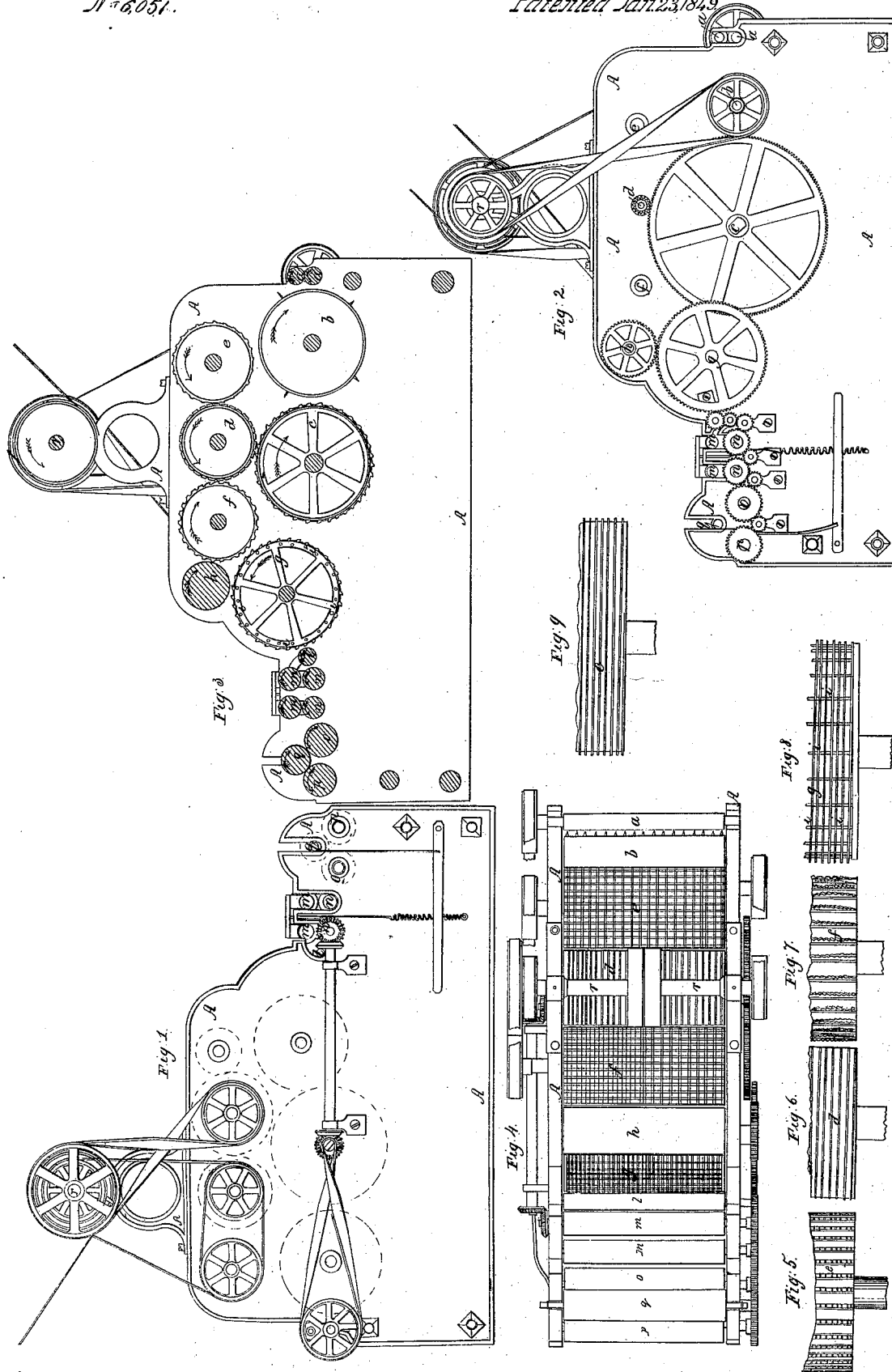


*F. A. Calvert.*  
*Picker for Cotton and Wool.*

*No 6051.*

*Patented Jan. 23, 1849.*



# UNITED STATES PATENT OFFICE.

FRANCIS A. CALVERT, OF LOWELL, MASSACHUSETTS.

## WOOL CLEANING AND LAPPING MACHINE.

Specification of Letters Patent No. 6,051, dated January 23, 1849.

*To all whom it may concern:*

Be it known that I, FRANCIS A. CALVERT, of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Machinery for Picking, Cleaning, and Forming a Lap of Cotton, Wool, or other Fibrous Materials, and that the following description taken in connection with the accompanying drawings, hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvements, by which my invention may be distinguished from others of a similar class, together with such parts or combinations as I claim and desire to have secured to me by Letters Patent.

The use and purpose of my improvements, are, to take the cotton or other fibrous material, directly from the "willowing" machine, (where it had been only partially cleaned), and, by passing it through my apparatus, to pick, open, and move thoroughly clean and separate from the same, all foreign substances, and at the same time, and in the same machine, form a more perfect lap for the carding machine, than has hitherto been produced by the common picking and lapping apparatus.

My new apparatus is composed of a burring machine, having the distinguishing characteristics and features, which I have heretofore devised, and patented, (with some modifications, which will be explained in the sequel,) as one element, and in combination therewith, and as a second element, the ordinary lapping machinery, with calender and lapping rolls; and between the burring apparatus and calender rolls, an improved "wire cylinder," so called, having teeth upon its periphery, which will further pick, and clean, and distribute the cotton more evenly upon said wire cylinder, prior to its being doffed from the same, and passed through said calender rolls.

The figures of the accompanying plate of drawings represent my new apparatus.

Figure 1, is an elevation of one side of the machine. Fig. 2, is an elevation of the opposite side. Fig. 3 is a central longitudinal vertical section. Fig. 4 is a plan, and Figs. 5, 6, 7, 8 and 9, are detail views of some of the important cylinders, which will be hereinafter referred to.

A A A A, in the several figures, represents

the frame work of the machine, in and upon which, the bearings or boxes of the several cylinders and rollers, are arranged. *a a*, are the feed rollers, which receive the cotton, &c., from an endless apron in the ordinary way, and deliver it to the picker cylinder, *b*, which is provided with teeth in the usual way, as described in my burring machines, patented in 1841 and 1843. From the picker cylinder, *b*, the cotton, &c., is picked on, and received by the cylinder, called the receiver, and shown in Fig. 3, at *c*; from which receiver, *c*, it is passed to the cylinder, *d*, which occupies the place of the fine "comb-cylinder," so called in my burring machines above referred to, as patented in 1841 and 1843. These cylinders, *c* and *d*, are provided with teeth, shaped as shown in Fig. 3, and hooked as in the burring machines, but somewhat differently prepared, the teeth being formed in narrow strips of wire, properly punched out to give the requisite shape to the teeth, and wound, and staked in spiral grooves from each side of each of said cylinders, *c d*, to the center thereof; the spiral grooves on said cylinders, *c d*, being shown in Figs. 6 and 9. But this arrangement or any modification thereof, will be shown and described in another application for a patent for such cylinders, bearing even date herewith. The cylinder, *e*, Figs. 3, 4 and 5, is the "saw guard" cylinder, as improved and patented by me in 1847; its office being to beat back the dirt, seeds, &c., from the cotton on the cylinder, *d*, to the picker, *b*, and from that the said dirt, &c., is discharged in the usual way. The cotton, &c., is next doffed from the fine-comb-cylinder, *d*, by the toothed doffer, *f*, Figs. 3, 4 and 7, and discharged therefrom on to the toothed wire cylinder, *g*, Fig. 3, above which is a common pressing roller, *h*, to prevent the cotton, &c., from flying off from said cylinder, *g*.

The portion of the apparatus thus far described, should be suitably covered and grated, as is customary with common pickers. This toothed wire cylinder differs from the common "wire cylinder," as its name would imply, by the addition of teeth, shaped as shown in Fig. 3; said teeth being formed in strips of wire, as hereinbefore suggested, and wound around the longitudinal wires, *i i i i*, &c., spirally, as shown in Fig. 8, or straight, (as may be deemed desirable,) in lieu of the wire netting which

usually covers said wires, *i i i i*, &c. This arrangement of teeth on the cylinder, *g*, serves, as hereinbefore mentioned, to further clean the cotton or wool, and to distribute the fibers of the same more evenly over the said cylinder, preparatory to its passing through the calender rolls, than it would be on the wire cylinder in the common "picker;" because, in the latter it is blown from the "beater" to the wire netted cylinder, and the currents of air from one to the other, are liable to, and do cause an uneven lap, and wool cannot be lapped on a wire netted cylinder, but can be, on a toothed cylinder. I shall, therefore, rest one of my principal claims upon a toothed cylinder for forming a lap.

From the toothed wire cylinder, *g*, the cotton, &c., is doffed, or stripped by the small stripping roller, *l*, Fig. 3; the cotton, &c., passing over the same and between the several sets of upper and lower calender rolls, *m m n n*, arranged in the ordinary way, as shown in Fig. 3; thence it passes over the two adjacent lap rolls, *o p*, and around the upper wooden lap roll, *q*, about which it is wound, being pressed compactly upon the same, by weighted levers connected to the journals of said lap roll, *q*, as shown in Figs. 1 and 2. The lap is then fitted or prepared for the carding machine. The several cylinders hereinabove referred to, and described, together with the calender and lap rollers, all derive their rotary motions, directly or indirectly, from the counter shaft, *r r*, Figs. 1, 2, 3 and 4, and are revolved in the various directions indicated by the arrows in Fig. 3; and said counter

shaft, *r r*, in a full sized machine, which would be about eight times as large as it is 40 represented in the accompanying drawings, should make about five hundred revolutions per minute, and the several cylinders and rollers above referred to, get their proper proportionate motions by the connection of 45 belts, pulleys, spur and bevel gearing, shown in the various figures; the arrangement for which is so palpable from an inspection of the drawings as to require no description.

Having thus described my improvements 50 in machinery, for picking, cleaning, and forming a lap of cotton, &c., I shall state my claims as follows:

What I claim as my invention, and desire to have secured to me by Letters Patent is— 55

1. A toothed cylinder for forming a lap of cotton, wool or other fibrous material, to be used in lieu of the wire netted cylinder as hereinabove set forth.

2. I also claim the combination of the 60 burring apparatus or an apparatus for opening, picking and cleaning cotton and wool; constructed, substantially, as hereinabove described, with the calender and lap rollers; the arrangement and combination being as 65 hereinabove set forth, and for the purposes specified.

In testimony that the foregoing is a true description of my said invention and improvements I have hereto set my signature 70 this fourth day of May A. D. 1848.

FRANCIS A. CALVERT.

Witnesses:

EZRA LINCOLN, Jr.,  
CALVIN BROWN.