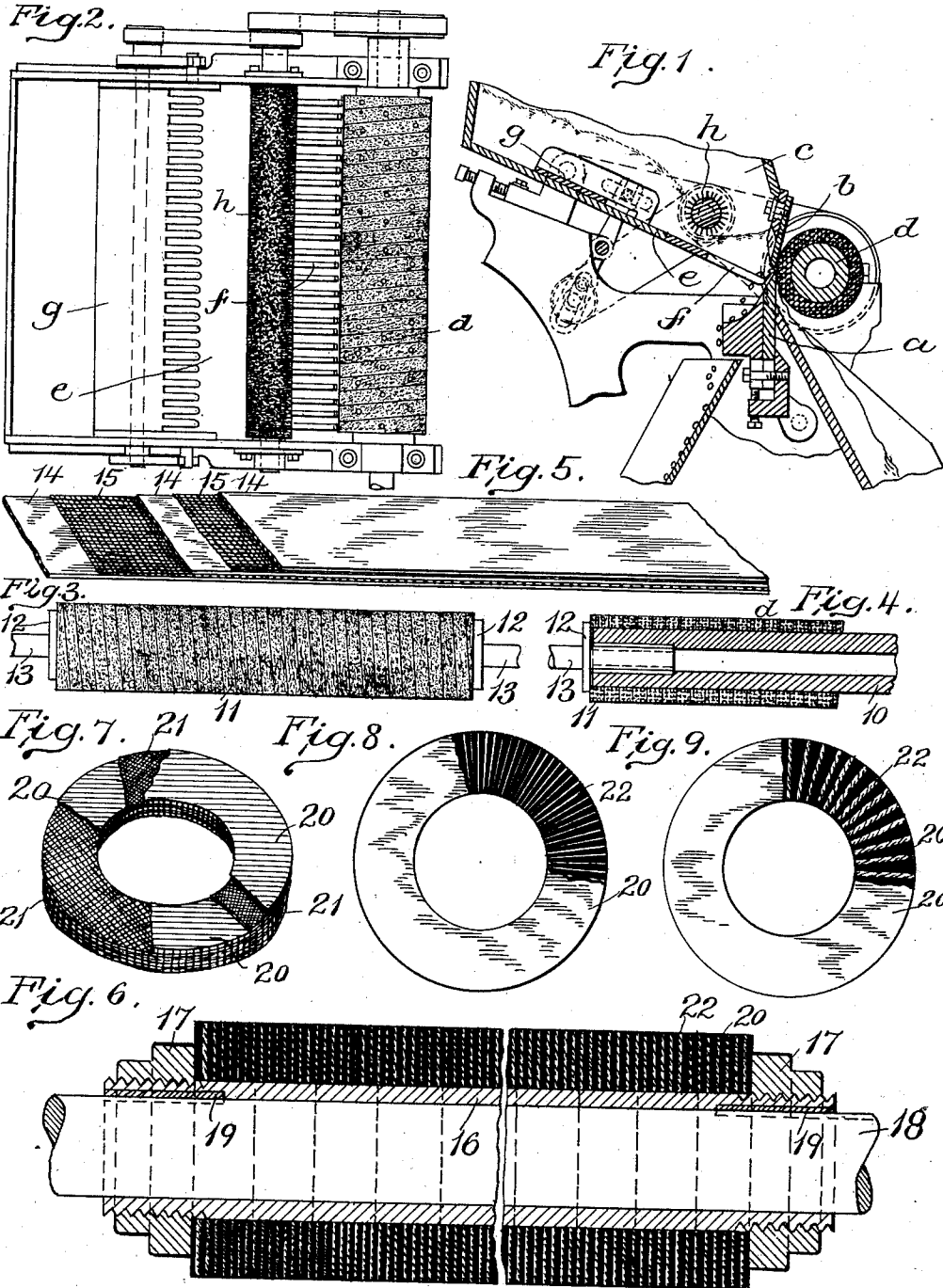


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 ROLL FOR COTTON GINS AND MACHINES FOR BURRING WOOL.
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1,039,946.

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UNITED STATES PATENT OFFICE.

GRABEL E. U. HUCKABY, OF HOUSTON, TEXAS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GRABEL E. U. HUCKABY, a citizen of the United States, and resident of Houston, in the county of Harris and State of Texas, have invented certain new and useful Improvements in Rolls for Cotton-Gins and Machines for Burring Wool, of which the following is a specification.

10 This invention has relation to rolls such as are utilized in machines for ginning cotton or removing the burs from wool. In such machines, there is employed a stationary blade on one side of which is located a
15 roll in close proximity to the edge thereof to engage the fibers which project beyond the edge and draw them between it and the blade. On the other side of the stationary blade is mounted a reciprocating or oscillating blade which engages the fibers and
20 removes therefrom the cotton seeds or the burs as the fibers are being drawn past the stationary blade by the roll. It is necessary that the roll should be so constructed as to
25 present a roughened surface or with minute projections so that the fibers may be engaged and drawn positively past the stationary blade. To accomplish this end, it has been
30 proposed to construct the roll of layers of rubber and duck vulcanized or to construct the roll of rubber and horsehair. My experience, however, has been that the rolls so constructed have not proved satisfactory, the first-mentioned roll not providing the
35 necessary projecting points to accomplish the desired end, and the second-mentioned roll being defective in that the horsehairs break and split and the points or projections soon become worn off.

40 I have found that the prepared fiber from cocoanut husks, that is coir, may be used to great advantage in the manufacture of such rolls, and that, being tough and durable, the points formed by the projecting ends of the
45 fibers do not break off or wear away, in consequence of which a roll provided with such fibers may be used for a very considerable length of time without renewal. The fibers may be incorporated in the roll in a variety
50 of ways as I will explain in the following specification, but, in any event, they are so located that, when upon the roll, they are approximately radial to provide minute points which project slightly beyond the periphery of the rubber or duck in which they
55 are embedded so as to properly engage and

draw the fibers over the stationary blade of the machine.

Referring to the drawings,—Figure 1 represents a sectional view of a cotton gin or
60 wool burrer machine and shows some of the essential parts thereof. Fig. 2 represents a plan view of the roll and what is termed the feed. Fig. 3 represents a roll constructed in accordance with my invention. Fig. 4 represents a longitudinal section through the
65 same. Fig. 5 illustrates somewhat conventionally the manner in which the covering of the roll is made. Fig. 6 illustrates a sectional view of another form of roll embodying the invention. Fig. 7 illustrates somewhat conventionally the manner of making the disks of which the roll covering is
70 formed. Figs. 8 and 9 represent other forms of disks in which the coir is incorporated.

Briefly a machine, in which the roll may be utilized, may be described as follows. It includes a stationary blade *a* with which
75 cooperates an oscillating blade *b*. The latter is mounted on an oscillating member *c* which carries the feed. Contiguous to the stationary blade is the roll indicated as a whole at *d*. The feed includes the bottom
80 board *e* having a comb *f* at the end through which the seeds, from which the cotton has
85 been stripped, will drop.

g indicates a reciprocating pusher which assists in feeding the cotton or wool to the action of the oscillating blade and the roll.

h indicates what may be called a helper,
90 that is a brush rotated by any convenient means for forcing the cotton toward the roll.

In Fig. 2, the oscillating blade is not shown. The roll *d* may be made in a variety
95 of ways. As shown in Figs. 3 and 4, it consists of a wooden arbor 10 having coiled about it, with its convolutions contiguous, an elongated strip 11, said strip being fastened in place by any convenient
100 means and being clamped at the ends of the roll between collars 12. Projecting from the ends of the wooden arbor are shafts or trunnions 13. The strips 11 are cut from sheets of which one is conventionally illustrated in Fig. 5. Each sheet consists of a
105 plurality of layers of rubber indicated at 14 with intermediate layers 15 of a woven fabric made of cocoanut fiber. If desired, the layers 14 may be made of duck faced
110 with thin coatings of rubber. In any event, the sheet made of the various layers is vul-

canized in any suitable apparatus and is then cut in strips and the strips wound about the arbor as indicated. It is quite evident that, instead of forming the coconut fiber into a fabric before incorporating it in the sheet, the fibers may be laid loosely between the layers of rubber and rubber and duck. In Fig. 6, I have illustrated another form of roll embodying the invention, in which 16 indicates a sleeve or arbor formed of brass having threaded ends on which are screwed the clamping collars 17. The sleeve may be mounted upon a shaft 18 which is shown as keyed at 19. In this form of construction, the covering for the roll consists of a plurality of disks which are all placed upon the arbor and vulcanized while thereon so as to become firmly adherent to the brass. In Fig. 7, I have shown one of the disks as consisting of a plurality of superimposed layers of rubber and coir fabric, the rubber layers being indicated at 20 and the fiber layers at 21. In Fig. 8, however, the fibers are shown as not woven into a fabric but as laid radially of the disks. The manner of forming a disk of this character would be to place upon a layer of rubber the fibers all arranged radially to form a layer, upon which I would then place a layer of rubber and another superimposed layer of fibers, until the disk is of proper thickness. It is evident, however, that the disks may be vulcanized before being placed upon the arbor, or they may be partially vulcanized and then placed upon the arbor and the vulcanization then completed. The fibers may be twisted into stands or ropes, as shown in Fig. 9 at 22. A roll, having a covering formed in any of the ways which I have described, is highly efficient when employed in machines such as herein described. The minute projecting ends of the coir serve to engage the fibers of the cotton or wool, to draw them past the stationary blade and to hold them with sufficient tenacity to permit the reciprocating blade to strip from such fibers the seeds or the burs. As previously stated, the coir being tough and durable, the points are not broken off even after very long usage.

Having thus explained the nature of my said invention and described a way of constructing and using the same, although without attempting to set forth all of the forms in which it may be made or all of the modes of its use, what I claim is:

1. A roll for machines for ginning cotton or burring wool, comprising an arbor, and a covering therefor, said covering consisting of alternate layers of rubber and a woven fabric formed of the fibers of the coconut husk, all vulcanized together.

2. A roll for machines for ginning cotton or burring wool comprising an arbor, and a covering therefor, said covering consisting of a series of members each formed of a plurality of alternate layers of rubber and fibers of the coconut husk, all vulcanized together.

3. A roll for machines for ginning cotton or burring wool comprising an arbor, and a covering therefor, said covering consisting of a series of members each formed of a plurality of alternate layers of rubber and woven fabric formed of the fibers of the coconut husk, said rubber and fabric being vulcanized together.

4. A roll for machines for ginning cotton or burring wool comprising an arbor, and a covering therefor, said covering consisting of a series of members each formed of a plurality of alternate layers of rubber and fibers of the coconut husk, all vulcanized together, said layers being arranged radially.

In testimony whereof I have affixed my signature, in presence of two witnesses.

GRABEL E. U. HUCKABY.

Witnesses:

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