

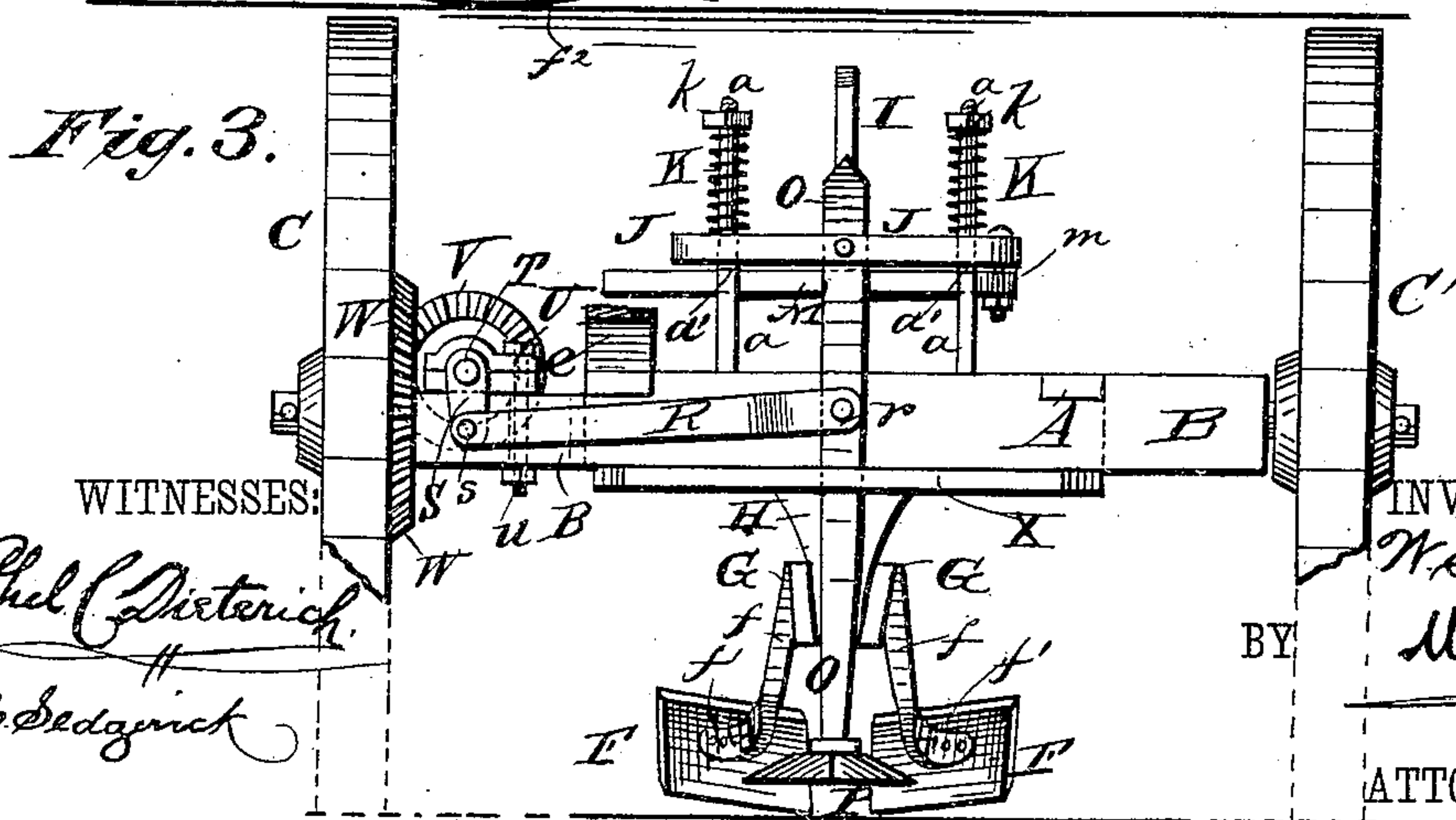
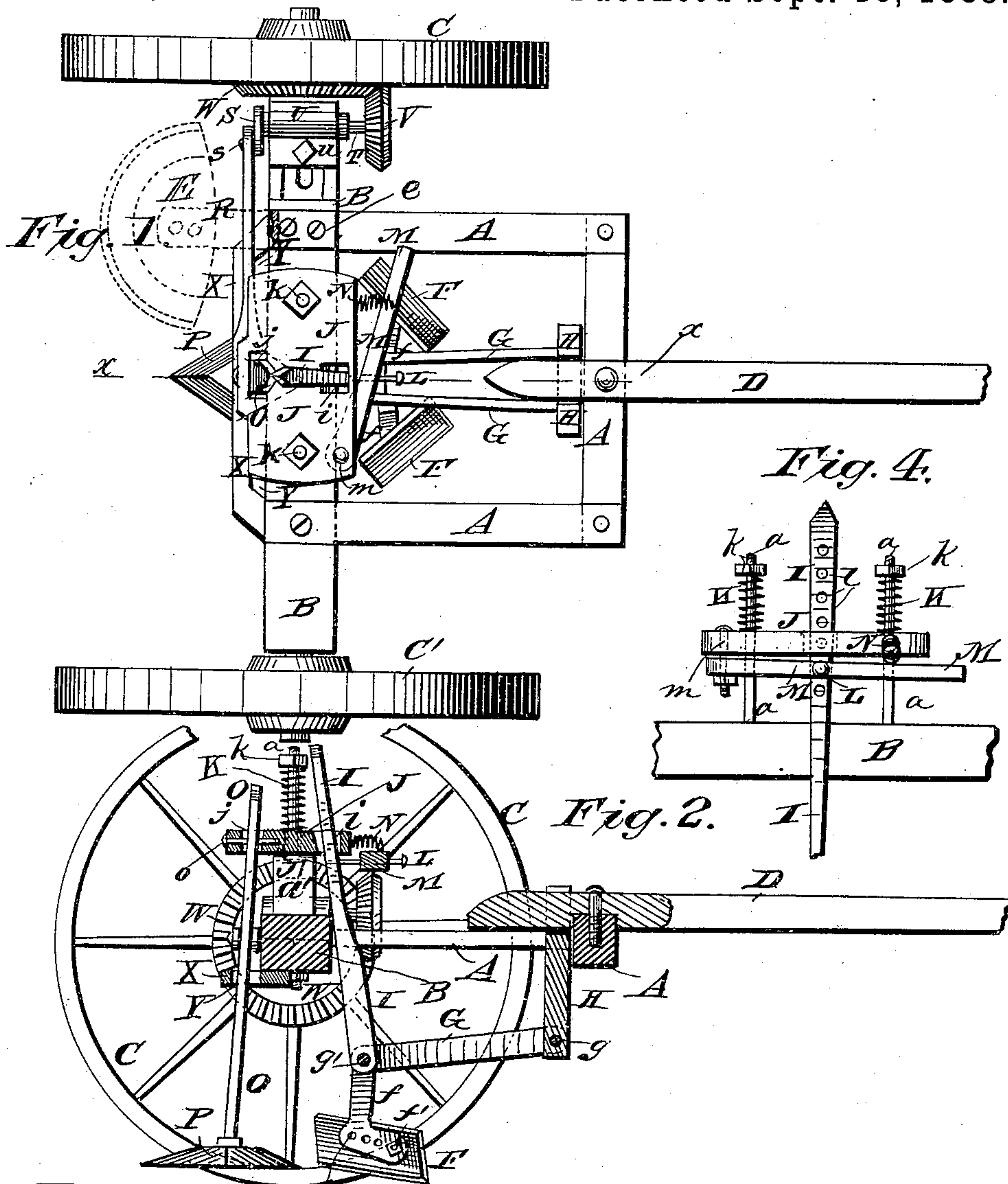
(No Model.)

W. E. MORRIS.

COTTON SCRAPER AND CHOPPER.

No. 389,850.

Patented Sept. 18, 1888.



WITNESSES:

Phil. Charterick

C. Sedgwick

INVENTOR:

W.E. Morris
Munn & Co.

BY

ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM EDWARD MORRIS, OF CRUTCHFIELD, KENTUCKY.

COTTON SCRAPER AND CHOPPER.

SPECIFICATION forming part of Letters Patent No. 389,850, dated September 18, 1888.

Application filed January 25, 1888. Serial No. 261,881. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM EDWARD MORRIS, of Crutchfield, in the county of Fulton and State of Kentucky, have invented a new and Improved Cotton Scraper and Chopper, of which the following is a full, clear, and exact description.

My invention relates to cultivators for use in growing crops, cotton particularly, and has for its special object to provide a simple, inexpensive, and efficient machine of this class which will scrape, weed, and freshen the earth at each side of a row of plants, and which will at the same time chop the plants to a stand, and do this work easily and uniformly well irrespective of irregularities of the ground-surface.

The invention consists in certain novel features of construction of the cotton-cultivator, all as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of my improved cotton scraper and chopper with the sulky tongue or pole partly broken away. Fig. 2 is a side elevation partly in section on the line *xx*, Fig. 1, and with parts broken away. Fig. 3 is a rear view of the machine with parts broken away, and Fig. 4 is a detail front view hereinafter particularly referred to.

The operative parts of the machine are supported on a sulky consisting of a frame, A, fixed to an axle, B, supported by wheels C C', and having a tongue or pole, D, to which the horses will be hitched, and a seat, E, for the driver, which is held by a spring, *e*, to the frame, and preferably at its left-hand side.

The scrapers F F are held to two short standards, *f f*, which are fixed to the rear ends of two beams, G G, which are pivotally connected by a pin, *g*, to the lower end of a pendent plate or block, H, which is fixed to the sulky-tongue D or to the frame A, and is preferably forked around the tongue. The back ends of the beams G G are pivotally connected by a pin, *g'*, with the lower end of a standard or bar, I, which extends upward through a slot, *i*, in a board or plate, J, which is supported so as to have free vertical play on two short posts, *a a*, fixed to the frame and provided with should-

ders *a' a'*, onto which the plate J is normally pressed by a couple of springs, K K, which are placed loosely on the reduced or rounded upper ends of the posts *a a* and expand between the plate J and nuts *k k*, screwed on the upper ends of the posts.

The standard I is provided with a series of holes, *l*, into any one of which may be set a pin, L, which is fixed to the central portion of a lever, M, having its fulcrum at one end on a pin, *m*, which holds it to the yielding plate J, and the lever is held by a spring, N, to the other end of the plate, beyond which it projects to allow the driver on the seat E to conveniently push the free end of the lever M forward to disengage its pin L from the standard I, to allow said standard and the scrapers, F F, connected to it to rise to permit the scrapers to clear stumps, stones, or other obstructions in the path of the machine, the end pivots of the beams G allowing this vertical motion of the scrapers. The scrapers F are held to their short supports *f* by means of bolts *f'*, which may be set in any one of a series of holes, *f''*, made in the scrapers, which allows the two scrapers to be set at any required distance apart to properly weed out or clear and freshen the ground at each side of a row of plants to be chopped to a stand by a vibratory hoe operating immediately behind the scrapers, as will be next described. This chopping-hoe P is a flat steel blade, diamond-shaped in area and sharpened at all edges, and is fixed to the lower end of a lever, O, which is passed through a slot, *j*, in the plate or board J, and is fulcrumed to said plate by a pin, *o*, so as to swing or vibrate laterally across the row of plants. This motion is imparted to the hoe P by means of a pitman, R, which is connected at *r* to the hoe-lever O, and at its other end is connected to a wrist-pin, *s*, on a crank, S, fixed to a shaft, T, which is journaled in a bearing-plate, U, and carries a bevel gear or pinion, V, which meshes with a driving gear-wheel, W, held to the adjacent sulky-wheel C, and whereby the hoe will be operated as the machine moves forward. The bearing U is fitted to slide laterally in suitable guides held to the axle B, and may be held in any required position by a set screw or bolt, *u*, which construction allows the bearing to be set closer to the sulky-frame A to ungear the

pinion V from the driving-wheel W on the sulky-wheel to allow the chopping-hoe P to remain at rest while the machine is being drawn to and from the place of use. This adjustable bearing U also allows pinions V of varying sizes to be put on the shaft S, so as to gear with the wheel W to give varying speeds of vibration to the chopping-hoe to regulate the spacing apart of the plants which are left standing to grow. The pin r is made of wood or other suitable substance which will break should the vibrating hoe P meet an obstruction, to prevent damage to the hoe or its driving mechanism.

15 A plate or bar, X, is held to the axle B in a manner to provide a laterally-ranging slot, Y, between said bar and the axle, in which slot the lever O is guided as the hoe vibrates.

As the chopping-hoe is connected to the vertically-yielding plate J, and as the lever M, also connected to and below said plate, is held by the pin L to the scraper-standard I, it is obvious that the scrapers will be free to rise and fall to conform to irregularities of the ground-surface, and as any vertical movement of the scrapers will be communicated to the plate J, which rises against the tension of the springs K, the chopping-hoe must necessarily rise and fall with the scrapers and conform with them to the contour of the ground-surface, which construction allows the entire machine to operate easily and do uniformly good work.

The scraper and chopper devices may at any time be disconnected from the sulky to allow the attachment thereto of any kind of plows, harrows, or other agricultural implements or devices useful at various stages of growth of different crops, as will readily be understood. Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a cotton-cultivator, the combination of scrapers connected pivotally to yielding beam-supports on the machine-frame and a vertically-movable spring-pressed plate supported on the frame, said scrapers and plate being relatively arranged to permit their vertical movement to allow the scrapers to accommodate themselves to uneven ground-surfaces, substantially as herein set forth.

2. In a cotton-cultivator, the combination of scrapers connected pivotally to yielding beam-supports on the machine-frame, a vertically-movable spring-pressed plate supported on the frame, said scrapers and plate being relatively arranged to permit their vertical movement to allow the scrapers to accommodate themselves to uneven ground-surfaces, and a vibratory chopping-hoe fulcrumed to said spring-pressed plate, so as to rise and fall with the scrapers, substantially as herein set forth.

3. The combination, in a cotton-cultivator, of a sulky comprising a wheeled frame, A, and axle B, beams G, pivotally connected to the frame or a hanger thereon, scrapers F, held to these beams, a lever, I, connected to the beams, a plate, J, supported on the axle, springs normally depressing the plate, a lever, M, fulcrumed to said plate, and a pin, L, on the lever M and adapted to engage the lever I, substantially as described, for the purposes set forth.

4. The combination, in a cotton-cultivator, of a sulky comprising a wheeled frame, A, and axle B, beams G, pivotally connected to the frame or a hanger thereon, scrapers F, held to these beams, a lever, I, connected to the beams, a plate, J, supported on the axle, springs normally depressing the plate, a pin, L, on the lever M and adapted to engage the scraper-lever I, a chopping-hoe, P, fulcrumed by its lever O to the plate J, to rise and fall with it and the scrapers, and pitman, cranked shaft, and gearing-connections operating the hoe from one of the sulky-wheels, substantially as described, for the purposes set forth.

5. In a cotton-cultivator, the combination, with the frame A, of posts *a a* thereon, having reduced upper parts, a plate, J, loosely fitted on said posts and provided with openings *i j*, adapted to receive the scraper-standard and chopping-hoe lever, and springs K on the posts *a* above the plate J, substantially as shown and described.

WILLIAM EDWARD MORRIS.

Witnesses:

T. W. BRYAN,
J. L. MOSS.