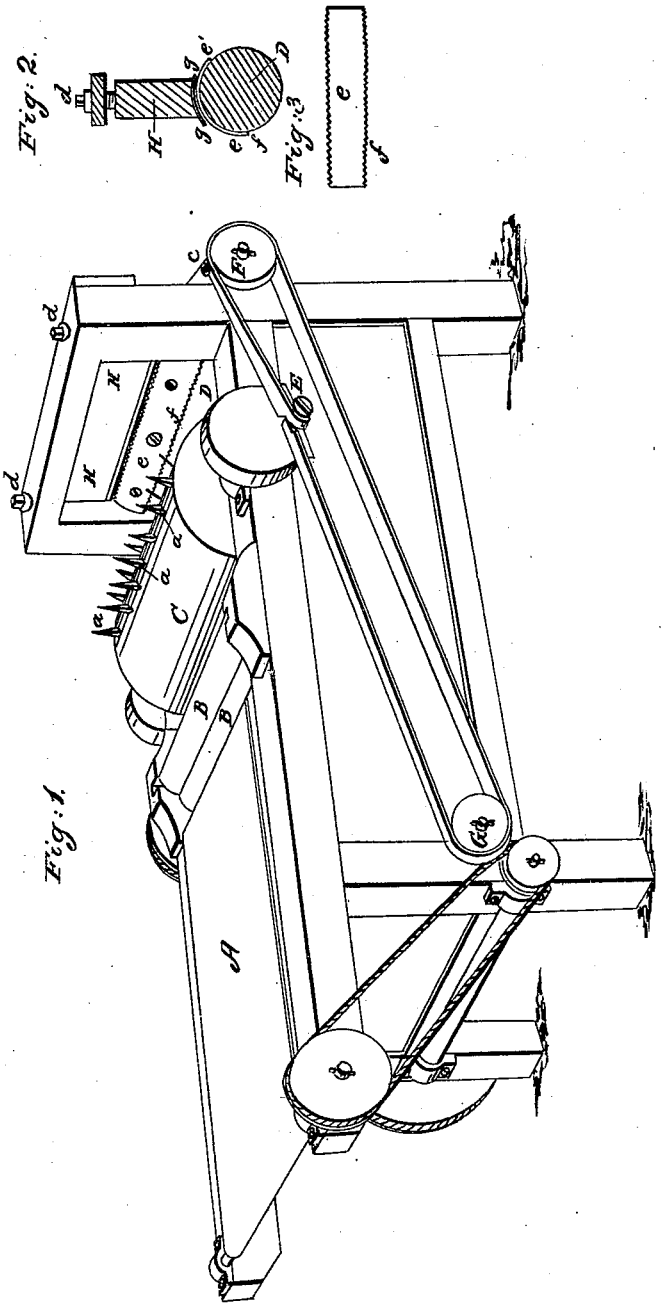
M. D. WHIPPLE.

Cotton Gin.

No. 1,839. Patented Oct. 28, 1840.



UNITED STATES PATENT OFFICE.

MILTON D. WHIPPLE, OF EAST DOUGLAS, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR CLEANING WOOL FROM BURS AND OTHER FOREIGN MATTER, AND ALSO FOR GINNING COTTON.

Specification forming part of Letters Patent No. **1,839**, dated October 28, 1840.

To all whom it may concern:

Be it known that I, MILTON D. WHIPPLE, of East Douglas, in the county of Worcester and State of Massachusetts, have invented an Improved Machine for Cleaning Wool from Burs, and which may also be applied to the ginning of cotton, and both of the long and the short staple kinds; and I do hereby declare that the following is a full and exact description thereof.

In the accompanying drawings, Figure 1 is a perspective view of my machine. A is the feeding-apron upon which the wool or the cotton to be cleaned or picked is to be placed. This apron passes around rollers in the usual way. B B are feeding-rollers; and C is a cylinder set with spikes to take the wool from the feeding-rollers and carry it to the vibrating doffer or picking-roller, by the aid of which the picking or cleaning is effected. The feeding part above described is the same with that used in the ordinary wool-picker; but the cylinder C is set with feeding-spikes over but a small portion of its periphery—say one-sixth or one-eighth only—as the vibrating doffer, which constitutes the main feature of my improvement, is to receive its supply of wool at intervals only. Three or four rows of spikes, as shown at *a a a*, are as many as need to be placed upon the cylinder. D D is the vibrating doffer or picking-roller, which stands at the distance of about half an inch from the feeding-spikes. This roller may be made to vibrate in various ways, but that which is represented in the drawings is at once simple and efficient. The cylinder-shaft has a crank-pin, E. Upon the vibrating doffer-shaft there is a pulley, F, and to this a strap or band is fastened by a screw or pin, as at *c*. This strap passes around the friction-pulley G, and its two ends are fastened to the crank-pin E, the effect of which will be to cause the doffer to vibrate by the revolving of the cylinder C, and the extent of the vibration will be determined either by the size of the whirl or pulley F, or by the throw of the crank. The vibrating doffer may be three inches in diameter, and upon it I affix two or more combs, made of plates of steel, which are to be worked off true to the curvature of the doffer. Along one or both of the edges of these plates I form comb-teeth, which may be about a tenth of an inch apart, and an eighth of an inch deep more or less. These are to be sharpened up from the under sides of the plates, so that their points will be flush with their outer faces. When these plates are screwed in place, strips of paper or of pasteboard may be placed below them, so as slightly to raise them from the roller, in order that the teeth may take hold of the wool or cotton, but not too rankly. To cause the vibrating doffer to bring a portion of the wool back and work it to and fro when necessary, I form teeth on the back edge of one or more of the comb-plates, by which means I produce the desired effect. Above the vibrating doffer I place a guard (shown at H H,) which guard extends from end to end of the doffer, and may be raised or lowered by set-screws *d d*. Along the lower edge of this guard there is affixed a steel plate, armed with teeth similar to those on the plates of the doffer, and pointing forward toward the front of the machine. These teeth lay hold of the wool or cotton that has been carried forward by the doffer and retain it until the fibers have completely passed through. The guard-plate is bent to the curvature of the doffer.

Fig. 2 is a transverse section through the doffer and the guard above it. *e e'* are the comb-plates affixed to the doffer, and armed with teeth on their fore edges, and generally also on their back edges, or sometimes on the back edge of the rear plate only, as at *f*. At *g g*, on the lower side of the guard H, is the steel guard-plate, having teeth on its front edge only.

Fig. 3 shows a part of the comb-plate *e*, with teeth on both its edges. The wool, being placed on the endless apron, is fed at intervals onto the comb-plates of the doffer, the spikes on the cylinder being allowed to come within about half an inch of the doffer, so that too large a quantity cannot be held upon the comb-teeth. The vibration of the doffer must be to that extent which will carry the whole of the wool or cotton held upon the teeth of the doffer-plates to the front of the machine, beyond the teeth upon the guard-plate, these teeth preventing its return. As the doffer vibrates forward the burrs or seeds are detained by the edge of the guard-plate, and on its return they fall off,

and pass down in the usual way. That which is not at once perfectly separated is subjected to a loosening and picking operation by the vibration of the doffer, and thus the wool is cleaned from burrs or other foreign matter, and cotton separated from its seed without injury to the fiber.

Having thus fully described the nature and operation of my machine for cleaning wool and picking cotton, what I claim therein as constituting my invention, and desire to secure by Letters Patent, is—

The manner of applying and using the vibrating doffer, with its comb-plates, constructed and operating as herein set forth, in combination with the toothed guard-plate, as described, and this I claim whether the respective parts be formed exactly as herein represented, or in any other which is substantially the same, producing a like result by analogous means.

MILTON D. WHIPPLE.

Witnesses:
THOS. P. JONES,
B. K. MORSELL.