

O. C. HOUGHTON.
 PICKING SPINDLE FOR COTTON HARVESTERS.
 APPLICATION FILED SEPT. 4, 1908.

931,926.

Patented Aug. 24, 1909.

FIG. 1. FIG. 2.

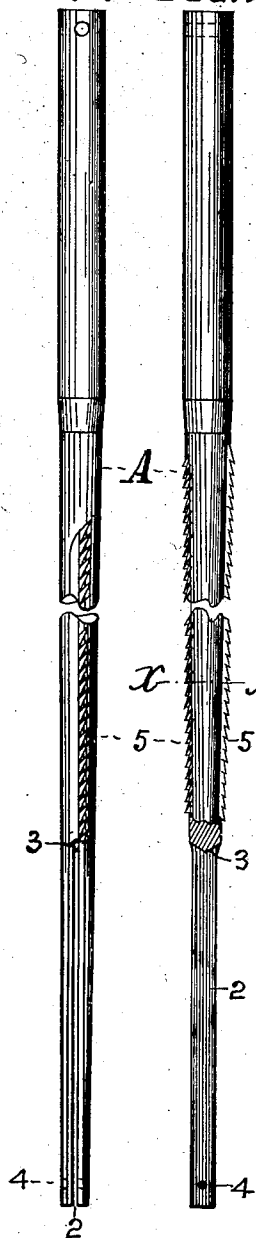


FIG. 7.

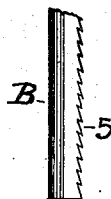


FIG. 3.



FIG. 8.

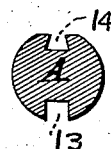
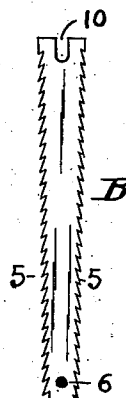
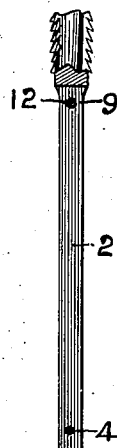
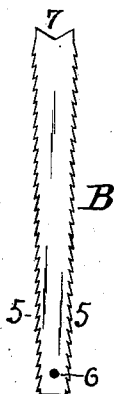


FIG. 6.



FIG. 4. FIG. 5. FIG. 9.



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UNITED STATES PATENT OFFICE.

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PICKING-SPINDLE FOR COTTON-HARVESTERS.

931,926.

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To all whom it may concern:

Be it known that I, ORLEY C. HOUGHTON, a citizen of the United States, and a resident of Chicago, in the county of Cook, in the State of Illinois, have invented certain new and useful Improvements in Picking-Spindles for Cotton-Harvesters; and I do hereby declare that the following description of my said invention, taken in connection with the accompanying sheet of drawings, forms a full, clear, and exact specification, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has general reference to improvements in rotary spindles for cotton harvesters; and it consists, essentially, in the novel and peculiar combination of parts and details of construction as hereinafter first fully set forth and described, and then pointed out in the claims.

In the drawings already mentioned, which serve to illustrate this invention more fully, Figure 1 is a plan view of a cotton-picking spindle or finger embodying my improvements, the inserted portion of the teeth-section being removed. Fig. 2 is a similar view, partly in section, to show the slotted end of this spindle. Fig. 3 is a cross-section in line *x x* of Fig. 2. Fig. 4 is a plan of the removable tooth-section, showing the preferred form of my invention. Fig. 5 is a sectional-view of the lower portion of a finger, illustrating a modification of the device illustrated in Fig. 2. Fig. 6 is a cross-section of a spindle, and Fig. 7 is a plan of a fragment of the removable tooth-section illustrating further modifications of this device. Fig. 8 is a cross-section of the device shown in Fig. 6 illustrating the method of producing the dove-tail grooves which receive the tooth-section illustrated in Fig. 7. Fig. 9 is a plan of the tooth-section adapted to engage the slot in the finger shown in Fig. 5.

Like parts are designated by corresponding letters and characters of reference in all the figures.

The object of this invention is the production of fingers used in cotton pickers which shall be more durable than those heretofore in use and which fingers if worn can be repaired at a slight cost. Heretofore, these fingers or spindles have been made in the form of round, tapering bars or rods,

which are longitudinally grooved and provided along these grooves with teeth. These teeth are inclined to the axis of the bars, sloping upwardly from the base or point of the fingers toward the upper end or shank 60 wherewith they are connected to the driving mechanism which rotates the fingers or spindles when gathering the lint from the cotton plants. In this action these fingers, and especially their lower or smaller ends, are continually coming in contact with the soil, the gritty nature of which acting as an abrasive, rapidly wears the sharp teeth on the spindles so that they will not pick or engage the cotton lint at the lower end while the spindle may be perfectly operative at its middle and upper end. To pick the cotton lint as fully as possible it is, therefore, required to stop the machine and renew the worn fingers, necessitating delay in picking, and involving the expense of new spindles. To overcome these objections I produce in the lower, smaller, end of the spindle A a longitudinal slot, 2, the bottom or inner terminal of which ends in a blunt, V-shaped seat 3. In the smaller end of this spindle A, I provide a transverse hole, 4, through which a pin or rivet is inserted whereby a removable tooth-section B, illustrated in Figs. 4 and 9 may be retained in position. This tooth-section or removable member B is a thin, tempered, steel blade of tapering form having one or both edges provided with suitably-shaped teeth, 5, and having at its narrower end a hole 6, which registers with the transverse holes 4 in the lower end of the spindle A. The upper, wider, end of this spindle-member B is V-shaped at 7 to match the correspondingly-shaped seat 3 in the spindle-slot 2 so that this member B will be correctly seated and assembled in the slot 2 and retained in position by a pin passing through the holes 4 and 6. It will now be observed that by the introduction of the removable member B of the spindle A, I have overcome all the objections to a solid finger, since, should the finger become worn at its lower end, it is only necessary to stop the machine or harvester long enough to replace the worn member, which can be accomplished in a few minutes of time. There are now many of these solid spindles in use and many that have been discarded, which, owing to the fact that their lower ends are worn, are inoperative and useless, and these

solid spindles can be readily repaired by slotting them at their lower ends and inserting therein one of the removable members B, which operation can be performed at a very slight expense and when done will materially prolong the life of a spindle.

I desire here to state that various methods may be employed to renew the worn spindles aside from that heretofore described. For instance, instead of providing the V-shaped seat in the slotted portion of the spindle, I may drill a transverse hole 9, near the end of the slot 2 and provide the corresponding end of the tooth-section B with slot 10, as shown in Figs. 5 and 9, the pin 12, Fig. 5, being permanently located in the transverse hole 9. Another method will be to groove the lower end of the spindles on opposite sides, as illustrated in Fig. 6 and insert therein correspondingly shaped tooth-sections, such as shown in Fig. 7, such grooves being either parallel-sided, as shown at 13, or dove-tailed as depicted at 14 in Fig. 8, and these dove-tailed grooves may be produced by first milling, sawing, or otherwise producing the parallel-sided grooves 13 and then compressing the metal along the longitudinal edges of the grooves 13 to crowd the metal inwardly. This, or any other preferred method of providing the grooves 14 may be resorted to without departing from the scope of my invention.

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

1. A picking finger for cotton harvesters,

consisting of a toothed body having a longitudinal slot at its lower end and a tapering blade having teeth on its converging edges removably held in said slot.

2. A picking spindle for cotton harvesters, consisting of an annular body having teeth on diametrically opposite sides reaching to within a short distance of the lower end, and a removable tooth-section, forming a continuation of said teeth, at the lower end of said spindle.

3. A picking spindle for cotton harvesters, consisting of an annular body having a series of teeth on diametrically opposite sides reaching to within a short distance of the lower end of said spindle, and a removable section at the lower end of said spindle and having teeth in line with the teeth of the remaining portion of said spindle.

4. A picking spindle for cotton harvesters, consisting of an annular body having a series of teeth on diametrically opposite sides, said body being slotted at its lower end; a flat blade having suitably-formed teeth on its opposing edges, there being a V-shaped seat in said slot, and a correspondingly-shaped part at the end of said blade adapted to engage said seat, and means for retaining said blade within said groove.

In testimony that I claim the foregoing as my invention I have hereunto set my hand in the presence of two subscribing witnesses.

ORLEY C. HOUGHTON.

Attest:

WILLIAM O. STARK,
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