

Sheet 1-2 Sheets.

Calvert & Crane.

Wool and Cotton Picker.

N^o 2,175.

Patented Jul. 16, 1841.

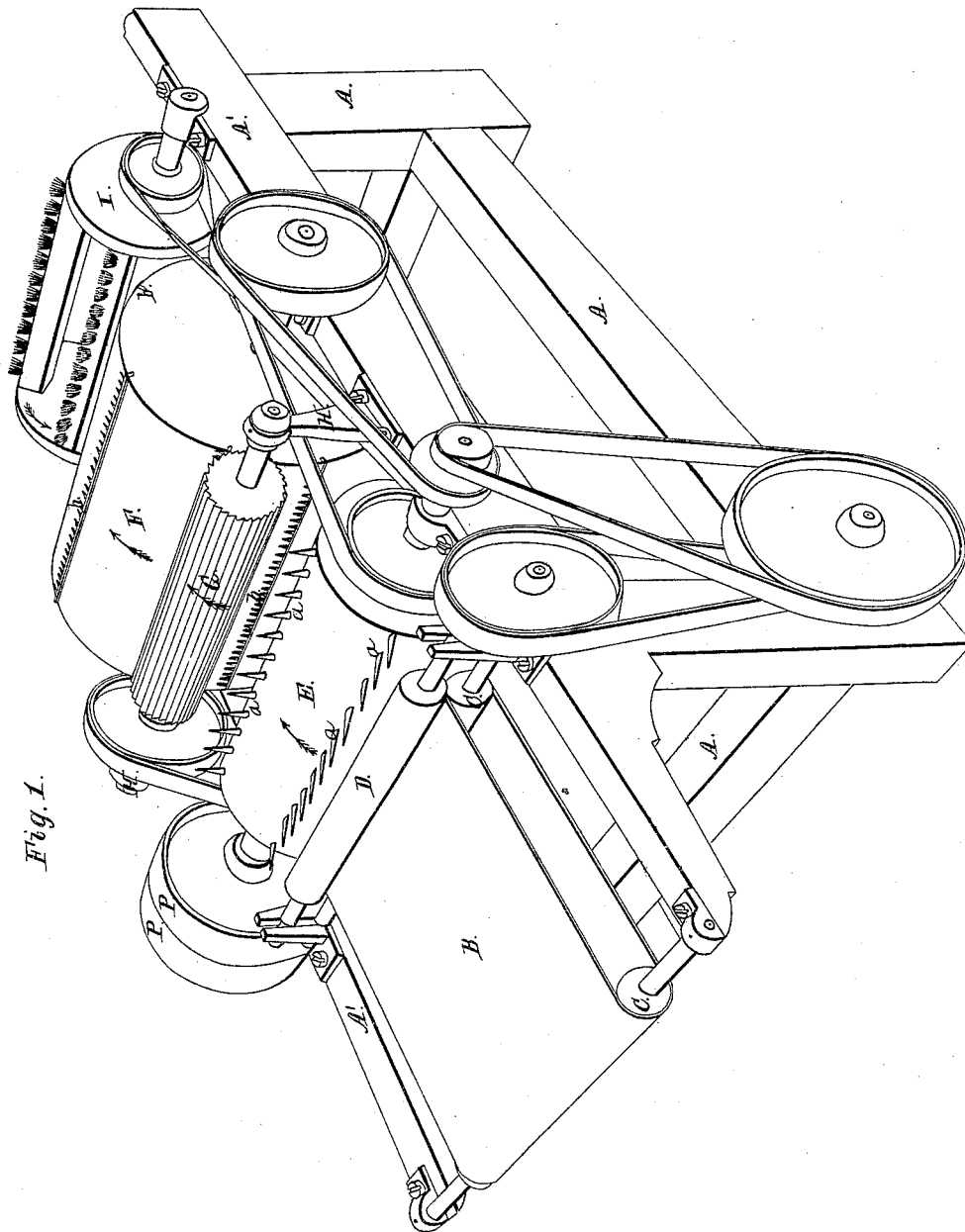


Fig. 1.

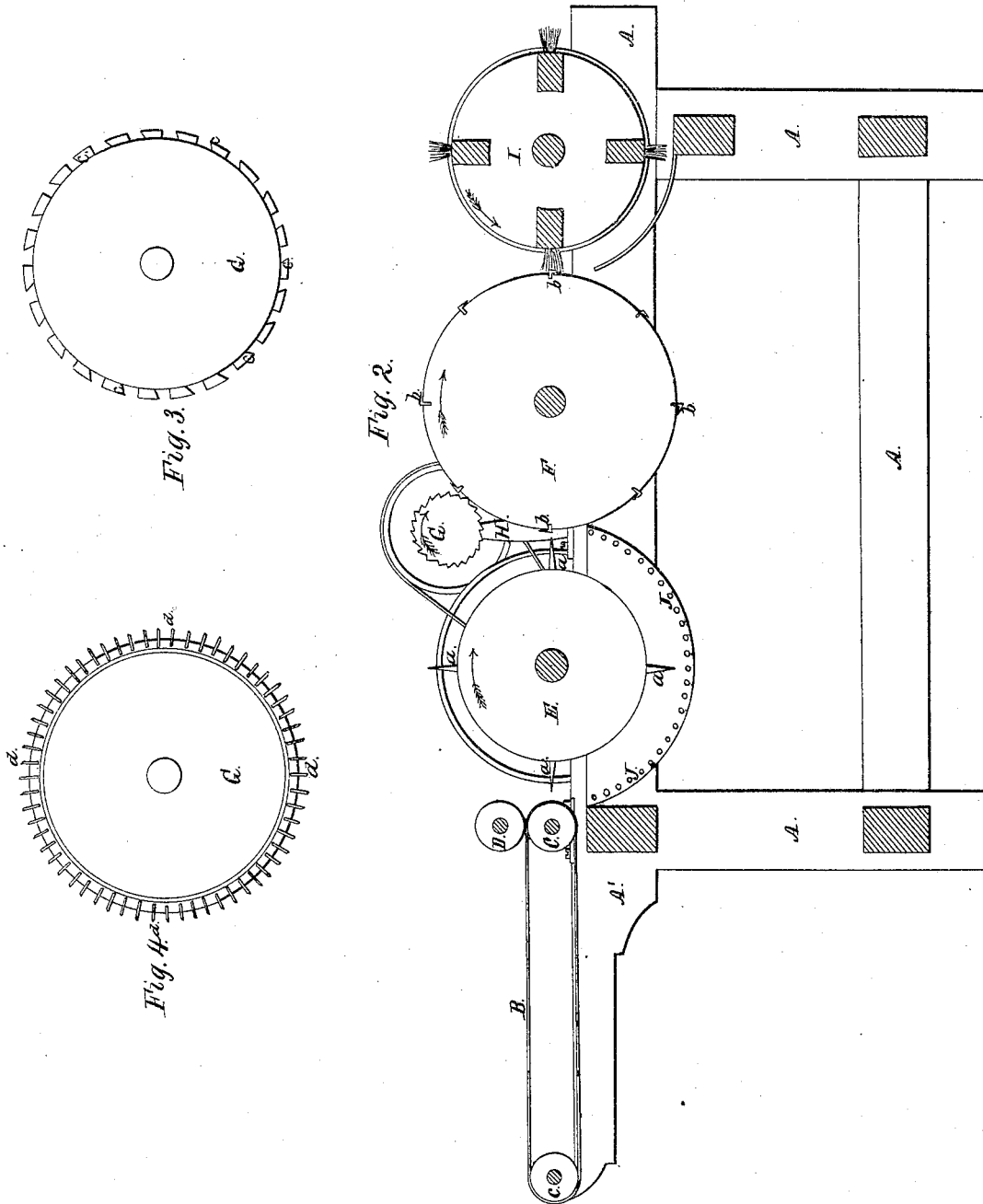
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UNITED STATES PATENT OFFICE.

W. W. CALVERT AND A. CRANE, OF CHELMSFORD, MASSACHUSETTS.

MACHINE FOR CLEANSING WOOL AND COTTON FROM BURS, SEEDS, AND OTHER FOREIGN SUBSTANCES.

Specification of Letters Patent No. 2,175, dated July 16, 1841.

To all whom it may concern:

Be it known that we, WILLIAM W. CALVERT and ALANSON CRANE, of Chelmsford, in the county of Middlesex and State of Massachusetts, have invented certain improvements in machines for cleansing wool and cotton, so as to free them from burs, seeds, and other foreign substances; and we do hereby declare that the following is a full and exact description thereof.

Our main improvement in the machine for separating burs, seeds, and other foreign substances consists in our substituting for the knife or guard, which has ordinarily been employed to arrest and separate the burs, seeds, &c., a revolving roller, which is fluted or channeled, from end to end, or which is otherwise so formed and constructed as to cause a number of projecting edges to strike in rapid succession against the foreign matter which is to be separated from the fibers, and thus to clear or pick such matter out, by an operation analogous to that of picking it out by the finger nail. The apparatus used for thus cleansing the wool or cotton may be made in various ways, as will presently appear, the whole object being as above stated to cause the projecting edges of such apparatus, to strike successively, and rapidly upon the burs, seeds or motes. Our machine does not in other respects differ materially, from those which have been constructed for the same purpose.

In the accompanying drawing Figure 1 is a perspective view of our machine, and Fig. 2 a longitudinal, vertical section thereof, through the middle.

In each of the figures, like parts are designated by the same letters of reference.

The frame, of the machine, A, A, is represented as being made of wood, A', A', being the upper side pieces which sustain the bearings of the respective cylinders and rollers. The feeding is effected by means of an endless apron B, which passes around rollers C, C, there being a top, or pressing roller D, all formed and operating in the usual manner; the rollers C, D, may be either plane or fluted. The wool or cotton as it is fed between the rollers C, D, is carried by the rows of points, or teeth *a, a*, on the picker cylinder E, and is delivered by them onto rows of fine combs set around the cylinder F, which we will denominate

the fine comb cylinder. This cylinder is 55 channeled, from end to end to receive the fine combs *b, b*, of which there may be eight, ten or twelve rows, more or less; the teeth of these combs consist of steel points which may be about an eighth of an inch long, and 60 the same distance or less apart. They slope back, in the direction of the motion of the cylinder, as shown at *b, b, b*, in the section Fig. 2. They may be inserted into strips of brass or other metal which are to be let 65 into the channels in the cylinder, and their points are to be flush with the surface of said cylinder or nearly so. The respective rollers and cylinders move in the direction represented by the arrows.

G, is the fluted or channeled roller or cylinder, by which the burs, seeds, and motes, are to be beaten, picked or separated, from the wool or cotton. This roller, which is represented as sustained by the standards 70 H, H, is so placed as that its projecting edges shall come nearly in contact with the fine comb cylinder, and as it revolves in the same direction with that cylinder, the edges of the flutes or channels, come in contact with the seeds, burs, or motes, on their being brought up by the combs, and by their successive action remove or pick them out entirely, without injury to the fibers with 75 which they were entangled, there being no more space allowed than is necessary for the passing of said fibers. The teeth, of the picker cylinder, which feed the cotton or wool into the fine comb cylinder, serve also to throw down, forcibly, the foreign matter 80 detained by the fluted rollers which matter passes out between the rounds or slats of the grating J, J, and fall under the machine. As the fine comb cylinder passes around, carrying the cleaned fibers with it, it is 85 brought into contact with the doffer, or brush cylinder I, which clears the fibers from the fine teeth and prepares them to receive a fresh portion of unpicked wool, or cotton. 100

We have given different forms to the fluted cylinder or apparatus for cleaning the fibers from foreign matter, but have found that when the flutes or channels are made along a solid metallic cylinder in such manner as that its periphery shall, in its cross section, resemble the teeth of a circular saw, its operation may be deemed perfect and 105

that more complex modes of construction are, of course objectionable. We have essayed an open cylinder with slats or strips of metal running from end to end thereof, as shown on a larger scale in the sectional, or end view Fig. 3, which has answered the purpose very well. The edges *c, c, c,* of these slats operate like those of the flutes in the roller G. Fig. 4, shows another modification of the roller G, in this *d, d, d,* are strips of metal, let edgewise into a roller, or cylinder, and extending from end to end thereof so as to present projecting edges similar to those of the fluted roller G. In all these, and others which might be devised, the general principle, or mode of operation is substantially the same.

This machine may be varied in size, but that which we have constructed, and found to answer well has cylinders of about four feet in length, and a fine-comb cylinder of about twenty inches in diameter; and from this the general dimensions of the respective parts may be deduced. The respective cylinders we drive by whirls and bands, in preference to any other kind of gearing. P,

P, are a fast and loose pulley on the driving shaft.

Having thus fully described the nature of our machine, and shown how the respective parts thereof are arranged and operate, what we claim therein as constituting our invention and desire to secure by Letters Patent, is—

The employment of a revolving fluted or channeled cylinder like that herein represented and marked G, or of any analogous revolving apparatus, which will present in rapid succession a number of picking or cleaning edges, to operate upon the burs, seeds, or other foreign matter contained in wool or cotton, in combination with the fine comb cylinder and the picker cylinder, or other apparatus analogous thereto, by which wool is carried up, and presented to the action of the revolving fluted or channeled cylinder as herein described.

WM. W. CALVERT.
ALANSON CRANE.

Witnesses:

SYLVESTER WILKINS,
H. G. F. CORLISS.