

(No Model.)

3 Sheets—Sheet 1.

G. N. TODD.  
COTTON HARVESTER.

No. 275,094.

Patented Apr. 3, 1883.

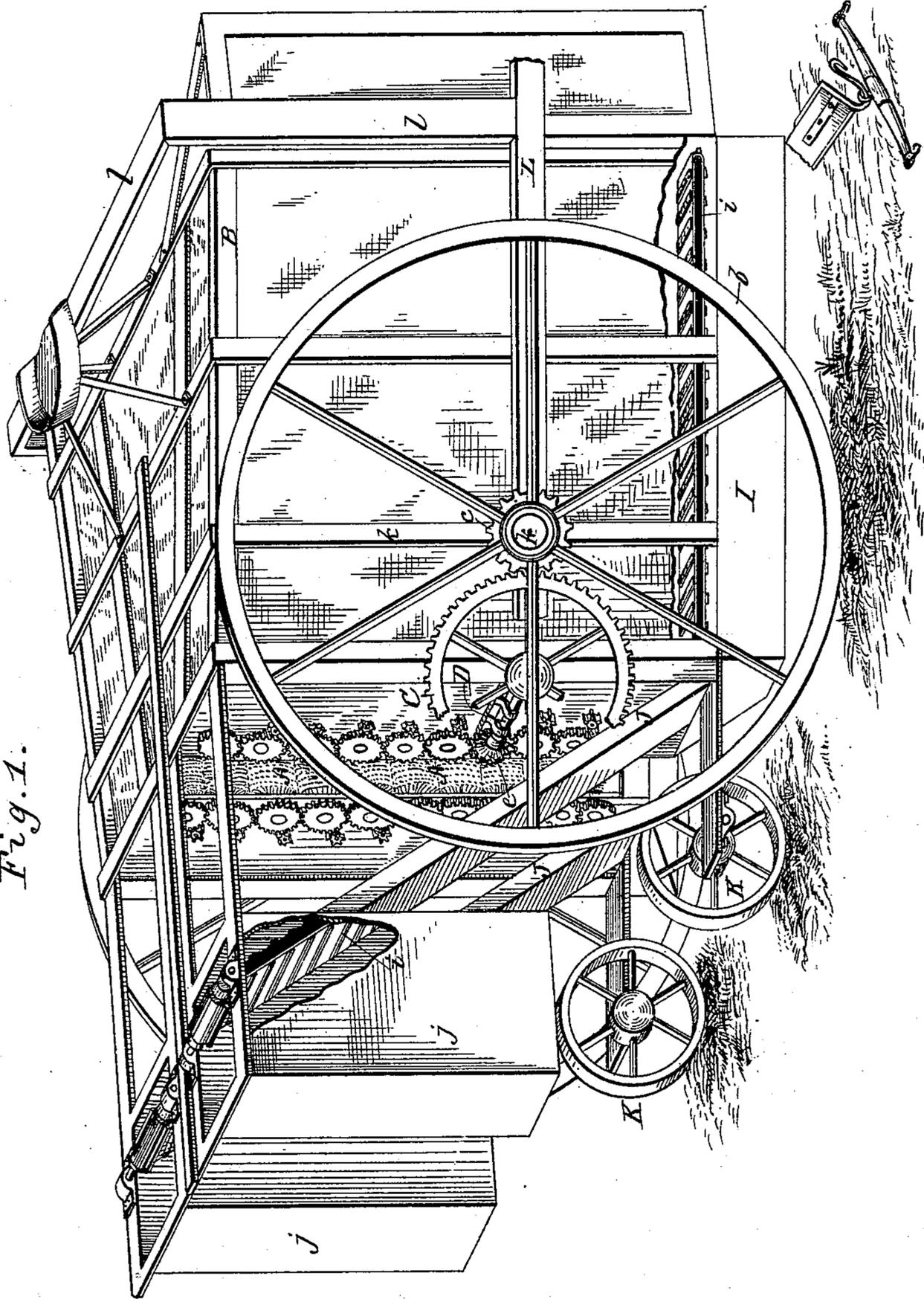


Fig. 1.

Witnesses:  
Thos. Houghton

W. L. Stevens.

Inventor:  
Geo. N. Todd

By Munn & Co  
Attorneys.

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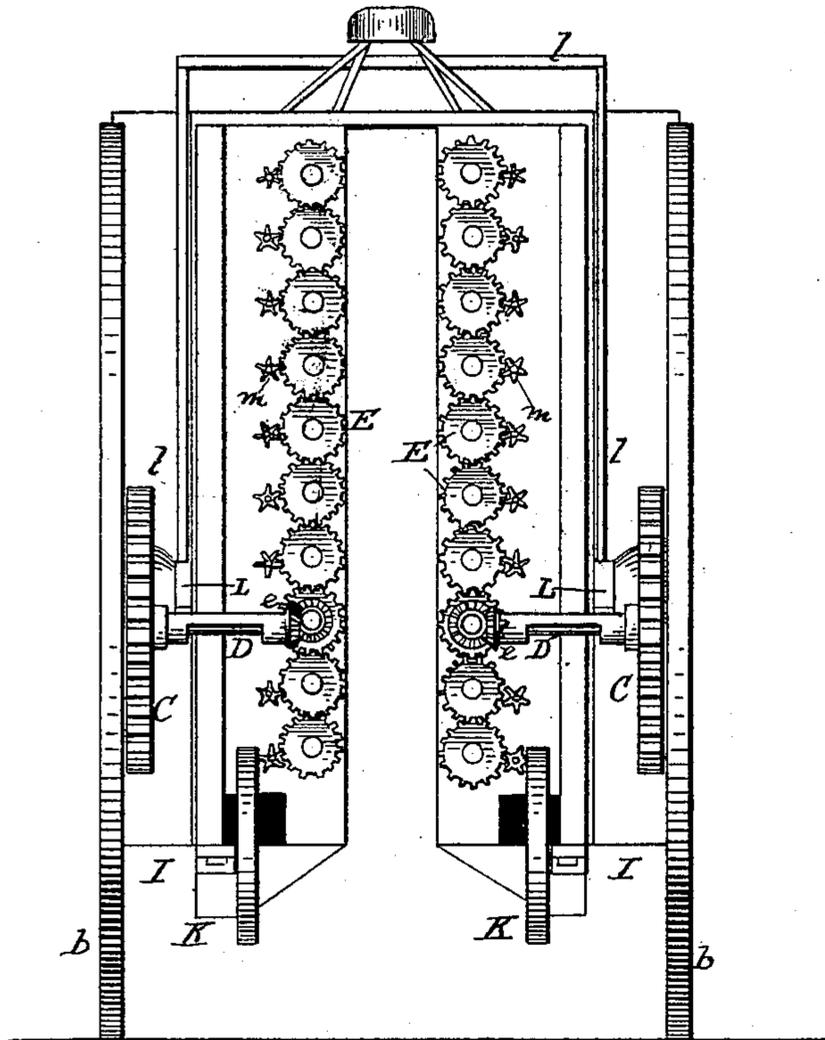
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Fig 2.



Witnesses:  
Thos. Houghton.  
W. X. Stevens

Inventor:  
Geo. N. Todd  
By Munn & Co.  
Attorneys.

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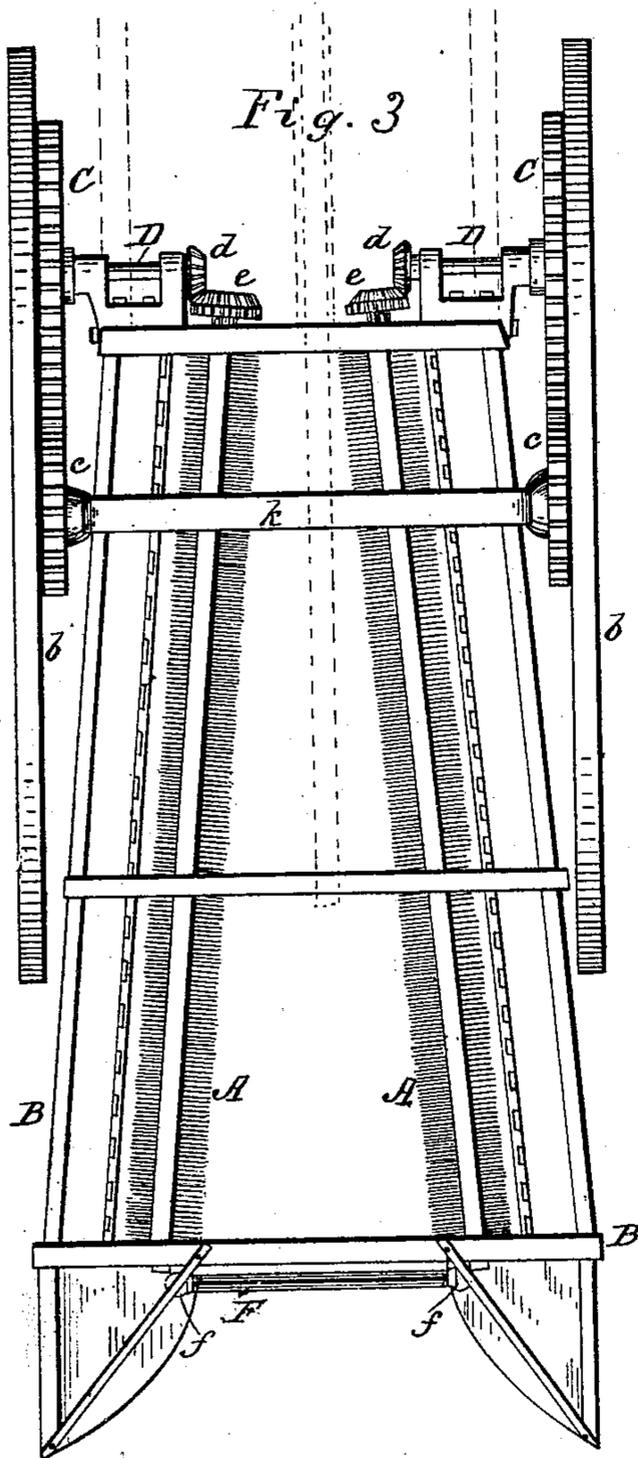


Fig. 3

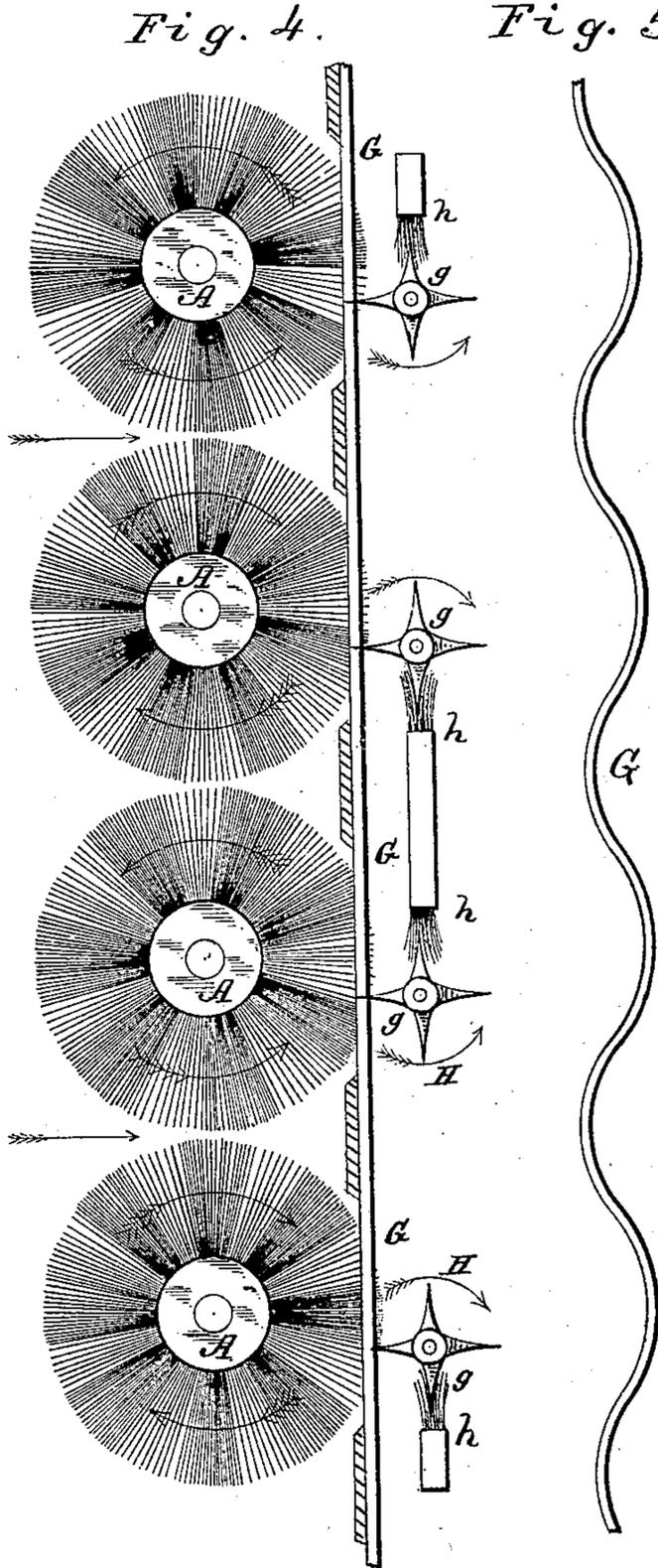


Fig. 4.

Fig. 5.

Fig. 6.



Witnesses:  
 Tho. Houghton.  
 W. H. Stevens.

Inventor:  
 Geo. N. Todd  
 By Mann & Co  
 Attorneys.

# UNITED STATES PATENT OFFICE.

GEORGE N. TODD, OF FORT SMITH, ARKANSAS.

## COTTON-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 275,094, dated April 3, 1883.

Application filed March 7, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE N. TODD, a citizen of the United States, residing at Fort Smith, in the county of Sebastian and State of Arkansas, have invented a new and useful Improvement in Cotton-Harvesters, of which the following is a specification.

My invention relates to that class of cotton-harvesters which are operated to pick the cotton by means of certain parts coming in contact with the cotton as the machine advances along the cotton-row, the picking movements of said parts being caused by the rotation of the wheels of the machine rolling on the ground.

The object of my invention is to adapt a machine to pick all the ripe cotton from a row of plants automatically, with no other assistance than merely being drawn and guided along the row.

To this end it consists in the construction and combination of parts forming a cotton-harvester, hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my cotton-harvester, showing certain parts of the interior through breaks in the casing. Fig. 2 is a rear end elevation, and Fig. 3 is a top view of the same with the cover removed. Fig. 4 is an end elevation of the picking device; and Fig. 5 is an end view of a modification of the bars G, shown plane in Fig. 4.

A represents a series of horizontal cylindrical bristle brushes, journaled one above the other, to revolve in bearings in the frame B. This frame is mounted on two large wheels, *b*, which roll on the ground and support the machine. Each wheel *b* is provided with a pinion, *c*, on its hub, which engages a spur-gear, C, on a short shaft, D, which has a beveled gear, *d*, at its inner end, engaging a beveled gear, *e*, on the shaft of one of the cylindrical brushes A.

E represents a system of spur-gears on the ends of the brushes A, engaging each other in a vertical column to revolve all the brushes by the action of the beveled gears *d e*.

A principal feature of my invention is the angling position of my pickers. The cylindrical brushes and the gearing which drives them are in duplicate sets, one set to run on each side of the row of cotton-plants, and each set

operated independently by the main wheel on that side. The vertical planes of the two sets of horizontal brushes or pickers stand at an angle to each other, opening forward and converging toward the rear, as shown in Fig. 3, and the supporting-frame B is correspondingly converging to carry the brushes in the position shown. By this means the side projecting branches will first come in contact with the pickers. Being held between them as the machine advances, they will be bent forward, the narrow exit at the rear bringing the main stalk nearer to the brushes, they all the time revolving and picking the cotton therefrom until at the rear end of the machine the opposite brushes will be so close together as to reach with their long bristles the smaller branches and gather the cotton from the inner bolls, near the main stalk. These horizontal picker-brushes run near enough to the ground to pick the cotton from the smallest plants, and they extend high enough to reach the top of all cotton of usual growth, and the tops of extremely high bushes will be bent down by the cross-roller F to pass between the pickers. The side vertical rollers, *f*, will have the same effect in assisting extremely long branches to pass between the pickers.

G represents a great number of vertical parallel bars, of straight or serpentine form, against which the brushes revolve, projecting through the spaces between these bars.

*g* represents a cylinder in the inside of the casing of the machine, opposite and along each brush-cylinder. Each cylinder *g* is provided with metallic teeth, either straight, as in Fig. 4, or curved, as in Fig. 6, which, in revolving meet the brushes between the bars G, and strip the cotton from the brushes between the bars and carry it around in the direction of the arrows H to the stationary brushes *h*, which take the cotton from the strippers and drop it to the carrying-receptacles I below, or to the carrier-belts *i*, which are caused to travel the length of the picking-cylinders, as shown in Fig. 1, and thence upward through a trough, J, to the rear receptacles, *j*. The toothed cylinders *g* are geared, by the gears *m*, each to the rear side of its brush-gear E.

The large wheels *b* run in the water-furrows between the cotton-rows, and I provide two small wheels, K, to run on the rows beside the

plants to support the rear end of the machine, whose center of gravity is behind the axle *k* of the large wheels, and the small wheels are hung to the rear of the machine, with their lower faces enough above the lower faces of the large wheels to accommodate the usual height of the earth in the row. By this means the machine will be caused to follow the contour of the earth in the row. The forward end of the machine, being wide enough to escape the row and elevated above the water-furrows, has sufficient elevation to prevent its points being nosed into the ground.

The shafts *L* are journaled upon the axle of wheels *b* to allow the machine to oscillate freely to and fro between them, and they are connected together by means of a yoke-shaped bar, *l*, extending freely over the top of the machine.

The team is attached to the forward ends of the shafts to travel each side of the row of cotton.

In picking cotton with this machine it is drawn along straddling the row of cotton to be picked, with the widest opening between the picking-cylinder brushes forward. The brushes, revolving, draw the branches of the plant in between them and continue to brush the cotton therefrom until the machine passes and allows the bushes to spring back to their natural position. Each set of brushes, advancing angularly forward, first seizes the branches by their ends and gradually approaches the stalk, taking in the short branches, thus cleaning the cotton from the whole plant. The leaves and other trash which may be at the same time gathered by the brushes will be stopped by the bars *G* from entering the machine, and be carried past the openings between the bars and dropped on the ground, while the cotton fiber, adhering to the bristles of the brushes, will be carried between the bars *G* and saved clean and free of trash inside the machine, as before described. Thus it serves as a cotton separator and cleaner, saving much of the future

work usually required for this purpose. On account of the elasticity of the bristles, which act on the branches and bolls of cotton in picking the fiber therefrom, the plants will not be broken, pulled up, or otherwise injured in the act of picking cotton.

What I claim as my invention is—

1. In a cotton-harvester, the pickers consisting of two series of revolving horizontal cylindrical brushes, the brushes of each series placed one above the other, and the two series forming an angle with each other, opening forward and converging toward the rear, shaped as described.

2. The combination, with the revolving horizontal cylindrical brushes *A*, of the vertical bars *G*, the revolving metallic-toothed cylinders *g*, and the stationary brushes *h*, as and for the purpose specified.

3. The combination, with the two converging series of horizontal revolving cylindrical brushes, each series having a number of brushes one above the other, and the two series forming an angle with each other, opening forward and converging toward the rear, of a converging frame having bearings for said brushes to revolve in, as shown and described.

4. The combination, with the brush-cylinders *A* and their gears *E*, of the toothed cylinder-strippers *g*, and their gears *m*, engaging said gears *E* at the rear, as shown and described.

5. The combination, with the frame *B*, having a converging passage longitudinally through it, and the wheels *b b*, of the wheels *K K*, journaled to the rear of said frame, at the ends of the inner converging sides thereof, the lower faces of said wheels *K K* being higher than the lower faces of the wheels *b b*, as and for the purpose specified.

GEORGE N. TODD.

Witnesses:

W. X. STEVENS,  
GEO. S. BROCK.