(No Model.) 2 Sheets—Sheet 1.

B. J. CURRY.

COTTON CHOPPER AND CULTIVATOR.

No. 284,389. Patented Sept. 4, 1883.

Fig. 1.

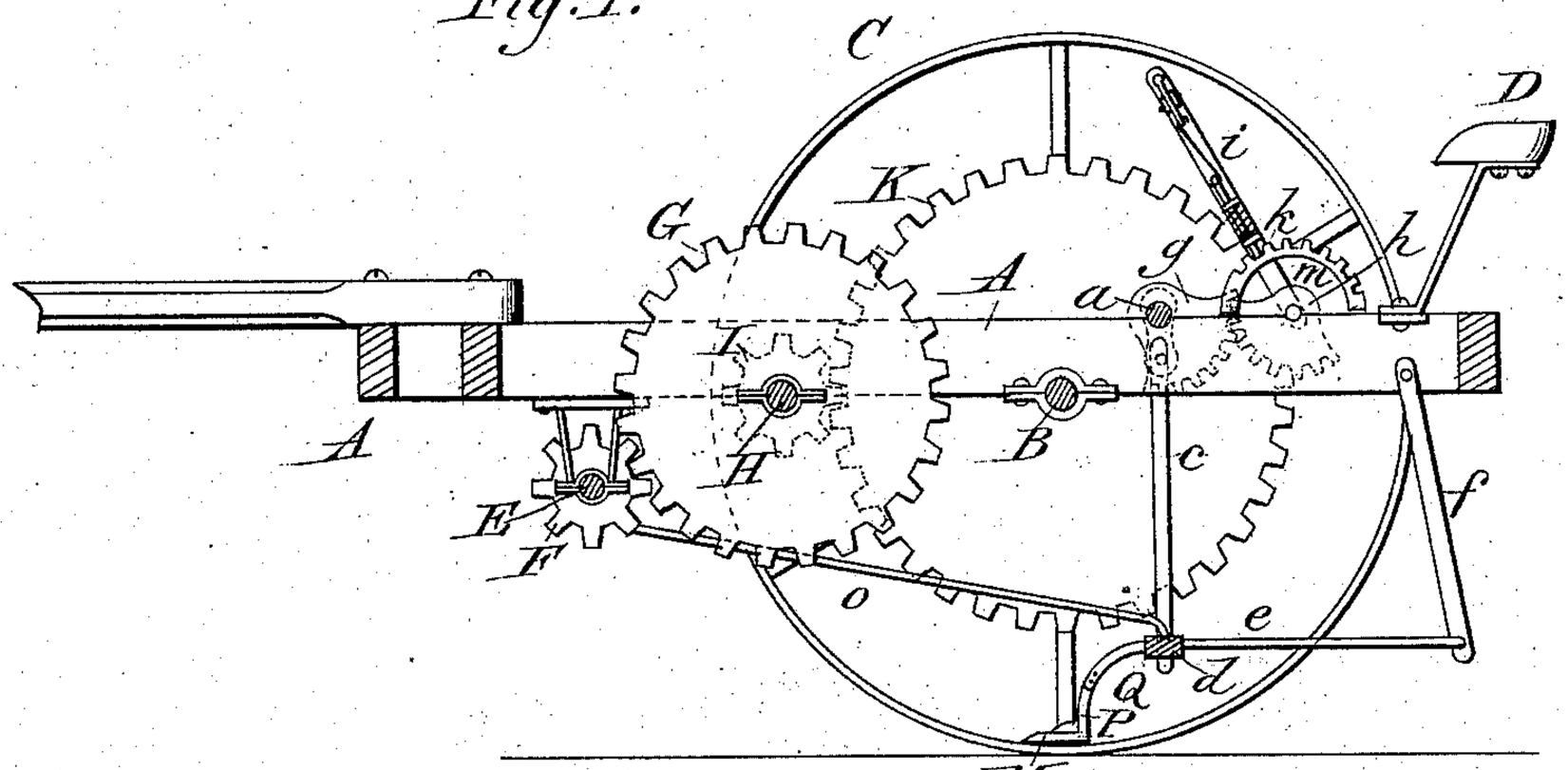
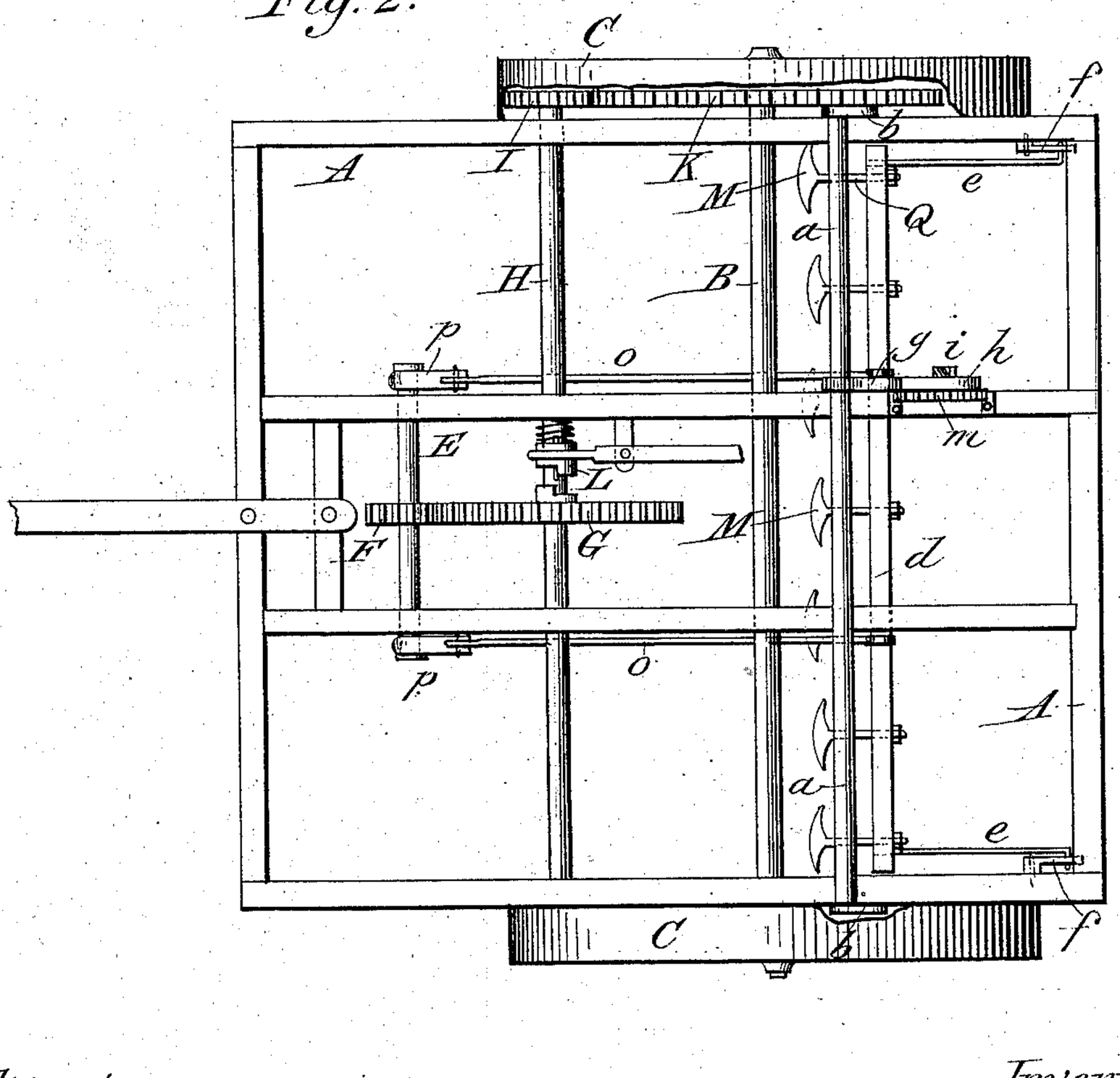


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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COTTON CHOPPER AND CULTIVATOR.

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Fig. 3.

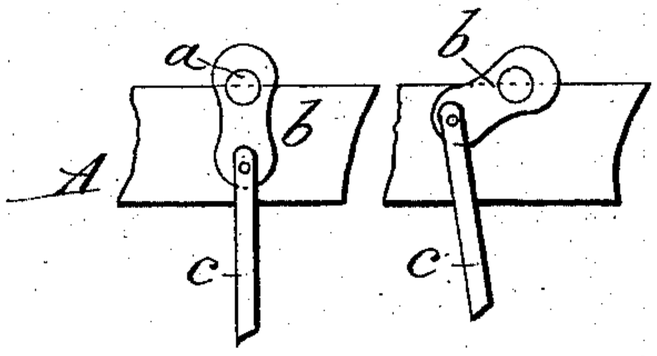


Fig. 4.

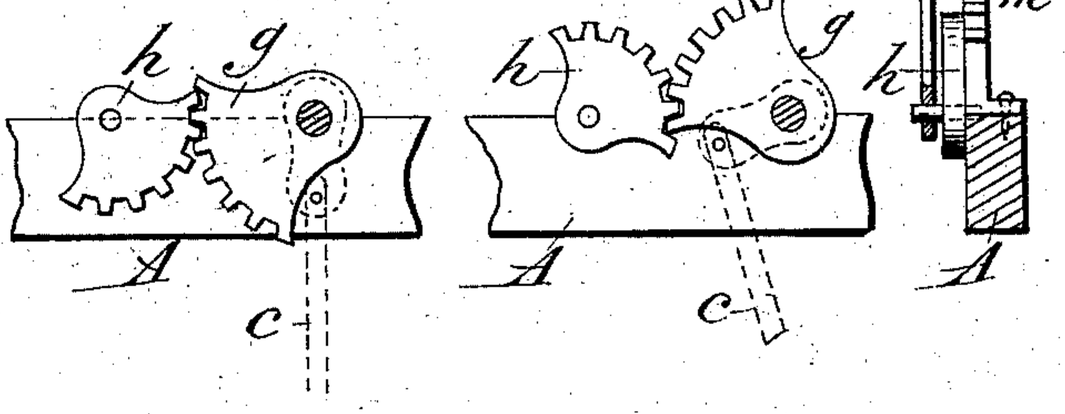


Fig. 5.

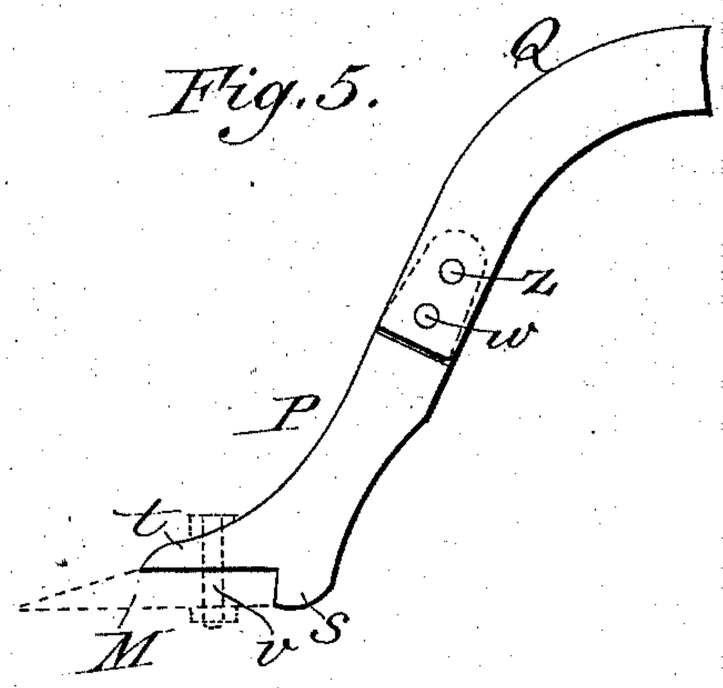


Fig. 6.

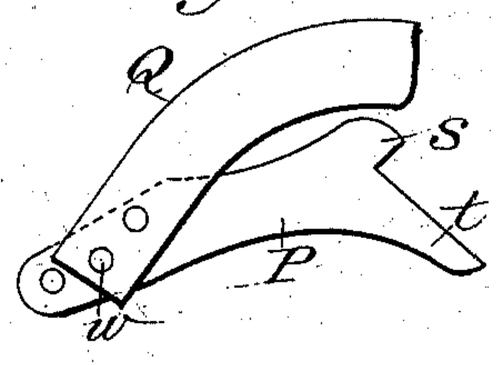


Fig. 7.

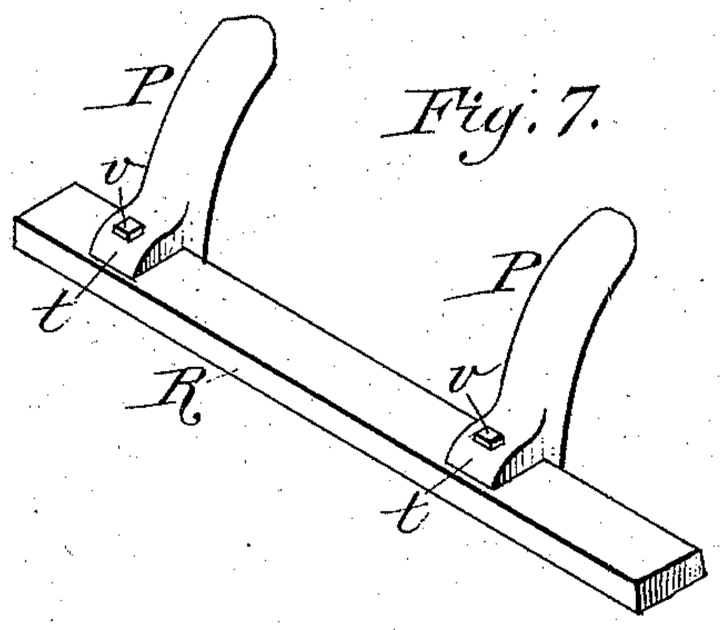
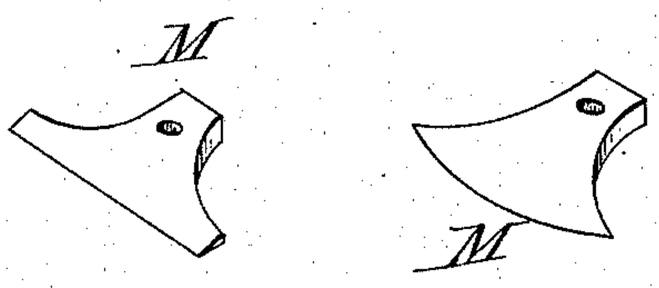


Fig. 8.



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UNITED STATES PATENT OFFICE.

BURWELL J. CURRY, OF HUNTSVILLE, ALABAMA.

COTTON CHOPPER AND CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 284,389, dated September 4, 1883.

Application filed November 20, 1882. (No model.)

To all whom it may concern:

Be it known that I, BURWELL J. CURRY, a citizen of the United States, residing at Huntsville, in the county of Madison and State of Alabama, have invented certain new and useful Improvements in Cotton Choppers and Cultivators; and I do declare the following to be a full, clear, and exact description of the invention, such as 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 and figures of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements in cotton choppers and cultivators; and it consists in the construction and arrangement of parts, as hereinafter more fully described and claimed.

In the annexed drawings, illustrating the invention, Figure 1 is a longitudinal section of my improved machine. Fig. 2 is a top view of the same. Figs. 3 and 4 are details of the mechanism for lifting the hoes or choppers. Fig. 5 is a side view of one of the jointed helves or stocks. Fig. 6 is a view of the same, showing the lower portion of the helve or stock thrown back. Fig. 7 is a perspective view of the helves or stocks with a clod-breaking bar attached thereto. Fig. 8 shows a perspective view of the hoes or choppers.

Like letters of reference are used to designate like parts in the several views.

The letter A designates the frame of the machine. B is the axle. C C are the driving and supporting wheels attached thereto, and D is the driver's seat, which is arranged at the rear end of the machine.

The frame A supports a rock-shaft, *a*, to each end of which is rigidly secured a shoe or link, *b*. This rock-shaft is arranged transversely and a short distance above and to the rear of the axle, as shown in Figs. 1 and 2. To the lower ends of the shoes or links *b b*, as shown in Fig. 3, are pivoted the straps *c c*, that support the transverse chopper-bar *d*, which is also connected by rods *e e* to the lower ends of the swinging bars or straps *f f*, that are pivoted to the rear portion of the frame. The rock-shaft *a* carries a segmental gear, *g*, that meshes with a similar gear, *h*, which is connected with a lever, *i*, having a spring-pawl, *k*, adapted to engage with a rack, *m*, in the ordinary manner. It will be seen that by throwing the lever *i* backward or forward the rock-shaft *a* will be acted upon by the gears *g h*, so as to turn the shoes or links *b b*, thereby raising or lowering the straps *c c* and attached chopper-bar. The chopper-bar is oscillated by means of its connection, through the rods *o o*, with the eccentrics *p p* on the ends of a shaft, E, which carries a pinion, F, that meshes with a gear-wheel, G, on the counter-shaft H. This shaft H is provided at one end with a pinion, I, that meshes with a gear-wheel, K, on the main shaft or axle. It is obvious that as the machine is moved forward the motion of the driving-wheels will be transmitted, through the axle and connected gearing, to the eccentric shaft E, thus causing the eccentrics *p p* and rods *o o* to impart an oscillating or reciprocating movement to the chopper-bar *d*, which is supported by the swinging bars or straps *c f* and rods *e*, as before described. The shaft H is provided with a clutch mechanism, L, of any suitable or ordinary construction, by which the parts may be thrown in and out of gear, as desired.

The choppers or hoe-blades M M may have either straight or curved cutting-edges, as shown in Fig. 8, and are securely bolted to the helves P, as shown in Fig. 5. These helves are each provided with a heel, *s*, against which the rear edge of the hoe or chopper blade is made to rest, and a foot, *t*, that rests on the blade and is perforated for the passage of the securing-bolt *v*, which is held by suitable nuts. The upper ends of the helves P are fitted into the slotted or bifurcated ends of the stocks Q Q, which are securely attached to the oscillating chopper-bar in any suitable manner. A strong iron bolt or pin, *w*, is passed through the connected ends of the helve P and stock Q, thus forming a pivot on which the helve may turn, as shown in Fig. 6. The parts P and Q are also connected by means of a break-pin, *z*, composed of wood or other comparatively frail material, the object being to arrange one of the pins or bolts so that it will break when the hoe is brought forcibly against any hard or resisting substance, thereby obviating injury to the hoe, and leaving its helve connected to the

stock by the remaining pin or bolt, so that the hoe will be turned backward without being broken or injured, as before described. The choppers or hoes M, when in position, are arranged to project alternately at different distances, as shown in Fig. 2, so as to break the line of concussion when at work. These hoes may be placed at any desired distance apart, and may be so arranged that when the machine is used as a cultivator by drawing it longitudinally with the rows the hoes may be operated on either or both sides of one or more rows at the same time.

In order to adapt the machine for use in crushing clods or pulverizing the soil for grain or grass sowing, the hoes M may be detached from the helves P, and a bar, R, of iron or other material, be secured thereto in a similar manner, as shown in Fig. 7. When the machine is driven over a field, this bar is caused to oscillate or vibrate against the soil, thus crushing and pulverizing all the clods in the surface in a manner superior to the action of an ordinary harrow.

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

1. The combination of the frame A, having axle B and wheels C C, the rock-shaft *a*, having links *b b* and segment-gear *g*, the oscillating chopper-bar *d*, straps *c c*, segment-gear *h*, lever *i*, pawl *k*, and rack *m*, whereby the chopper-bar is raised or lowered, substantially as described.

2. The combination of the frame A, having axle B and wheels C C, the oscillating chopper-bar *d*, swinging bars or straps *c c* and *f f*, connecting-rods *e e* and *o o*, eccentrics *p p*, shaft E, having pinion F, shaft H, having gear G and pinion I, and the gear K on the main shaft or axle, whereby the chopper-bar is operated, substantially as described.

BURWELL J. CURRY.

Witnesses:

J. VAN VALKENBURG,
I. R. JONES.