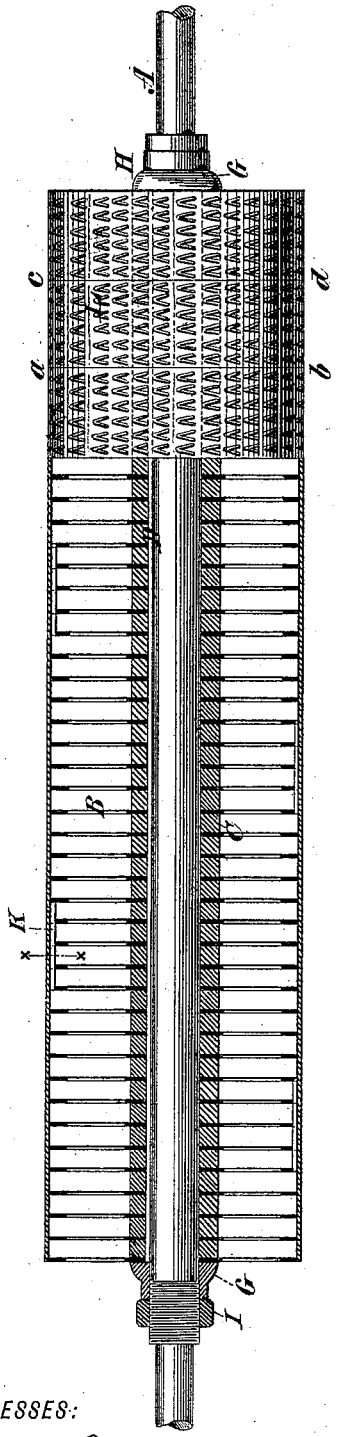


Fig. 3.

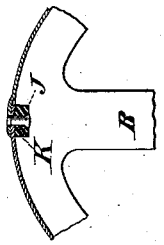


Fig. 4.

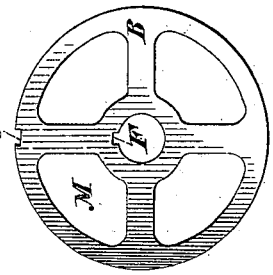


Fig. 5.

Fig. 6.

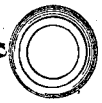
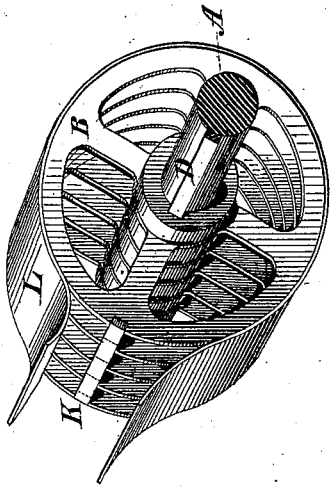


Fig. 2.



WITNESSES:

Gustave Dieterich

Wm Goebel.

INVENTOR

Charles R. Valk

BY Daniel Benjamin

his ATTORNEY

UNITED STATES PATENT OFFICE.

CHARLES R. VALK, OF CHARLESTON, SOUTH CAROLINA.

COTTON-GIN CYLINDER.

SPECIFICATION forming part of Letters Patent No. 354,955, dated December 28, 1886.

Application filed July 1, 1886. Serial No. 206,757. (No model.)

To all whom it may concern:

Be it known that I, CHARLES R. VALK, of Charleston, Charleston county, South Carolina, have invented a new and useful Improvement in Cotton-Gin Cylinders, of which the following is a specification.

My invention relates to a cylinder for use in cotton-gins, said cylinder being of the form and embodying certain inventions hitherto patented to Charles T. Mason, Jr., of Sumter, South Carolina. In lieu of the usual saws, said cylinder devised by and patented to said Mason contains an envelope of sheet metal, in which are formed V-shaped recesses and teeth in said recesses, which teeth engage with and remove the cotton from the roll.

My invention consists in the construction of said cylinder whereby the sheet-metal envelope above referred to is more efficiently and strongly attached and supported, and whereby the manufacture of said cylinder is simplified, cheapened, and improved.

In the accompanying drawings, Figure 1 is an elevation of the cylinder with a part of the sheet-metal envelope removed to show the interior construction. Fig. 2 is a perspective view showing the mode of applying the sheet-metal envelope to the supporting-disks. Fig. 3 is a detail view of the batten and a portion of the envelope attached thereto. Fig. 4 is a detail view of one of the supporting-disks. Fig. 5 represents a spacing disk or washer, and Fig. 6 one of the sleeves which fits the shaft outside of the disks.

Similar letters of reference indicate like parts.

A is the supporting-shaft, whereby the cylinder when in use is rotated by any suitable means. Upon said shaft are a number of sheet-iron disks, B, Fig. 4. Between said disks are washers C. The shaft A is grooved to receive the feather D, which enters the recesses or slots E and F, respectively, formed in the washers C and disks B. Outside the series of disks and washers are placed sleeves G. Upon the shaft A, and outside of one of the sleeves G, is a fixed collar, H. Outside the other sleeve G the shaft is threaded to receive the nut I. By setting up said nut the disks and washers are tightly clamped upon the shaft. Upon the periphery of each disk is a recess or slot, J, Fig. 4. The said disks are here shown as arranged in sets of five, the recesses J in said five disks being placed in line. Said recesses when so adjusted receive a batten or bar, K, Fig. 2. The five disks thus connected together constitute a "section." A cylinder may contain any desired number of sections.

L is the sheet-metal envelope provided with V-shaped openings and teeth therein, as devised and set forth in his several patents by said Mason. In practice this envelope is made in narrow sheets of a length sufficient to extend around a cylinder of previously-determined size. Thus, in Fig. 1 the vertical dividing-lines *a b c d* mark the width of each sheet. The width of each section composed of five disks, or, in other words, the length of each bar or batten K, equals the width of a sheet, so that each sheet fits upon the five associated disks, as shown in Fig. 2. The ends of the sheet are secured to the batten by rivets, as represented in Fig. 3, which is a section on the line *x x* of Fig. 1. It will be seen, therefore, that each section of the cylinder is complete in itself, and that sections may be removed or added, as desired, so that the cylinder may be made of any desired length. The several sections are arranged on the shaft so that the battens and envelope-joints thereon do not come in a straight line parallel to the shaft, to which end I vary the position of the recesses J upon the peripheries of said disks B with reference to the recesses F, the general arrangement being that the battens of succeeding sections shall vary in position relatively by intervals of ninety degrees.

Openings M are formed in disks B, in order to reduce the weight of the cylinder.

I do not limit myself to sections necessarily composed of five disks, because I may vary that number, decreasing or increasing it as may prove advantageous. So, also, I may adopt other means than riveting for securing the ends of the sheets together and to the battens.

I have found in practice that the above-described construction prevents depressions of the envelope under the strain of high speeds and continued operation, and that the sheet-metal disks clamped together, as set forth, furnish a strong and unyielding support to the envelope.

I claim—

1. A cotton-ginning cylinder containing a central shaft, a series of sheet-metal disks upon said shaft, a batten or bar extending across the peripheries of said disks, and a toothed sheet-metal envelope supported upon and inclosing the peripheries of said disks, and secured at its extremities to said batten, substantially as described.

2. A cotton-ginning cylinder containing a central shaft, a series of sheet-metal disks upon said shaft, a toothed sheet-metal envelope supported upon and inclosing the peripheries of said disks, washers interposed between said disks, and a means (such as a fixed collar on the shaft on one end and a nut and thread on the shaft on the other end) for clamping said disks and washers together upon said shaft, substantially as described.

3. A cotton-ginning cylinder composed of two or more removable sections, each section containing two or more sheet-metal disks, a central shaft supporting said sections, a means (such as a fixed collar on the shaft on one end and a nut and thread on the shaft on the other end) for clamping said sections together upon said shaft, a batten or bar extending across the peripheries of said disks, and a toothed sheet-metal envelope supported upon and inclosing the peripheries of said disks and secured at its extremities to said batten, substantially as described.

4. The combination of the shaft A, having the feather D, disks B, containing the recesses J and F, batten K, washers C, containing the recesses E, and toothed sheet-metal envelope L, substantially as described.

5. The combination of the shaft A, having the feather D, disks B, containing the recesses J and F, batten K, washers C, containing the recesses E, toothed sheet-metal envelope L, fixed collar H, threaded portion of said shaft and nut I thereon, and sleeves G, substantially as described.

CHAS. R. VALK.

Witnesses:
CHAS. D. SMITHAS,
ARTHUR M. CAMPBELL.