J. H. Sherrard.

Cotton Gin.

No. 3,568. Patented Apr. 30, 1844.

Fig. 2.

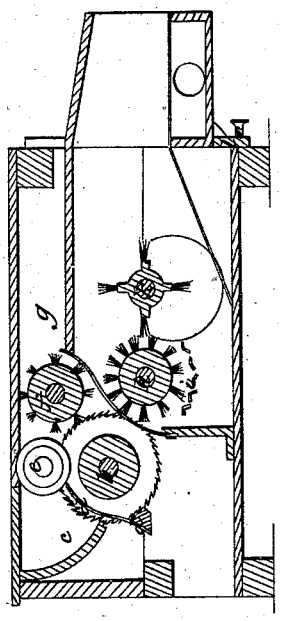


Fig. 3.

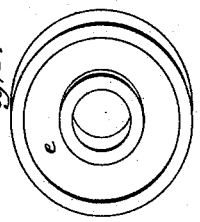
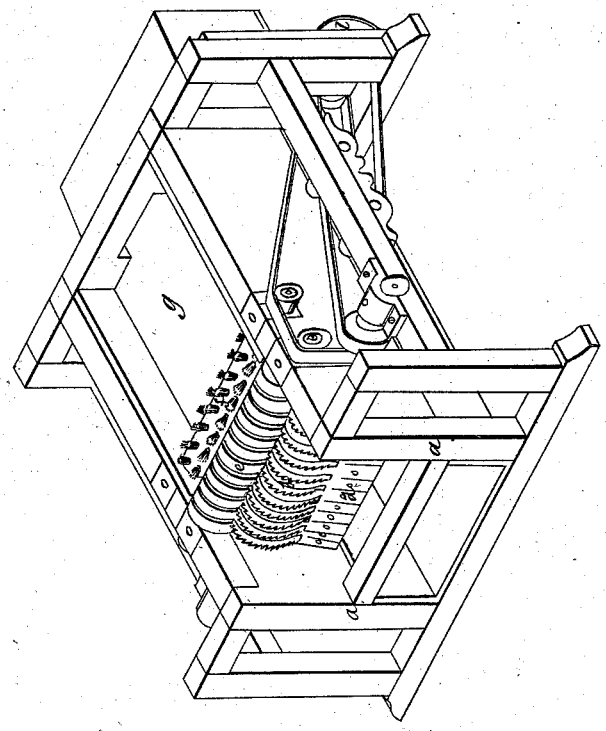


Fig. 1.



UNITED STATES PATENT OFFICE.

JNO. H. SHERARD, OF LIVINGSTON, ALABAMA.

IMPROVEMENT IN SAW-GINS FOR GINNING COTTON.

Specification forming part of Letters Patent No. **3,568**, dated April 30, 1844.

To all whom it may concern:

Be it known that I, JOHN H. SHERARD, of Livingston, in the county of Sumpter and State of Alabama, have invented a new and useful Improvement in Saw Cotton-Gins; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification, in which—

Figure 1 is an isometrical view of the machine with the front of the hopper removed; Fig. 2, a vertical longitudinal section; Fig. 3, segment of the revolving grate or roller against which the saws act.

The letters of reference designate similar parts in each of the figures.

The following is a description of the construction and operation of my machine.

A suitable frame, *a a*, is made similar to any convenient construction in which the saw-shaft *b* is placed. The saws are such as are in ordinary use, and are made to project into the hopper *c* through a series of short ribs, *d*, that do not extend up to the top frame, but have their upper ends rest against a roller, *e*, or nearly so, approching it very closely, and a little below the periphery of the saws. The roller *e* is formed of a series of sections that do not quite touch each other, leaving a space wide enough to receive the saws. Just inside of the periphery they are grooved out on each face, as shown in Fig. 3. The surface of the roller is smooth, excepting the spaces between the sections above named, said sections being about the same width as the ribs which are brought up to meet them. This roller or revolving grate is connected to the saw-shaft outside the frame by bands or gearing, so as to revolve in the same direction as the saws, the periphery running against the direction of said saws, being thereby prevented from being wedged or choked by the cotton, and by revolving against the saws loosens the dirt and motes, and thereby render them easier separated from the cotton by the trash-brush, while by being grooved out on the inside, as before described, they present the least possible surface to friction, and the grates are made to wear longer by presenting a changing surface at the point of friction.

Just behind the revolving grate *e* is placed a cylindrical brush, *f*, which is made to turn in the same direction as said grate, and against the teeth of the saws, while the cotton is upon them, thereby removing the motes, trash, &c., before the cotton is taken from the saws, and throws it over into a box, *g*. This brush I denominate the "trash-brush." The cotton, after passing brush *f*, is taken from the saws by what I call a "slow-brush," *h*, which is placed in the usual position of the winged brush in common cotton-gins, but is of cylindrical form and moves slower. It takes the cotton from the saws without any wind, allowing everything heavier than the cotton to fall through grates *i*, placed below said brush. The object of making the above-named brushes cylindrical is that no wind may be created by their revolutions. Behind the brush *h* is a winged brush, *k*, which throws the cotton out of the machine.

The flues of my machine I cover on the bottom with metal, through which oblong or other shaped holes are punched from the upper side, so as to leave projections below, that any remaining motes, trash, and dirt, can drop through without choking or admitting the air from below.

The whole machine may be driven by means of bands and pulleys or cog-wheels. That represented is banded, the bands being tightened by two idler-pulleys, *l*, on each side, of common construction.

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

1. Connecting the revolving part of the grate with the other running parts of the machine, so as to cause its periphery to move in a contrary direction to the saws, and the addition of the cylindrical slow-brush placed between, and in combination with the winged brush and the saws, as described.

2. The grates placed above the bottom of the flues, in combination with the cotton-gins, for the purposes hereinbefore specified.

JOHN H. SHERARD.

Witnesses:
J. J. GREENOUGH,
L. CALDWELL.