W. WHITTEMORE, Jr.

Cotton Gin.

No. 1,158. Patented May 25, 1839.

Fig: 2.

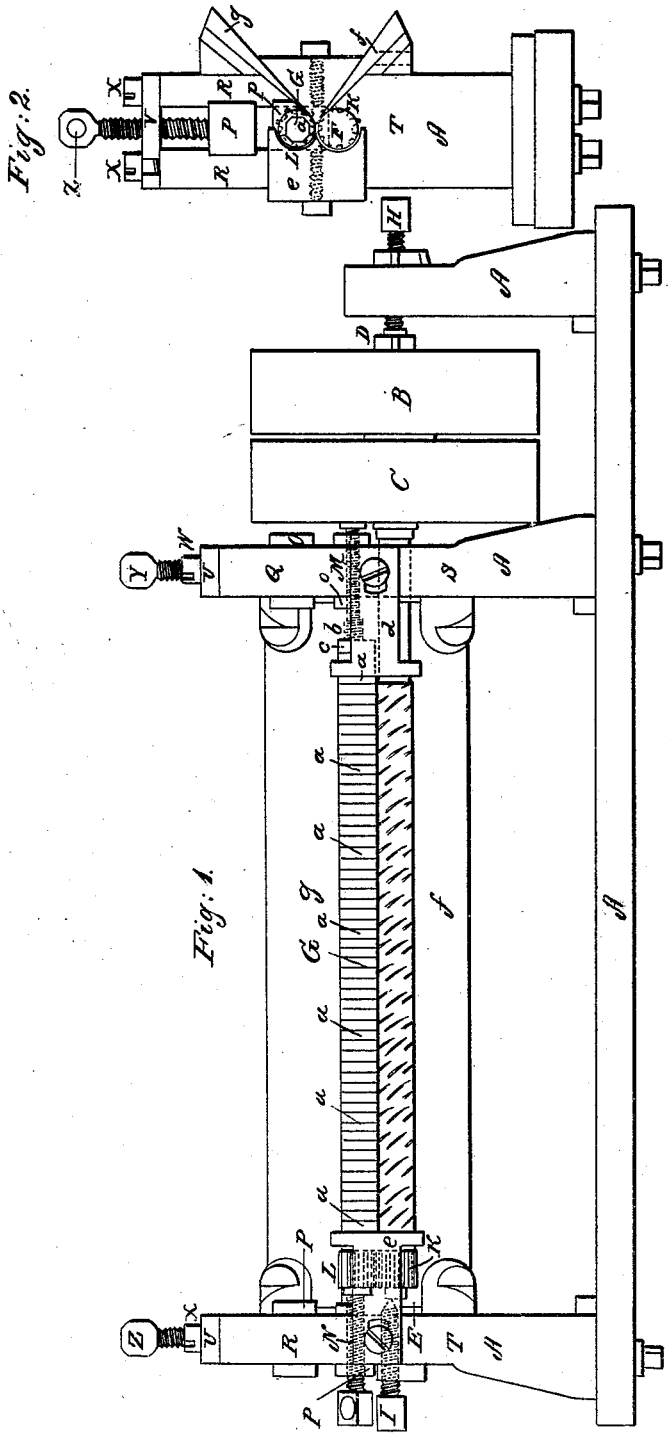

Fig: 1.

UNITED STATES PATENT OFFICE.

WILLIAM WHITTEMORE, JR., OF WEST CAMBRIDGE, MASSACHUSETTS.

IMPROVEMENT IN COTTON-GINS FOR CLEANING COTTON.

Specification forming part of Letters Patent No. 1,158, dated May 25, 1839.

To all whom it may concern:

Be it known that I, WILLIAM WHITTEMORE, Jr., of West Cambridge, county of Middlesex, and State of Massachusetts, have invented new and useful Improvements in Machinery for Ginning Cotton or separating the seeds and many foreign matters therefrom. These improvements, the principles thereof, and manner in which I have contemplated the application of the same, by which they may be distinguished from other inventions, together with such separate parts and combinations, I claim as my inventions and believe to be original and new, I have herein set forth and described, which description, taken in connection with the accompanying drawings, herein referred to, composes my specification.

My improvements are in that kind of machinery denominated the "roller-gin," and are shown in elevation in Figure 1, and section in Fig. 2.

A A A is a strong frame, of cast-iron or other proper metal or material, shaped and constructed, as seen in the drawings, or otherwise suitably formed to answer the purpose of supporting the different parts attached thereto.

B is a loose and C a fast pulley, on or near the extremity of a shaft, D E, of the lower roller, F. The shaft D E is supported and turns at its ends on the conical points of the screws H I, as seen in the drawings. The roller F may be formed of iron or other suitable metal, its surface being indented or scored with a file, as represented in Fig. 1, or otherwise properly prepared, for the purpose of causing the cotton to pass more readily between it and the upper roller, G. A small gear-wheel, *k*, on or near one extremity of the shaft D E, operates or engages with another and similar gear, L, on or near the extremity of the axis or shaft of the upper roller, G, the ends of said roller G resting and moving on the conical or other proper-shaped points of the screws M N. The screws M N pass through the lower parts of the boxes O O P P, which slide in upright slots or between the standards Q R of each of the upright posts S T, as denoted in Figs. 1 and 2.

U V are cross-heads, secured to the tops of the standards Q R of the posts S T by screws W W X X, as seen in the drawings, or in any other proper manner. Screws Y Z pass through these cross-heads and rest at their lower ends on the tops of the slides or boxes O O P P. These last screws—viz., Y Z—are for the purpose of regulating the distance between the surfaces of the upper and lower rollers, G F. By turning back the screws the distance between the rollers may be increased, and, on the contrary, by turning forward or up the same, the rollers may be brought nearer together. The upper roller, G, is composed of a series of circular pieces of sole or other proper leather, *a a a a*, &c., Figs. 1, 2, placed or ranged side by side on the shaft of the said roller G, which shaft may be square, hexagonal, octagonal, or may have on its transverse section any other suitable shape, which will retain or hold the circular pieces of leather, and prevent them from turning around on the same during the operation of the machine. Near one end of the shaft of the roller G is a suitable shoulder, against which the first circular piece of leather rests. On the other end of the same shaft a screw, *b*, is cut, on which a nut, C, is placed. By screwing up the nut C in a sufficient degree, the pieces of leather *a a* are compressed together in such manner as to form a very hard cylinder or roller, G. In order to give to this roller a true cylindrical shape in section, after the pieces of leather are fitted thereon, it may be placed in a lathe and turned down to the required size.

d and *e* are side guards, shaped as seen in the drawings, or otherwise properly formed, their object being to prevent any of the cotton and seeds from becoming entangled with or clogging the gears K L and the bearings of the rollers F and G. The edges of two cast-iron or other suitable metallic plates, *f g*, Figs. 1, 2, rest against the rollers F G, the former acting on the surface of the roller F, and the latter on that of the roller G. These prevent the cotton from passing back around the rollers after it has been carried through or between them. These plates may be affixed to the standards Q R, as represented in the drawings, or may be held in their positions in any other suitable manner. The cotton being presented in any proper mode in front of the rollers F and G, while they are put in motion by the band which passes from the drum

of the steam-engine or other suitable power, to and around the driving-pulley *c*, it is drawn through or between the rollers, leaving the seeds and many foreign matters behind, which drop into a proper receptacle placed under the machine. By this mode of constructing the upper roller, G, together with that heretofore described of preparing the surface of the other roller, F, the cotton may be drawn through or between them without injury to its staple, and be effectually separated from seeds and many foreign matters adhering thereto. As it is necessary to give to the rollers a rapid revolution by supporting the extremities of their shafts on the conical ends of screws, as I have hereinbefore described, much friction and heat will be prevented, and the whole machine is thus rendered very simple in construction and operation. Should it be thought advisable, the bearing parts of the ends of the axes of the rollers may be formed in small circular or other proper-shaped pieces of metal screwed or otherwise suitably fastened into the ends of the axes, so that when these bearings shall be worn, they may be removed and others inserted or otherwise suitably substituted.

Having thus described and set forth my improvements in the above manner, and by reference to the accompanying drawings, I claim to be my inventions, and hold to be original and new—

The mode of scoring or grooving the surface of the lower roller in the manner and for the objects hereinbefore mentioned, and represented in the drawings.

In testimony that the above is a true description of my said inventions and improvements, I have hereto set my hand this 8th day of September, in the year 1838.

WM. WHITTEMORE, JR. [L. S.]

Witnesses:

R. H. EDDY,

EZRA LINCOLN, JR.