(No Model.) 2 Sheets—Sheet 1.

A. F. BOWMAN, C. H. OHMART & A. A. ALLEN.

TOBACCO HILLER.

No. 494,621. Patented Apr. 4, 1893.

Fig 1

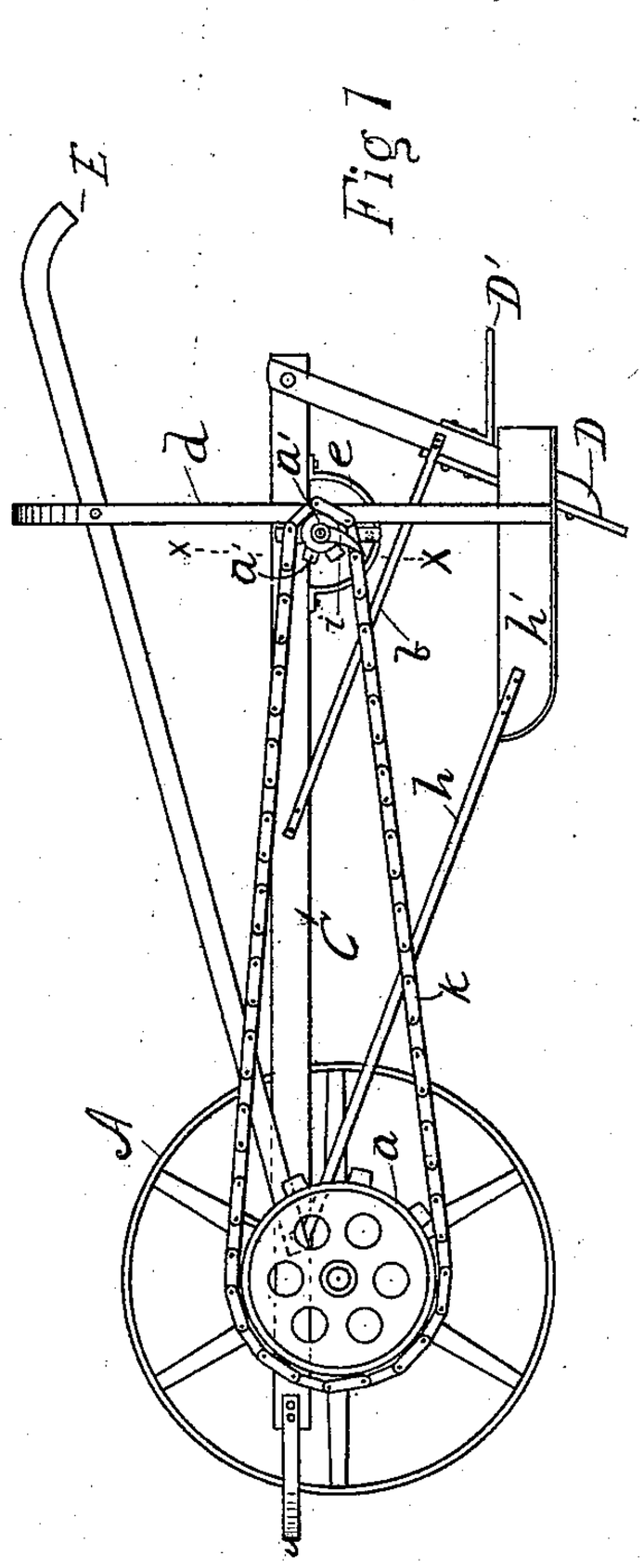
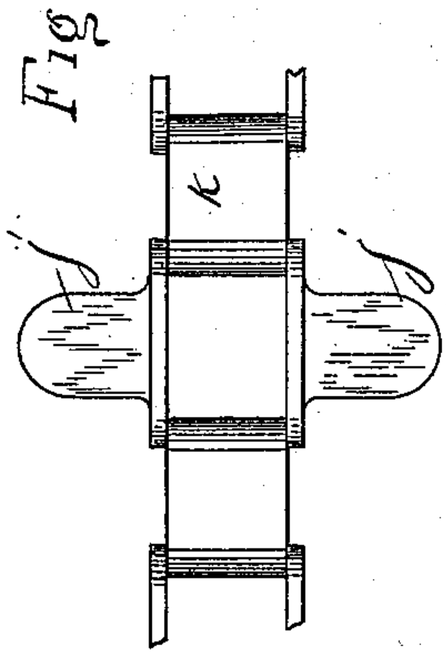


Fig 2



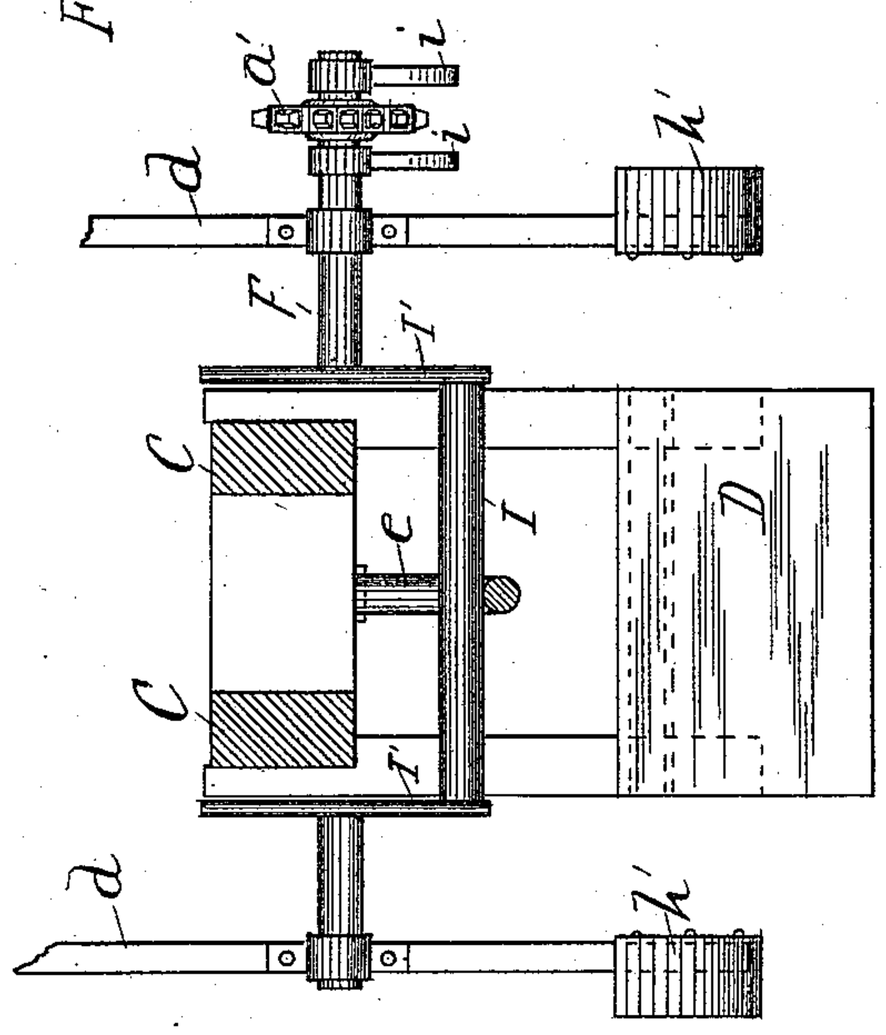


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Fig 4

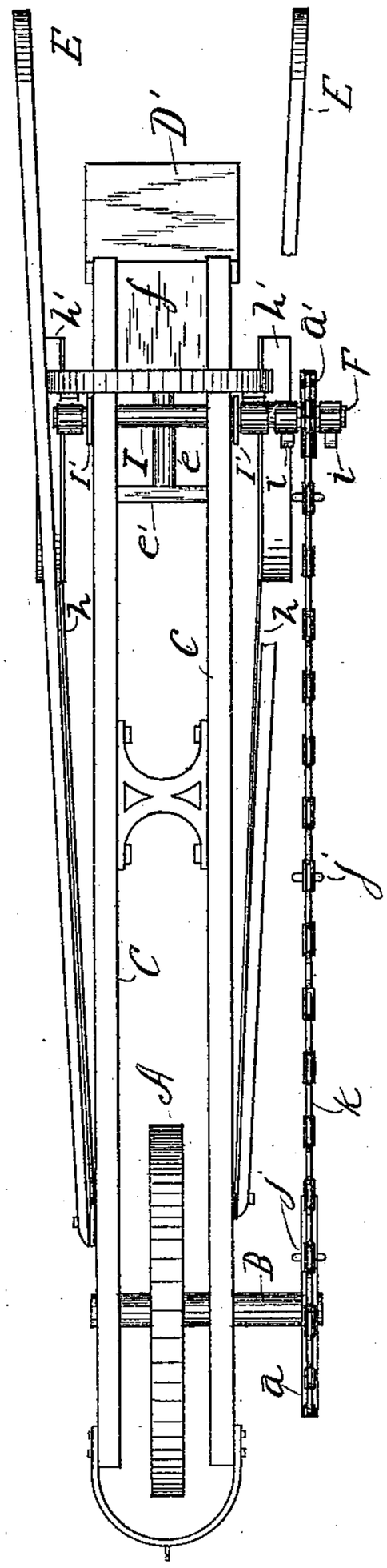
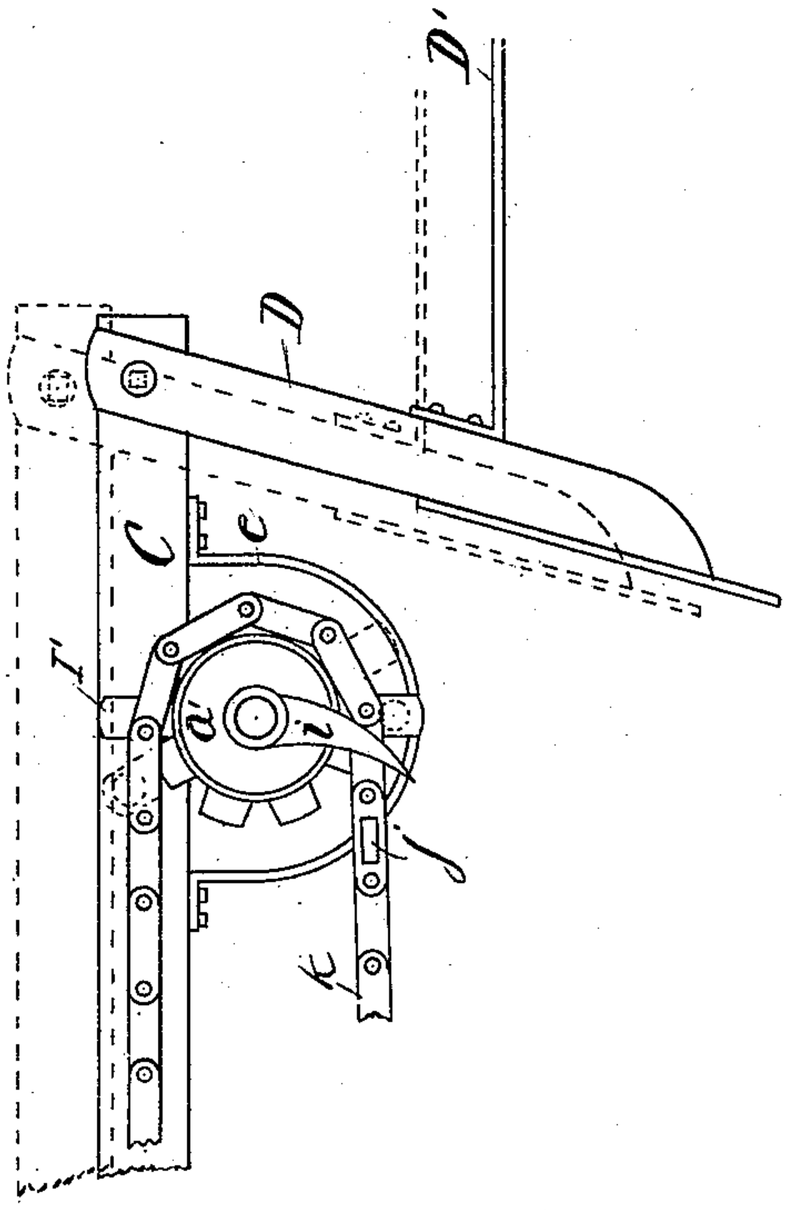


Fig 5



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UNITED STATES PATENT OFFICE.

ABRAHAM F. BOWMAN, CHARLES H. OHMART, AND ALBERT A. ALLEN, OF DAYTON, OHIO.

TOBACCO-HILLER.

SPECIFICATION forming part of Letters Patent No. 494,621, dated April 4, 1893.

Application filed December 27, 1892. Serial No. 456,410. (No model.)

To all whom it may concern:

Be it known that we, ABRAHAM F. BOWMAN, CHARLES H. OHMART, and ALBERT A. ALLEN, of Dayton, county of Montgomery, State of Ohio, have invented a new and useful Improvement in Tobacco-Hillers, of which the following is a specification.

Our invention relates to new and useful improvements in the class of agricultural implements known as tobacco hillers.

The object of the invention is to provide means for scraping up a suitable amount of earth from the ground, into small hills, at certain distances apart, to suitably level the top of the hill so collected, for the introduction of the tobacco plant. In the attainment of this object, our improvements have reference to a combined hoe and patter, adapted to be operated up and down, and to the horizontal beams pivotally attached to the shaft of the driving wheel, and to the rear end of which, the hoe and patter are attached; to a segmental rod attached to the under side of the beams, a crank rod rigidly attached to a rear shaft at right angles to the segmental rod, and adapted to describe a circle in which it alternately comes in contact with the beams and the segmental rod thereby depressing or raising the hoe and patter, and means for rotating said rear shaft all of which will be fully described in the specification and claims.

The drawings herewith presented illustrate our invention, and are referred to in the following order, reference letters thereon indicate corresponding parts in the several views.

Figure 1. is a side elevation of our improved tobacco hiller. Fig. 2. an enlarged vertical section, on the line *x*—*x* of Fig. 1. Fig. 3. an enlarged detached, detail of the sprocket chain with laterally projecting wings. Fig. 4. a plan view of the entire machine, with one of the handles broken to avoid obscuring any of the essential features. Fig. 5. an enlarged side elevation of the rear part of the beams.

Referring in detail to the drawings, A denotes the driving wheel which together with sprocket wheel (*a*) is rigidly secured to a main shaft B, pivoted to the horizontal beams C—C; these beams are suitably braced, and support at their rearward ends, the combined hoe D, and patter D′, with the brace rod *b* and also the horizontal segmental rod *e*, one end of which is provided with a cross piece *e′* adapted to be secured to the under side of the beams, and the other end, to the block *f* which secures the rear ends of the beams together; this rod is one of the essential elements of our invention, and will be hereinafter described in operative relation to other parts.

h—*h* denotes drag rods pivoted to the forward ends of the beams, and E—E represents the handles of the machine, pivoted against the said drag rods at front, these rods extend rearwardly on an incline and have their rear ends rigidly secured to runners or slides *h′*—*h′*. An arched frame *d* encircles the rear parts of the machine and is rigidly secured in a vertical position to the runners *h′*—*h′* and the handles E—E.

In the rear of the machine, a shaft, F is pivoted to the frame *d*, whereon it has the bearings as shown in Fig. 2., a crank consisting of rod I, side flange pieces I′ and I′ are rigidly attached to this shaft in a position to bring the said flanges in sliding contact with the sides of the beams when the crank is rotated by the shaft, and thereby preventing the rod I from lateral movement. A. sprocket wheel *a′* is pivoted to one end of the rear shaft, and dogs *i*—*i* are rigidly attached to said shaft on either side of the sprocket wheel; the ends of these dogs project beyond the periphery of the wheel, and are adapted to be caught by the wings *j*—*j* projecting laterally from the chain *k*, as the said chain travels around the sprocket wheels. The projecting pieces or wings *j*—*j* release the dogs after the latter have rotated the shaft F sufficiently to cause the crank rod I to make two thirds of a revolution or thereabout wherein the said rod comes in contact with the lower sides of the beams, raising them and therewith the hoe and patter from the ground, after which the crank rod falls by gravity against the segmental rod *e* and thereby presses the hoe to the ground, and presents the dogs in a position to be again taken around by the approaching wings.

Fig. 2. shows the dogs in a position preparatory to being caught by the laterally projecting wings on the sprocket chain, and in this view is also shown the crank rod out of

contact with the beams, the hoe resting upon the ground and supporting the rear ends of the beams. It will be understood that only the beams and the parts rigidly attached thereto are subjected to the action of the crank. A hill thus raised is jumped by the hoe when the crank rod I engages with the beams, and in its continued rotation again with the rod *e* to raise a succeeding hill, the moment the hoe makes a succeeding contact with the ground, the rearwardly projecting patter presses the crest of the previously raised hill, and flattens it to an extent suitable for the introduction of the plant. The distance between the hills is regulated by the space intervening between the wings on the chain. In the drawings the chain is shown set for hills two feet apart. The handles are not affected by the vibrations of the beams yet they add pressure to the hoe while the same is in contact with the ground. Should it become necessary to drive the machine without operating the hoe and patter, the crank may be prevented from turning by placing a pin or wedge between the flanges and the under side of the beams.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a tobacco hiller, the combination with the main shaft, of the vertically reciprocating beams provided with a combined hoe and patter rigidly attached thereto; and subjected to a reciprocating motion, thereby, substantially as described.

2. In a tobacco hiller, the combination with the main shaft and driving and sprocket wheels mounted thereon, of vertically reciprocating beams carrying a combined hoe and patter secured at right angles to each other and rigidly attached to said beams, a segmental rod also attached to said beams, a rear shaft rotatably attached to an arched frame, a sprocket wheel pivoted to said shaft between dogs *i*—*i*, a crank rigidly secured to said shaft, and the means for rotating the same to bring said crank alternately against the beams and the segmental rod, substantially as described.

3. In a tobacco hiller, the combination with a carrying frame consisting of vertically reciprocating beams pivoted to the shaft of the driving wheel, and drag rods with runners pivoted to said beams, of a segmental rod, rigidly, and a rear shaft, having a crank rod, pivotally, attached to said beams, a combined hoe and patter secured at right angles to each other, and rigidly attached to the reciprocating beams, the means as described of rotating said rear shaft, to raise and lower the beams, substantially as described.

4. In a tobacco hiller, a frame consisting of beams C C pivoted to the front shaft, and drag rods and runners pivoted to said beams and the arch *d* attached to said runners, of a combined hoe and patter D and D′, and a segmental rod attached to said beam, and a rear shaft attached to the arch *d*, with means for rotating said rear shaft whereby the beams are given a reciprocating motion to lower and raise the hoe and patter, as herein described.

In testimony whereof we have hereunto set our hands this 15th day of December, 1892.

ABRAHAM F. BOWMAN.
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Witnesses:
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