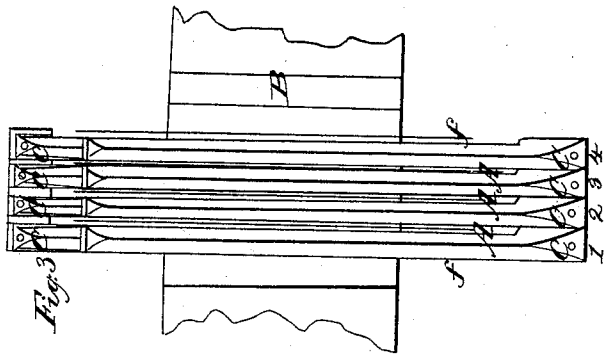
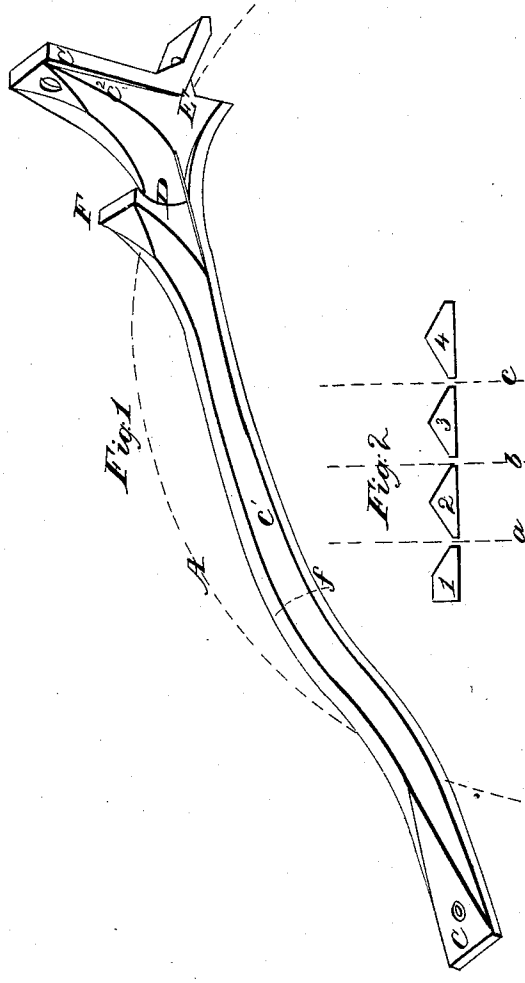
E. CARVER.

Cotton-Gin Rib.

No. 777. Patented June 12, 1838.





UNITED STATES PATENT OFFICE.

ELEAZER CARVER, OF BRIDGEWATER, MASSACHUSETTS.

IMPROVEMENT IN THE MANNER OF FORMING THE RIBS OF SAW-GINS FOR GINNING COTTON.

Specification forming part of Letters Patent No. 777, dated June 12, 1838.

To all whom it may concern:

Be it known that I, ELEAZER CARVER, of Bridgewater, in the county of Plymouth and Commonwealth of Massachusetts, have invented certain Improvements in the Manner of Forming the Ribs of Saw-Gins for the Ginning of Cotton; and I do hereby declare that the following is a full and exact description thereof.

The cylinder of saws and the other parts of the saw-gin may be constructed in the usual manner; but I construct the ribs which form the grating through which the saws work in a form different in several respects from those which have heretofore been employed.

In the accompanying drawings, Figure 1 is a representation in perspective of one of the ribs of the form generally given to it by me. Fig. 2 shows four ribs in their cross-section; and Fig. 3, four ribs standing in front of the saw-cylinder, and having the saws between them.

The saws are shown in Fig. 1 by the dotted lines A, and by the lines A A A in Fig. 3. The dotted lines *a b c* in Fig. 2 also show the places of the saws. I denominate the curvature given by me to the ribs, as shown at C', Fig. 1, the "lower" curve, and that commencing at D the "upper" curve.

Instead of making the upper sides of the ribs with a flat surface, as is usually done, I form them ridge-shaped, as shown in Fig. 1, and more distinctly in the cross-sections, Fig. 2.

The advantage derived from the ridge-formed grate bars or ribs is, that from their lateral inclination they give the seeds a direction toward the saws, so that they may with the greater certainty be caught and drawn up by the teeth so long as any fiber remains upon them. The upper curve, D, is the part through which the cotton is drawn as it is separated from the seeds; and in this part, along which the ridge is continued, it has a still further advantage. The obtuse angle which the inclined ridge forms with the side of the rib prevents the cutting or breaking of the fiber as the cotton is drawn through, while it also forms a channel that prevents the seed-cotton from escaping in a lateral direction.

I sometimes form upon the rib a projection, F, which I call the "lateral" projection, which is adapted to the ginning of long-staple cotton as well as other cotton. The point E is that at which the saw leaves the rib, and it is important in all cases, and is one of the improvements made by me, to form the rib in such a manner as that the portion of the circumference of the saw which is between the ribs—that is to say, from the point at which the cotton is first drawn in to that at which it escapes from between them—shall be equal to the full length of the fiber of the cotton to be ginned. The projection F extends nearly across the ribs, and its rise is such as to admit the seed-cotton to slide over it at the same time that the teeth are drawing the fibers through the spaces between them, which spaces are sufficiently wide to admit of the passing of the smaller seeds of cotton, which seeds are arrested, drawn up, and carried off at C. Above the point E, where the saw escapes, the rib slopes or narrows toward C^2, which allows the smaller seeds which may be arrested at D to pass out freely at C^2.

Having thus fully described the construction of the grate bars or ribs of my cotton-gin, I claim as constituting my improvements—

The ridge form given to their upper surfaces, in the manner and for the purposes set forth—that is to say, to give an inclination of the seeds toward the saws, and to prevent the breaking or cutting of the fiber in consequence of the obtuseness of the angle against which it is drawn off; also, the oblique projection F, to give a larger space for the filling of the saw-teeth with cotton; likewise the slope given to the ribs at C^2, where the cotton is drawn in, thereby increasing it in width, and allowing the seeds to escape to prevent the grates from being choked, the whole combined and arranged as herein set forth.

ELEAZER CARVER.

Witnesses:

B. K. MORSELL,

LINTON THORN.