The specification in this patent is not in print.

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W. Whittemore & W. Whittemore, Jr.

Cotton Gin.

Patented Mar. 21, 1833.

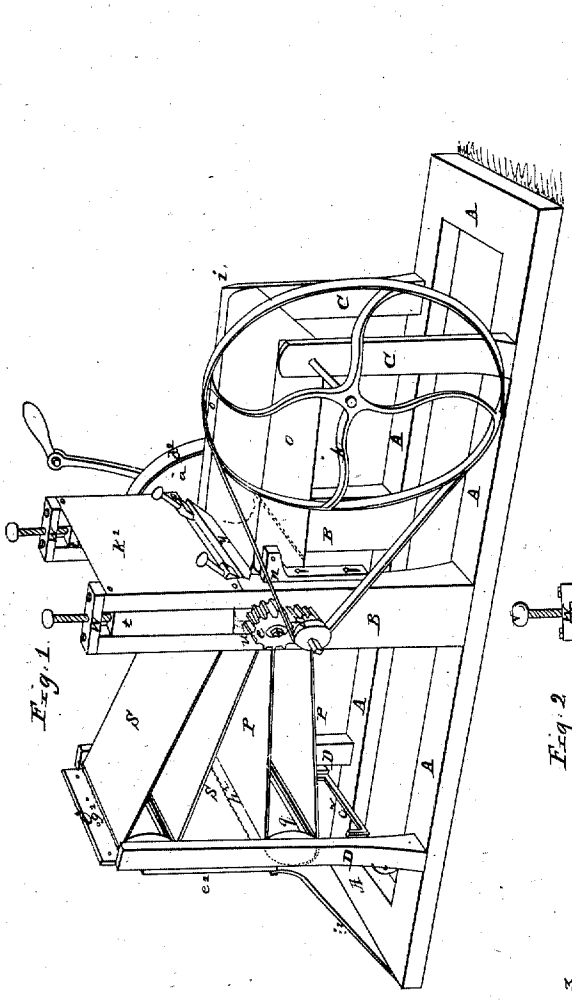


Fig. 1.

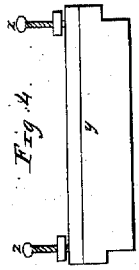


Fig. 4.

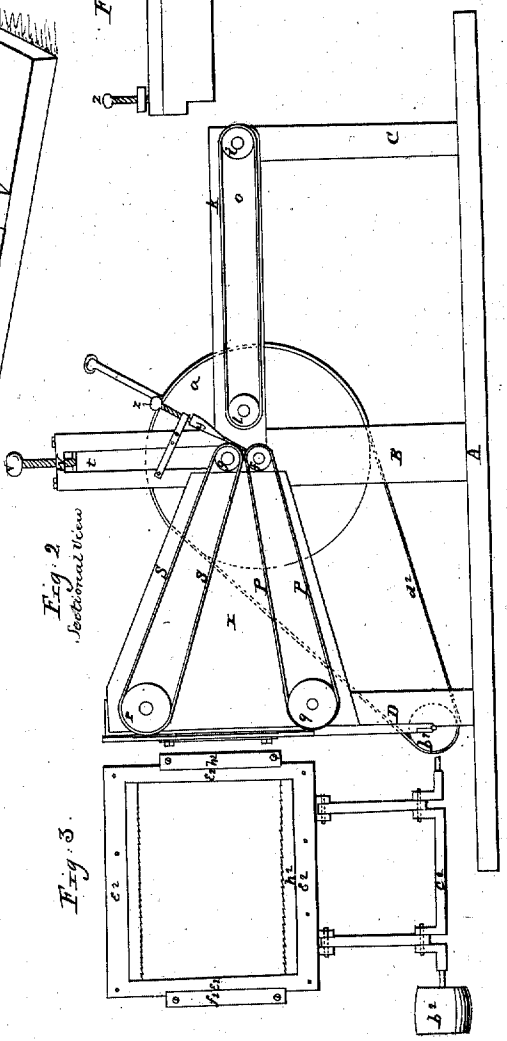


Fig. 2
Sectional View

Fig. 3.

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William Whittemore & William Whittemore jr.
Letters Patent

The Schedule referred to in these Letters Patent, and making part of the same, containing a description in the words of the said William Whittemore & Wm. Whittemore themselves of their improvement in the machine used for separating the seeds from cotton commonly called the roller gin. To all to whom these presents shall come.

William Whittemore Esqr & William Whittemore the younger gentleman both of West Cambridge in the County of Middlesex & Commonwealth of Massachusetts send greeting. Be it known that we the said William Whittemore and William Whittemore the younger have invented made & applied to use a new and useful improvement in the machine used for separating the seeds from cotton commonly called the roller gin which invention & improvement is specified & described as follows namely: The whole machine with the improvements is represented in the figure N°1. in the drawing hereunto annexed as a part of this specification & figure N° 2 in the said drawing is a sectional view of the said ..... machine, with the improvements & figure N° 3 represents the cleaner herein after mentioned & the double crank with its pulley connected therewith & figure N° 4 is the guard herein after mentioned with its thumb screws. The improvements are colored with red ink. AA is the bottom part of the frame of the machine which may be cast iron or any other substance sufficiently strong. Where on the face of iron it may be made about twenty six inches an half in length and about nine inches in width from outside to outside and from the three inches and an half in length and six inches

an inch from inside to inside. B. B. the feet are to be made of iron or other suitable substance & when of iron are about eleven inches & 7/8 ths of an inch in height & about two inches & 3/4 of an inch wide, and about 3/4 ths of an inch thick, having steps at the upper ends about nine inches in length & 3/4 ths of an inch wide. C. C. are posts of iron or other suitable material & when of iron may be made about eight inches and three sixteenths wide, and about one half of an inch thick excepting near the bottom where they are a little thicker, so as to form a shoulder and be more firm. D. D. are posts of iron or other suitable material & when of iron are about eleven inches & one eighth of an inch in height & about one eighth of an inch in width. and about one half of an inch thick at the top. The posts B & C. may be about eight inches apart and the posts B. B. may be six and a half inches apart. A. is a band wheel of hard wood or it may be of iron or other suitable material which wheel is about six inches & seven eighths of an inch in diameter & about one inch thick fixed on the shaft, by tinning from the journal of the lower roller f. which shaft passes thro' the centre of said wheel, at the end of which shaft a crank E is fixed to turn the machine. The lower roller f. above referred to turns in journals in the posts B. B. & may be of cast iron, steel or other suitable substance & when of iron may be in length between the posts about seven and an half inches & in diameter about fifteen sixteenths of an inch & may be longer when the machine is proportionably larger—

On the shaft at the opposite end of this roller is fixed a pinion wheel G about one & a quarter inch in diameter & about seven eighths of an inch wide having twelve teeth, & a pulley d. about one inch & seven sixteenths of an inch in diameter, on which a pinion wheel on the shaft of the upper

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upon with the S. of the same dimensions with the other pinion that with which the teeth play. The upper metallic rollers of the same length between the posts B. B. of the same diameter as that before described and is pinioned immediately above it. h. is a hand wheel of wood, iron or other suitable substance. Y this wheel is about nine inches in diameter Y about one inch thick Y is fixed on the shaft of the roller i. in order to turn the same Y give motion to the endless cloth which cloth passes over the rollers i Y l; said band wheel is moved by a band passing over it Y the pulley d. fixed to the shaft of the lower roller

The roller i. is made of hard wood Y this roller may be made about an inch Y one quarter in diameter Y seven Y one quarter inches in length between the posts and is covered with sand paper to prevent the cloth from slipping upon it Y has iron or metallic gudgeons inserted at the ends which turn in the posts C. C.

The roller l. is of hard wood also which is deemed best for these rollers l Y i, Y may be about an inch Y three eighths of an inch in diameter, so as to move a little slower than the roller last mentioned, Y is of the same length, Y is covered with sand paper like that Y has iron or metallic gudgeons in the ends which turn in slots fixed to the posts B, B. Y is moved by the endless cloth or felt K stretched tightly on it. This roller l. with the cloth stretched upon it comes within about one half of an inch of the under roller i with the felt upon it. but the centre of the roller l. is higher than the centre of the roller i. Y is on a line with the vertical point between the rollers i Y S. Y the slots in which the journals of the roller l. turn are so constructed as to be raised or lowered and fixed so as to raise or lower the roller l. at pleasure in order that it may come nearer, or be further from the roller i in such man-

ner that the cotton may be drawn on more readily between the rollers f 3 g. O.O. are pieces of sheet copper, or iron about two inches and one eighth of an inch on the inside from the posts C. to the stands n. n. and some what about one half of an inch above the cloth or felt. which are held up by the gudgeons of the rollers, i 3 l. & serve to prevent the cotton placed on the endless cloth K. from falling from the side of it. g. g. are wooden rollers having iron gudgeons at the ends turning in the posts D.D. one above the other & about five inches & one eighth of an inch apart from the centers of the gudgeons. These rollers are about one and five sixteenths in diameter) about seven inches) three eighths of an inch in long between the posts. & are covered with sand paper to prevent the felt from slipping upon them. The centers of the gudgeons of the roller g. are a little below the center of the arbor of the roller f. before mentioned.) the centre of the gudgeons of the roller e is about three inches above the center of the arbor of the roller g.

Over the rollers g) f is an endless piece of felt represented by pieces inclosed in the rollers g) and over the rollers e) g is also a like piece of felt B.B. tightly stretched which gives motion to the roller e. The roller g. with the felt hanging over it bears upon the roller f. with the felt passing over it. l. l. are pieces of hard wood, movable upwards & downwards in the slots in posts B.B. & resting upon boxes e. e. applied to the journals of the upper roller g. and regulated by screws \ \ passing through the iron case W.W. so as to keep the rollers f) g. together and cause them to bear upon each other sufficiently to draw in the cotton placed upon the endless cloth K. X.X. are pieces of sheet iron, copper or tin on the inside of the posts D. D. and extending from the posts D. D. to the posts B.B. & to the rollers f. g. & held up by the gudgeons of the rollers

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2. which pass thro' them: the pieces of sheet copper, zinc or tin connected and extend below the axis of the fall .3.3. p.p. which serve to prevent the cotton from falling from the sides of the fall. Y is a guard made of cast steel, about seven eighths of an inch long, one & seven eighths of an inch wide & one fourth of an inch thick at the top and tapering down to about one sixteenth of an inch, rounded & polished at the edge, so as not to cut or tear the staple of the cotton. Which guard is fitted in grooves cut obliquely in the inside of the posts B.B. so that the lower edge may come within about one sixteenth of an inch of the fall, upon the cotton roller and regulated by the setting screws 2.2. passing thro' pieces of brass attached by screws to the inside of the posts B.B. (and) screwing into the guard. The lower edge of the guard ought to be made to come as near as conveniently may be to the place of bearing of the upper roller g' on the lower roller f, and ought not much to exceed a quarter of an inch in distance from it in order that the staple of the cotton may not be much broken or injured by it. the object of the guard being to prevent the seeds of the cotton from going between the rollers while the cotton is being drawn between the rollers & thereby to separate the seeds from the cotton. The guard should be placed in grooves making an angle of about from fifteen to twenty degrees with the upright posts B.B. b' is a pulley fixed to the double crank c' which receives its motion from a band b' going over it & the wooden wheel a. The double crank c' has journals at each end turning in bearings in the posts D.D & keps fixed thereto. Which crank is connected to the frame of the cleaner c' in such manner as on being turned to move it up and down. The frame of the cleaner moves up and down in grooves formed by pieces of metal f.' f.' attached by screws to the posts D.D. The frame is about four inches & five eighths of an inch one way (and) about seven and one half inches the other way. On the upper part of the frame of the cleaner upon the rear side are attached by screws two small plates of steel so that within

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when the cleaners moved up and down by the double cranks the serrated edge of the upper comb plate may pass above & below the centers of the upper roller n. & the serrated edge of the lower comb plate, may pass above & below the center of the lower roller q.

& that these comb plates may pass so near to their respective rollers as to remove the cotton from the felt as it passes along from between the rollers f.& f. 2. it is a piece of sheet copper, iron, or tin fastened by the upper end to the lower recess of the frame of the rollers f.& f.2 and extending obliquely down, so that the lower edge may rest on the end of the frame A. to receive and convey off the cotton after it comes or is removed from the felt. K2. is a piece of sheet copper, tin or iron placed above the upper edge of the guard, to prevent the cotton from passing over the top of the guard, in case it be clogged up by the coarseness of the operation. The cotton is filamed upon the endless cloth k. and by its motion, when the machine is in operation is carried to the lower roller f. & passes between that and the guard Y. & thence between the rollers f.& f. which assist in removing the cotton under the guard, where by the seeds are separated from it, & the cotton being separate from the seeds, then passes from between said rollers, along the endless felt P. hanging, some small parts of it only, passing on the endless felt S. from which felt it is removed by the comb plates or cleaners h.' & g.2 & passes off on the sheet copper, tin or iron i.' which is used over these rollers B.& 2.& f.& g. in preference to cloth because it is tougher and will retain a better hold on the cotton, & is also less apt to get out of order and will not stretch so much and can also be put on in one piece & is more durable than cloth. The machine may be turned by the hands, or driven and carried by water steam, or horse power, or any sufficient force. The lengths of the rollers in the above described machine, are made to correspond nearly with those in common use, in the roller gin. but by the use of the felts above described in the manner before mentioned, cast steel or other suitable rollers may be used with great advantage

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advantage, which being much firmer, stronger, & less liable to
spring than those of wood, may be made much longer than those
in common use, & on this account will be preferable. The fall
screw also better to draw in the cotton than the rolled arm, & to
carry it off from between the rollers after it had passed them so
that the rollers may not be clogged therewith as happened some
times in the common cotton gin. The claim is designed to
remove the cotton from the fall after it had passed thro' & been car-
ried from the rollers & to prevent it passing round on the fall &
coming again to the rollers to clog them. The office of the guard
is as before mentioned to prevent the seed from coming to the rollers
when they bear upon each other as in the common cotton gin
and thereby more effectually to prevent them from passing thro'
those rollers. It is to be understood that we do not claim
the rollers, frame, screws, wheels, copper, or brass plate,
spellings or anything heretofore in common use for the purposes
aforesaid, & that what we hereby claim & all such we claim
as new and as our invention & improvement is the guard, falls,
& clearer above described when used in the manner and for the
purposes aforesaid & the rollers in the manner and for the
purposes aforesaid. In testimony whereof we have hereto set
our hands this tenth day of March in the year of our Lord
eighteen hundred and thirty three

(Witness
Augustus H. Fiske
Wm Rand.)

William Whitemore
William Whitemore Jr.

(2664 words)

Signed March 21. 1833
Jr in part to Cotton

Issued & Recorded June 25. 1833