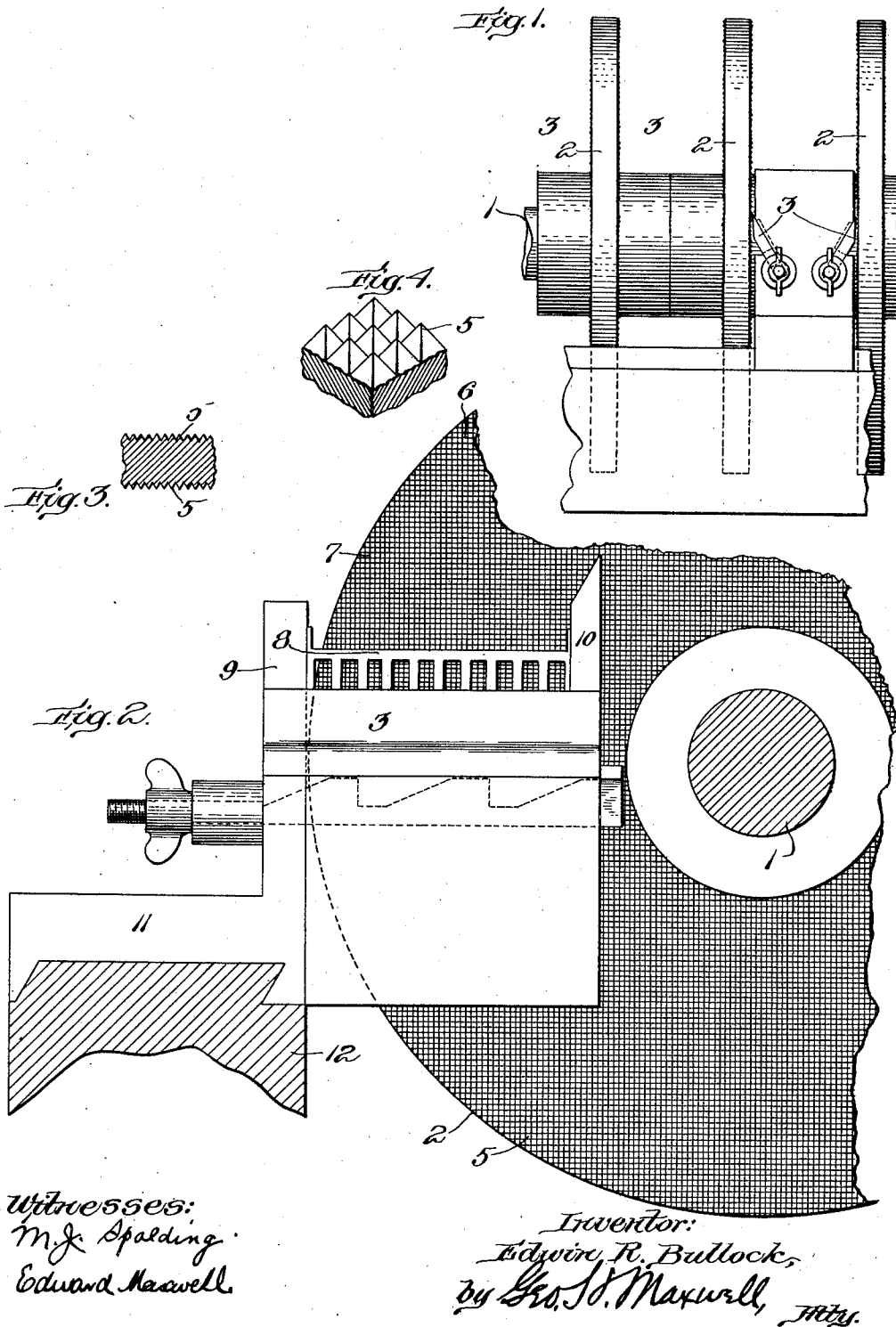


E. R. BULLOCK.
GINNING MEMBER FOR COTTON GINS.
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Patented Sept. 12, 1911.



Witnesses:
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UNITED STATES PATENT OFFICE.

EDWIN R. BULLOCK, OF PAWTUCKET, RHODE ISLAND.

GINNING MEMBER FOR COTTON-GINS.

1,003,327.

Specification of Letters Patent. Patented Sept. 12, 1911.

Application filed December 26, 1908. Serial No. 469,457.

To all whom it may concern:

Be it known that I, EDWIN R. BULLOCK, a citizen of the United States, and resident of Pawtucket, in the county of Providence and State of Rhode Island, have invented an Improvement in Ginning Members for Cotton-Gins, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention relates to cotton gins, and particularly to the ginning or cotton grabbing device or surface which seizes the fibers of the cotton and coöperates with a knife or other holding means to strip the fiber from the seed in the process of ginning. Heretofore roller gins, to which particular class of gins my invention belongs as distinguished from saw gins, have contained a roll or ginning surface rendered properly rough or frictional by means of a walrus-hide covering, shark-skin, alligator skin, horse-hair cloth covering, or by being composed of sheets of coarse fibrous material set on edge and clamped together in a row, or by being made of corundum. I have found that all these surfaces are liable to clog or get filled with cotton, lint, dirt, etc. attendant upon ginning, so that the surface soon becomes too smooth to do effective work. Accordingly I have succeeded in devising the hereinafter described ginning medium or surface which, although sufficiently frictional to grab and carry along the cotton fiber, is yet of such a shape and construction that it cleans itself, or in other words always remains substantially clean. To this end the surface consists of a multitude of fine pyramidal points sufficiently flat to enable the cotton to drop off or be doffed from the roll or other ginning device as soon as it reaches the proper point in the ginning operation, and yet sufficiently steep or pointed to insure the keen and efficient grabbing of the cotton and strong pulling of the same away from the seed. Preferably this surface is made in metal, although not necessarily restricted thereto.

In the accompanying drawings, in which I have shown a preferred embodiment of my invention, Figure 1 shows the same adapted to a disk gin of the general kind shown in King Patent No. 819,893 of May 8, 1906; Fig. 2 is an enlarged broken view thereof showing the same in side elevation;

Fig. 3 is a sectional detail on the line 3—3, Fig. 1; Fig. 4 is an enlarged fragmentary perspective view.

As is well understood by those skilled in the art, the ginning of cotton by the so-called roller-gin process consists of providing a cotton-grabbing and retaining surface which is moved forward adjacent the edge of a knife, at which point a heap of seed cotton rests so that the fibers thereof, when caught by said moving surface, are pulled forward thereby, while the seed is held back by the knife edge, the result being that the fibers are pulled or stripped clean from the seed.

I have shown mounted on a shaft 1 a series of disks 2, as in the King patent above referred to, stripper knives 3 coöperating with the flat radial sides or ginning surfaces of said disks.

The ginning surface which constitutes my invention is best shown in Figs. 3 and 4, where it will be seen that I provide a series of minute pyramids constituting a surface 5, although it will be understood that I do not intend to restrict myself strictly to a pyramidal form of element inasmuch as the number of sides may be increased indefinitely until it becomes a cone. But for practical purposes of manufacture a four-sided pyramid is far preferable, inasmuch as the required multitude of these small pyramidal points may be readily formed in the required close order and compact arrangement desirable for the greatest efficiency of ginning, simply by milling or otherwise grooving or indenting the surface by a series of grooves 6 in one direction and a similar series of grooves 7 in a transverse direction, with the result that the surface 5 is quickly, inexpensively and accurately formed as desired over the entire flat lateral surface of the disk. Preferably the ginning surface is made of iron (by which I intend to include steel and all other varieties of iron) provided with the desired multitude of fine conoidal points necessary to constitute the surface, although it will be understood that bronze, glass, wood, fiberoid, stone, or any other hard, shape-retaining material may be advantageously employed.

In Fig. 2 I have shown a seed grid or agitator 8 in its frame 9, 10 secured at 11 to a transverse bar 12, but inasmuch as these features are not my invention and therefore

not claimed herein, I omit further description thereof.

In practice the surface 5 is rapidly rotated in front of the doctor or stripping knife 3, and the apexes or points of said surface catch the cotton fibers with just the right grip to pull them down past the knife edge and thereby strip the fibers from the seeds until the latter are clean. As soon as the fibers of the cotton have been pulled entirely below and free from the knife, the natural resiliency of the cotton causes the fiber to loosen itself and spring partially away from the ginning surface so that the subsequent doffing of the cotton effectually cleans the ginning surface 5. The sloping sides of the points constituting surface 5 make it practically impossible for either the cotton, lint, or dirt to embed in the surface permanently, and said sloping sides materially aid the cotton in sliding off from the points, *i. e.* in being doffed. For the lack of a better term I use the term "conoidal" to include the entire range of shape described irrespective of the number of sides, ranging from a true cone to a three-sided pyramid. Also, it will be understood that although I have specifically mentioned cotton as the article to be ginned or acted upon by my ginning surface, I do not intend to restrict myself thereto, inasmuch as said

surface is applicable to various other similar uses, well known to those skilled in the art.

Having described my invention, what I claim as new, and desire to secure by Letters Patent is:

1. In a fiber-stripping mechanism of the class described, a stationary member against which the fibers are stripped and a stripping surface movable past said member in a plane, said stripping surface comprising a continuous area of small contiguous symmetrical apexed unit bodies each having its axis vertical to said plane of movement.

2. In a fiber-stripping mechanism of the class described, a rotary disk having a stripping plane surface comprising a continuous area of small, contiguous, symmetrical, apexed unit bodies each having its axis perpendicular to the plane of the disk, and a stripper knife extending in ginning relation to said stripping surface inwardly from the periphery of the disk to a point above the pivotal center.

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

EDWIN R. BULLOCK.

Witnesses:

M. J. SPALDING,
EDWARD MAXWELL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."