(No Model.) 4 Sheets—Sheet 1.

M. PLATT.

COTTON PICKING MACHINE.

No. 347,058. Patented Aug. 10, 1886.

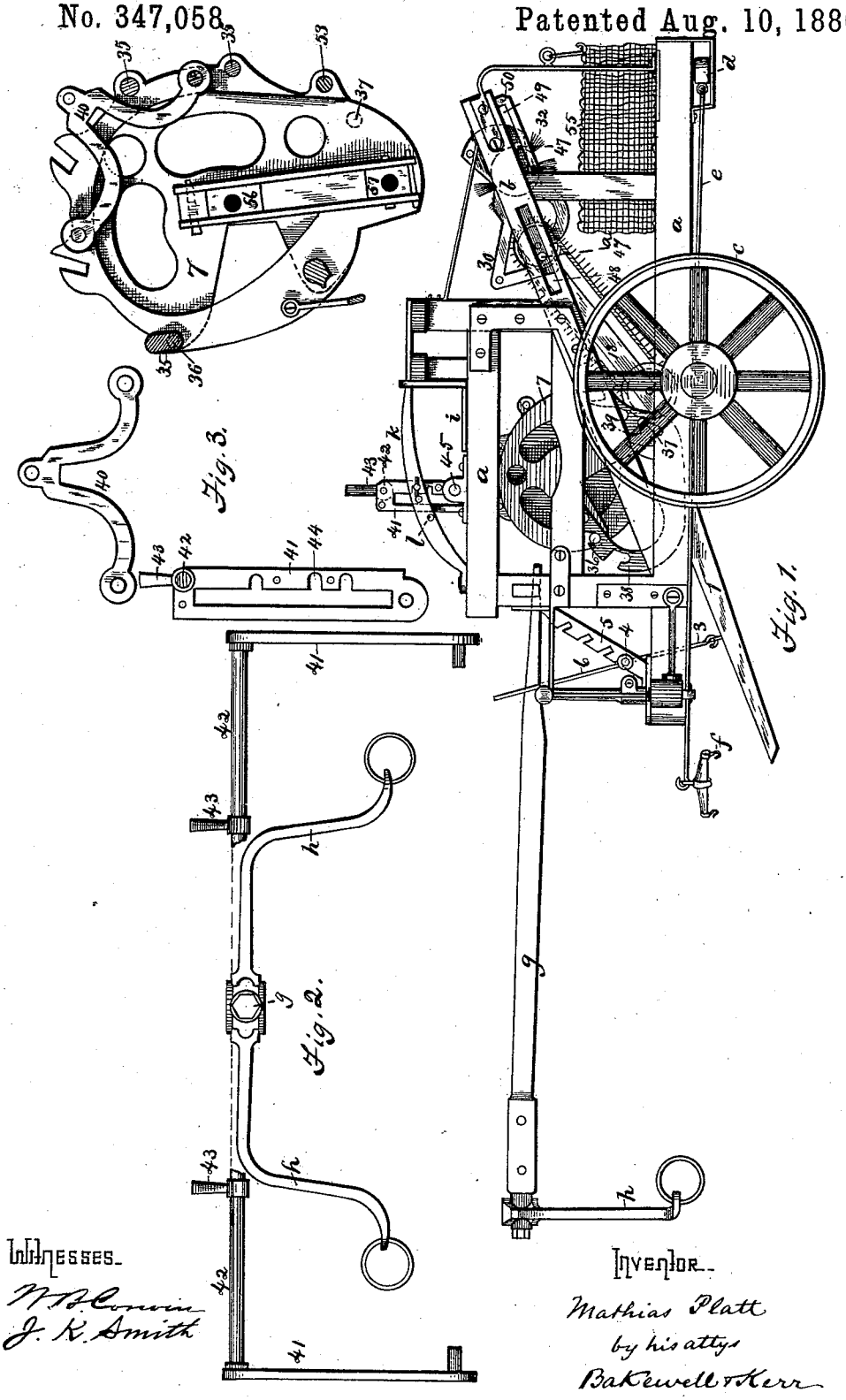

Fig. 3.

Fig. 1.

Fig. 2.

WITNESSES.

N. B. Comin

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(No Model.)

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Fig. 5.

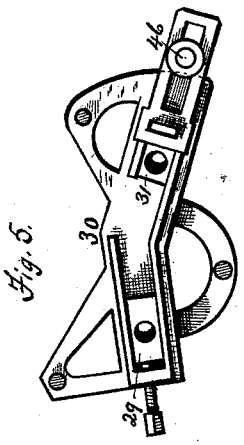

Fig. 4.

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M. PLATT.

COTTON PICKING MACHINE.

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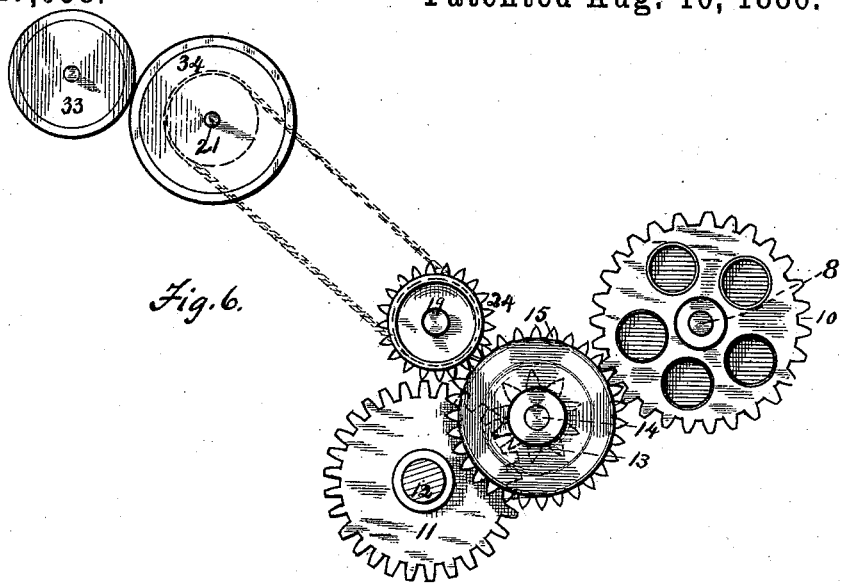

Fig. 6.

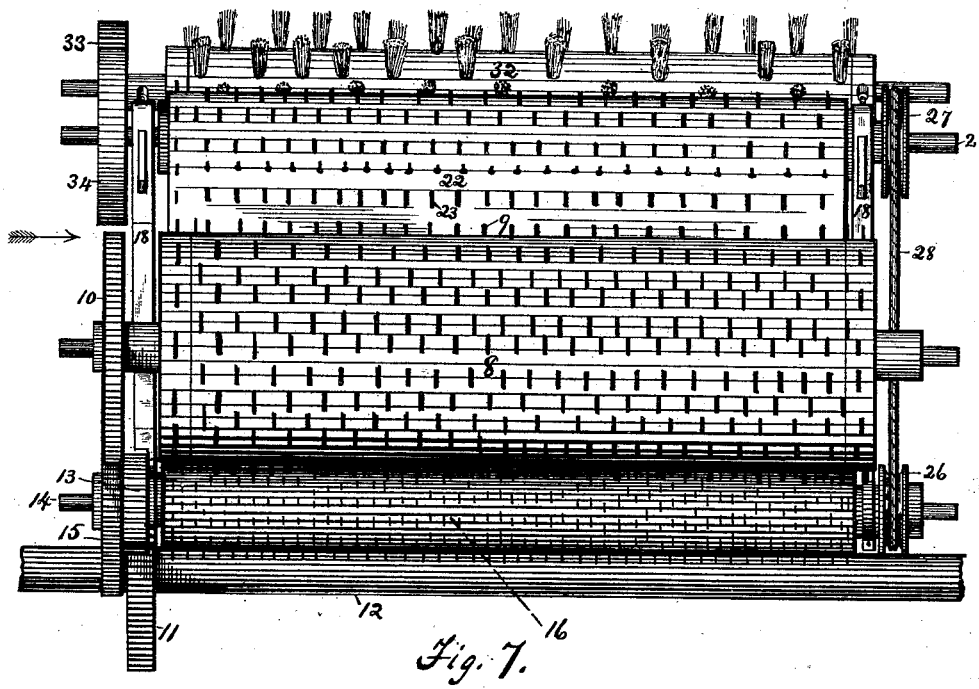

Fig. 7.

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(No Model.) 4 Sheets—Sheet 4.

M. PLATT.

COTTON PICKING MACHINE.

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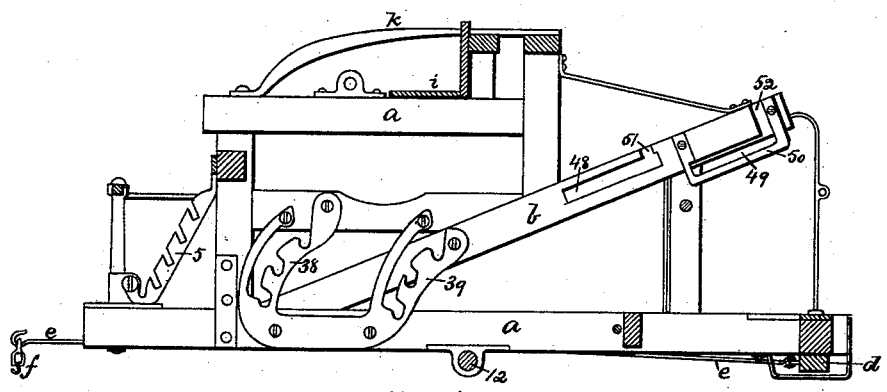

Fig. 8.

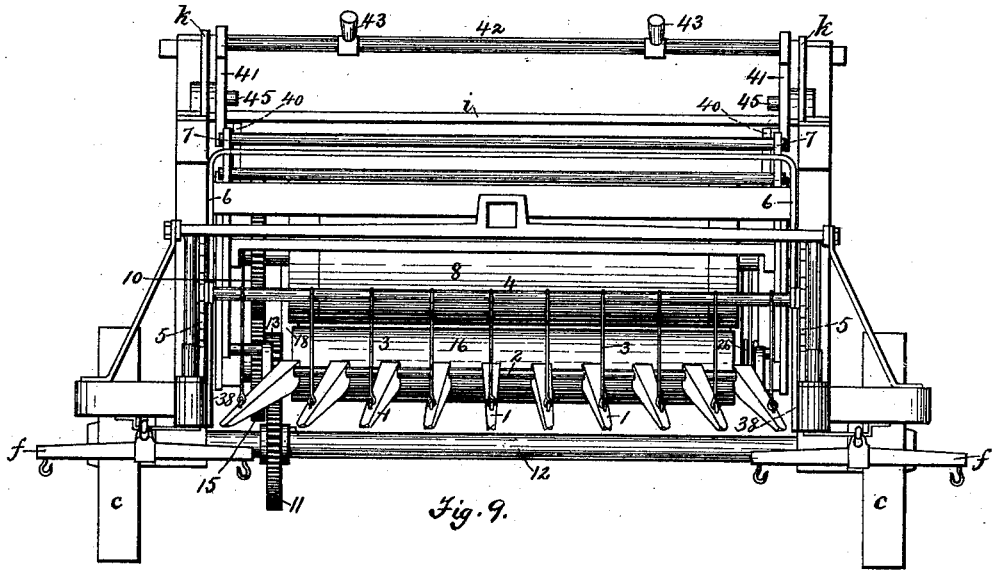

Fig. 9.

Witnesses.
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UNITED STATES PATENT OFFICE.

MATHIAS PLATT, OF IMPERIAL, ASSIGNOR OF THREE-FOURTHS TO JOHN W. McCREEDY, ANDREW J. McQUITTY, AND WILLIAM HILL, ALL OF MANSFIELD, PENNSYLVANIA.

COTTON-PICKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 347,058, dated August 10, 1886.

Application filed September 18, 1885. Serial No. 177,428. (No model.)

To all whom it may concern:

Be it known that I, MATHIAS PLATT, of Imperial, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Cotton-Picking Machines; and I do hereby declare the following to be a full, clear, and exact description thereof.

My improvement in cotton-picking machines consists of a wheeled vehicle carrying fingers for raising and collecting the cotton-stalks and guiding them so that their heads or bolls are brought within the range of a gathering-cylinder, which separates such heads or bolls and carries them into the range of a stripping-cylinder, by which they are stripped off from the gathering-cylinder and deposited on an endless belt, which carries them to a basket or receptacle, into which they are discharged.

The parts of the machine are adjustable as to height, so as to suit various heights of plants and the heights of the various grades or growths of cotton-bolls thereon, and also relatively to each other, so that they may be set accurately and so as to accomplish in the best manner their various functions.

To enable others skilled in the art to make and use my invention, I will now describe it by reference to the accompanying three sheets of drawings, in which—

Figure 1 is a side elevation of my improved machine. Fig. 2 is a front view of the breast, collar, and adjusting-levers. Figs. 3 are detail views of one end of the rocking frame 7, which carries the adjustable gathering-roll, of the loop 40, attached to frame 7, by means of which the frame is suspended, and of the arms or levers 41, by means of which the rocking frame 7 is moved to adjust gathering-roll 8. Fig. 4 is a longitudinal vertical section with the frame which carries the gathering and stripping cylinders thrown up out of gear, for purposes of illustration. Fig. 5 is a detail of one side of the frame 30, in which the revolving clearing-brush 32 and the upper roller, 21, of the carrying-belt 22 have bearings. Fig. 6 is a view of the power-connections, looking in the direction of the arrow in Fig. 7. Fig. 7 is a front view of the cylinders, belt, and brush detached from the frame of the machine. Fig. 8 is an inside view of one of the sides of the frame of the machine. Fig. 9 is a front elevation, the teeth being omitted from the cylinders for greater clearness of illustration.

Like letters and figures of reference indicate like parts in each.

My machine has a rake composed of a series of fingers, 1, pivotally mounted on a rod, 2, at their rear ends, and separated thereon by collars. The front ends of the fingers are suspended by links 3 from an adjusting-bar, 4, and the ends of the bar rest in the notches of two racks, 5, placed at the sides of the frame *a* of the machine. The bar 4 is provided with a bail, 6, placed within reach of the driver, so that the fingers can be raised or lowered to the desired altitude, where they are fixed by resting the bar in the proper notches of the racks 5. The rod 2 is mounted on a rocking frame, 7, and is also connected therewith by links 2^a, (see Fig. 4,) to control the swing of fingers 1. Mounted in the same frame, over the rear ends of the fingers, is a cylinder, 8, having hook-shaped teeth 9 on its periphery, projecting backward in the direction of the rotation of the cylinder. The cylinder is provided with a gear-wheel, 10, and is driven from a gear-wheel, 11, mounted on the axle 12, which wheel gears into an intermediate pinion, 13, mounted on a shaft, 14. On the shaft 14 is a gear-wheel, 15, which meshes into the wheel 10, so that said cylinder 8 is driven from the axle 12 by means of gear-wheels 11, 13, 15, and 10. The shaft 14 is mounted on the frame 7, and carries a stripping-roller, 16, provided with straight pins or teeth 17, which play between the curved teeth 9 of the gathering-cylinder 8 when in a working position. The stripping-roller is rotated by the axle 12 somewhat faster than the cylinder 8 by means of the gear-wheel 11 and the pinion 13. Extending backward from the opposite ends of the shaft 14 are two arms, 18, and journaled in the same, close to the stripping-roller 16, is a roller, 19. At the upper ends of the arms 18, and journaled in sliding bearings, the positions of which are in-

dicated in Fig. 4 by 20, is a second roller, 21. A belt, 22, provided with straight teeth 23, is mounted on the rollers 19 and 21. This belt is driven by the roller 19, on one end of which is a pinion, 24, which gears into and is driven by the gear-wheel 15. The belt 22 is tightened by means of the tension-screws 25, which project from the outer ends of the arms 18, and are connected with the sliding bearings 20. On the end of shaft 14 is a sheave or pulley, 26, and on the corresponding end of roller-shaft 21 is another sheave or pulley, 27, and extending over such pulleys is a cord or belt, 28, by which the upper belt-roller, 21, is driven from the shaft 14. If desired, it may be driven in like manner from the lower roller, 19, instead of from the shaft 14. This gives a stronger and steadier, and consequently a better, movement to the belt than when it is driven by one roller only. The ends of the roller-shaft 21 extend into sliding bearings 29, mounted in detachable frames 30, secured in the sides of the main frame. The belt may be tightened by these bearings 29, if desired, instead of by the bearings 20. Mounted also in sliding bearings 31 in the detachable frame 30 is a revoluble brush, 32, which is provided with a friction-pulley, 33, which bears against and is driven by a friction-wheel, 34, on the roller-shaft 21. The brush 32 may be adjusted with reference to the roller 21 by means of the adjusting-screws 46. The frame-pieces 30 are each provided with two pins, 47 47ª, on the rear side, Fig. 1, one of which, 47ª, rests in the slot 48 in each side bar, *b*, of the frame, and the other in the slot 49 in a plate, 50, fastened to each side bar, *b*, beyond the slot 48. The slots 48 and 49 have lateral slots or grooves 51 52, Figs. 4 and 8, which permit the frames 30 to be drawn out of their supports.

Secured to the frame 7 directly back of the cylinder 8 is a bar, 53, carrying stripper-fingers 54, between which the curved teeth 9 of the cylinder move, so that said fingers 54 shall strip from the teeth any shreds of cotton fiber which may pass the teeth of the stripping-roller 16.

The frame 7 is composed of two end pieces connected by tie-rods 35. Each end piece has two pins, 36 and 37, Figs. 1 and 3, which rest in the notches of two curved racks, 38 and 39. Pivoted to a loop, 40, one of which is attached to each end of the rocking frame 7, is an arm, 41, which arms are connected by a cross-bar, 42, having handles 43. The arms 41 are slotted, and provided with notches 44 in the slot, and pins 45 project from the frame *a* through said slots. The arms 41 act as levers, having their fulcrums at the pins 45, to throw the frame 7 into and out of the racks 38 39, and as sustaining devices in raising and lowering said frame from one height to another. Placed on the frame *a* below the upper or rear end of the belt 22, and below the brush 32, is a basket, 55, which receives the cotton from the belt.

This machine is mounted on a truck or frame, *a*, having wheels *c*, and a double-tree, *d*, situate at the rear end. From each end of the double-tree a rod, *e*, extends forward, and at the front end has a single-tree, *f*, for attaching the draft-animals. It has a tongue or pole, G, a breast-yoke, *h*, a driver's seat, *i*, and guide-strips *k*, for guiding the levers 41, in which are holes *l*, for inserting pins to hold said levers in a given position. The journals of the cylinders 8 and 16 are mounted in adjustable bearings 56 57, Fig. 3, on the inner faces of the frame 7, for the purpose of setting them accurately together.

The cylinder 8, roller-shaft 14, and shaft 19 are all journaled in the frame 7, which, in adjusting said parts to a higher or lower level, moves in a curve nearly concentric with the axle, so as not to disconnect the gearing.

Thus constructed, the operation of my improvement is as follows, viz: The fingers 1 are adjusted, as described, by means of the rod 4 and racks 5, to the proper height to suit the particular crop to be gathered. The frame 7 is also adjusted as to height so that the parts carried thereby may be in corresponding position. Then as the vehicle is drawn across the field the cotton-stalks are gathered up by the fingers 1, and guided thereby into the range of the teeth 9 of the gathering-cylinder, which seize the heads or bolls and detach them from their stalks, in this being aided by the teeth 17 of the stripping-cylinder 16. The teeth 17 have the further function of stripping the cotton from the teeth 9 and carrying it within reach of the teeth 23 of the belt 22, by which it is carried up over the basket 55, and is there discharged into the basket by the action of the brush 32. There are three separate pickings on a cotton-plant: the top bolls, which contain the best quality, are gathered first; in a few days the bolls which grow lower on the stalks and contain the middle grade ripen and are gathered; and still later the most inferior quality, which grows still lower on the stalk, ripens and is gathered.

My machine, with its fingers and cylinders adjustable, as described, to any necessary height, is capable of use in gathering the entire crop, being as applicable to the second and third pickings as to the first. It effects a great saving of time and labor, as it will in a given time do the same amount of work as a considerable number of hands.

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

1. In a cotton-harvester, the combination of gathering-fingers, a gathering-cylinder mounted over the rear ends of said fingers, a stripping-roll arranged below the gathering-cylinder and at the rear ends of the gathering-fingers, and a toothed conveying-belt to receive the cotton from the stripping-roll, substantially as and for the purposes specified.

2. In a cotton-harvester, the combination of gathering-fingers, a gathering-cylinder mount-

ed over the rear ends of the gathering-fingers, a stripping-roll arranged below the gathering-roll at the rear end of the gathering-fingers, and auxiliary stripping-fingers arranged above the stripping-roll adjacent to the periphery of the gathering-cylinder, substantially as and for the purposes specified.

3. In a cotton-harvester, the combination of gathering-fingers, a gathering-cylinder mounted over the rear ends of the gathering-fingers, a stripping-roll arranged below the gathering-cylinder at the rear ends of the gathering-fingers, auxiliary stripping-fingers arranged above the stripping-roll and adjacent to the periphery of the gathering-cylinder, and a toothed conveyer-belt to receive the cotton from the stripping-roll, substantially as and for the purposes specified.

4. In a cotton-harvester, the combination of gathering-fingers, a gathering-cylinder arranged over the rear ends of the gathering-fingers, a stripping-roll arranged below the gathering-cylinder at the rear of the gathering-fingers, a toothed conveyer-belt to receive the cotton from the stripping-roll, and a revolving brush arranged to sweep the end of the conveyer-belt, substantially as and for the purposes specified.

5. In a cotton-harvester, the combination of a rocking frame, adjustable gathering-fingers supported on the rocking frame, a gathering-cylinder mounted on the rocking frame, and a stripping-roll, also mounted on the rocking frame, substantially as and for the purposes specified.

6. In a cotton-harvester, the combination of adjustable gathering-fingers, a rocking frame, a gathering-cylinder and a stripper mounted on the rocking frame, racks 38 and 39, and levers for shifting the rocking frame in the racks, substantially as and for the purposes specified.

7. In a cotton-harvester, the combination of gathering-fingers, a rocking frame, a gathering device and a stripper mounted in the rocking frame, racks 38 and 39, slotted and notched levers 41, and fulcrum-pins on the main frame, substantially as and for the purposes specified.

8. In a cotton-harvester, the combination, with the conveyer-belt roll and the clearing-brush, of a frame, 30, provided with sliding bearings for the belt-roll and clearing-brush, substantially as and for the purposes specified.

In testimony whereof I have hereunto set my hand this 26th day of August, A. D. 1885.

MATHIAS PLATT.

Witnesses:
C. C. LEE,
W. B. CORWIN.