

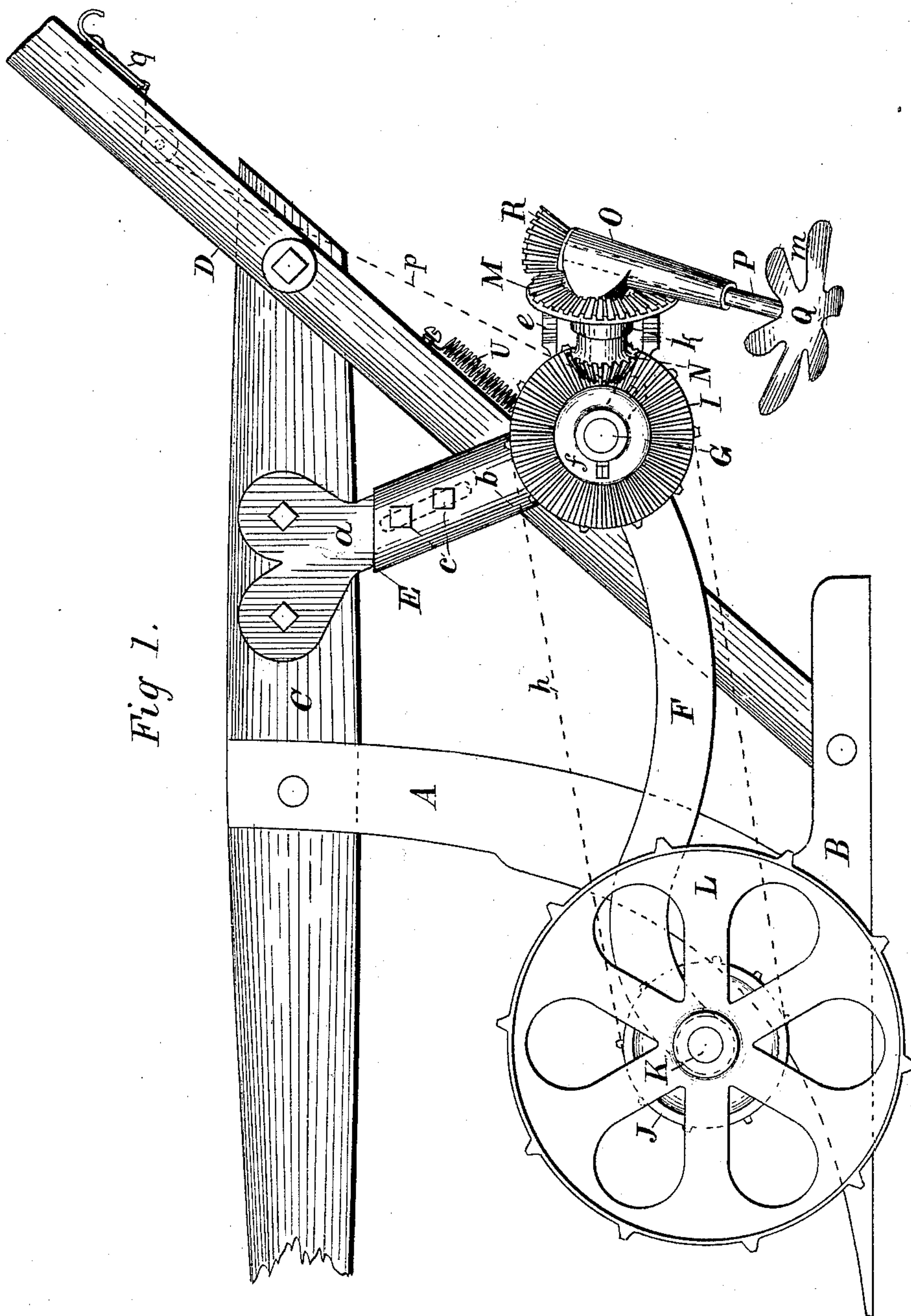
(No Model.)

3 Sheets—Sheet 1.

W. E. LINDSAY.
COTTON CHOPPER.

No. 432,057.

Patented July 15, 1890.



-WITNESSES-

Dan'l. Fisher
Rutland Vermont

-INVENTOR-

William E. Lindsay,
by C. H. K. Howard,
attys -

(No Model.)

3 Sheets—Sheet 3.

W. E. LINDSAY.
COTTON CHOPPER.

No. 432,057.

Patented July 15, 1890.

Fig 4.

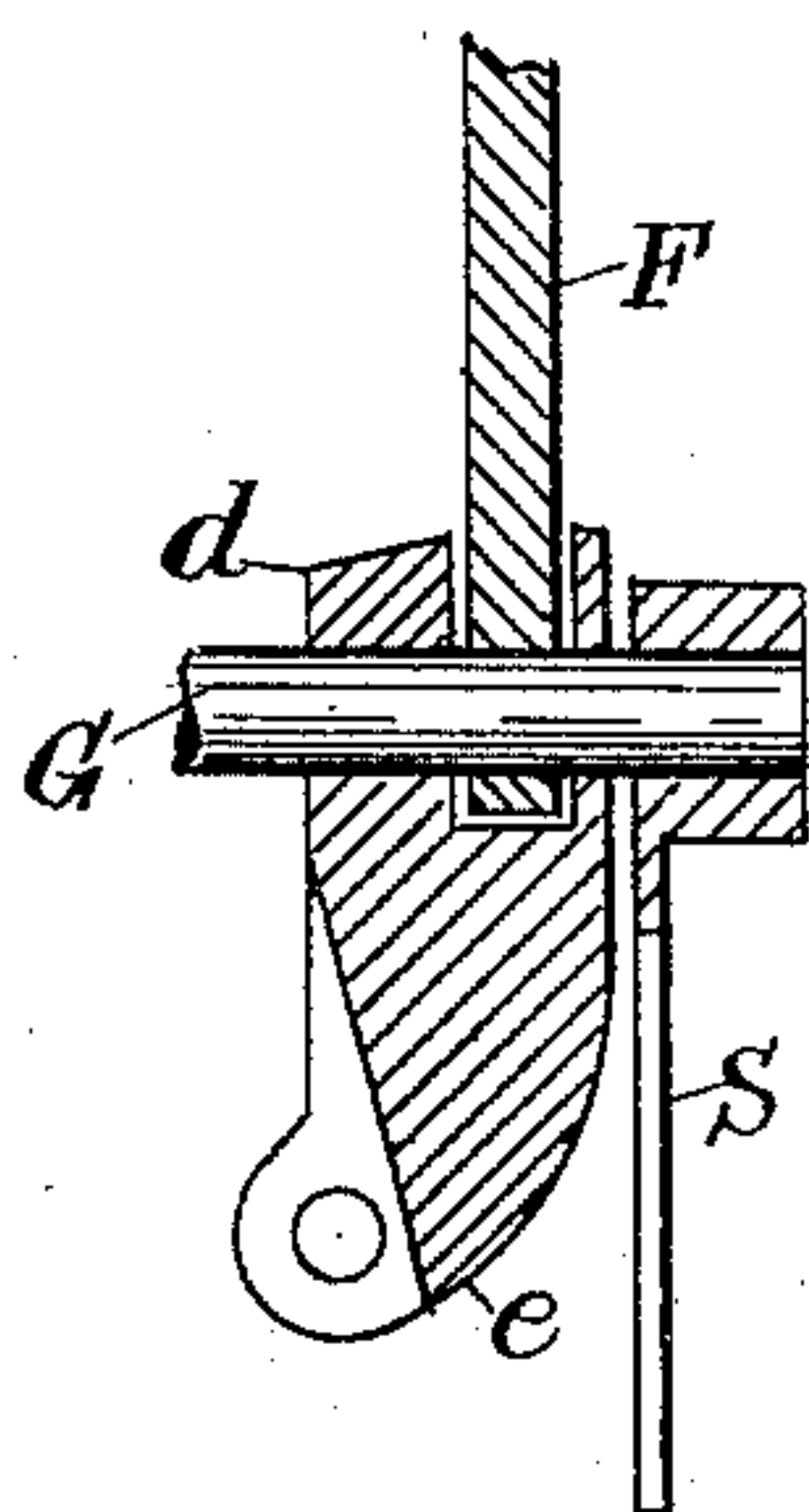


Fig 3.

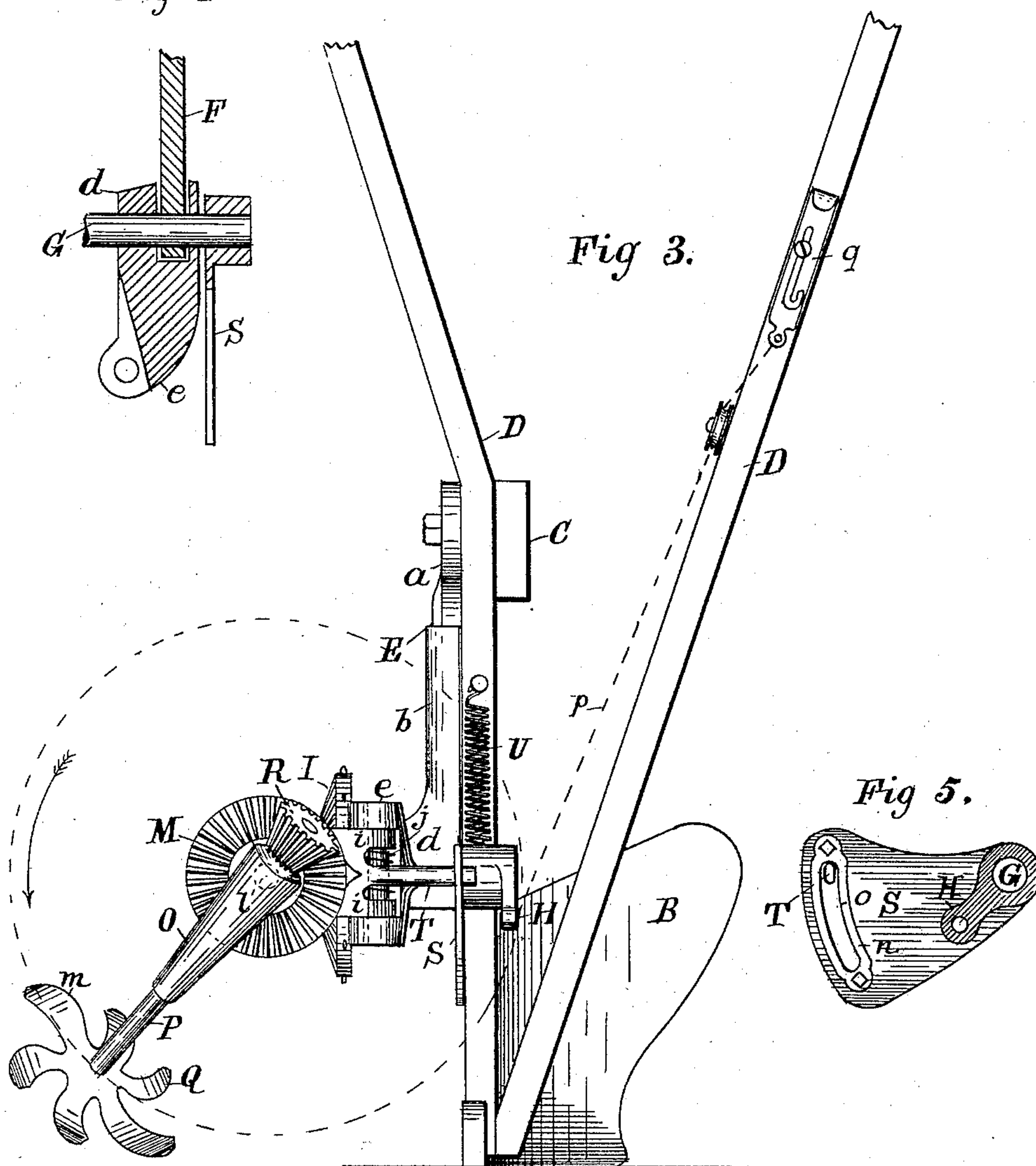
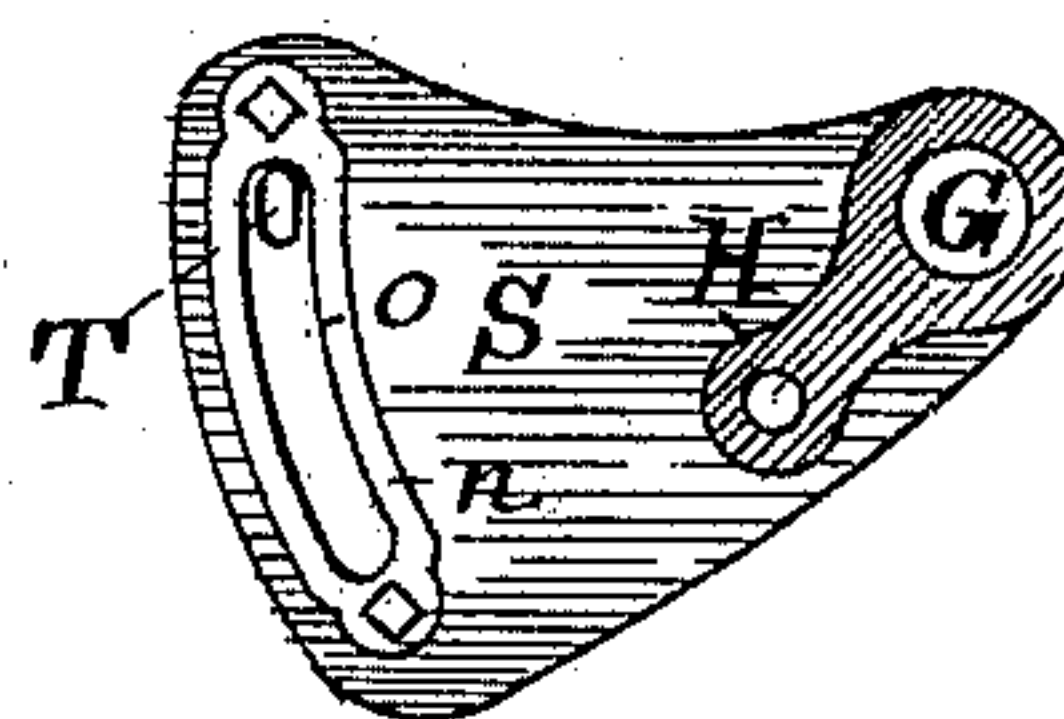


Fig 5.



-WITNESSES-

Dan'l Fisher
Hausenmuth

-INVENTOR-

William E. Lindsay,
by G. H. K. I. Howard.
Attys -

UNITED STATES PATENT OFFICE.

WILLIAM E. LINDSAY, OF BALTIMORE, MARYLAND, ASSIGNOR OF THREE-FOURTHS TO JOHN M. McCLINTOCK AND WILLIAM H. RICHARDSON, BOTH OF SAME PLACE.

COTTON-CHOPPER.

SPECIFICATION forming part of Letters Patent No. 432,057, dated July 15, 1890.

Application filed August 8, 1889. Serial No. 320,086. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. LINDSAY, of the city of Baltimore and State of Maryland, have invented certain Improvements in Cotton-Choppers, of which the following is a specification.

This invention relates to certain improvements in a cotton-chopper described in Letters Patent No. 398,416, granted to me on the 26th day of February, 1889, to which reference should be had.

In the further description of the said invention which follows reference is made to the accompanying drawings, forming a part hereof, and in which—

Figure 1 is a side elevation of the improved cotton-chopper, and Fig. 2 a plan of the same. Fig. 3 is a rear view of the invention; and Fig. 4 a part section of Fig. 2, taken on the dotted line *x x*. Fig. 5 is a side view, the reverse of that shown in Fig. 1, but only representing a portion of the machine.

Similar letters of reference indicate similar parts in all the figures.

In the said drawings, A represents the standard, to the lower end of which the plow B is secured.

The plow-beam is denoted by C, and the handles are represented by D.

E is a hanger in two parts, *a* and *b*, the former being fastened to the side of the beam and slotted, and the latter adapted to fit over the other part *a* and be secured thereto by means of the bolts *c*, which pass through the slots in the inner one. The end of the section *b* of the hanger is provided with a boss *d* and a bracket *e*, leading therefrom. (See Fig. 2.)

F is an arm, one end of which is pivoted in the boss *d* by means of the shaft G. This shaft passes loosely through the boss and the arm, and on the inner end is fitted with a crank H, by means of which the said shaft is turned under circumstances hereinafter described.

I is a beveled gear-wheel placed loosely on a shaft G, and it rests against the face of the boss *d*. (See Fig. 2.) This beveled wheel is prevented from moving outward on the shaft G by means of a collar *f*. The outer edge or

the periphery of the wheel I has teeth, which adapts it as a sprocket-wheel, and it is connected by means of a chain belt *h* to a driving-sprocket J, fastened to a shaft K, fitted to turn in a boss in the lower end of the arm F. On this shaft is the driving-wheel L, which has spuds on its periphery, as is usual in wheels of this class.

M is a disk having beveled teeth on its outer face, after the manner of a gear-wheel, with a pair of lugs *i*, which are pivoted in the bracket *e* by means of a pin *j*, as shown in Figs. 2 and 3. This toothed disk has a central hub *k*, through which a shaft *l* passes. At one end of this shaft *l* is a beveled pinion N, which may be thrown in gear with the teeth of the beveled gear I, or thrown out of contact with them through the agency of the devices hereinafter described. The outer end of the shaft *l* is attached to a sleeve O, through which the hoe-shaft P passes. At one end of the hoe-shaft is a revoluble hoe Q, having peripheral teeth *m*, and at the other end it is furnished with a beveled pinion R, which is in gear with the teeth of the disk M. The hoe is shown as having six teeth, but any other number may be used.

On the inner face of the crank H is a plate S, which carries a slotted link *n*, bolted thereto. (See Fig. 5.)

T is a pin projecting from the toothed disk M, which passes through the slot in the link *n*. The slot *o* is not concentric with the shaft G, but eccentric, and its eccentricity is such that in moving the crank from the lowest to the highest position the pin T is drawn inward and the disk M, to which it is fastened, carried out and the beveled pinion N out of gear with the beveled wheel I. The movement of the crank H is effected by hand through the medium of the cord *p* and handle *q*, the latter having any suitable means for holding it in an elevated position. A spring U unites one side of the crank-hub H to a part of the plow-handle, and the said crank is thereby yieldingly held in a downward position, or one which effects the connection between the beveled pinion N and the teeth of the beveled wheel I.

Supposing the various parts of the machine

to be relatively placed, as shown in the drawings, and the machine in motion, the beveled gear I, which is in constant rotation, causes the hoe-shaft to revolve on its axis and the hoe to swing around in a circle, as shown by the dotted circle in Fig. 3, and in the direction indicated by the arrow.

By referring to the drawings, particularly Fig. 2, which is a plan of the machine, it will be seen that the beveled gears which operate the hoe are arranged so that the cut of the hoe is not at a right angle with reference to the line of movement of the plow, but at a less angle therewith. The object of this angular cut is to compensate for the forward motion of the plow and to prevent the hoe from cutting into the ridge as well as across it. In other words, the rearward movement of the hoe in cutting across a ridge is the same as the forward motion of the plow. Consequently the ridge is cut at a right angle or squarely across by the hoe.

I claim as my invention—

1. In a cotton-chopper, an axially-rotating hoe, the axis or hoe-shaft having an independent or circular movement in a vertical plane, substantially as and for the purpose specified.

2. In a cotton-chopper, the combination of a plow, a hoe-shaft having a circular movement in a vertical plane, and a hoe at the outer end of the said shaft, which rotates with the said shaft on its axis, substantially as and for the purpose specified.

3. In a cotton-chopper, the combination of a

plow, a hoe-shaft having an axial motion and a circular movement around a horizontal shaft set at an angle with reference to the line of movement of the plow, and a hoe secured to the outer end of the said hoe-shaft, substantially as and for the purpose specified.

4. In combination with the hanger E, the shaft G, having the crank H, and a plate S, provided with the slotted link n, the toothed disk M, pivoted to the said hanger and having the pin T, which passes through the slot in the said link, whereby in the movement of the said crank the said disk is thrown toward and from the shaft G, substantially as and for the purpose specified.

5. In a cotton-chopper, a plow-beam, a plow secured to the said beam, a hanger dependent from the plow-beam carrying a pivoted arm, a shaft at the end of the said arm carrying a driving-wheel and a driving sprocket-wheel, a shaft placed horizontally in the said hanger carrying a sprocket-wheel, which is connected to the driving sprocket-wheel by means of a chain belt and provided on its face with beveled teeth, a disk hinged to the said bracket having on its outer face beveled teeth, and a revoluble shaft extending through the said toothed disk having at its outer end a hoe-shaft with a beveled pinion at its inner end, and at the outer end a hoe, substantially as and for the purpose specified.

WILLIAM E. LINDSAY.

Witnesses:

WM. T. HOWARD,
DANL. FISHER.