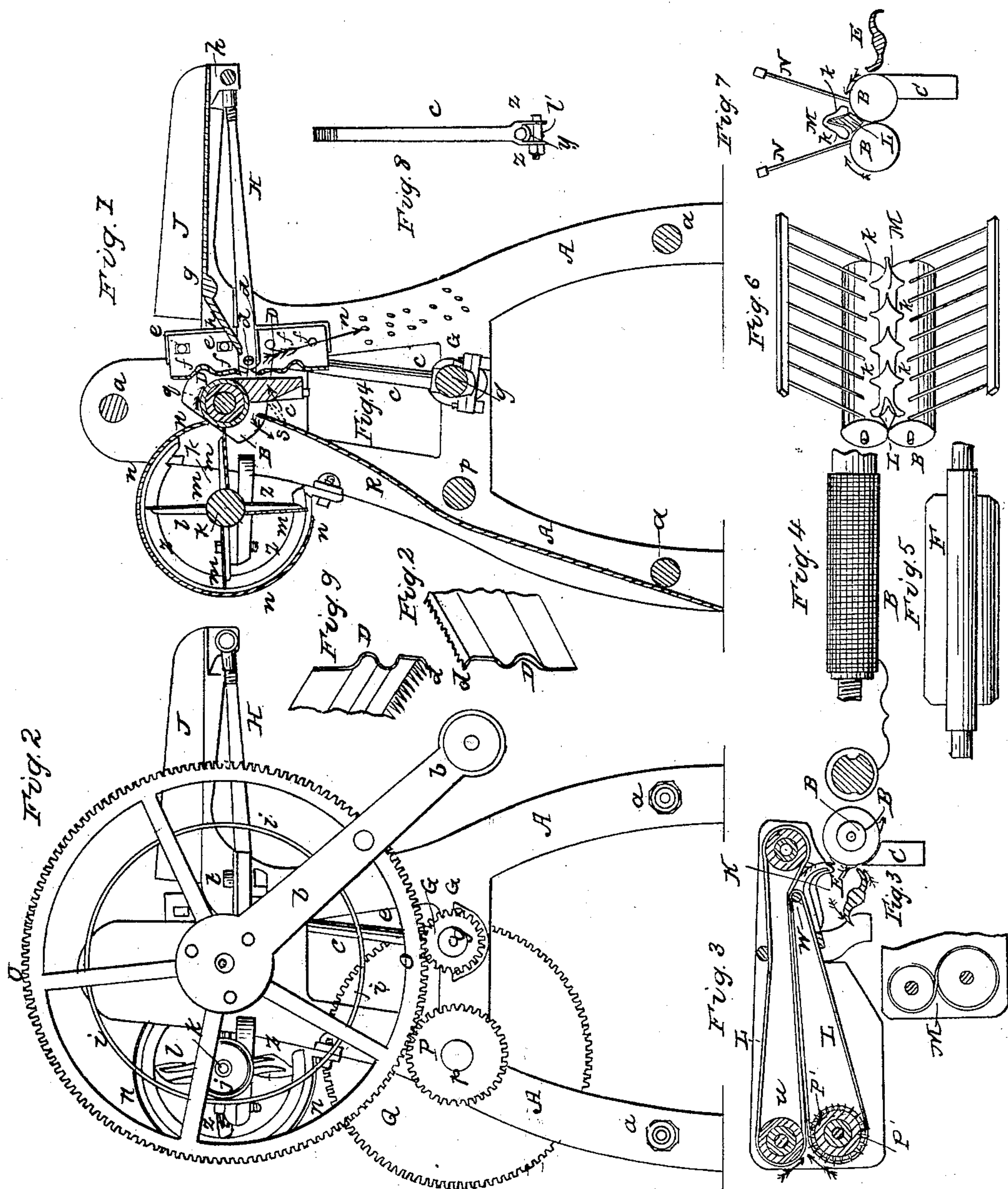


E. OSGOOD.
Cotton Gin and Picker.

No. 61,239.

Patented Jan. 15, 1867.



Witnesses

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ENOCH OSGOOD, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 61,239, dated January 15, 1867.

IMPROVEMENT IN COTTON GIN AND PICKER.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ENOCH OSGOOD, of the city of Boston, county of Suffolk, in the State of Massachusetts, have invented a new and useful Improvement in a Machine for Picking Cotton, or picking and ginning cotton at the same time, or for ginning cotton after it has been picked, as the case may require; and that the following is a full and clear description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, like parts being indicated by like letters in the several figures.

The nature of my invention consists in a peculiar construction and arrangement of parts, as herein set forth. In the drawings—

Figure 1 is a sectional view through my machine, showing its different parts.

Figure 2 is an end view of my machine.

Figure 3 is a sectional view through the picking apparatus, showing its several parts; and which is attachable or detachable at pleasure.

Figure 4 is a longitudinal elevation of my elastic roller.

Figure 5 is a longitudinal elevation of the revolving clearer.

Figure 6 is a side or longitudinal view of a pair of elastic rollers with racks, double-concave or angular bar, and stripper or clearer.

Figure 7 is an end view of the same, showing a double-concave or angular bar and a revolving clearer.

Figure 8 is a side view of my pitman with key and strap.

In the drawings, A represents the frame or end pieces of my machine, held together by cross-bars, *a*. O is a driving-wheel, motion being given it by a handle, *b*. On the shaft of this wheel is built or constructed my elastic roller, B, to be hereafter described. This wheel, O, gears into two others—first, G, which is secured to a crank, *g*, and to which crank is attached a pitman, *c*; secondly, it gears into another wheel, P, which is secured to a shaft, *p*. On the opposite side a larger wheel, Q, is attached to this shaft, *p*, and it, in turn, gears with another, (not shown,) but which gears with a wheel on the end of revolving clearer E when it is put on the machine. C represents a concave bar, under elastic roller B, which draws the ginned cotton between the two. D D is a corrugated clearer, having suitable teeth at *d d*. These clearing plates, D D, have their teeth turned inward towards the roller B, as shown in section in Figure 9, by which means they act upon the cotton more effectually, and are completely protected from injury from stones or gravel, either accidentally or intentionally introduced with the cotton. The pitman *c* is secured to this clearer and to oscillating bars, H, at I, and the crank *g* thus gives the clearer a vertical, or nearly vertical, up-and-down motion. It has slots, *e*, which have pins, *f*, passing through them to limit the movement of the clearer. J is a trough, upon or through which to feed the cotton to the roll and clearer. *g* is its bottom, made close most of the way, but where it inclines downward, at *h*, it is open, or as a rack. Oscillating bars, H, are pivoted in any suitable way at *k*. Secured to the arms of O is a smooth ring or wheel, *i*, which has a friction-bearing upon a pulley, *j*, attached to a shaft, *l*. On this shaft are several arms, *l*, and to these are secured plates, *m*, serrated at their outer edges. This I call a doffer, Z, which is enclosed by a casing, *n*, and its function will be described hereafter.

The operation of the machine as shown on figs. 1 and 2 is as follows: First, after putting the machine in motion by means of arm *b* and wheel O, the clearer D D gets its up-and-down motion through crank *g* and pitman *c*, and the elastic roller B revolves in the direction of red arrow *q*. The unginned cotton is fed in through trough J. It goes down the inclined bed *h*, and, in passing between the teeth of clearer D D, the seed are stopped or knocked backward, and, accumulating, they fall down, as shown by arrow *r*. The elastic roller B takes hold of the cotton, draws it down and under it, and it passes out, as shown at arrow *s*, between the roller and the concave *c*. Whilst this is proceeding, the doffer Z is revolving, and its serrated arms, *m*, playing closely against roller B, brush or clean off any cotton which may stick to it, and brush or knock it down with the rest in the direction of arrow *s*.

The elastic roller B is constructed as follows, (there are several ways:) First, I take sheets of India rubber and cloth, (linen being preferred,) alternating them, forming thicknesses or layers, as desired, vulcanize and cut them into hollow rings the size desired, as also to fit the shaft of driving-wheel O, which is made with grooves in it, as shown by red lines at fig. 4, and I secure these rings to the shaft by placing between each, or

each pair, as necessary, a flanged ring, as shown in red lines, fig. 4; that is, having one or more internal projections to fit the corresponding groove or grooves in shaft. These rings have pins driven through them, which take into the elastic rings on each side, and thus prevent their turning. The cloth used in building up these rings I prefer should run edgewise from the shaft to or towards the outer surface of the roller. If desired, I can coat the entire surface of the roller with rubber. I can build up my elastic roller by cutting the sheets, before described, (compound ones,) into strips of desirable width, and wrapping these edgewise, spirally, and closely around the shaft, coating them with rubber if desired, but pressing the same spiral rings tightly together, and in any way prevent the coil from turning on its shaft, which may be done by roughening the shaft and covering it by tenacious rubber. After the coil is put on and secured, I vulcanize the roller.

Figure 3 shows my attachment for picking cotton, and, if attached to the machine before described, (after removing trough J, bars H, and clearer D D,) will conduct the cotton to the roller B, as shown in before-named figure; but in connection with which I use a revolving clearer, E, figs. 3 and 5. This attachment is secured to the machine by means of the screw *t*, fig. 2. The toothed roller P', and the one above it, *u*, are placed outward or furthest from the machine. There is still another roller, *v*, over B, and a smaller one, *w*, over rack K. Belts L and L' pass over these rollers, and suitable connections are made by machinery to give motion to these pulleys, cylinders, or "rollers," and belts. The teeth on cylinder P' pick the cotton, (seeds and all,) carrying it between P' and *u*, and between belts L and L', over *w* and under *v*, over rack K down upon roller B, and it is carried under it and between it and concave C. Whilst this is going on the revolving clearer E, striking the cotton, knocks out the seeds, discharging or dropping them in an opposite direction from the ginned cotton. The clearer E has two curved arms, *z*, flanges, or lips, and their outward edges have a slight twist, so as to give the clearer a shear so that they will not strike it at their entire length. The teeth of cylinder P' are made adjustable by means of a rubber spring between the cylinder proper (or shaft) and the outer metallic casing. My machine can be used with one roller or with two, as shown at figs. 6 and 7, and as shown in my patents dated October 18, 1849, and May 11, 1858. This device I have tested in connection with my present machine. B B represent the two elastic rollers, the unginned cotton being fed in between racks N N. In connection with one of these rollers is a revolving clearer, E, to perform the function before described. In this attachment, L represents the double-concave or angular bar, to take the place of concave C, as in the single machine, and M is an oscillating clearer over it, having teeth, *xx*, to scrape or doff the seed as soon as the cotton is drawn from it by the action of the elastic rollers. This clearer pushes the seed off at each end, and over the rollers. My pitman, *c*, as shown at fig. 8, is constructed so as to make it light and strong. On its lower end are formed the ears or straps, *z*, between which is the lower half of the box, *y*, the upper part of the ears or straps *z*, the other or upper half of the box forming a round hole for the crank to pass through. *z'* is a tapering key under lower half box *y*, and passing through the two ears or sides of strap *z z*, having a screw on its small end, to be drawn up by a nut to tighten up the box. My machine can be put in motion by any device or power that will produce the same result. This gin will gin all kinds of cotton, wet or dry, or in damp weather, from the shortest Surat to the longest Sea Island, without injuring the staple.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The elastic roller B, made of rubber and cloth, the latter running edgewise from the centre or core to or towards the outer circumference, with the flanged metallic rings between the several compound rings, as described, the same constructed and operating in the manner as shown and described, and for the purpose set forth.

2. The elastic roller B, made of rubber and cloth, wound around its shaft or core spirally with strips, in the manner described, and for the purpose set forth.

3. I claim the combination of elastic roller B with concave bar C.

4. The combination of elastic rollers B B with the double-concave or angular bar L and clearer M, as described.

5. The combination of elastic roller B, corrugated clearers D D, and concave bar C, as described.

6. The combination of elastic roller B, revolving clearer E, and concave C, as described.

7. The combination of picking cylinder P', cylinders *u*, *v*, and *w*, belts L L', rack K, elastic roller B, and revolving clearer E, constructed, arranged, and operating in the manner substantially as described and for the purpose set forth.

8. In combination with the clearers D D, I claim the pitman *c*, constructed and operating in the manner shown and described and for the purpose set forth.

9. The combination of the elastic roller B with the revolving doffer Z, constructed, arranged, and operating in the manner substantially as shown and described and for the purpose set forth.

ENOCH OSGOOD.

Witnesses:

THOMAS C. CONNOLLY;
WILLIAM WHEELER.