J. E. CRANE.

Cotton-Opener.

No. 168,324. Patented Oct. 5, 1875

Fig. 1

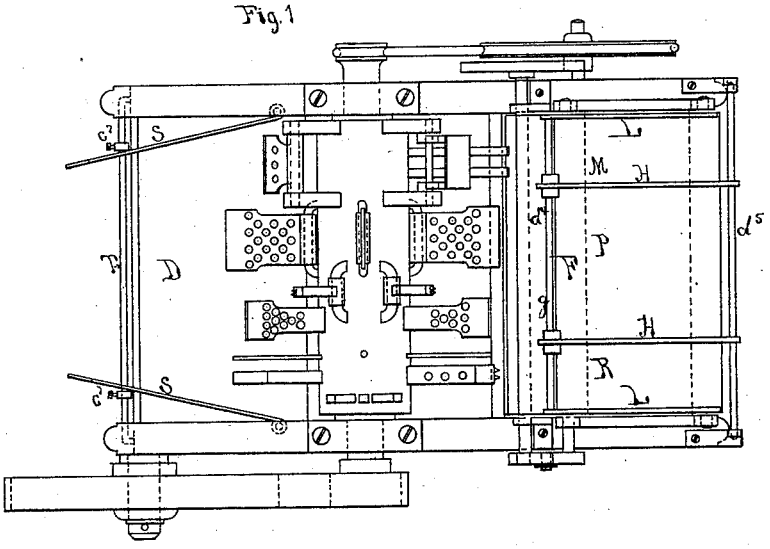
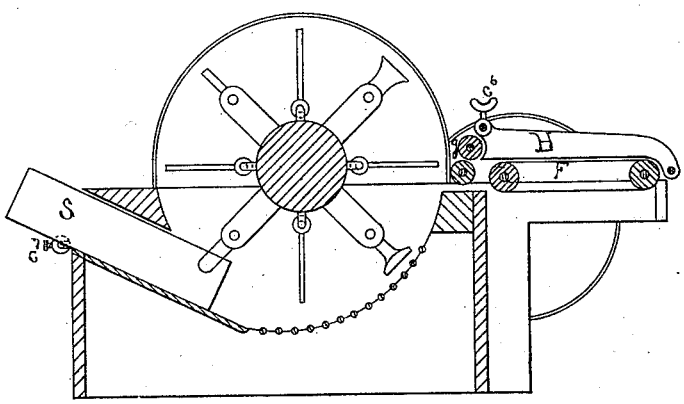


Fig. 2



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UNITED STATES PATENT OFFICE.

JOHN E. CRANE, OF LOWELL, MASSACHUSETTS.

IMPROVEMENT IN COTTON-OPENERS.

Specification forming part of Letters Patent No. **168,324**, dated October 5, 1875; application filed March 21, 1874.

To all whom it may concern:

Be it known that I, JOHN E. CRANE, of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Cotton-Openers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 is a plan or top view, and Fig. 2 a sectional elevation.

This invention relates to machinery for opening, mixing, and cleaning cotton, and has for its object to do the work in a superior manner without injury to the cotton.

This invention consists in certain movable and adjustable air-shearing wings or guides in the spout or delivery-trunk, to shear the end or side currents of air and the cotton carried forward by such currents, causing said side currents to enter and cross the center current or currents, each at an angle, and thereby to mix, a little beyond the outlet of the machine, two or more grades, kinds, qualities, or colors of cotton which have been supplied to the feed-rolls, and to the operating cylinder of beaters or other cotton-opening devices, in equal or unequal portions.

Two adjustable wings, S, are hinged to and within the spout or trunk D at the sides thereof, and a rod, T, is arranged across this end of the machine a little below the outlet of the trunk. Movable screw-furnished hubs c^7 are to slide and be set on the rod d, to hold the outer ends of the wings when set to shear the side currents of air and the cotton, about as shown in Fig. 1. In this connection, and to render the machine capable of mixing two or more kinds, colors, or grades of cotton, to the upper side of the feed-apron F I apply one or more dividing-partitions, H, which are movable on rods d^4 and d^5, one rod extending from one apron side L to the other, a little back of the upper feed-roll g, and the other rod across the rear side of the machine or apron. These partitions are adjustable on said rods, and when set in any desired position are retained by thumb-screws c^6, so that, when two or more kinds, qualities, or colors of cotton are to be opened and mixed, the different kinds are fed on the moving apron, in equal or unequal proportions, in the different spaces M P R, which, by the adjustment of the partition, are easily made of equal or of unequal width, and each said kind of cotton passes to and between the feed-rolls to the operating-cylinder, and from this through the spout D, passing the wings S, where all the kinds of cotton are mixed, as follows: When the teeth or beaters of the operating-cylinder take the two or more kinds of cotton from the feed-rolls fed to them on the divided apron such cotton is opened by the beaters and carried forward to and through the spout, and in its passage the cotton from the central space on the divided apron will pass directly forward until it comes in range of the side currents of air, and the cotton from the two side spaces on said apron will be carried by the side currents of air across the center currents, and the three kinds of cotton will be well mixed a little beyond the outlet of the trunk D.

When my said machine is used on one kind or quality of cotton, which requires no mixing, (as it may be to great advantage,) the apron-partitions are moved up against the sides L, and the wings are swung back against the sides of the spout, which will then be wholly unobstructed.

I claim as my invention—

The air-shearing wings S, in combination with the trunk D and the operating-cylinder, for the purpose and in the manner substantially as described.

JOHN E. CRANE.

Witnesses:

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