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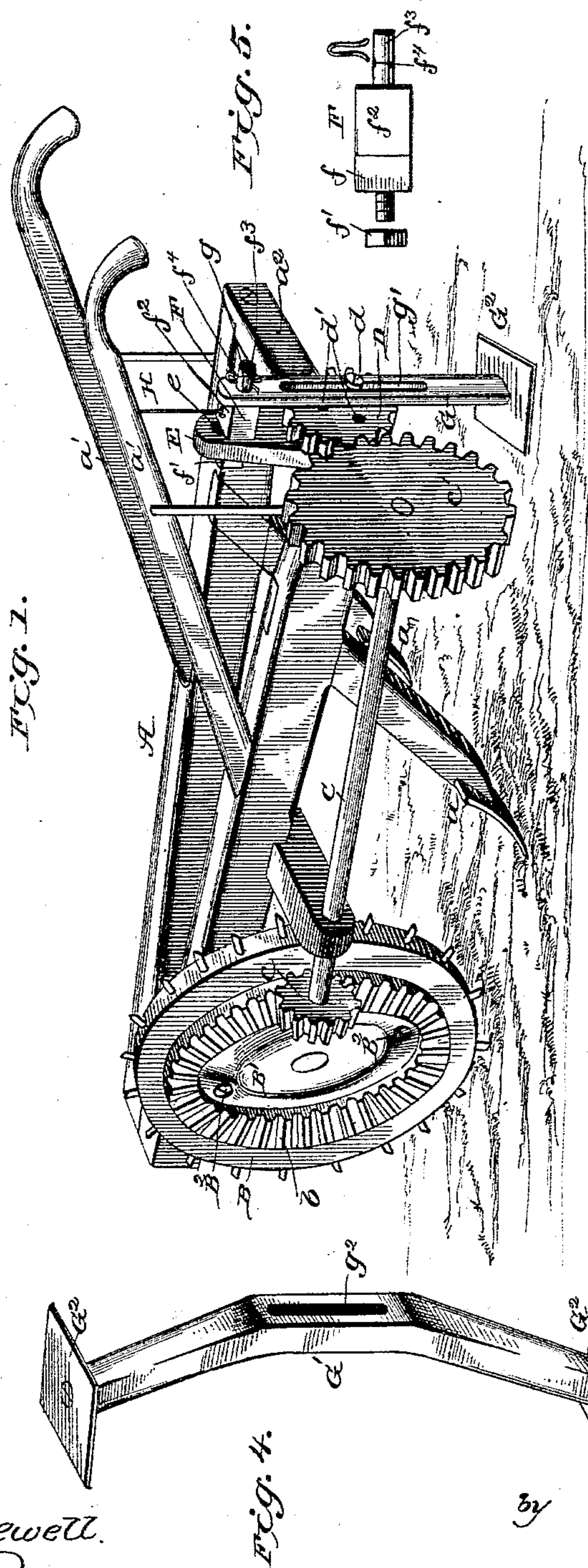
3 Sheets—Sheet 1.

W. H. HARPER, J. M. BOYD & A. C. SHELTON.

COTTON CHOPPER.

No. 378,443.

Patented Feb. 28, 1888.



WITNESSES,
Edwin I. Yewell.
Jos. A. Ryan

W. H. Harper,
A. C. Shelton,
J. M. Boyd,
INVENTORS

by
J. R. Littell,
Attorney

(No Model.)

3 Sheets—Sheet 2.

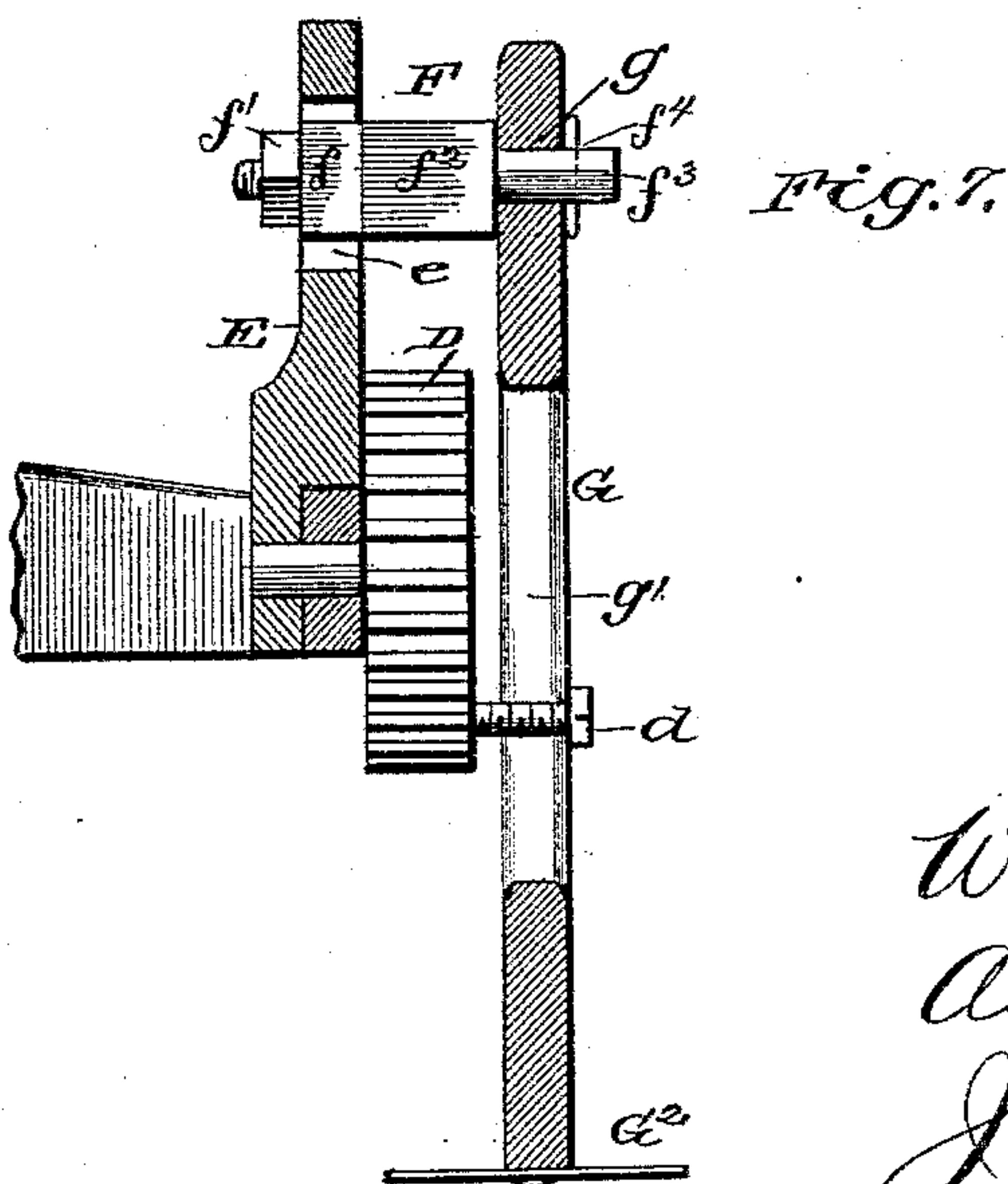
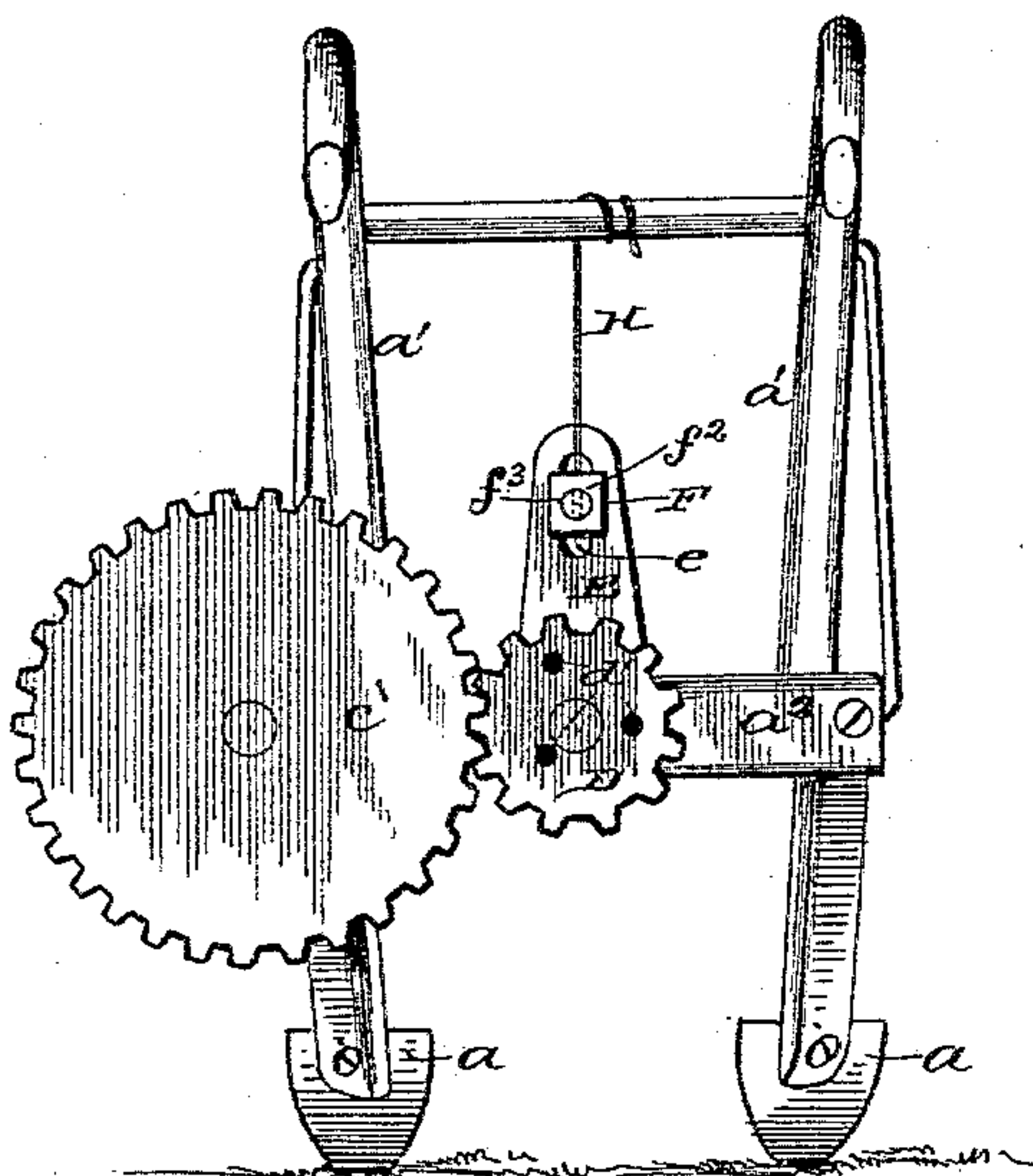
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Fig. 2.



WITNESSES:

Edwin L. Yewell.

Jos. A. Ryan.

Wm. Henry Harper,
Albert C. Shelton,
Joseph M. Boyd,
INVENTORS.

by

J. R. Littell,
Attorney.

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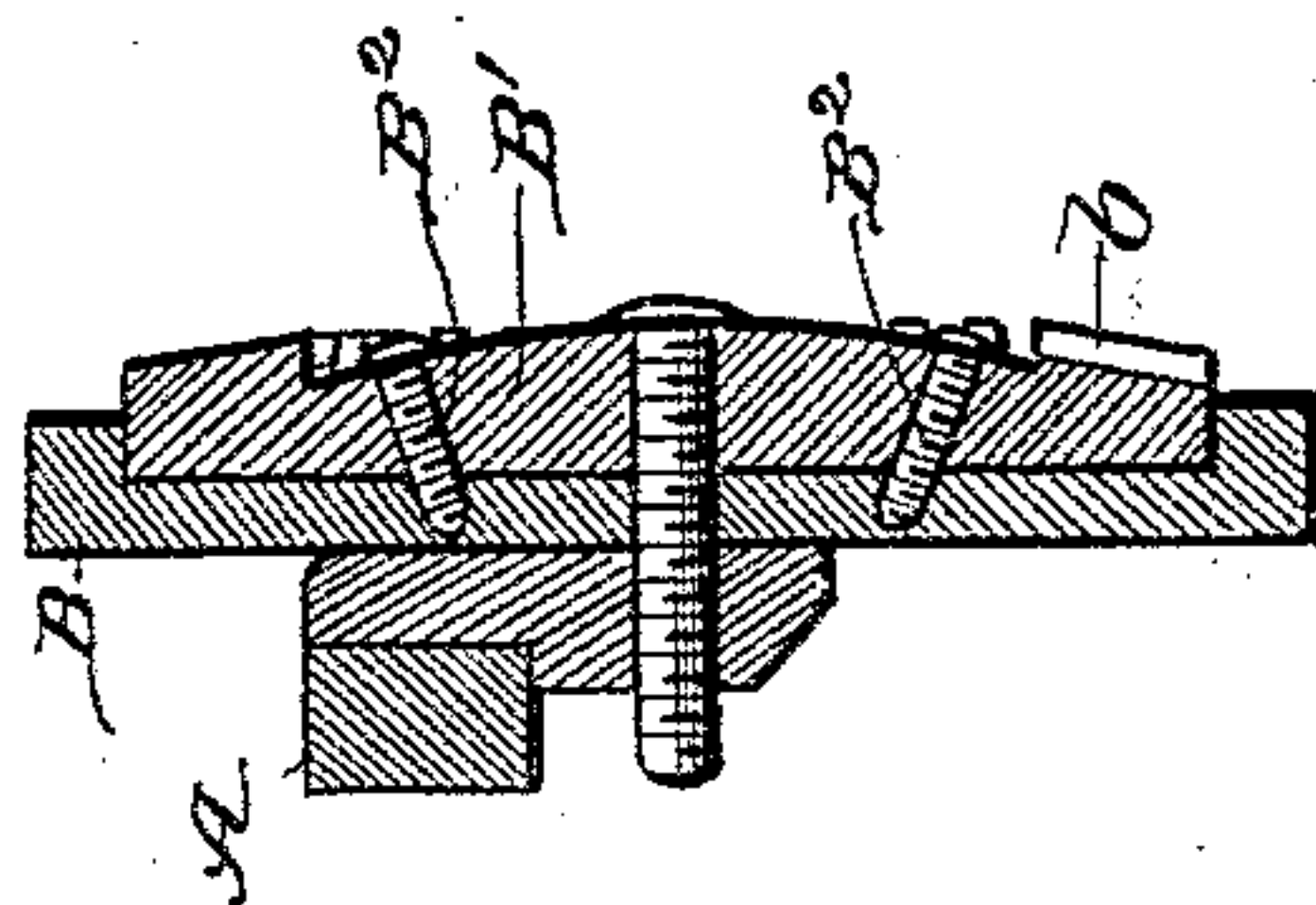
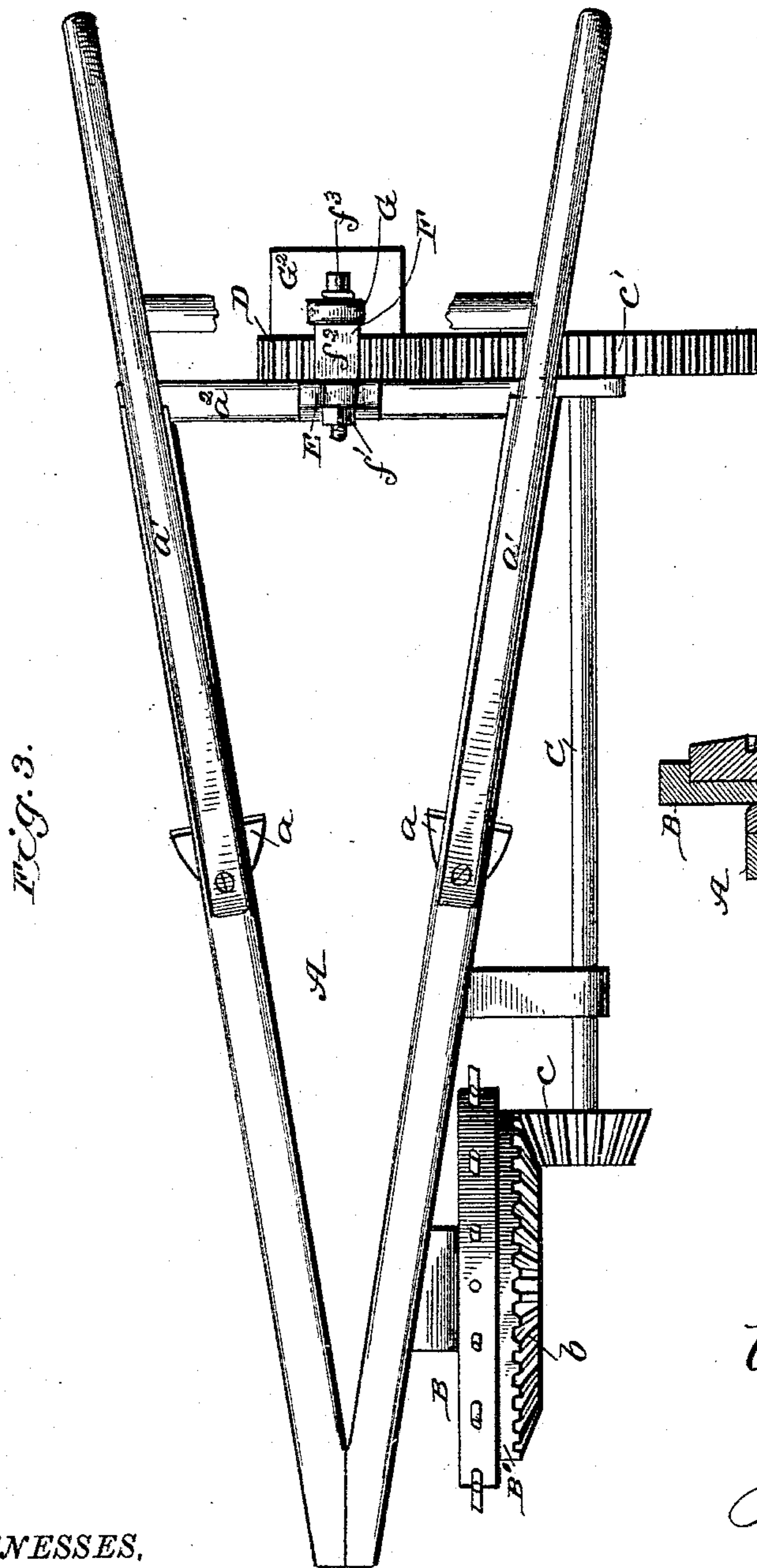
3 Sheets—Sheet 3.

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WITNESSES,

Edwin L. Yewell.
Jos. A. Gorman.

W. H. Harper,
A. C. Shelton,
J. M. Boyd,
INVENTORS.

by J. R. Littell,
Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM HENRY HARPER, JOSEPH MARION BOYD, AND ALBERT C. SHELTON, OF PINE LOG, GEORGIA.

COTTON-CHOPPER.

SPECIFICATION forming part of Letters Patent No. 378,443, dated February 28, 1888.

Application filed September 29, 1887. Serial No. 251,041. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM HENRY HARPER, JOSEPH MARION BOYD, and ALBERT CORNELIOUS SHELTON, of Pine Log, Bartow county, Georgia, have invented certain new and useful Improvements in Cotton-Choppers, of which the following is a specification.

This invention relates to an improvement in cotton-choppers of that class in which the cotton-row-cultivator frame carries a spur-wheel in front and a chopper in the rear, the latter being operated by means of gear-wheels and shaft-connection connecting it with said spur-wheel; and its object is to provide a simple and improved machine of the class described which will possess advantages in point of durability, general efficiency, and inexpensiveness.

In the drawings hereto annexed and forming a part of this specification, Figure 1 is a perspective view of my improved cotton-chopper, taken from a point to the left and rear of the machine. Fig. 2 is a rear view thereof with the chopper-arm removed. Fig. 3 is a plan view. Fig. 4 is a detailed perspective view of a modified form of chopper-arm. Fig. 5 is a detached side view of the movable chopper-arm pivot-block. Fig. 6 is a central sectional view through the spur-wheel, and Fig. 7 is a vertical section through the pivot-standard.

Corresponding parts in the several figures are denoted by the same letters of reference.

Referring to the drawings, the letter A indicates the frame-work of a cotton-row cultivator of any approved construction, having cultivator-teeth *a a* at each side, adapted to straddle the row to be acted upon and pile up the earth around the stalks of the same, and handles *a' a'*, all as at present in general use. Near the front part of said frame, and in line with one of said teeth, is located a spur-wheel, B, by which the forward end of said frame is supported. This spur-wheel may be formed of a solid disk, as shown, having a circular depression in its outer face extending from the center nearly to the circumference. Within this depression is seated a disk, B', of a size adapted to fit tightly therein, and upon the outer face of said disk B' is formed a circumferential row of teeth, *b*. The disk B' is se-

curely held in place by bolts B², or in any other suitable manner.

In lieu of the construction just described the spur-wheel may be constructed with spokes, if desired, and in this case a ring or plate provided with a circumferential series of teeth is employed in place of the disk B'.

Supported in bearings along the side of the frame is a shaft, C, provided at its forward end with a bevel-gear, *c*, meshing with said teeth *b*, and at its rear end with a large gear-wheel, *c'*. Journaled centrally upon the rear cross-bar, *a²*, of the frame A is a small gear-wheel, D, its teeth intermeshing with those of gear-wheel *c'*. Rising from the cross-bar *a²*, above the journal of said gear-wheel D, is a standard, E, provided with a vertical slot, *e*, and in this slot slides, or may be adjusted, the shank *f* of the chopper-arm pivot-block F. The inner or forward end of said shank *f* is screw-threaded and adapted to receive a nut, *f'*, for securing it in position higher or lower in said slot *e* when screwed home against the face of the standard E, or for permitting it to slide vertically in said slot when not screwed down tight. The pivot-block F has a body, *f²*, slightly thicker than the thickness of the gear-wheel D, and is provided opposite said shank *f* with a pin, *f³*, having a transverse eye, *f⁴*, near its outer end. The gear-wheel D is provided in its rear face with a series of holes, *d'*, arranged spirally around its center, in which a screw or bolt, *d*, is adapted to fit.

The chopper-arm G is provided with an eye, *g*, at its upper end, which passes over the pin *f³*, whereon it is thus pivoted, and a U-shaped spring-wire or other suitable device is passed through the eye *f⁴* to retain the arm G on its pivot. Through an elongated slot, *g'*, in the body of said chopper-arm is passed the bolt *d*, which fits loosely in said slot, and is screwed into one of said holes *d'* in the gear-wheel D, whereby the chopper-arm is swung on its pivot when the gear-wheel is rotated by the crank action of said pin or bolt *d* within said elongated slot. In place of said chopper-arm G, however, the modified arm G' (illustrated in Fig. 4) may be used. This arm G' has a short slot, *g²*, at its center, and its body bends slightly to the rear above and below said slot. In use the chopper-arm G and piv-

ot-block F are both removed, and the arm G' bolted upon the rear face of the gear-wheel D by means of two bolts, *d*, screwed into two of said holes *d'*, on opposite sides and in alignment with the center of the gear D. The arm G' has choppers G² on each end, and is adapted to be revolved with the gear D, whereas the arm G has only a chopper, G², on its lower end, and is adapted to be swung on its pivot, as above described.

A chain or wire, H, is fastened to the body *f*² of the pivot-block F, and extends upwardly to within easy reach of the hands of the operator; or any other arrangement of devices or system of levers may be used for this purpose without departing from the spirit of our invention. The object of said chain or other device is to facilitate the raising or lowering of the pivot-block F and the chopper-arm G, connected therewith, when desired. In this case the pivot-block is loosely secured in the slot *e*, to permit vertical movement thereof.

In operation the device is guided over a cotton-row so that the cultivator-teeth *a a* will act on the earth on each side thereof, as is desirable, and the rotary motion of the spur-wheel B will impart rotary motion to the gear D through the gear-wheels and shaft, as will be readily understood. When the chopper-arm G is used, it may be given a greater or less throw from side to side, as desired, by setting the pin *d* in one of the holes *d'*, said holes being at different distances from the center of the gear-wheel; and when it is desired that its chopping action shall temporarily cease, or the chopping take place farther from the ground, the chopper-arm may be raised bodily by raising its pivot F, so that either result will be accomplished. This arm may therefore be used for thinning out the rows of cotton, whereas the double chopper-arm G', constantly revolving, exerts a continuous chopping action.

What we claim as new, and desire to secure by Letters Patent, is—

1. In a cotton-chopper, the combination, with the frame and a spur-wheel mounted at the forward end thereof, of a gear-wheel pivoted to the rear cross-beam and having a series of holes arranged spirally around its center, a gear-and-shaft connection leading from the spur-wheel and adapted to impart motion to said gear-wheel, and a chopper-arm adapted to operate in conjunction with said gear-wheel, substantially as set forth.

2. In a cotton-chopper, the combination, with the frame and driving-gear, of a gear-wheel centrally pivoted upon the rear cross-beam of the frame, and a chopper-arm pivoted at its upper end to a vertically-adjustable block, said chopper-arm having a crank-connection with the gear-wheel and having choppers at its lower end, substantially as set forth.

3. In a cotton-chopper, the combination, with the frame and a spur-wheel mounted at the forward end thereof, of a gear-wheel pivoted to the rear cross-beam and having a series of holes arranged spirally around its center, a gear-and-shaft connection leading from said spur-wheel and adapted to impart motion to said gear-wheel, a standard mounted upon the rear cross-beam of the frame and having a vertical slot, a block vertically adjustable within said slot, a chain or other device for adjusting the block, and a chopper-arm pivoted at its upper end to said block and provided with a longitudinal slot engaged by a crank-pin in one of the series of holes in the gear-wheel, and having choppers at its lower end, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM HENRY HARPER.
JOSEPH MARION BOYD.
A. C. SHELTON.

Witnesses:

ROBERT BOYD,
BLUMER BARTON.