

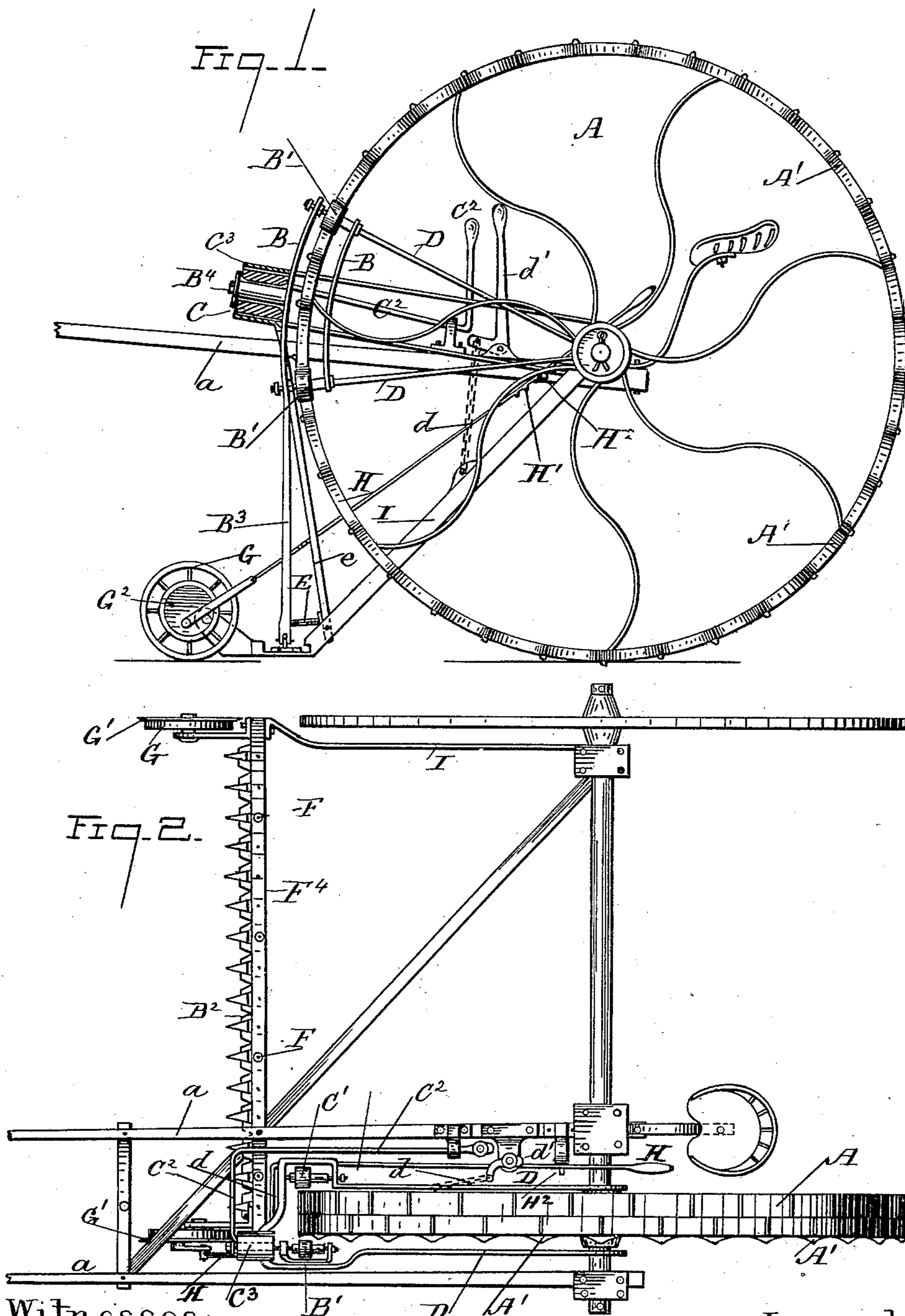
(No Model.)

3 Sheets—Sheet 1.

P. C. CLOSE.
MOWER.

No. 401,817.

Patented Apr. 23, 1889.



Witnesses:
W. B. Masson.
L. B. Hills

Inventor:
Philip Charles Close
by E. E. Masson
att'y.

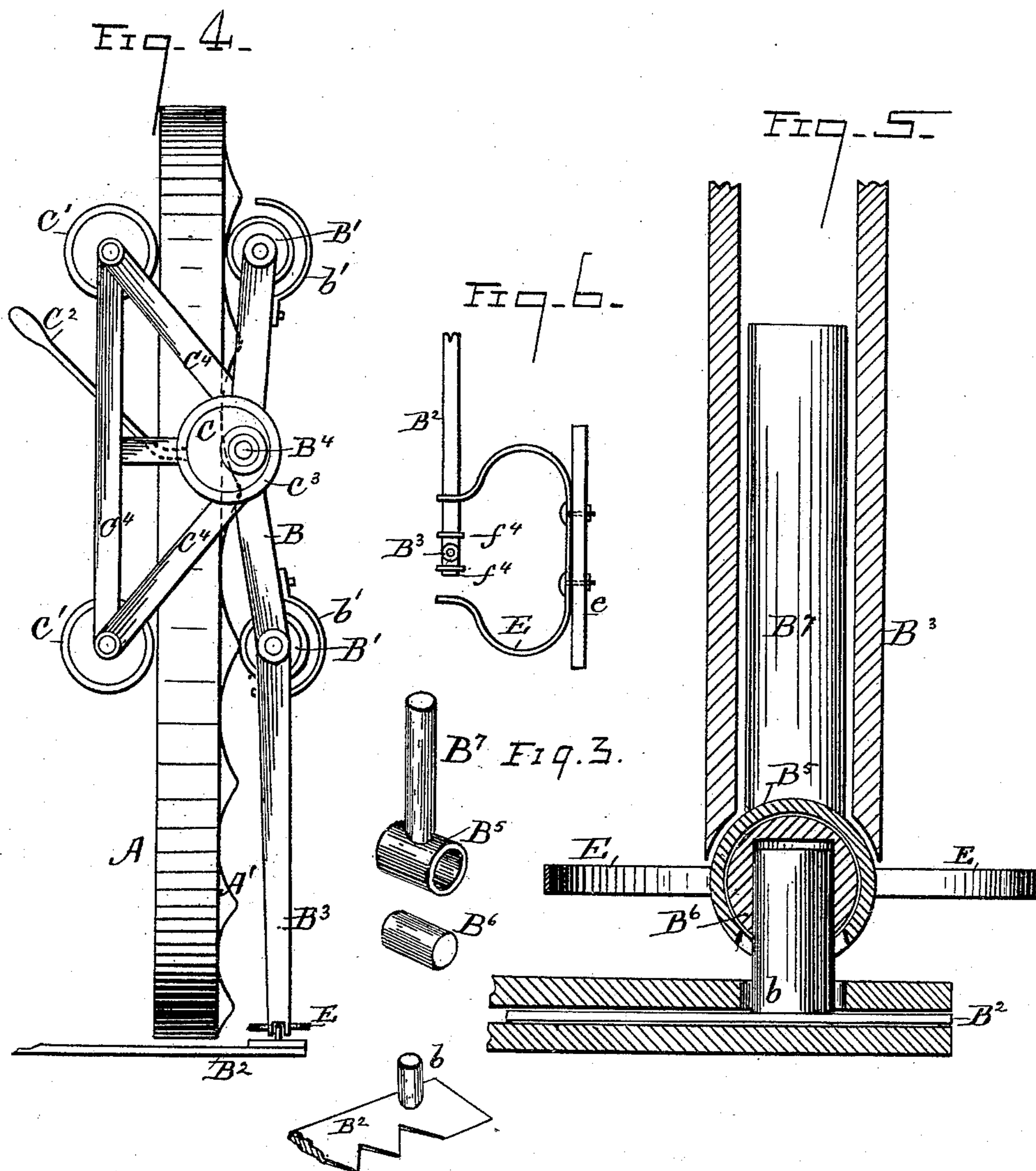
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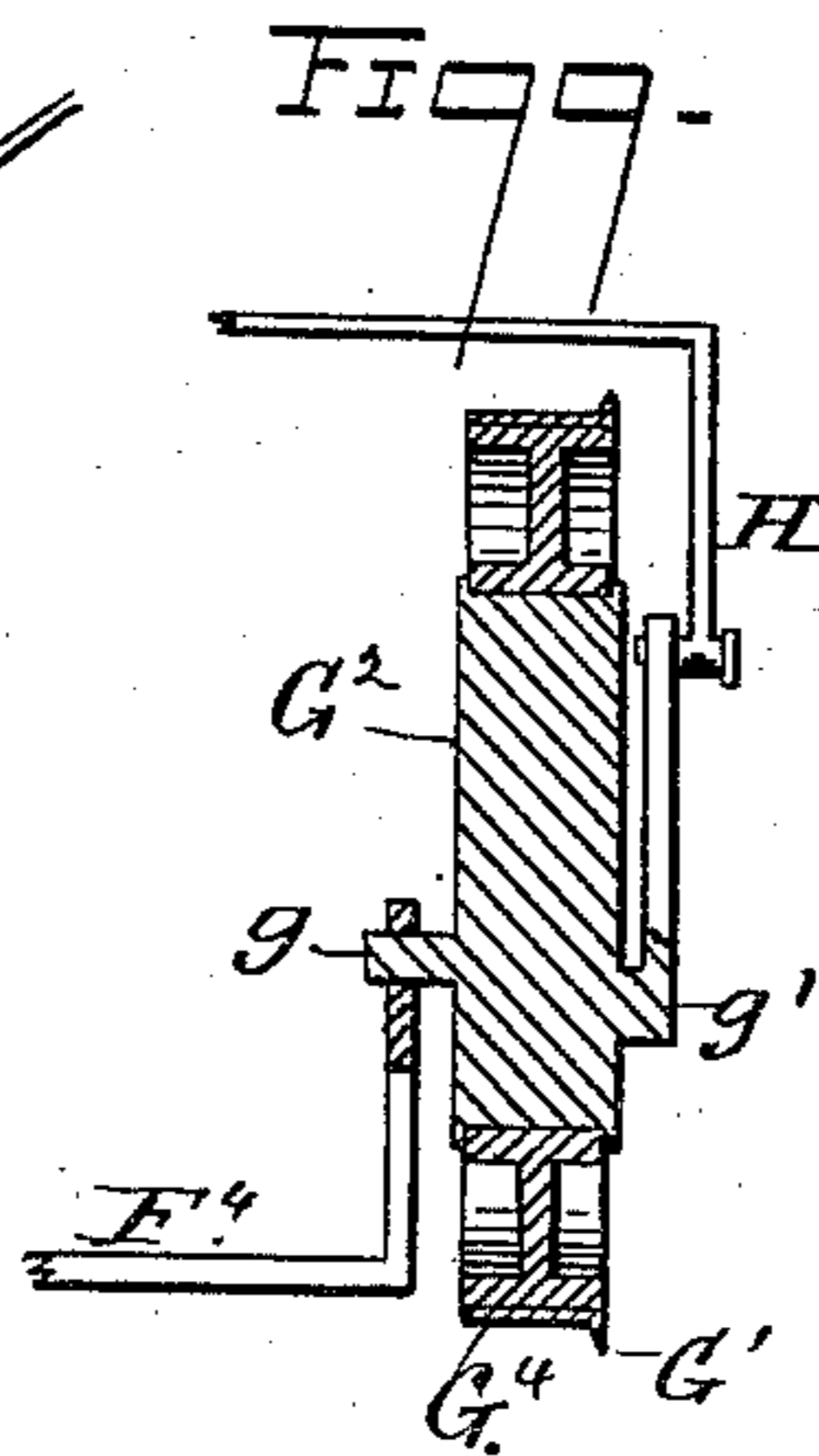
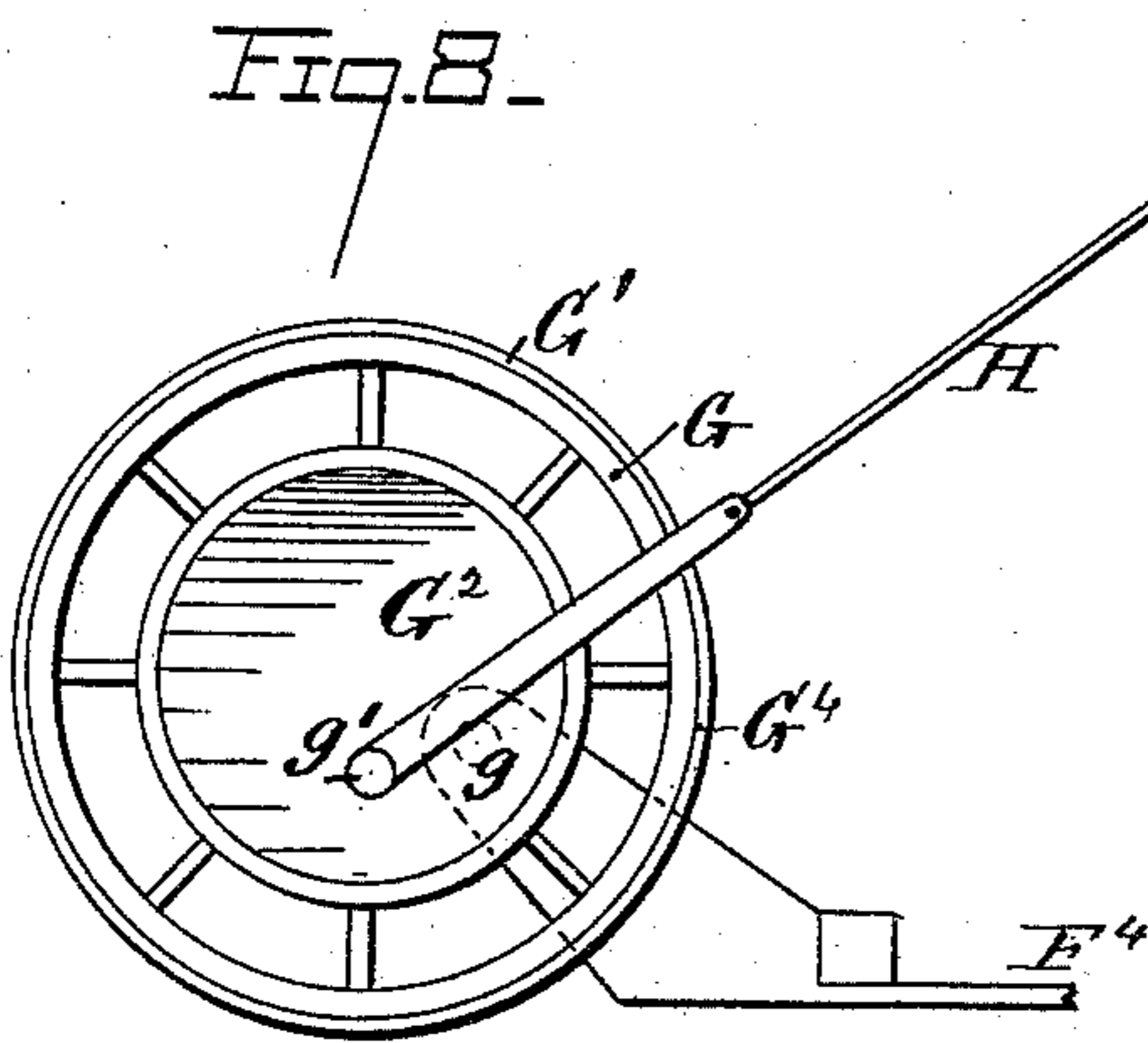
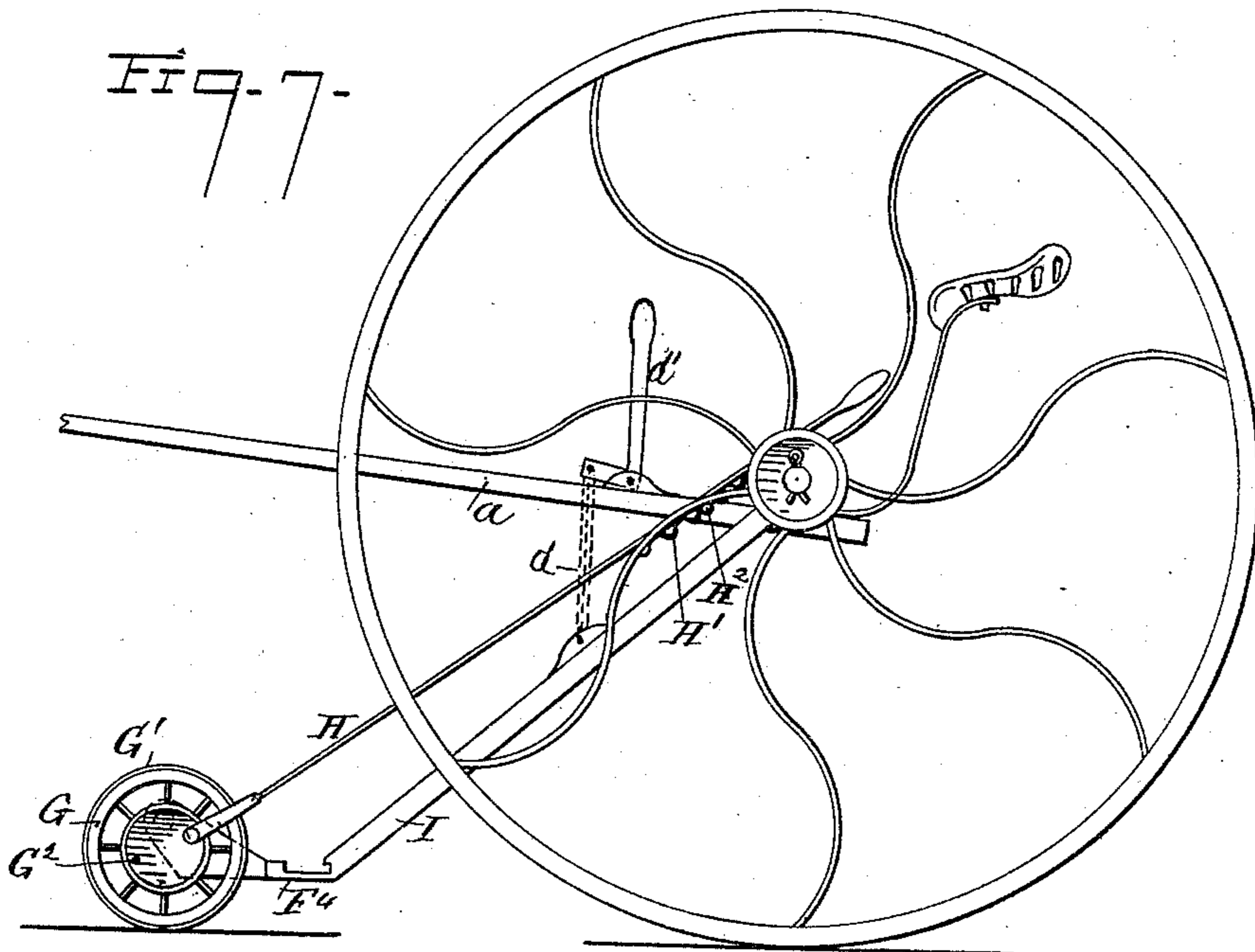
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P. C. CLOSE.
MOWER.

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Patented Apr. 23, 1889.



Witnesses:

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L. C. Mills.

Inventor:

Philip Charles Close
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UNITED STATES PATENT OFFICE.

PHILIPP CHARLES CLOSE, OF AUGUSTA, GEORGIA.

MOWER.

SPECIFICATION forming part of Letters Patent No. 401,817, dated April 23, 1889.

Application filed January 15, 1885. Serial No. 152,995. (No model.)

To all whom it may concern:

Be it known that I, PHILIPP CHARLES CLOSE, a citizen of the United States, residing at Augusta, in the county of Richmond and State of Georgia, have invented certain new and useful Improvements in Harvesters, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to mowers; and it consists in certain improvements in the construction of the same, as hereinafter described, and specifically set forth in the claims.

15 In the accompanying drawings like letters represent like parts in all the figures.

20 Figure 1 is a side elevation of a mower provided with my improvements. Fig. 2 is a plan view of the same. Fig. 3 represents in perspective the three parts forming the connection between the connecting-rod and the cutter-bar. Fig. 4 is an elevation of the driving-wheel and of the devices operating the cutter-bar. Fig. 5 is a vertical sectional view of the hollow connecting-rod and its coupling with the cutter-bar. Fig. 6 is a plan of the cutter-bar and spring thereof. Fig. 7 is a side view of a portion of the harvester, showing the supporting-wheel attached to the inner shoe and its operating-lever. Fig. 8 is an enlarged side view of the wheel attached to the shoe. Fig. 9 is a vertical section of the same.

30 In the drawings, A represents the driving-wheel provided with corrugations A', located on the outer side thereof. These corrugations A' are to give a rocking motion to the driving-beam B by means of friction-rollers B' at the ends thereof, and said beam gives an oscillating motion to the connecting-rod B³, and the latter gives a reciprocating motion to the cutter-bar B². The driving or rocking beam B carries a friction-roller, B', at each end, which are set at such an angle relatively to the pivot B⁴ as to cause the small friction-rollers B' to travel upon the corrugations and follow them closely to produce a regular, uniform, and positive stroke of the cutter-bar B². The lower end of the beam B, or of its connecting-rod B³, rigidly secured thereto, is made hollow to receive the stem B⁷ of the hollow cylindrical socket B⁵, and within the latter is located the horizontal cylindrical pin B⁶, that is provided with a

socket to receive the vertical pin b, projecting upward from one end of the cutter-bar B², and thus a reciprocating motion is imparted directly to the latter. The pivot B⁴ of the beam B passes through an eccentric, C, located about midway between the two friction-rollers B'. This eccentric is inclosed in a band, C³, carried by and forming part of the frame C⁴, that is connected with the shoe supporting the finger-bar. This frame stands across the face of the driving-wheel, and the rollers B' are therethrough kept to their places opposite the corrugations and permit the rollers B' to be thrown in and out of gear with the corrugations A'.

The eccentric C is actuated by means of a hand-lever, C², having its fulcrum in a bearing fastened to the thill a and located on the inner side of the driving-wheel A. The beam B and frame C⁴, carrying the friction-rollers, are connected with the main axle by cross-braces consisting of two arms, D and D, located one on each side of the driving-wheel A, and made to encircle the main axle of the machine. The friction-rollers B' are made of rawhide or covered with rubber, to render them elastic and noiseless, and are provided with shields b' of any suitable material.

80 The finger-bar F⁴ is connected to the axle by means of braces I, and can be elevated by the chain d and bell-crank lever d'. The beam B and its adjuncts are retained in proper position relatively to the cutter-bar and its shoe by the brace e, and to the latter is secured the bent spring E, the ends of which bear against shoulders f⁴ upon the cutter-bar B² on each side of the connecting-rod B³, that moves the cutter-bar to prevent the wear and tear of beam B and parts attached thereto.

90 The small wheels G, located at each end of the finger-bar, have tires G⁴, provided on their outer edge with a circular cutter or colters, G', integral therewith, to cut and divide the weeds, grass, &c., in the path, and prevent the choking of the cutter-bar. The small wheel G, nearest the driving-wheel A, is provided with a central disk, G², which turns loosely therein, and this disk is provided with a stud-pin, g, eccentrically projecting from the inner side thereof, to which is attached a shoe which supports the finger-bar F⁴. From the outer side of the disk G² eccentric-

ally projects an arm, g' , to the outer end of which is attached the lever H. This lever extends from the arm g' to within easy reach of the driver, and is provided with a rack, H' , on the under side thereof, the teeth of which are made to engage a pin, H^2 , attached to the main frame or to one of the thills a . The arm g' , actuated by the lever H, rocks the eccentric G^2 , and thus, through stud-pin g , raises and lowers the finger-bar F^4 without changing its parallelism to the ground.

The above-described improvements and attachments of new machinery can be applied to mowers, reapers, and binder machines.

The beam B has a bend in the middle of its length at the pivot B^4 , so that the force against the corrugated track is substantially at right angle to the arm B at the points where the rollers bear against said track, and so that the friction-rollers B' at each end are supported by a straight arm from the pivot B^4 to the bearing-points of said rollers, and said arms are substantially parallel with the working-planes on the surface of the corrugations and enable the small friction-rollers at the ends to pursue at all times while running an even smooth course up and down the corrugations, and this is one of the features of this device. The pressure-rollers C' protect the main wheel against uneven lateral or side pressure from the rollers B' , and these rollers, being set in frame C^4 , form altogether compact means for the raising and lowering of the finger-bar F^4 , with all the balance of my machinery attachment, by the driver merely pulling on handle d' , even while the machine is in operation.

The driving friction-rollers B' , that run in the corrugations, are made of iron covered with rawhide or india-rubber, which makes an elastic cushion, which prevents wear of the corrugations and renders the operation of the machine noiseless.

Having now fully described my invention, I claim—

1. In combination with the driving-wheel A, having corrugations upon one side, and the

beam B, provided with rollers bearing thereon, the tubular connecting-rod B^3 , integral with said beam and having inserted into its lower end a vertical pin, B^7 , having a cylindrical socket, B^5 , a horizontal cylindrical pin inclosed in said socket, and a pin projecting upward from the cutter-bar and entering a socket in said cylindrical pin, substantially as and for the purpose described.

2. In a harvester, the oscillating beam B and connecting-rod B^3 , rigidly attached thereto and having its lower ends provided with a tubular sleeve, the stem B^7 therein carrying the horizontal cylindrical socket B^5 , and the cylindrical pin B^6 within the latter, in combination with a pin, b , entering a socket in said pin B^6 and secured to the cutter-bar B^2 , substantially as and for the purpose described.

3. In a harvester, the oscillating beam B and pivot B^4 thereon, the eccentric C upon said pivot in front of said beam and provided with a handle, the band C^3 upon said eccentric, and the frame C^4 , to which said band is attached, the brace e , and the bent spring E, having its middle portion secured to the lower end of said brace, in combination with the cylindrical socket B^5 , having the stem B^7 within the socketed rod B^3 of the beam B, the horizontal pin B^6 within the socket B^5 , and the vertical pin b , received into the pin B^6 and projecting from the cutter-bar, substantially as described.

4. In combination with the finger-bar, a raising and lowering device therefor, consisting of a disk, G^2 , within the wheel G, a stud-pin, g , on the inner side of said disk carrying the shoe and cutter-bar attachments, and the arm g' , located on the outer side of the disk, a lever, H, provided with a rack, and a pin, H^2 , attached to the main frame, substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

PHILIPP CHARLES CLOSE.

Witnesses:

CHARLES W. DOUGHTY,
JOHN S. DAVIDSON.