2 Sheets—Sheet 1.

C. E. GRAVES.

COTTON-HARVESTERS.

No. 193,702. Patented July 31, 1877.

Fig. 1.

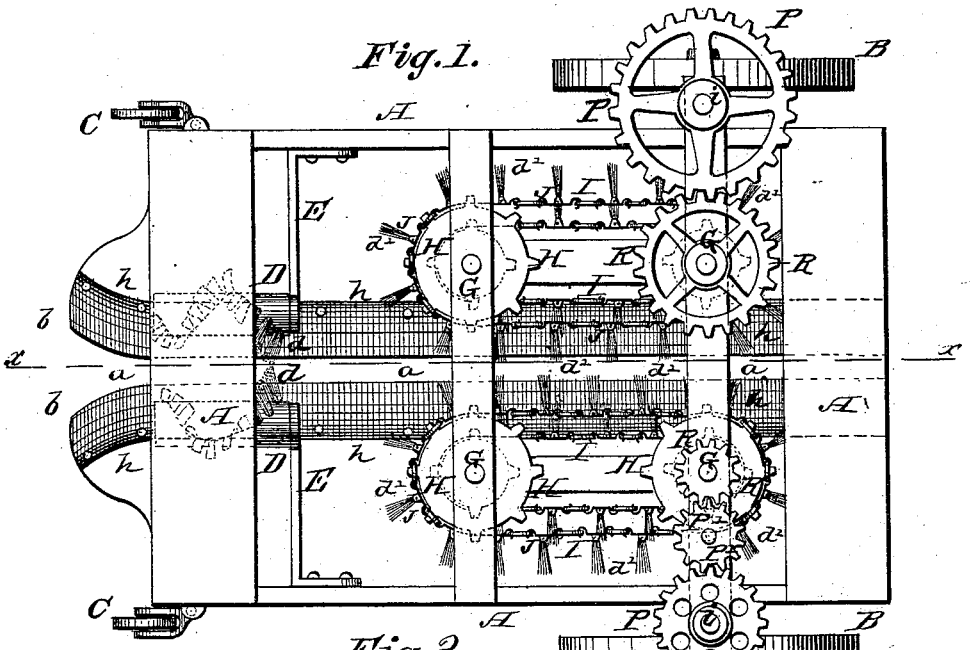
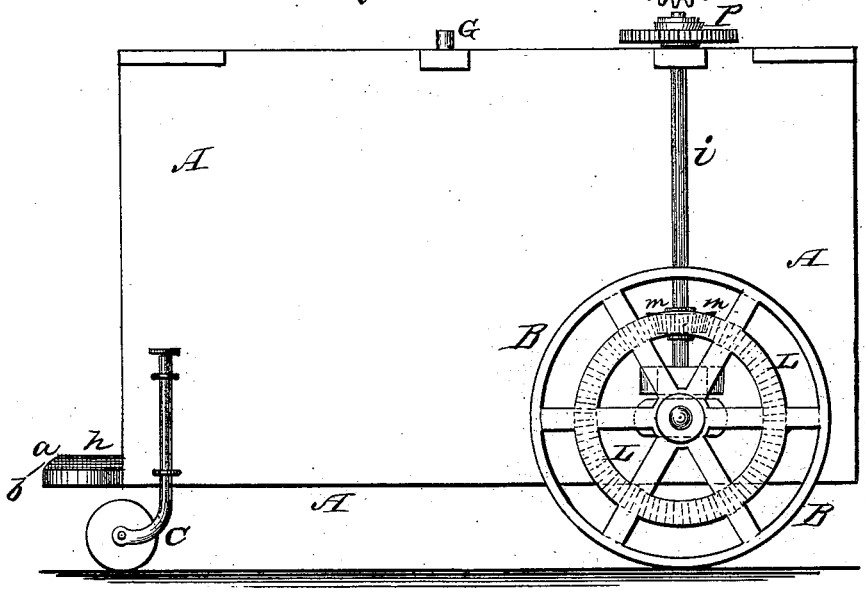


Fig. 2.



Witnesses:

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Frank H. Duffy

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2 Sheets—Sheet 2.

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Fig. 3.

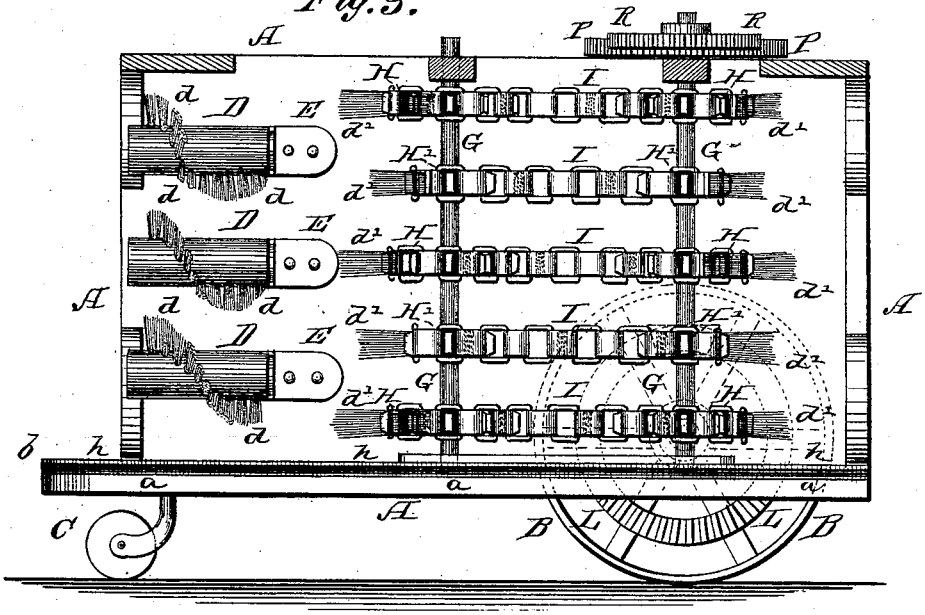


Fig. 4.

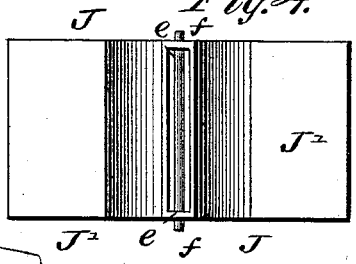
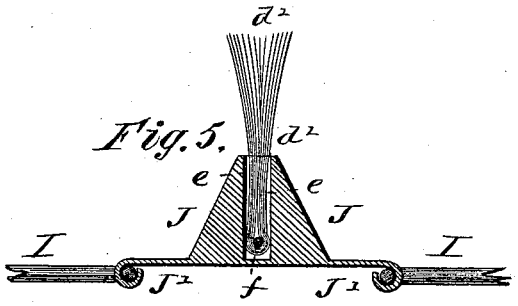


Fig. 5.



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UNITED STATES PATENT OFFICE.

CLINTON E. GRAVES, OF GALVESTON, TEXAS, ASSIGNOR OF ONE-HALF HIS RIGHT TO SAMUEL SAMPSON, OF SAME PLACE.

IMPROVEMENT IN COTTON-HARVESTERS.

Specification forming part of Letters Patent No. 193,702, dated July 31, 1877; application filed June 13, 1877.

To all whom it may concern:

Be it known that I, CLINTON E. GRAVES, of Galveston, in the county of Galveston and State of Texas, have invented certain new and useful Improvements in Cotton-Picking Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in the construction and arrangement of a cotton-picking machine, as will be hereinafter more fully set forth.

In the annexed drawings, which fully illustrate my invention, Figure 1 is a plan view. Fig. 2 is a side elevation. Fig. 3 is a central vertical section on line *x x*, Fig. 1; and Figs. 4 and 5 are enlarged detail views of my invention.

A represents the frame or box of my machine, supported at the rear by large wheels B B, which furnish the motive power to certain band-wheels within the frame, and at the front end the machine is supported by caster-wheels C C, for convenience in turning. In the bottom of the frame A is a central longitudinal slot, *a*, to pass over the cotton-plant, and the bottom at the front end is extended forward to form an enlarged mouth or entrance, *b*, to said slot, to facilitate the entrance of the plant therein. On each side of the slot *a*, at the front end, is arranged a vertical series of horizontal rods, D D, running parallel with said slot, and each rod provided with a series of brushes, *d d*, of flexible steel wires, arranged at intervals in spiral form around the rod. These rods are attached to angular arms E, secured to the frame A at their rear ends, so that their unsupported front ends will penetrate the body of the cotton-plant, and while the machine is in motion the flexible steel-wire brushes *d*, operating as wisps, knock out and loosen the cotton from the burrs. The cotton which is knocked out falls onto a canvas platform, hereinafter described. Back of these brush-rods are two vertical shafts, G G, on each side of the slot *a*, and on these shafts are secured alternate large spur-wheels H, and small spur-wheels H′, the corresponding wheels on the two shafts on each side of the slot being surrounded by an endless chain, I. These various parts are so arranged that the brush-rods D will be on a line with the chains around the smaller spur-wheels H′. Each endless chain I is, at regular intervals, provided with steel-wire brushes *d′*, secured in holders J, and the shafts G are operated by means of gearing in such a manner that the inner sides of the chains on one side of the row will move forward and those on the other side backward, whereby, when the machine is in motion, the brushes *d′* are caused to operate as wisps in knocking out the cotton. By the agitation of the plant thus produced by the action of the brush-rods D and endless brush-chains I the cotton is made to fall down on the underlying canvas platform. The holders J for the brushes *d′* are made of sheet metal, in triangular form, with square ends, and flanges J′ at the base to form the connection with the chain. The apex of the triangle is slightly truncated, and from the apex is a central opening, *e*, extending down to the base, in which the wire brush is inserted, and held by means of a metal pin, *f*, passing through the ends of the holder. By this means the wire brushes are held so firmly in position that their full flexible force is brought to bear on the cotton.

Instead of endless chains and spur-wheels, endless belts and flanged wheels or pulleys may be used, if desired.

In a full-sized machine there will be a canvas platform on each side of the plant, under the brushes, to receive the cotton as it is knocked out by the brushes. Along the inner edges of these platforms, or on the bottom of the frame along each side of the slot *a*, is fastened a rubber strip, *h*, which thus comes next to the plant to prevent any injury to the plant.

Each driving-wheel B is provided with a cog-wheel, L, which meshes with a pinion, *m*, on a vertical shaft, *i*, which carries on its upper end a cog-wheel, P. On one side of the machine this cog-wheel meshes directly with a

cog-wheel, R, on the end of the rear shaft G, while on the other side of the machine an idle cog-wheel, P′, is interposed between them, whereby the two series of endless chains are rotated in opposite directions.

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

1. In a cotton-picker, a vertical series of horizontal rods, D, arranged on each side of the passage for the plant, and provided with spirally-arranged steel-wire brushes *d*, the said rods being supported solely at their rear ends, substantially as herein set forth.

2. In a cotton-picker, two series of horizontally-rotating endless chains, carrying steel-wire brushes, and arranged one series on each side of the passage for the plant, and upon alternately large and small wheels, and the two series rotating in opposite directions, as herein set forth.

3. In a cotton-picker, the combination of the horizontal brush-rods D and the endless rotating brush-chains I, constructed and arranged substantially as and for the purposes herein set forth.

4. The combination, with the driving-wheels B and shafts G, of the gears L *m*, shafts *i*, gears P R, and the single intermediate idle-gear P′, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

CLINTON EUGENE GRAVES.

Witnesses:

L. L. BOONE,

ALEXANDER SAMPSON.