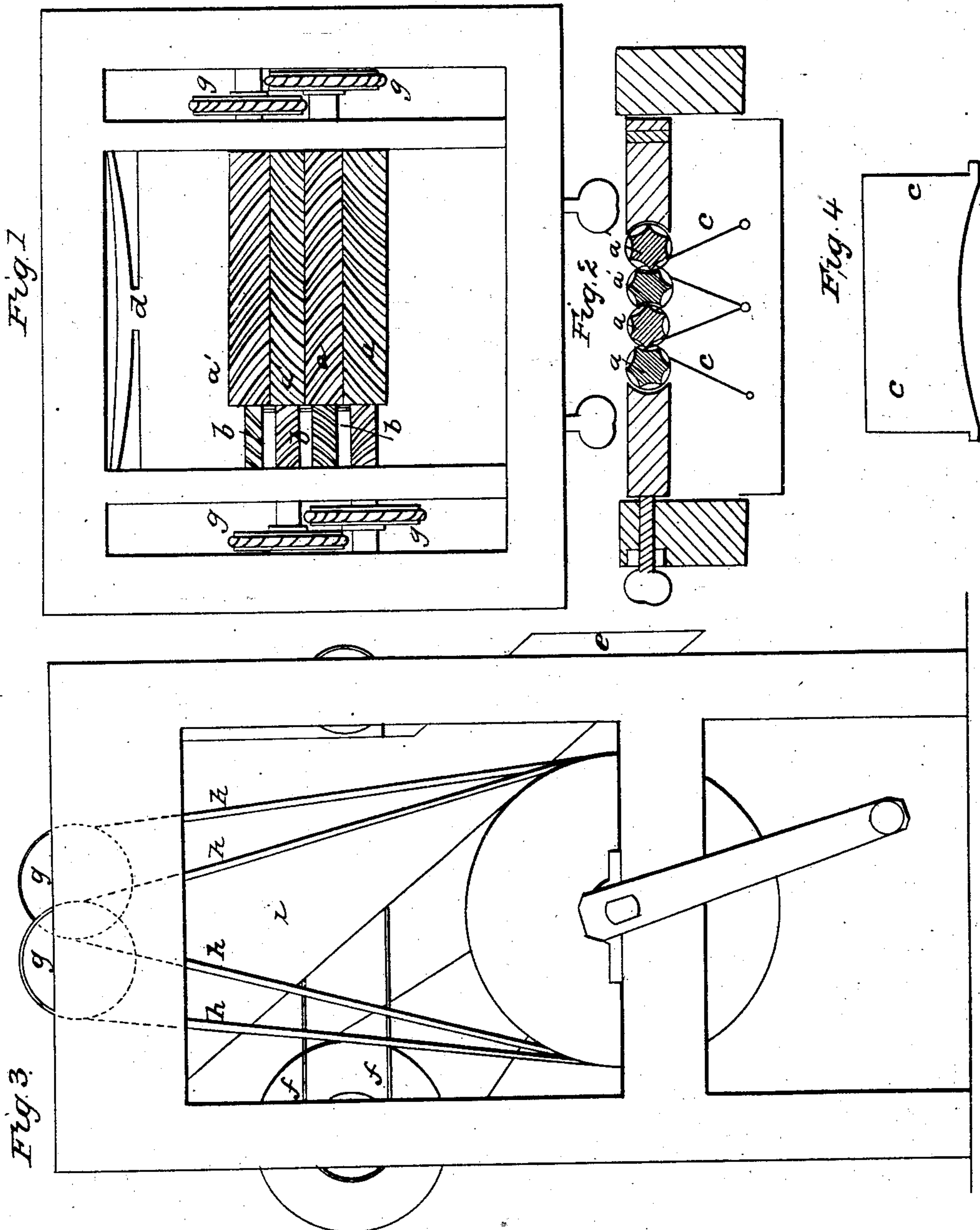


E. CARVER.
Cotton Gin.

No. 949.

Patented Sept. 27, 1838.



UNITED STATES PATENT OFFICE.

ELEAZER CARVER, OF BRIDGEWATER, MASSACHUSETTS.

IMPROVEMENT IN ROLLER COTTON-GINS FOR GINNING LONG-STAPLE AND OTHER KINDS OF COTTON.

Specification forming part of Letters Patent No. 949, dated September 27, 1838.

To all whom it may concern:

Be it known that I, ELEAZER CARVER, of Bridgewater, in the county of Plymouth and State of Massachusetts, have invented certain Improvements in the Roller-Gin for Ginning Long-Staple, Sea-Island, or other Cotton; and I do hereby declare that the following is a full and exact description thereof.

The rollers which I use may be formed of wood, stone, &c., but they are best made of metal. Along these rollers I make spiral ridges and depressions from end to end in the manner of a many-threaded screw. These rollers I place to revolve in pairs horizontally in such a manner as that the ridges on one roller shall correspond with and to a certain extent pass into the channels on its felly. There may be any convenient number of such pairs of rollers placed side by side in the same frame, by which arrangement they are the more conveniently fed, and may be operated upon with less expenditure of power than a number of separate machines.

In the accompanying drawings, Figure 1 is a top view of the machine, representing two pairs of channeled rollers, *a a a' a'*. These rollers are turned by means of whirls *g g* and bands *h h h h*, or by gearing in any way that may be preferred. The rollers of each pair turn inward, and the seed-cotton is to be fed upon them as they revolve. To cause them to work clear and prevent their becoming clogged, it is of importance that it be fed onto them regularly, so as to gin it as fast as it is supplied to them. This may be done by means of a feeding apparatus in form of a hopper, from which the seed-cotton is delivered upon the gin-rollers by means of a quick revolving wheel having spikes inserted, which project through the grate that forms the bottom of the hopper. I have also effected this object successfully by means of a device similar to the common cotton-picker as used in the manufactories, which consists of a belt or apron upon which the seed-cotton is placed, having a slow motion, while by a quick-revolving apparatus the cotton is struck from the belt, so as to fall onto the rollers. I do not, however, claim any particular kind of feeding apparatus, but intend to use any device for this purpose which I may find to answer best. One roller of each pair or one

of each set of rollers is to be borne up against its felly or fellies by means of a spring, *d*, or weights, causing them to clasp the cotton the more firmly and allowing for any difference in quantity passing between the rollers. The channeled form given to my rollers cause them to embrace the fibers more firmly than plain rollers, while they give a vibrating and revolving motion to the seed, causing it to be presented to their action on all sides and stripping them perfectly. These spiral channels conduct the seed toward the ends of the rollers. When divested of their fibers, they escape through the spaces *b b*, falling onto the floor or being conducted off by a spout, *e e*, Fig. 3, which is a side view of the machine, or otherwise. The cotton may fall through upon an endless revolving apron, *f f*, Fig. 3, below the roller, by which it is conducted and deposited as desired. To take the cotton from the rollers as it arrives at their under sides, I use elastic scrapers of thin metal. (Shown at *c c* in the sectional drawings, Fig. 2, and side view in Fig. 4.) The upper edges of these spring-scrapers bear lightly against the rollers, being so hung by pivots or otherwise on their lower edges as to yield readily, while they tend to keep in contact with the rollers.

I have in some instances made spiral channels in my rollers in reversed directions, so as to cross each other. Sometimes I have this double spiral to one roller only in each pair, and have found them when thus made to operate well; but I consider this as a mere variation of the general principle upon which I have proceeded, and having found the spirals in one direction only upon each roller to answer the intention in a very perfect manner it may not be desirable to vary this, although I design to do so should further experience prove that it may be done to advantage.

What I claim as my invention, and desire to secure by Letters Patent, is—

The forming of spiral channels upon the rollers of the roller-gin for ginning cotton, in the manner and for the purpose above set forth.

ELEAZER CARVER.

Witnesses:

SOLOMON HAYWARD,
SAMUEL LEONARD, Jr.