J. E. Crane.

Cotton Picker.

No. 26,887. Patented Jan. 24, 1860.

Fig. 1.

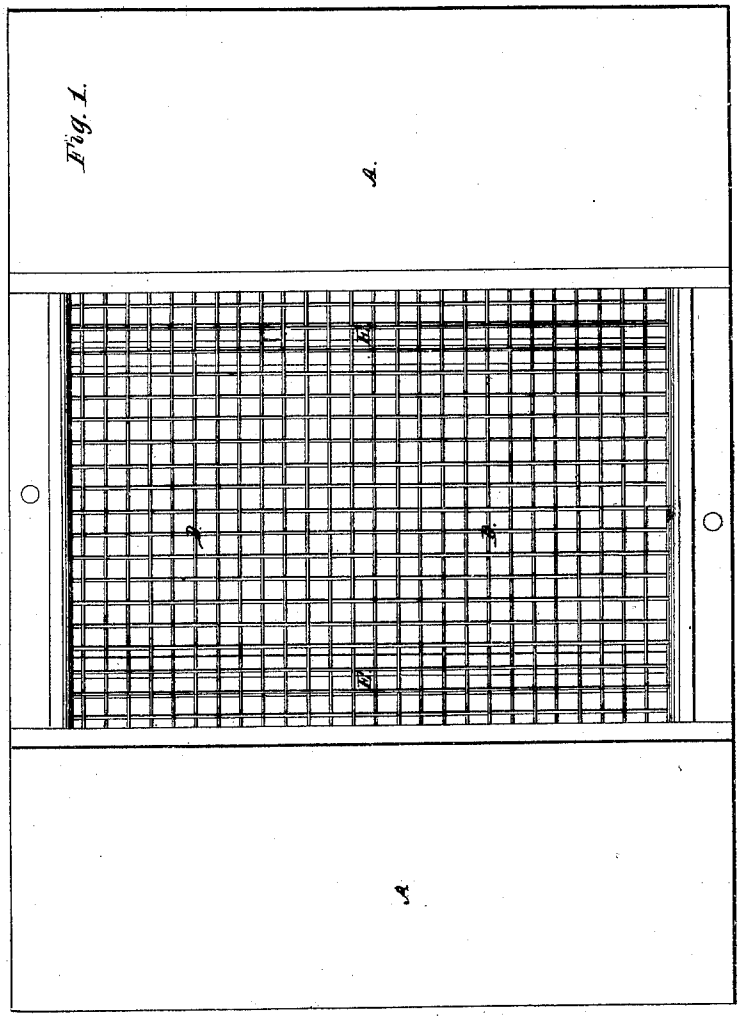
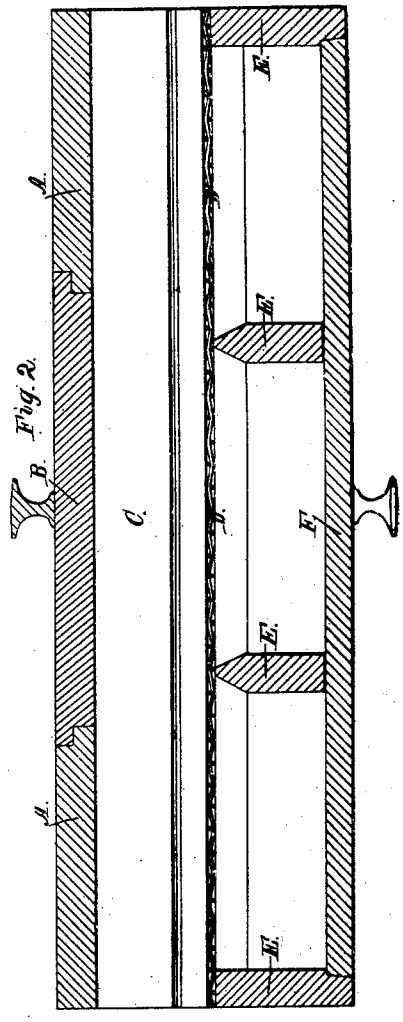


Fig. 2.



Witnesses.
Wm. L. Ward
O. Leuching

Inventor.
John E. Crane

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN E. CRANE, OF LOWELL, MASSACHUSETTS.

WIRE SCREEN FOR CLEANING COTTON.

Specification of Letters Patent No. 26,887, dated January 24, 1860.

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 a new and useful Improvement in Elongated Trunks which are used in conjunction with a blast of air for the purpose of opening and cleaning cotton and other fibrous substances; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1, is a longitudinal section of a portion of my improved cotton-cleaning trunk, and Fig. 2, is a plan of the same, after the portion B, of the top thereof has been removed.

Recent experiments have demonstrated that the best method of separating the perfect fibers of cotton from the refuse portion of the same, and also from all foreign substances, is by forcing or drawing the cotton through an elongated screen-trunk by the agency of a strong current of air, put in motion by any suitable mechanical means. But to produce the best effect, it is necessary that the screen employed in said trunk, should be distinguished by the following peculiarities; viz; fine wires, small meshes, and so high a degree of smoothness that the cotton will pass over said screen without adhering to it, while it presents the least possible obstruction to the passage through the same of refuse cotton and all the foreign substances that may be mixed with the fibers of the cotton.

I give the requisite degree of openness as well as fineness to the screen-portion D, of my improved cotton-cleaning trunk, by first, annealing the wire of which it is composed; then weaving the same into a fabric of the proper texture; then subjecting said fabric to the action of an acid solution; then immersing the same in lime water, and then applying such an amount of polishing friction thereto as will remove therefrom every particle of roughness that would be likely to obstruct the free passage of cotton over the same. Without being subjected to the aforesaid method of treatment, the said wire-screen, if made of unannealed wire, would present numerous cracks and rough places at the points where the warp was bent over the woof; and if made of annealed wire, and left in that state, it would be covered with scales.

If deemed preferable by the manufacturer, he may polish, or smooth off, the surfaces of the annealed wires before weaving them into the aforesaid improved screens, and then all the roughness that may be produced by the operation of weaving said wires, may be removed from the surfaces of the screens by any suitable process.

A series of transverse partitions E, E, which rise from the bottom F, of the cotton cleaning trunk, support the polished screen D, and they also form a series of cells along the bottom of the trunk for the reception of the trashy matter and refuse cotton that is separated from the perfect fibers of the cotton. These cells also serve the purpose of producing eddies in the current of air passing through the trunk, which agitate the cotton to the desired extent during its progress through the same.

I am aware that elongated cotton-cleaning trunks have been constructed with screens whose meshes have been partially filled up by covering the warp and portions of the woof thereof with lead, while in a melted state; and I am also aware that the screens of cotton-cleaning trunks have been rendered smooth by frequent coatings of varnish, which very materially reduces the size of the meshes of the same; and therefore, I wish it to be understood that the improvement in cotton-cleaning trunks which I have invented and desire to secure by Letters Patent, consists in the use of metallic-screens in said trunks, when the said screens have been manufactured in such a manner as to remove the cracks, scales, and other adhesive roughnesses from their surfaces, substantially as herein set forth.

JOHN E. CRANE.

Witnesses:
W. G. WARD,
O. E. CUSHING.