

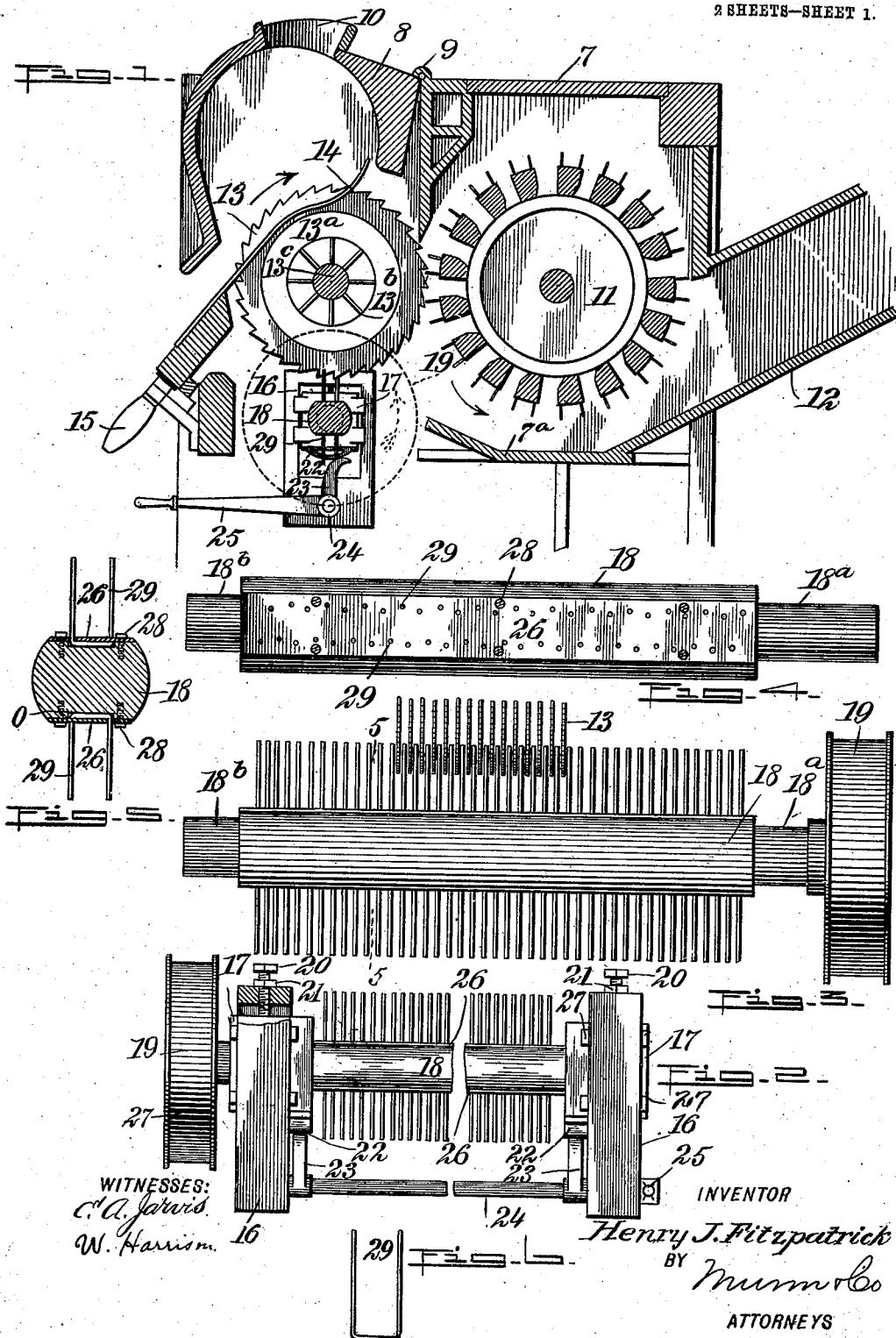
No. 847,753.

PATENTED MAR. 19, 1907.

H. J. FITZPATRICK.
ATTACHMENT FOR CLEANING COTTON GIN SAWS.

APPLICATION FILED APR. 6, 1906.

2 SHEETS—SHEET 1.



No. 847,753.

PATENTED MAR. 19, 1907.

H. J. FITZPATRICK.
ATTACHMENT FOR CLEANING COTTON GIN SAWS.

APPLICATION FILED APR. 6, 1906.

2 SHEETS—SHEET 2.

Fig. 7.

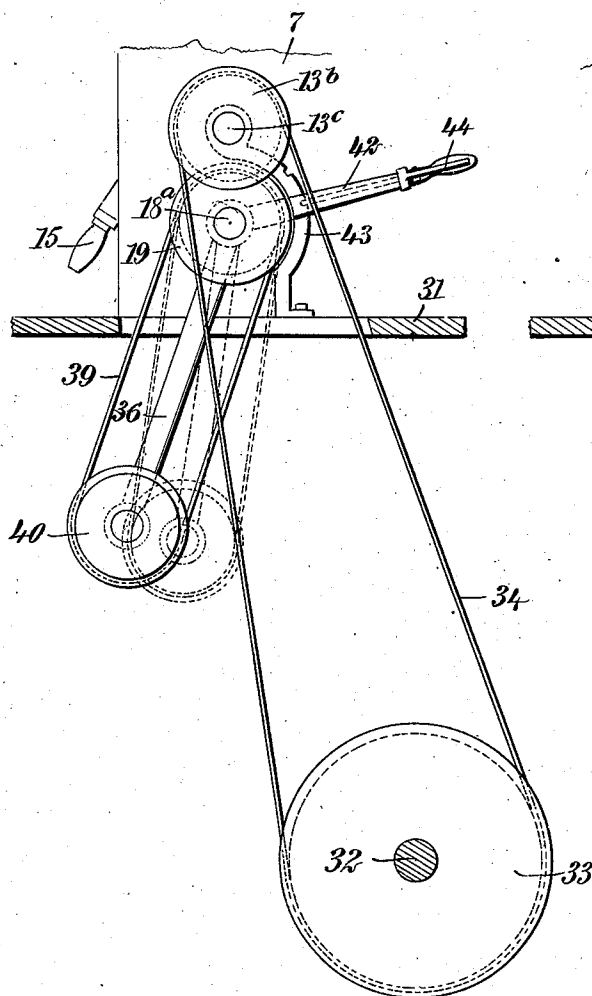
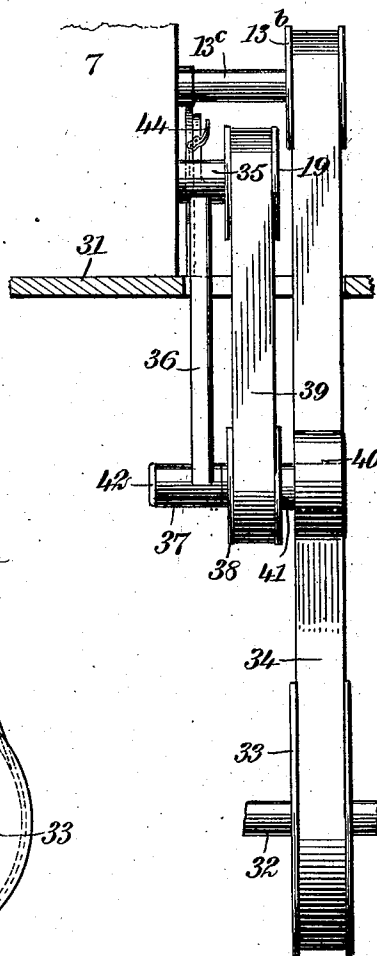


Fig. 8.



WITNESSES

Geo. M. Bayler
Walton Harrison

INVENTOR

Henry J. Fitzpatrick
BY *Mum & Co.*
ATTORNEYS

UNITED STATES PATENT OFFICE.

HENRY JACKSON FITZPATRICK, OF ATHENS, GEORGIA.

ATTACHMENT FOR CLEANING COTTON-GIN SAWS.

No. 847,753.

Specification of Letters Patent.

Patented March 19, 1907.

Application filed April 6, 1906. Serial No. 310,283.

To all whom it may concern:

Be it known that I, HENRY JACKSON FITZPATRICK, a citizen of the United States, and a resident of Athens, in the county of Clarke and State of Georgia, have invented a new and Improved Attachment for Cleaning Cotton-Gin Saws, of which the following is a full, clear, and exact description.

My invention relates to cotton-gins, my more particular object being to produce a means for cleaning the gin-saws while in action.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical central section through a cotton-gin equipped with my invention. Fig. 2 is a rear elevation of the attachment for cleaning the gin-saws. Fig. 3 is a front elevation of the revoluble wire brush constituting a part of the attachment, the bearings being removed for the sake of clearness. Fig. 4 is a plan view of the revoluble brush for cleaning the saws, the driving-pulley being removed. Fig. 5 is a vertical section through the revoluble brush, taken upon the line 5 5 of Fig. 3. Fig. 6 is a front elevation of a pair of brush-teeth, taken from the revoluble brush. Fig. 7 is a side elevation of the belt for continuously driving the saw-pulley and of the shifting mechanism for driving the brush-pulley intermittently, and Fig. 8 is a front elevation of the mechanism shown in Fig. 7.

The gin-casing is shown at 7 and the seed-cotton chamber at 8, the latter being hinged at 9 upon the casing and provided with a hopper 10 of the usual construction. The brush-cylinder is shown at 11, the lint-chute at 12, and the mote-board at 7^a, these parts also being of the usual or any preferred construction. The gin-saws are shown at 13 and are spaced apart by spacing-blocks 13^a, being thus formed into a substantially cylindrical member designated as the "gin-cylinder." At 13^b is shown a pulley mounted rigidly upon a shaft 13^c, upon which the saws 13 are supported concentrically. The grid is shown at 14 and is provided with a handle 15, whereby it may be manipulated in the manner well known in the art. Mounted below the gin-cylinder are vertical guides 16, provided with bearings 17, slidably mounted therein, and upon these bearings is mounted

the revoluble brush 18, provided with journals 18^a 18^b, which engage the bearings 17. A pulley 19 is used for actuating the revoluble brush 18.

Adjusting-screws 20, provided with lock-nuts 21, are mounted upon the guides 16 and engage the bearings 17, forming limiting-stops therefor, and are so arranged that by running the screws 20 up or down and locking the same in position by means of the lock-nuts 21 the bearings 17 may be adjusted so as to be stopped upon their upward movement at levels independently of each other.

Arcuate bearing members 22 are mounted upon the lower faces of the bearings 17 and are engaged, respectively, by cam-lugs 23, mounted upon a rocking shaft 24, controllable by a hand-lever 25, as will be understood from Fig. 1. Binder-plates 26 are mounted upon the top and bottom of the revoluble brush-holder 18, and through these binder-plates pass U-shaped wire staples 29, each staple comprising, in effect, two brush-teeth. The central portion of each staple is sunken into a groove 30 in the brush-holder 18, and the binder-plates are held in position by means of bolts 28. The bearings 17 are further provided with lugs 27 for holding them true with reference to the guide 16. The revoluble brush 18 travels in such direction that the teeth 29 move in the same direction as the teeth of the gin-saws 13, but at a higher speed. The arrangement is such that a wire staple 29 straddles a saw 13. When, therefore, the gin-cylinder provided with the saws is in motion and the revoluble brush 18 is also in motion, the wire brush-teeth tend to remove any substance which may cling to the saw-teeth.

It will be understood that in this art the gin-saws must always be dry and that in ginning wet or green cotton the saws practically become clogged. The lint when freshly separated from the seed and when slightly moist through any cause whatever is exceedingly adhesive and clings to the saws, thereby impairing their efficiency and rendering the perfect action of the gin impossible. When the saws are thus gummed or clogged with wet or green cotton lint, they can no longer separate the lint from the seed, and it is necessary to stop the gin, take out the roll of cotton, remove certain parts of the gin, and clean the saws by the slow process of taking off the wet lint by hand. This trouble is avoided by the use of my

invention. Whenever the saws become clogged, as above described, the supply of cotton is stopped and the saws are allowed to turn idly through the grid. The hand-
 5 lever 25 is now depressed, causing the lugs 23 to engage the arcuate members 22, thereby elevating the bearings 17 against the adjusting-screws 20. The drive-pulley 19 is thus brought into engagement with the pulley 13^b and is caused to rotate, as above described. The pulley 19 being of greater diameter than the pulley 13^b, the speed of the brush is greater than that of the saws. The
 15 result is that the members 29, being of spring-wire and being somewhat in the nature of bristles, remove the gummed cotton stuck upon the saws and throw the same downward toward the floor by centrifugal force. The gin being allowed to run this way
 20 a few minutes renders the saws perfectly clean and ready for further action.

The mechanism for continuously driving the saw-pulley and for intermittently driving the pulley used for propelling the steel brush is shown more particularly in Figs. 7 and 8.
 25 The casing 7 of the gin rests upon the floor 31, the power being supplied from a shaft 32 below this floor. Mounted rigidly upon the shaft 32 is a driving-pulley 33, which is
 30 connected by a belt 34 with the pulley 13^b, mounted upon the shaft 13^c, as above described. Pivoted upon the journal 18^a is a bearing-sleeve 35, connected rigidly with a link 36, the lower end of which is provided
 35 with a bearing-sleeve 37, integral therewith. A pulley 38 is connected by a belt 39 with the pulley 19, which, as above explained, supplies power to the revoluble brush 18. Another pulley 40 is by means of a revoluble
 40 sleeve 41 connected rigidly with the pulley 38, so that the pulleys 38 40 may practically be considered as a single revoluble member. Rigidly connected with the sleeves
 45 35 and the link 36 is a lever 42, which moves over a quadrant 43 and is provided with manually-operated mechanism 44 for

holding the lever in different positions, as will be understood from Fig. 7. The driving-shaft 32 being turned by any appropriate power, motion is transmitted by the belt 34
 50 to the pulley 13^b and thence to the shaft 13^c, being thus communicated to the saw-cylinder. By depressing the lever 42 the link 36 is swung outwardly, as indicated in full lines in Fig. 7. By raising the lever 42 the pulley
 55 40 is brought into engagement with the belt 34, as indicated by dotted lines in Fig. 7. By this means power is communicated from the belt 34 through the pulleys 40 and 38 and belt 39 to the pulley 19 and thence to the
 60 revoluble brush 18. If now the shaft 32 be rotated continuously, the revoluble brush 18 may be thrown into or out of action, as desired, accordingly as the lever 42 is raised or lowered. 65

The device above described has been tried in actual practice and has been found to be effective.

Having thus described my invention, I claim as new and desire to secure by Letters
 70 Patent—

In an apparatus of the character described, the combination of a gin-cylinder provided with revoluble saws, guides disposed adjacent to said gin-cylinder, bearings mounted
 75 within said guides and movable relatively thereto, adjustable limiting-stops connected with said guides for the purpose of stopping the movements thereof relatively to said gin-cylinder, arcuate members mounted
 80 upon said bearings, a rocking shaft disposed adjacent to said revoluble shaft and provided with cam-lugs engaging said arcuate members, and a hand-lever connected with said rocking shaft for actuating the same. 85

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

HENRY JACKSON FITZPATRICK.

Witnesses:

I. H. RUCKER,
 W. P. BROOKS.