W. W. BRIGG.

Saw-Cleaner for Cotton-Gins.

No. 220,957. Patented Oct. 28, 1879.

Fig. 1.

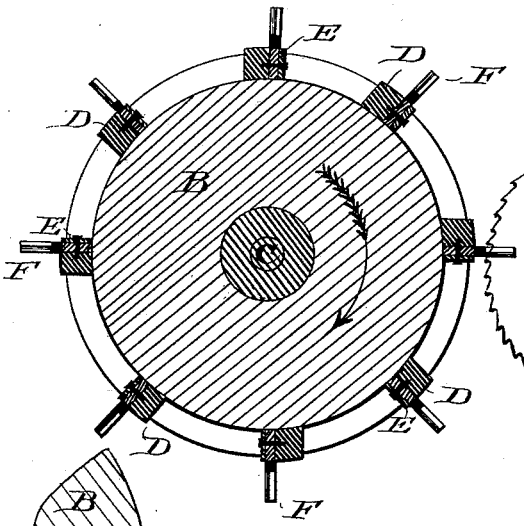
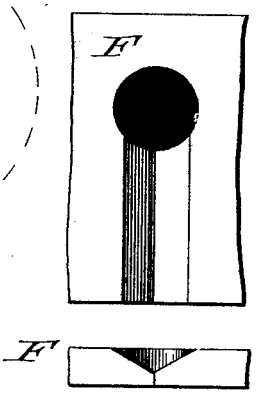


Fig. 5.



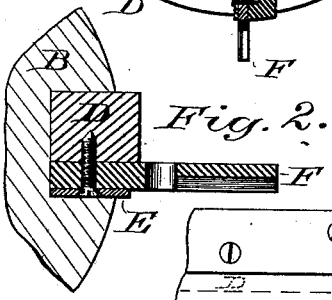


Fig. 2.

Fig. 3.

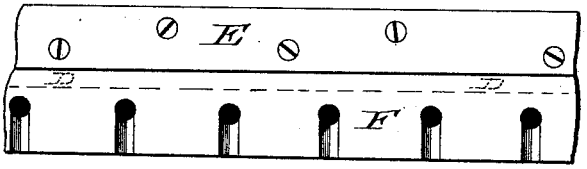
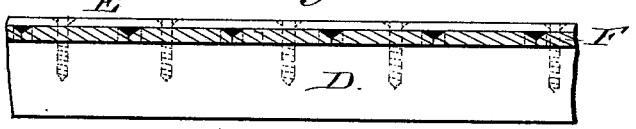


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM W. BRIGG, OF CHARLOTTE, NORTH CAROLINA.

IMPROVEMENT IN SAW-CLEANERS FOR COTTON-GINS.

Specification forming part of Letters Patent No. **220,957**, dated October 28, 1879; application filed September 9, 1878.

To all whom it may concern:

Be it known that I, WILLIAM WHITELEY BRIGG, of the city of Charlotte, county of Mecklenburg, and State of North Carolina, have invented a new and Improved Saw-Cleaner and Lint-Distributer for Cotton-Gins, of which the following is a specification.

On the accompanying drawings, Figure 1 is a transverse section of so much of a cotton-gin as is necessary for the understanding of my invention; and Figs. 2, 3, 4, and 5 are detail views of the same saw-cleaner, showing its construction and its mode of attachment to the brush-cylinder.

The object of my invention is to supply a cheap and durable substitute for the bristle and steel brushes heretofore used for keeping clean the saws of a cotton-gin and propelling the cotton into the lint-room.

The bristle and steel brushes or fans are very expensive, and require periodical renewals, and are also inefficient in their operation when cotton is in its best condition for ginning, for reasons hereinafter stated.

The invention consists, first, in a fan or saw-cleaner made of leather or other flexible material, having holes of a circular or other suitable shape punched out along its length in a line preferably about five-eighths of an inch from its outer edge, said holes being larger in diameter than the thickness of the saws and the lint upon said saws. From each of these holes to the outer edge of the fan a slit is cut, leaving the entire edge of the fan uninterrupted, excepting that on the side of the fan which first comes in contact with the saws each edge of the slit is beveled, preferably to a feather-edge, as shown in Figs. 4 and 5.

Second, in a novel mode of attaching these fans or saw-cleaners to the ribs which are secured to the cylinder on which they revolve.

Third, in a brushing or fanning cylinder provided with this peculiar form of fan or cleaner.

In the drawings, A represents one of a series of gin-saws, and B a cylinder placed at the back of the saws upon the shaft C, which is journaled in the main frame of the machine. A number of ribs, floats, or flights, D, are secured to the perimeter of the cylinder B, to each of which ribs a strip, F, of leather or other suitable flexible material, is fastened. This strip projects radially beyond the rib D an inch or more, and has holes of a circular or other shape punched clear through it a short distance beyond the rib D, and a single cut or slit clear through the strip from said holes outward. On the front or striking side of the strips F the sides of these slits or cuts are beveled to nearly or quite a feather-edge, to facilitate the passage between these edges of the saws, which are thus wiped and cleared of all adhering matters.

The strips or fans F are secured to the sides of the flights or ribs D by means of strips E, of sheet metal or other rigid suitable material, running the entire length of the ribs and fans, to prevent the stretching at any given point of the leather or other material of which the fans F are made, and also to give the firm support required by said fans at this point to give them the necessary elasticity. These strips E are, together with the strips F, closely and firmly secured to the ribs D by means of nails, screws, tacks, rivets, bolts, or other suitable fastenings. This construction also prevents the strips F from being torn away by the rapid revolution of the cylinder B, and also by the friction of the ginning-saws exerted on said strips F when in motion.

The operation of the fans or cleaners is as follows: The cylinder B, provided with these fans and revolving toward the saws, but at a greater velocity, presents the fans with the beveled edges of the slits toward them. As soon as the slit strikes the saw its closed jaws are forced open, and, as long as they engage the saw, hold it elastically between them, lifting off the lint or cotton and delivering it into the lint-room, and at the same time wiping off any moisture or gummy substance deposited upon the saws by the cotton when unripe or damp. When the fan has passed its point of contact with the saws the jaws of the slit close by their own elasticity, their free movement being partly due to the circular openings spoken off. The movement is analogous to that of the human lips. This action also has a tendency to keep the saws sharpened up to a needle-point—a very important feature in saws of this type.

The constant and thorough cleansing of the saws by the strips F enables machines in which they are used to gin cotton, no matter what

may be its condition, and without the necessity of frequent stoppage.

It is to be noted that during the operation of ginning a large amount of electricity is generated by the great velocity of the numerous saws used in a cotton-gin, which is discharged from them and absorbed or retained by the cotton in the seed-box, through which the saws pass, to be fed with the lint, which is then attached to the seed; and when this seed-cotton is in such a state to admit of being ginned and the lint discharged with a bristle brush, it is rendered more harsh and brittle with the absorption of the electrical fluid than it is in its normal condition. Hence the saws, running at their requisite velocity, break the fiber into unequal lengths and shorter than as it is found on the seed, which lessens its market value; but with my improved fan or cleaner and lint-distributer I gin cotton in a damp condition, which dampness neutralizes any and all electricity which may be generated, carried, and discharged in said seed-box, thus so toughening and strengthening the fiber that the saws can drag it from off the seed in its entire length and present a more silky flaxy-looking sample.

Having described my invention, I claim—

1. A fan or saw-cleaner for a cotton-gin, made of leather or other suitable flexible material, having holes punched through it along its length at a small distance from its outer edge, and slits cut from said openings to the outer edge, substantially as described.

2. A fan or saw-cleaner for a cotton-gin, made of leather or other suitable flexible material, having holes of a circular or other form punched through it along its length at a small distance from its outer edge, and slits having their edges beveled on the striking side of said fan or strip cut through it from the said openings to the outer edge, substantially as described.

3. The fans or cleaners F, made of leather or other flexible or suitable material, and secured to the ribs D by means of the metallic or other rigid strips or caps E, and tacks, screws, or other equivalent fastenings, substantially as described.

4. The cylinder B, provided with the ribs D, having the fans or cleaners F, formed with the perforations and slits in the manner described, and secured to said ribs, substantially as and for the purposes set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM WHITELEY BRIGG.

Witnesses:

J. W. WILSON,

B. KAUFMAN.