J. C. BOWMAN.

Transplanting-Tool.

No. 199,501. Patented Jan. 22, 1878.

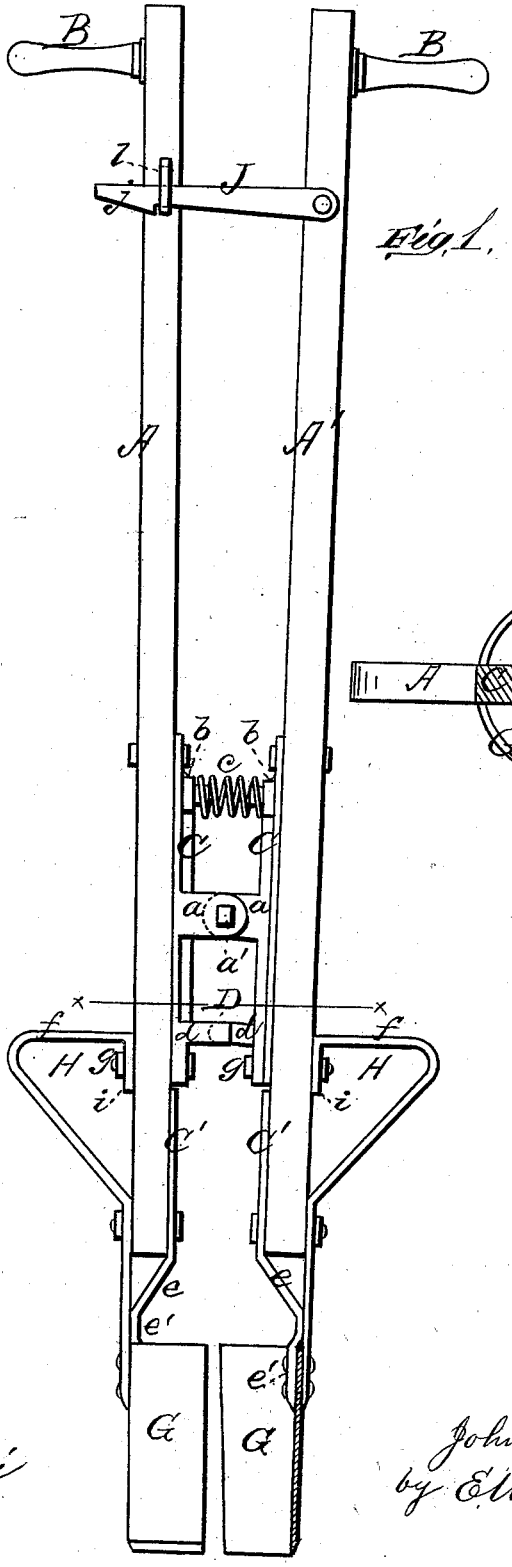
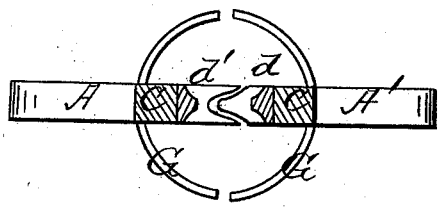


Fig. 1.

Fig. 2.



WITNESSES

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JOHN C. BOWMAN, OF PICKENS, MISSISSIPPI.

IMPROVEMENT IN TRANSPLANTING-TOOLS.

Specification forming part of Letters Patent No. **199,501**, dated January 22, 1878; application filed November 24, 1877.

To all whom it may concern:

Be it known that I, JOHN C. BOWMAN, of Pickens, in the county of Holmes and State of Mississippi, have invented a new and valuable Improvement in Transplanting-Tools; 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 annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side view of this invention open. Fig. 2 is a sectional view of the same, taken through the line *x x* of Fig. 1.

This invention has relation to improvements in transplanters; and the nature of the invention consists in certain novel combinations of parts, whereby very useful results are attained, as will be hereinafter more fully set forth.

In the annexed drawings, the letters A A′ designate the levers of my improved transplanter, preferably made of wood, and provided at their upper ends with manipulating-handles B. C represents metallic plates of suitable strength, secured by means of bolts and nuts, or their equivalents, to the inner surfaces of the levers A A′. At a point on these plates about midway of the length of the transplanter lugs *a* are formed, having each an eye, by means of which and a pivot, *a′*, the said levers are hinged together. Above this fulcrum the plates C are each provided with a projecting spur, *b*, to which a helical spring, *c*, is rigidly but removably secured, and at about the same distance below the fulcrum aforesaid with a guiding device, D, of the following description: One of the plates C is provided with a rabbeted spur, *d*, that enters a recess of corresponding shape in a spur, *d′*, upon the opposite plate C, the said spur *d′* being bifurcated for the purpose. The rabbeted spur is always engaged in the recess of the spur *d′*, and prevents the pivot *a′* from being wrenched, and compels the spring to react and act in its longitudinal axis, whereby its strength is fully exercised and maintained in an unimpaired condition, there being no twisting or racking thereof possible.

The letters C′ represent two plates, secured, respectively, to the respective levers A A′, and extending downwardly therefrom. The said plates are then turned outward in a bend, *e*, and extended down, as shown at *e′*, in a flattened form, and secured to the curved shovels G upon their insides.

H represents metallic foot-rests, secured to the outside of levers A A′ near their lower ends. These rests are secured to the levers by bolts and nuts, and are formed by bending a flat plate of metal in angular form, with one end, *i*, turned in at right angles to the bearing *f*, and perforated to receive the upper bolt *g* below the tread, and the other extended down below the ends of the lever, and concaved to suit the convexity of the shovels G. These latter are segments of a cylinder in form, and when their contiguous edges are in contact, a section taken through the said shovels is not circular. The outline of the shovels is completely circular only when the power ends of the levers are thrust together, and a metallic latch, J, pivoted to one of the levers, is engaged with a staple, *l*, upon the other. This gage extends through the staple, and has a shouldered tapering head, *j*, engaging therewith. Under these circumstances the spring is compressed, and if the shovels are thrust into the ground and a plant dug up, the disengagement of the gage causes the spring to react, compresses the earth between the shovels, and holds the plant firmly. It also reduces the bulk of the soil, so that by opening the levers A A′ it readily drops into a hole prepared for its reception.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a transplanter, the combination, with the pivoted levers A A′ and the spring *c*, of the gage J, as and for the purpose specified.

2. The combination, with the pivoted levers A A′ and spring *c*, of the guide D, consisting of the recessed spur *d′* and the rabbeted spur *d*, engaged in said recessed spur, substantially as specified.

3. The levers A A′, having shovels G upon their ends of less dimensions than a half-cylinder, the fulcrum *a a′*, the spring *c* above said fulcrum, the guide D below it, and the gage

J, combined, arranged, and operating as set forth.

4. The combination, with the shovels G and levers A A′ of a transplanter, of outside foot-plates H, extending downwardly and forming supports for the shovels, and the inside plates C′, extending below the levers, and forming braces to strengthen the lower ends of the plates H at their point of attachment to the shovels, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOHN CALHOUN BOWMAN.

Witnesses:
ELISHA W. BURTON,
J. BENTON WRIGHT.