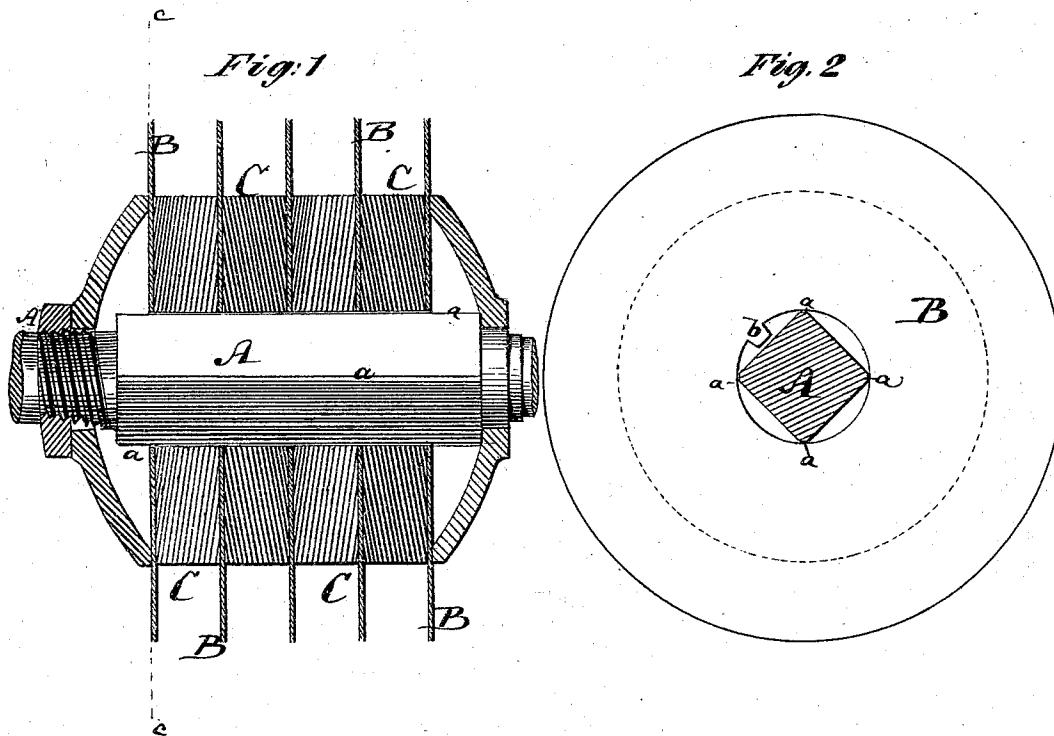


I. F. BROWN.
Cotton-Gins.

No. 147,364.

Patented Feb. 10, 1874.



Witnesses.
Michael Ryan
Fred Harnes

Israel F. Brown
by his Attorneys
Brown & Allen

UNITED STATES PATENT OFFICE.

ISRAEL F. BROWN, OF NEW LONDON, CONNECTICUT.

IMPROVEMENT IN COTTON-GINS.

Specification forming part of Letters Patent No. **147,364**, dated February 10, 1874; application filed December 9, 1873.

To all whom it may concern:

Be it known that I, ISRAEL F. BROWN, of New London, in the county of New London and State of Connecticut, have invented an Improved Cotton-Gin Shaft, of which the following is a specification:

Figure 1 is a side view of my improved cotton-gin shaft, showing the saws and intervening washers in cross-section. Fig. 2 is a cross-section of the shaft, the line *c c*, Fig. 1, indicating the plane of section.

Similar letters of reference indicate corresponding parts.

The object of this invention is to substitute, for the more expensive method heretofore employed in properly fitting gin-saws upon their shafts, a more economical and fully as reliable means, and thus reduce the expense of cotton-gins. My invention consists in constructing the shaft of a prismatic bar square in cross-section, and in then turning it on a lathe, so as to round and center its corners, or planing off the corners true and concentric, by placing them between centers in a planing-machine. This shaft, when fitted through the round holes of the saws, will fit the same as perfectly as will the completely cylindrical shaft, and will, when such saws have internal projections or feathers, as effectually prevent the independent rotation of the saws as can be done by the more expensive customary devices.

In the accompanying drawing, A represents

the cotton-gin shaft. B B are the saws; C C, the washers between the saws. The shaft, where it serves to hold the saws, is left square, and is only put in a lathe or between centers in a planing-machine to round off or true up its corners *a a* in conformity with the size of the hole in the saws, an inwardly-projecting feather, *b*, being left on each saw, as indicated in Fig. 2.

Heretofore it was customary to either square the shaft, and also the hole in the saw, which was difficult to make with proper exactness, and also expensive, or there was in a round shaft a groove formed for the reception of the feathers *b*. This involved the expense of turning the entire shaft and grooving the same.

By my process the rough iron bar can be used slightly turned or planed at the corners, and inserted in the saws. Still, though so much cheaper, my plan is fully as reliable as the other.

I claim—

The combination of the square shaft A, having the corners *a* rounded or planed, with the saws B B, which have the inwardly-projecting feathers *b*, and the washers C C, substantially as set forth.

ISRAEL F. BROWN.

Witnesses:

E. T. BROWN,
BENJ. H. LEE.