

UNITED STATES PATENT OFFICE.

JOSEPH W. THORN, OF COURTLAND, ALABAMA.

IMPROVEMENT IN MACHINES FOR PICKING COTTON IN THE FIELD.

Specification forming part of Letters Patent No. 18,363, dated October 6, 1857.

To all whom it may concern:

Be it known that I, JOSEPH W. THORN, of Courtland, in the county of Lawrence and State of Alabama, have invented certain new and useful Improvements in Machines for Picking Cotton in the Field; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, in which—

Figure 1 represents a top view of said machine. Fig. 2 represents a vertical cross-section through the same. Fig. 3 represents a perspective view of two picking-cylinders. Fig. 4 represents a perspective fraction of the cotton-receptacle.

The nature of my invention relates to that class of machines for picking cotton in the field which are driven by horse-power, and in which the cotton is collected by a number of picking-cylinders and deposited by them in a receiver, as will be hereinafter described.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents the frame of the machine, which rests on the axles B and B' of the driving-wheels C. To these shafts are secured the bevel-wheels D, by means of which rotary motion is transmitted to pinions E, which are secured on the shafts I of the rollers F.

F' F' are two rollers similar to roller F, the bearings of which play loosely in the frame A and above the rollers F.

a represents metal slats or rods, which are connected to each other by means of chain-links c, said chain-links passing through the grooves m of the cylinders F and F', and forming, together with the slats a, endless aprons which pass around both rollers F and F', and which are operated so as to travel round both cylinders when one of these cylinders is rotated. On each alternate plate a is mounted a shaft, b, which rests in suitable bearings, n, and is at liberty to turn in said bearings when operated upon. To each of the shafts b are secured a number of teeth, d, which, as the aprons are operated, take up the cotton and carry it around the cylinders. The shafts b are formed at one end with toes h, which in the operation of the machine bear at certain periods against the cam-plates K, and thus

operate the shafts b. The cam-plates are secured to frame A, as represented in Fig. 1.

G represents two curved and tapering shields, which are secured to the frame A. These shields are placed outside of the picking-cylinders F F', and are formed with slots o, through which the teeth d are caused to pass when the machine is in operation. The upper edges of the shields G are connected to the side pieces of the frames A by means of slats or bars H, which are sufficiently far apart as to leave a space between them which is wider than the spaces o, the bars H constituting the inner parts of the boxes G, which are intended to receive the picked cotton.

The operation of this machine is as follows: As the machine is drawn over the field the driving-wheels C impart a rotary motion to shafts B and B', which turn independent of each other as they run with their journals in the bearing L. The revolutions of the shafts B and B' cause bevel-wheels D to revolve, which mesh into pinions E, the latter driving cylinders F and F'. The machine now advances toward the cotton-stalks, and the teeth d of the cylinders come first in contact with the branches of the stalks, picking the cotton and carrying it around the cylinders. As the machine moves farther on the branches and stalks are forced between the converging cylinders, which during the operation effectually take off the cotton from the pods of the branches and main stalk. The cotton is carried by the teeth d upward around the cylinder F, the teeth entering the slots Q, and thereby stripping the cotton of the coarser impurities adhering to it. When the cotton is within the grate-bars G and still on the teeth, it causes said teeth to turn with shaft b as it further descends between the bars. The teeth then assume the positions of d' d', and as they further descend they draw out from the cotton which is retained within the receptacle G. As the machine moves farther, on the toes h of the shafts b come in contact with the cam-rods K, and the teeth d are turned again point upward and ready for a new picking operation. As the cotton collects in the receptacle G H and rises therein the teeth d come sooner in contact with said cotton, and are then drawn out of the cotton without bringing any of the cotton out of the receptacle with them, as the spaces o o are

just wide enough for the teeth to draw through and strip off the cotton.

M is a cover which fits over the top of the machine, and which is represented as removed in Fig. 1 to show the parts underneath it.

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

The method herein described of delivering the cotton within the receptacle G by means

of the teeth *d*, turning on shafts *b*, in combination with the cam-rods K and toes *h*, for returning said teeth to the position for picking the cotton, substantially in the manner herein set forth.

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Witnesses:

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