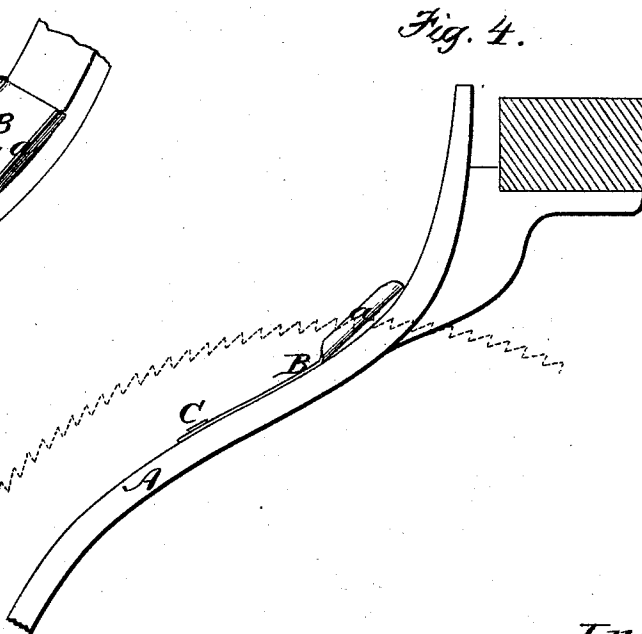
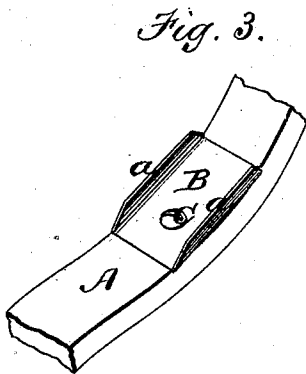
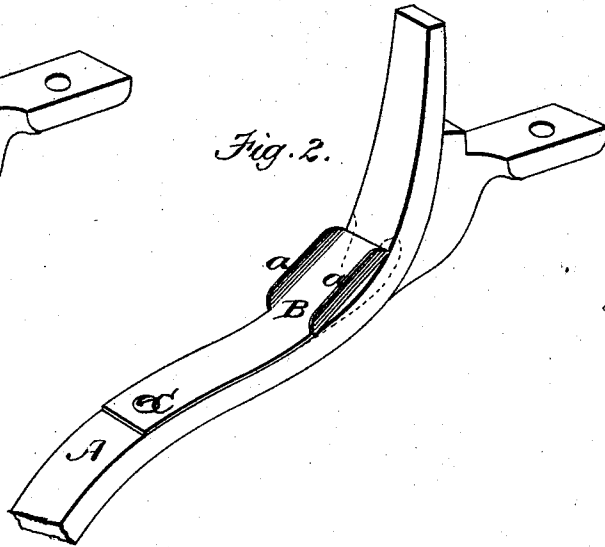
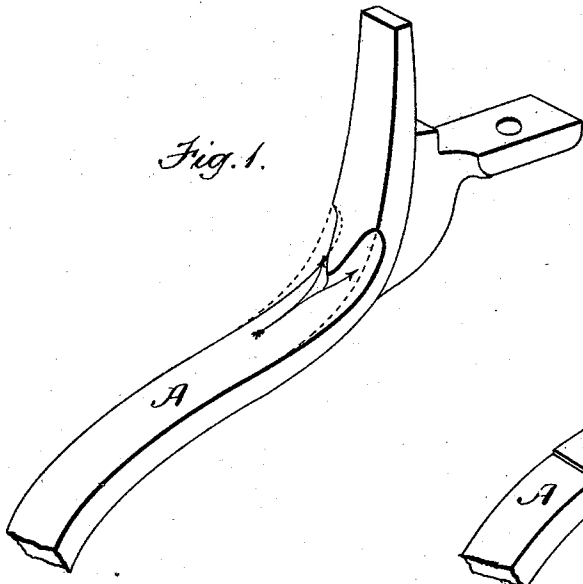


J. E. CARVER.
COTTON-GIN RIBS.

No. 171,991.

Patented Jan. 11, 1876.



Witnesses.
Sam. M. Barton.
A. E. Dimick

Inventor
Joseph E. Carver
by his atty
C. D. Wright & Bunn

UNITED STATES PATENT OFFICE.

JOSEPH E. CARVER, OF BRIDGEWATER, MASSACHUSETTS, ASSIGNOR TO
RICHARD M. H. CARVER AND NATHANIEL P. CARVER, OF SAME PLACE.

IMPROVEMENT IN COTTON-GIN RIBS.

Specification forming part of Letters Patent No. **171,991**, dated January 11, 1876; application filed
April 20, 1875.

To all whom it may concern:

Be it known that I, JOSEPH E. CARVER, of Bridgewater, in the county of Plymouth and State of Massachusetts, have invented certain Improvements in Ribs for Cotton-Gins, of which the following is a specification:

In the accompanying drawings forming part of this specification, Figure 1 is a perspective view of the upper end of a rib of a cotton-gin, showing the wearing effect of the cotton as it passes between the ribs. Fig. 2 is a view showing the application of one form of my invention to a rib, for the purpose of replacing the worn portion of an old rib, or preventing the wear of an unworn one. Fig. 3 is a view of a modification of my invention, and Fig. 4 a side elevation, showing the position in which my invention is applied to the ribs with relation to the teeth of the gin-saws.

It is a well-known fact that the cast-iron ribs forming the grates through which the saws of cotton-gins project become rapidly worn by the attrition of the cotton, seeds, and impurities contained in the cotton, at the points where the lint is drawn by the saw-teeth between the ribs, this wear being sufficient, in the course of time, to destroy the sharp angles or curves of the ribs, which are so essential in perfectly separating the lint from the seeds, these corners becoming rounded and worn off at the points where the cotton passes between them, so as to destroy the usefulness of the ribs, and require their renewal long before the main portions of them are worn out. Several attempts have been made to obviate this difficulty, among which may be mentioned the hardening of the metal at the wearing parts by chilling or otherwise, and casting the rib with a dovetail recess, into which a steel re-enforcing block is inserted. These methods, however, are comparatively expensive, and are inapplicable to ribs which have already become so far worn as to impair their usefulness.

My invention has for its object to provide a cheap and simple re-enforcing plate or strip, adapted to be applied to worn or unworn ribs, and to be readily attached and removed. To this end my invention consists in a re-enforcing strip of thin hardened steel, attached to

the ribs of cotton-gins in such manner as to protect the parts where the wear is greatest, said strip being constructed and applied as I will now proceed to describe.

In the drawings, A represents one of the ribs of a cotton-gin of the ordinary construction. These ribs, as is well known, are separated from each other by narrow slots, through which the gin-saws project, and, in revolving, the teeth of the saws draw the cotton without its seeds through the slots from the picker-box, the seeds being separated and left behind. The slots between the ribs are usually a little less than the thickness of an ordinary cotton-seed; hence, as the cotton is drawn along, the seeds strike the ribs and are arrested thereby, while the cotton adhering to them is stripped off and carried through the slots, the stripping being performed by the first contact of the seeds with the upper corners of the ribs A, which should always possess sharp and well-defined angles, in order to commence to strip the lint from the seeds at the moment the seeds strike the corners of the ribs, for if the stripping is not performed or commenced at the first contact, the seeds, with a portion of the lint adhering to them, will become wedged in the slots, and finally carried through without being stripped. The attrition caused by the rapid passage of the cotton, &c., through the slots, induced by the rapid rotation of the gin-saws, rapidly wears away the cast-metal corners or angles of the ribs at the points where the cotton passes through, the effect being shown in Fig. 1, this view showing a rib which has been in use about three years, the wear being confined entirely to the edges against which the cotton and seeds strike in passing through the slots, rounding the corners, and destroying or seriously impairing the stripping value of the ribs without materially weakening them. To obviate this difficulty and indefinitely prolong the stripping value of the ribs A, I provide each rib with a re-enforcing strip, B, which is preferably composed of hardened steel, and attached to the rib by a screw, C, or its equivalent, in such manner as to cover that portion of the rib which is subjected to the attrition of the cotton. The strip B I usually construct

of the same width as the ribs, with upturned ears *a a* at the edges, as shown in Figs. 2, 3, and 4. These ears, being nearly vertical or at right angles with the surface of the ribs A, prolong the durability of the strips B, and present a uniform edge to the cotton, &c., until they are entirely worn off. The re-enforcing strip B is attached to the rib A by a screw, or its equivalent, as above stated. In case the rib has been worn away at the points of contact with the cotton, &c., so that it would be inconvenient or undesirable, on account of weakening the rib, to drill a screw-hole into it at this point, I prolong the strip B, as shown in Figs. 2, 3, and 4, and attach it at a point more or less distant from the wearing or worn portion. By this means I am enabled to give the protecting portion of the strip some degree of lateral adjustment, the screw acting as a pivot. If desired, the strip may be made to cover only the exposed parts of the rib, as

shown in Fig. 4, this form being better adapted for attachment to new or unworn ribs. This simple device can be applied at a trifling expense to gins already in use, in which the ribs are worn, as well as to new ones. When worn the strips can be easily replaced, thus rendering the ribs practically indestructible as far as the wearing action of the cotton is concerned.

I claim as my invention—

The combination of a re-enforcing strip, B, having upturned edges *a a*, with a cotton-gin rib, substantially as and for the purpose specified.

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

JOSEPH E. CARVER.

Witnesses:

A. E. DENISON,
CHARLES F. BROWN.