(No Model.)

W. DEERING.

Cylinder for Seed Cotton and Hull Separating Machines.

No. 240,814. **Patented May 3, 1881.**

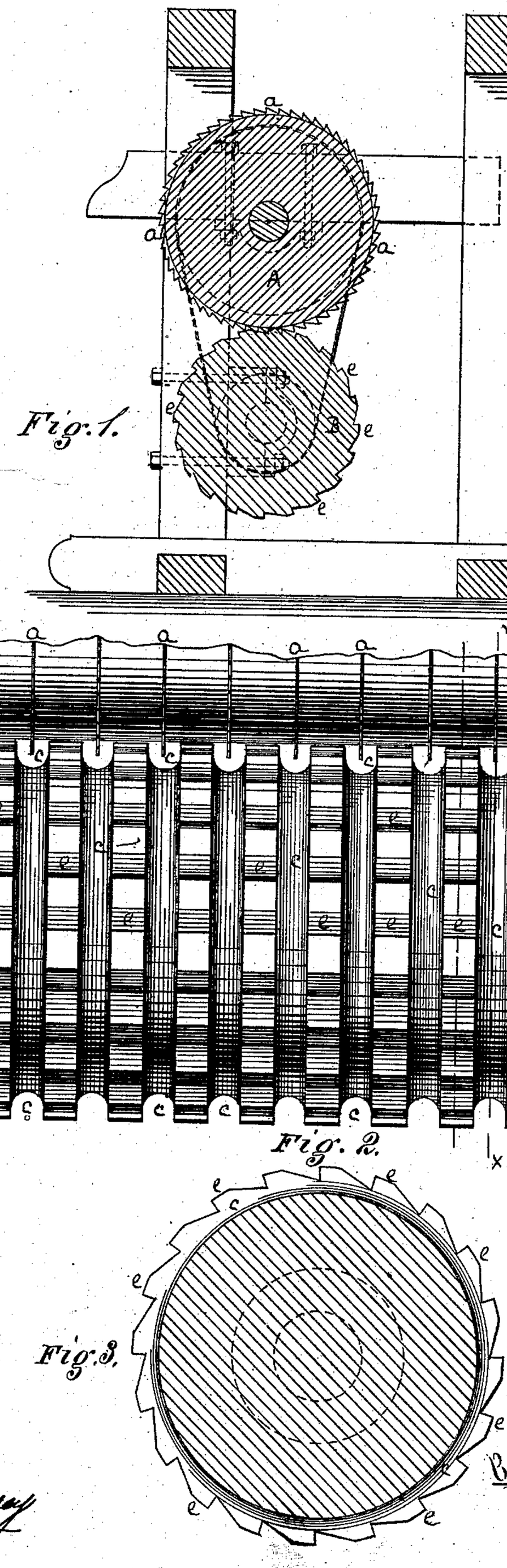

Fig. 1.

Fig. 2.

Fig. 3.

Witnesses.
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CYLINDER FOR SEED-COTTON AND HULL SEPARATING MACHINES.

SPECIFICATION forming part of Letters Patent No. 240,814, dated May 3, 1881.

Application filed November 15, 1880. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM DEERING, of Louisville, county of Jefferson, State of Kentucky, have invented or discovered a new and useful Improvement in Cylinders for Seed-Cotton and Hull Separating Machines; and I do hereby declare the following to be a full, clear, concise, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—like letters indicating like parts—

Figure 1 is a sectional view of so much of a seed-cotton and hull separating machine as is necessary to illustrate the arrangement of my improved cylinder therein. Fig. 2 is a front elevation, to an enlarged scale, of my improved recalcitrant cylinder and of a portion of a saw-tooth clearing-cylinder; and Fig. 3 is a cross-section of the recalcitrant cylinder in the plane of the line *x x*, Fig. 2.

My invention relates to the class of cotton-separator machines referred to in the Gwathney patent of January 21, 1879, No. 211,566; and it more particularly consists in an improved construction of recalcitrant cylinder, which there, as here, is lettered B. It has been my object to improve on the construction of cylinder described in the Gwathney patent by providing a smooth, unbroken, arched groove or passage-way, through which the seed-cotton may be passed and discharged as soon as it is properly hulled and cleaned, and also to secure a construction which can, by the ordinary operations of turning and planing, be brought to work true on its centers, and also have the desired surface for driving back the unhulled or uncleaned material, while permitting the proper discharge of the cleaned product.

It will be observed that the discharge-grooves of the Gwathney cylinder B are not regular in shape, or, in other words, are transversely ribbed, and also that the form of its surface is such that it cannot be brought to a true center by turning or planing, and such cylinders can be centered only with difficulty in any other way.

My improved recalcitrant cylinder B is made by casting, and after being cast it is, by the usual lathe and planer operations, brought to the form shown more particularly in Figs. 2 and 3—that is to say, with a series of concave grooves, *c*, properly spaced for the operation therein of the saw-teeth clearers *a* of the clearing-cylinder A, the construction and operation of which latter is substantially as described in said Gwathney patent. These grooves *c* are also made of proper size for the ready passage through them of the seed-cotton when cleaned or divested of its hulls, but small enough to bar the passage through them of the hulls. The collars between the grooves, or which form the grooves, are planed lengthwise of the cylinder, so as to form on the periphery of each collar a series of teeth, *e*, each square-pointed at its forward end, or approximately so, and sloping at its back end. These teeth run close or in close juxtaposition to the surfaces of the clearing-cylinder A between the saw-teeth clearers *a*, as illustrated in Figs. 1 and 2; and the turning and planing operations are so conducted that the working-faces shall all have a common center line, which shall also be the center line of the journals. The cylinder thus made is mounted in any suitable frame in the proper relationship to the clearing-cylinder A, either as shown in the Gwathney patent, or as illustrated in Fig. 1, or in other suitable way.

The other operative devices necessary to the operation of the machine are to be added as the same are known in the art, and they are so well known that I do not deem it necessary to describe them.

I prefer to gear the recalcitrant cylinder B so that it shall run much faster than the clearing-cylinder A, (say three or four times faster, more or less.) Then the projections or teeth *e*, running from underneath upward and outward, and running at a speed much greater than the speed of the saws, kick back the hulls, while the teeth of the saws grab the seed with its cotton and carry it through the concave grooves *c* without its meeting any more impediment than though it were passing through smooth archways at rest and immovable, while at the same time the closeness of the swiftly-revolving projections *e* to the peripheries of the roll A between the saws makes the passage of any hulls through between the two cylinders as nearly as can be impossible. The seed-cotton is taken off the

saws, in the usual way, by the brush, while the hulls fall down to the floor through the parallel rollers or other devices for that purpose placed in the bottom of the hopper.

I do not claim the projections, whether intermittent or continuous, because these are common in many cotton-cleaning machines.

What I do claim as my invention is—

The circular concave indentures or grooves *c*, suitably proportioned for the unobstructed passage through them of the seed-cotton, in combination with intervening projections for the expulsion of the hulls, substantially as set forth.

In testimony whereof I have hereunto set my hand.

WILLIAM DEERING.

Witnesses:

FLORENCE M. PRICE,

WILLIAM KERR.