

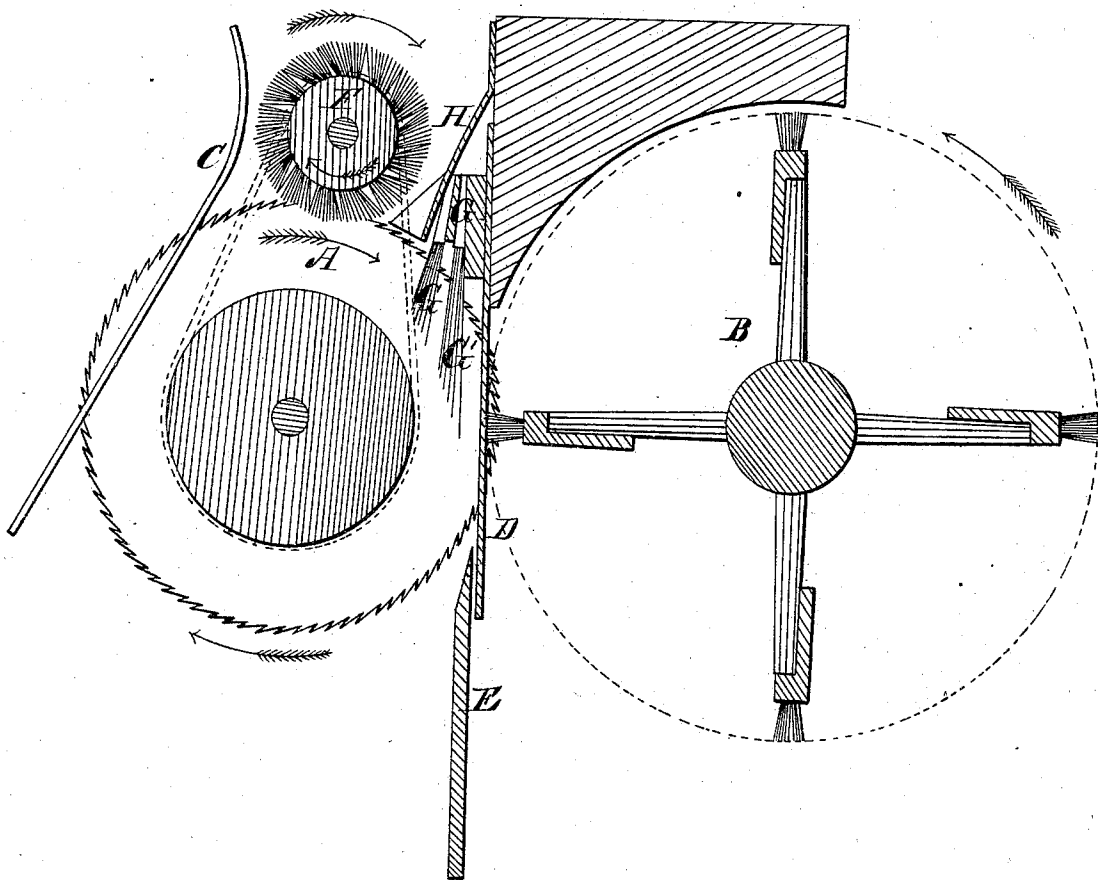
T. J. JAMES.
COTTON GIN.

2 Sheets—Sheet 1.

No. 2,608.

Patented May 7, 1842.

Fig: 1.



T. J. JAMES.
COTTON GIN.

2 Sheets—Sheet 2.

No. 2,608.

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Fig: 2.

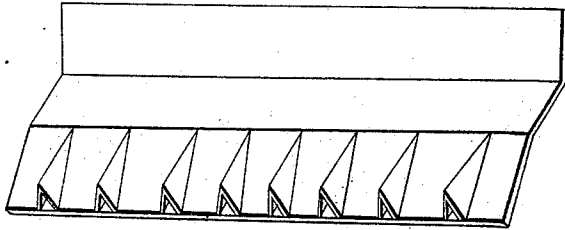


Fig: 3.

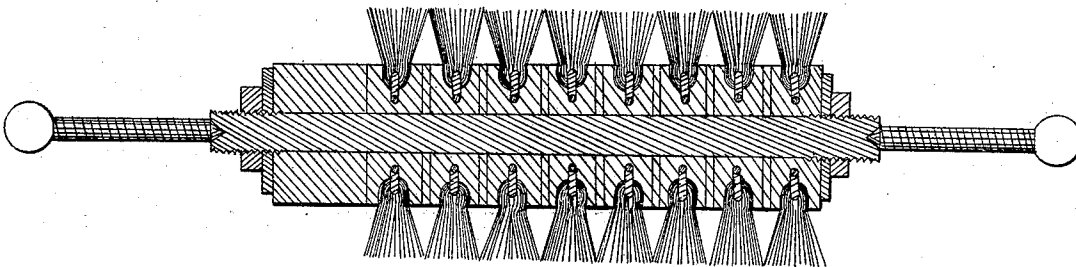
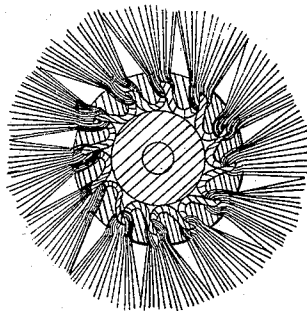


Fig: 4.



UNITED STATES PATENT OFFICE.

THEO. I. JAMES, OF SHIRT TAIL BEND, MISSISSIPPI.

IMPROVEMENT IN SAW-GINS FOR GINNING COTTON.

Specification forming part of Letters Patent No. 2,608, dated May 7, 1842.

To all whom it may concern:

Be it known that I, THEODORICK I. JAMES, of Shirt Tail Bend, in the county of Washington and State of Mississippi, have invented a new and useful Improvement in the Construction of Cotton-Gins, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a vertical section of the front grate-saws, false grate and mote-board, fan-brush, and of the additional brushes and guide or conducting plate, the frame being omitted, as this can be varied in its form, according to the character of the gin, and as the inside of the frame may, with very slight modifications, be adapted to the position of the above-mentioned parts. Fig. 2 is a perspective view of the conducting-plate and the ribs or triangular noses thereon for conducting the trash separated from the cotton by the revolving brush between the saws and down between the cylinder of the saws and the stationary or hanging brushes to the floor. Fig. 3 is a longitudinal section of a revolving cylindrical brush, composed of a series of circular blocks or brushes slipped on the shaft, with round pieces of paper, leather, or thin blocks or washers put between them to adapt the cylindrical brush to the various kinds of gins already in use; Fig. 4, a section of one of the aforesaid circular blocks of brushes, showing the apertures therein to receive the bristles or splints composing the brush arranged in tangential lines to the circumference of the shaft, and the circular grooves to admit the cord that is entwined in the bristles, and which secures the same in the block, the bristles being arranged on lines tangent to a smaller curve than that of the block, for the purpose of preventing the teeth of the saws striking against the ends of the wires, bristles, &c., and driving them endwise toward the cylinder and doubling or breaking them, or causing them to interfere with the motion of the saws, and causing said rotary brush or whipper to keep itself free from dirt, or clogging as the particles of broken, leaf, &c., leave the brush in the direction of the slope of the bristles or wires.

The frame of the gin-stand is made of suitable size, form, and strength for the purpose intended. The revolving saws A, a fan-brush B, front grate, C, false grate D, and mote-board

E are made and arranged in the frame in the usual or most approved manner.

The improvement in the gin consists in the addition of a revolving circular brush, F, arranged above the saws and running counter to them, and a stationary hanging brush, G, arranged between the revolving brush F and false grate D and fan-brush B, and the lower ends extended between the saws A, for preventing the dirt passing with the cotton through the false grate D to the fan-brush B, the saws running through said hanging brush G, and also of an inclined conducting-plate, H, fluted or ribbed and arranged between the whipper F and brushes G, and extending nearly to the extremities of the teeth of the saws, for conducting the broken leaves and dirt, &c., separated from the cotton by said rotary brush F, between the saws, where it is met by the vertical stationary brush G, which prevents it from again uniting with the cleaned cotton, and is directed downward to the place of deposit for the trash and dirt. The additional revolving and improved brush is made in the following manner: When the gin-stand is of an entire new construction, it consists of a cylinder, F, perforated on the circumference to admit the bristles, wire, splints, &c., composing the brushes, which are arranged in lines tangential to the circumference of the axle of the cylinder, or of a curve of less diameter than the cylinder, so that in running counter, or against the saws, the teeth of the latter will not tear out, double up, or break the bristles, wires, &c., but will merely bend them and allow the teeth to pass freely through them, while the bristles or wires beat and break the leaf and dirt in the cotton and separate the same therefrom, conveying them around in the direction of the arrow in Fig. 1 and discharging them upon the inclined conducting-plate H, which conducts the trash between the saws and brushes G and mote-board E to a place of deposit below the saws, while the saw-teeth carry the cotton under and past the conducting-plate H through the hanging brushes G and false grate D, (which scrape off the loosened particles of leaves and dirt,) and is met by the fan-brushes B, which take it from the saws and drive it through the flume to the place of deposit beyond the said fan-brush B. The before-described tangential arrangement of the bristles of the brushes also causes the

brush to clean itself of the dirt which it separates from the cotton, as before described, and to create a current or draft between the saws and hanging brushes, which hanging brushes effectually prevent the draft from blowing the dirt through the false grate D among the cleaned cotton.

When the counter-revolving brush is to be made and adapted to the common gin-stands in use, whose saws are of various diameters and distances apart, the brushes should be composed of the separate round blocks of brushes, like those represented at Fig. 4, put on the shaft, with washers or thin blocks between them, to adapt them to said saws, in the manner represented in Fig. 3.

The hanging brushes G are made in the following - described manner: The bristles or wires of which they are composed are secured in a horizontal rectangular block and project down therefrom, forming a continuous brush a little more than the length of the saw-cylinder and of suitable width, which block is arranged transversely in the frame between the saws and false grate and parallel with the several axles, the saws running through said brushes being designed principally for preventing the floating particles of dirt or trash passing through the false grate D among the cleaned cotton. The vertical part of the conducting-plate H is secured to the frame above the false grate D, and on a line therewith, or in any convenient position, and made adjustable, if required. The part which is bent forward toward the saws, so as to overhang the fixed brushes, forms an obtuse angle, with the part secured to the frame extending over the block of the brush G. The lower part is then

bent down in front of the brush G until nearly touching the saws, which part may be fluted or provided with a row of nose-pieces for conducting the dirt more effectually to the spaces between the saws. The grate *c* of the feeding-hopper is made adjustable. The axles of the revolving saws, rotary brush, or whipper and fan-brush turn in suitable boxes and on pivots or cones arranged in the frame, having pulleys around which are passed bands, in the usual manner of gearing together such description of revolving parts, the power applied being of the ordinary kind; or the cylinders of the saws and whippers may be geared together by a band passed around them.

Cotton ginned in the above-described gin-stand will be almost entirely free from dust, dirt, and leaf or trash, and consequently every pound will be rendered more valuable than when ginned in the common gin heretofore used.

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

The employment of the additional brush F and the stationary brush G, in combination with the saws A of the saw-gin, in the manner described, and also the plate H, in combination with the brush and saws, as described, for the purpose of cleaning the cotton of dust and trash while undergoing the process of ginning, whether arranged in the precise manner before described or in any other mode substantially the same.

THEODORICK I. JAMES.

Witnesses:

T. JAQUES,
J. R. DOWNING.