

(No Model.)

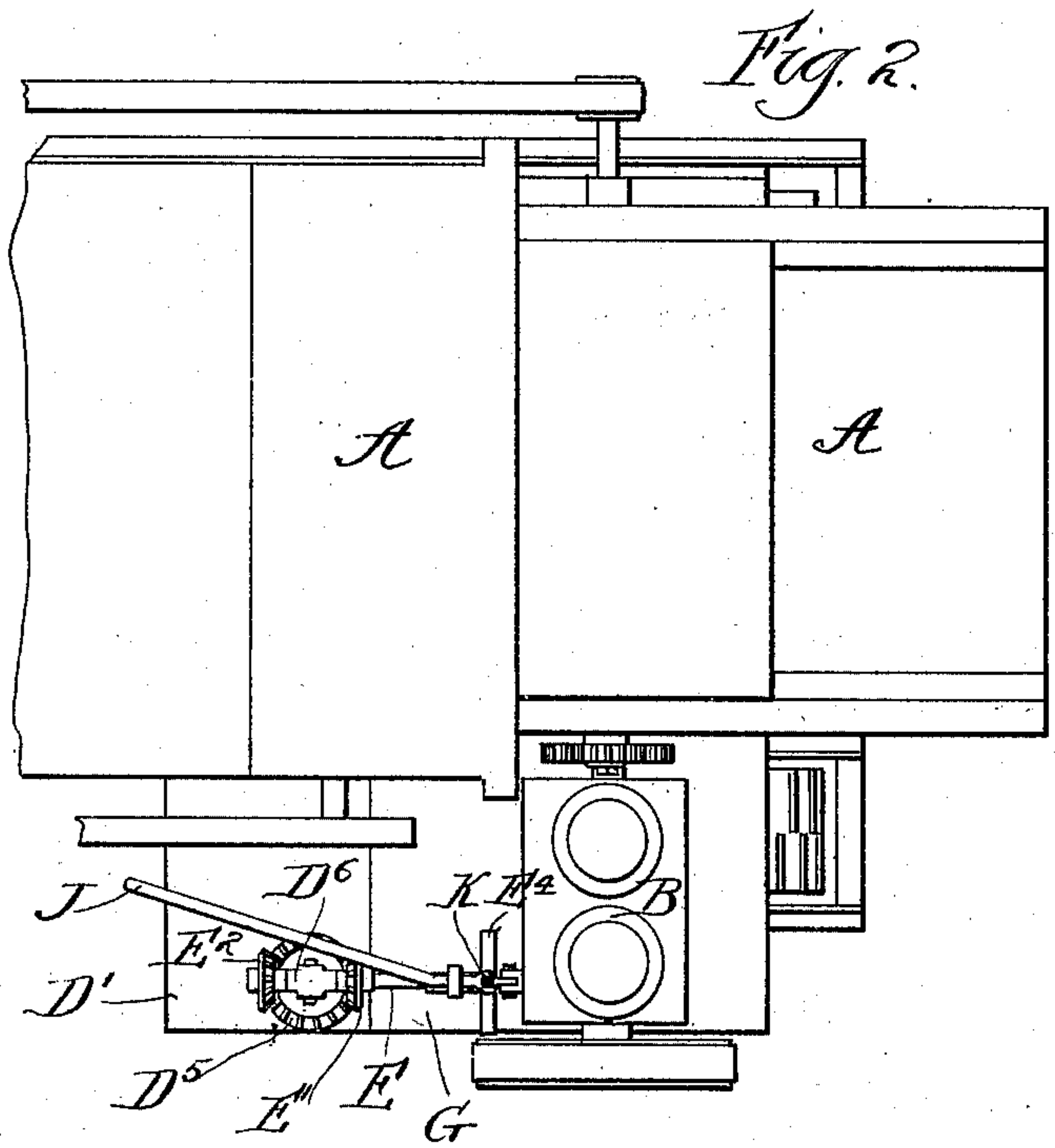
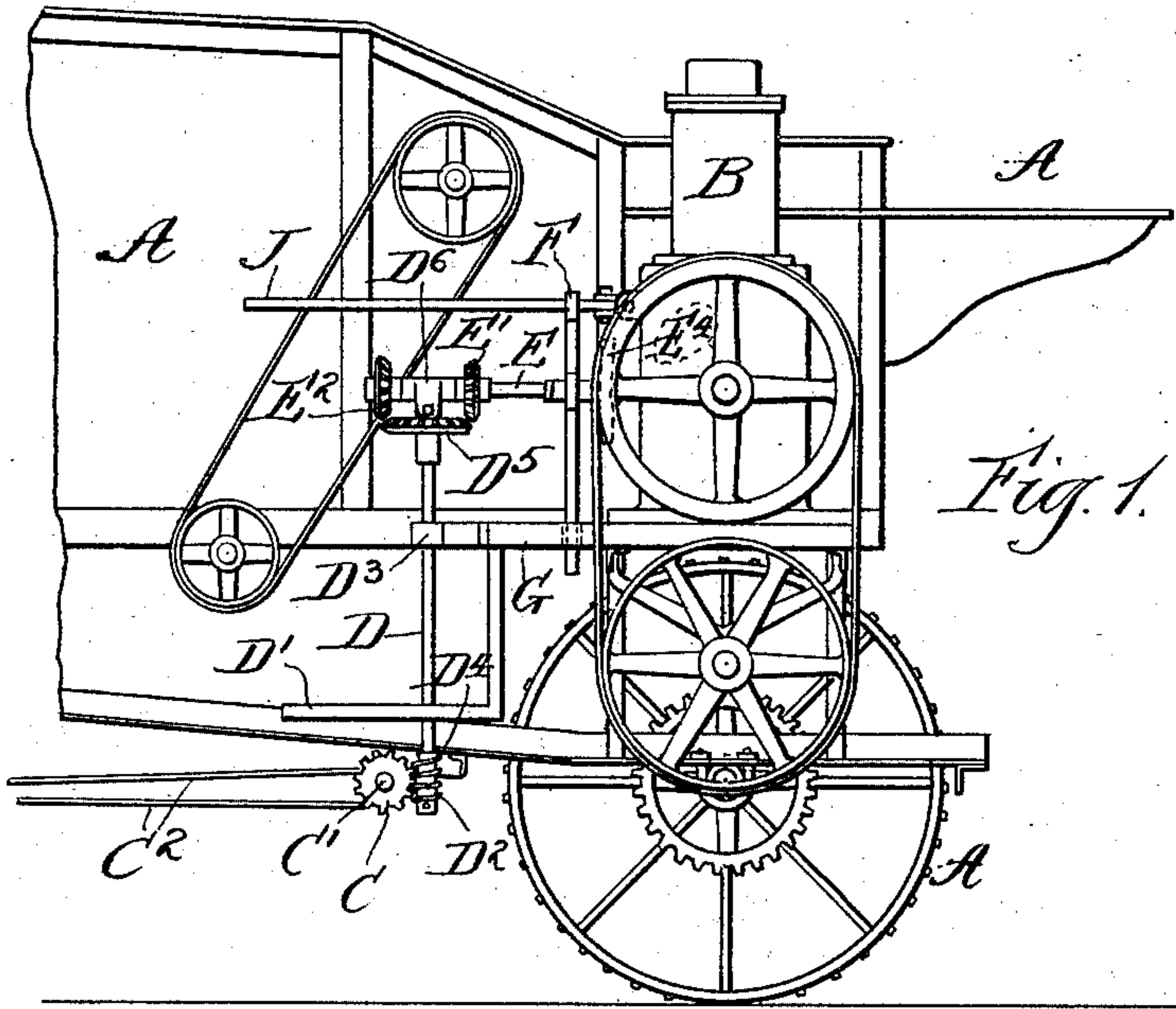
2 Sheets—Sheet 1.

C. F. GODDARD.

STEERING MECHANISM FOR THRASHING MACHINES.

No. 542,521.

Patented July 9, 1895.



Witnesses
Wm. J. Huming
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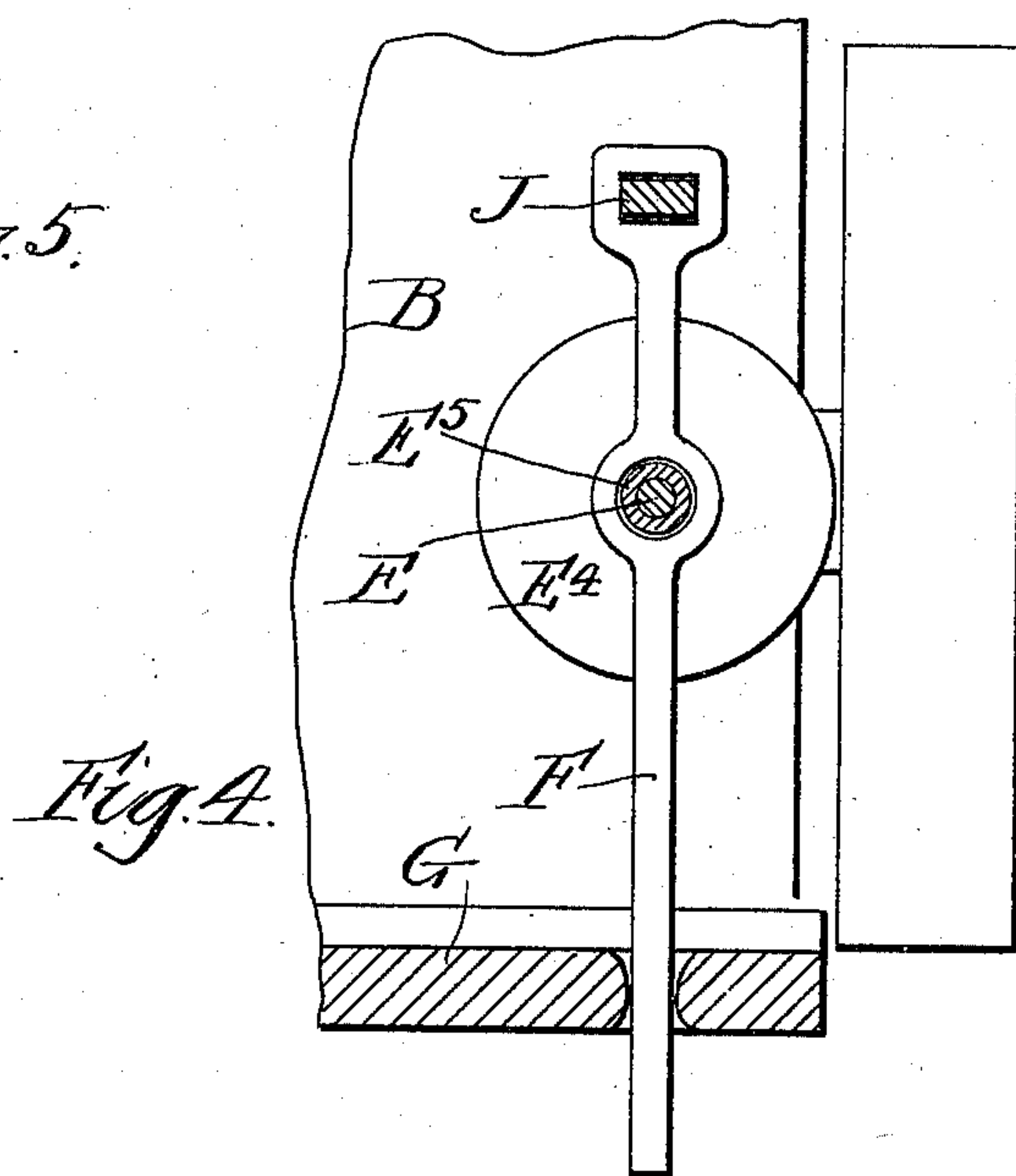
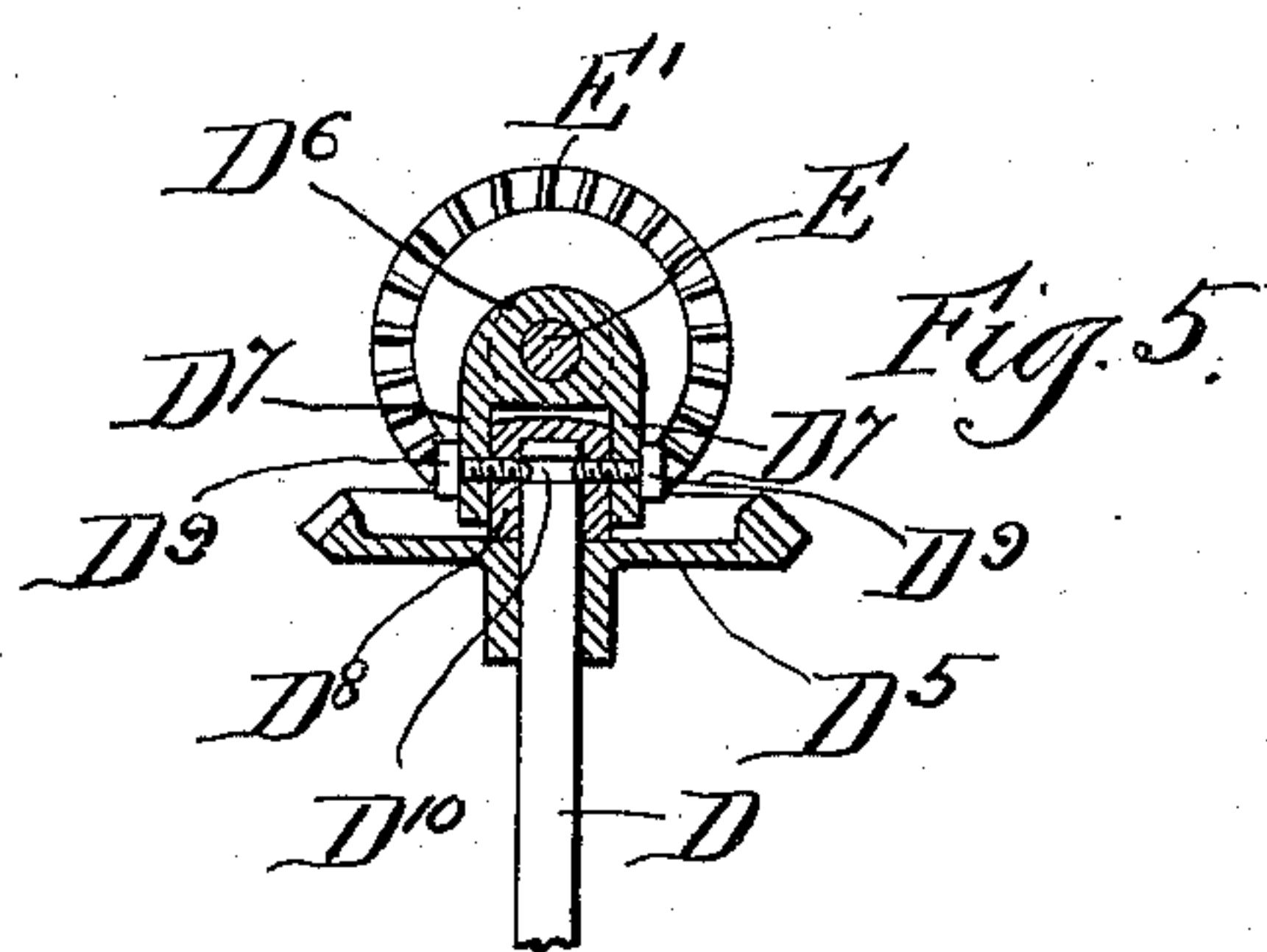
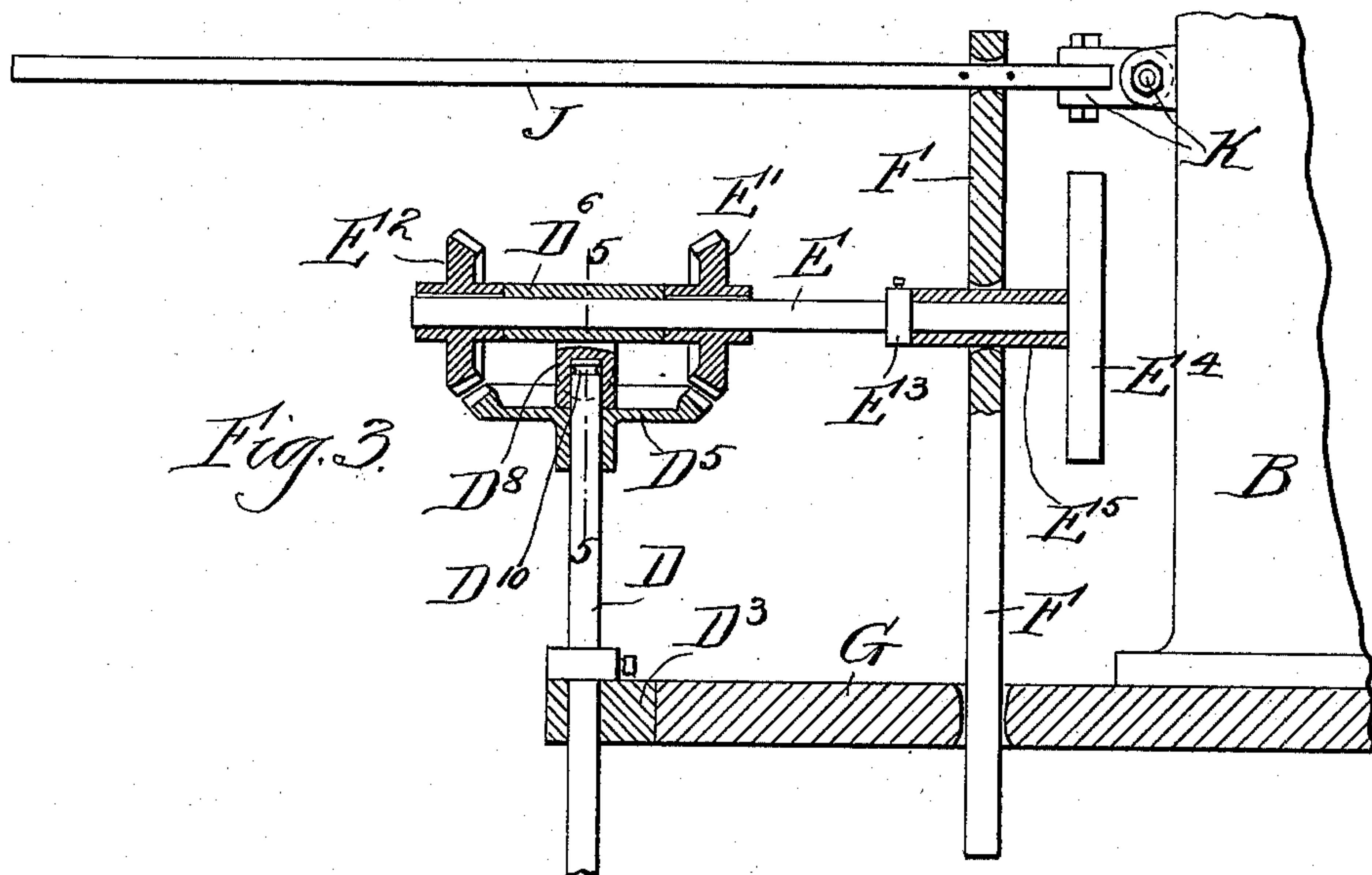
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UNITED STATES PATENT OFFICE.

CHARLES F. GODDARD, OF CHICAGO, ILLINOIS.

STEERING MECHANISM FOR THRASHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 542,521, dated July 9, 1895.

Application filed February 13, 1895. Serial No. 538,193. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. GODDARD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Steering Mechanism for Thrashing-Machines, of which the following is a specification.

My invention relates to steering mechanism especially designed for thrashing-machines, though, of course, it might be used with other similar apparatus.

I have illustrated my invention by the accompanying drawings, wherein—

Figure 1 is a side view of the device with my improvement in position. Fig. 2 is a plan view of the same. Fig. 3 is a detailed enlarged view of the transmitting devices proper. Fig. 4 is a detail looking in the direction of the arrow in Fig. 3. Fig. 5 is a cross-section on line 5 5, Fig. 3.

Like parts are indicated by the same letters in all the figures.

A A are the body and usual parts of an ordinary thrashing-machine to which an engine B has been applied. This engine B may be employed to operate the traction-gear to propel the separator, or it may be employed to run the cylinder, or both. I desire to employ transmitting mechanism in connection with this engine which shall have certain properties or capacities, and I have illustrated my invention particularly in its application to the steering mechanism. The steering mechanism, however, I do not show, except as to that portion which is necessary to be illustrated for the purpose of showing my invention.

C is a gear-wheel on the shaft C', from which shaft, or a pulley thereon, proceeds the belt or rope C², whereby the steering mechanism is controlled.

D is a vertical shaft which passes, for example, through the platform D', on which the operator stands, and it carries a worm-gear D² at its lower end to engage the gear-wheel handle, so that by turning the shaft D the gear-wheel handle may be rotated in either direction to steer the separator. The shaft D is retained in suitable boxes at D³ D⁴ and carries at its upper end, rigid with it, the bevel-gear D⁵.

D⁶ is a sleeve on the shaft E, and it has downwardly-projecting parts D⁷ D⁷, which form the sides to encircle the upper end of a cap D⁸ on the shaft D. At the sides the parts D⁷ D⁷ are perforated to admit the screw-bolts D⁹, which enter the groove D¹⁰ in the upper end of the shaft D, so that the sleeve D⁶ is supported upon the upper end of the shaft, and so as to be capable of tilting thereon. The shaft E has keyed to it the gear-wheels E' E², and it is provided with a collar E³ and friction-wheel E⁴ and sleeve E⁵, which sleeve passes through the aperture in the cross-beam G.

J is a hand-lever pivoted at K and passing through an aperture in the upper part of the rod F.

The hand-lever J is pivoted so as to be capable of being moved in either direction. It may be raised to raise the rod F on one end of the shaft E, or it may be moved laterally to swing the rod F and one end of the shaft E and the friction-wheel E⁴. As suggested above, it would be possible to arrange these parts otherwise than as here suggested and this transmitting mechanism might be employed in connection with the other parts to transmit motion or power to other than the steering mechanism; but I have found it particularly applicable to my self-contained thrashing-machines, in which the steering of the separator can thus be easily accomplished by the application of the power or energy put forth by the engine on the separator.

The use and operation of my invention are perhaps sufficiently illustrated and have perhaps been already sufficiently described; but it may be proper to add some observations in this direction. Assuming that the shaft D is connected with the steering or other mechanism to which it is desired to impart an intermittent motion in opposite directions, it will be seen that no motion will be imparted to said shaft unless either one or the other of the wheels E' E² is in engagement with the wheel D⁵, and also that no such motion will be imparted, even when either of the wheels is so engaged, unless the shaft E is rotated. Now I have provided means by which either of said wheels may be brought into operative engagement and then the shaft be made to rotate. The wheel E⁴ of course is opposed to

the edge of a wheel associated with the driving mechanism and which wheel is normally in motion. Now, if the lever J be swung to either side—that is, either to the right or left—
 5 it is plain that the upper part of the base F will be in like manner swung back and forth and that therefore the wheel E⁴ will be moved into or out of contact with the edge of the rotating wheel associated with the driving mechanism. When, therefore, the handle J is
 10 moved in such direction as to bring the wheel E⁴ against a supposed wheel, the wheel E⁴ will begin to rotate and this of course will rotate the shaft E and wheels E' E². If now, or if
 15 prior to setting shaft E, in rotation, the lever J be raised or lowered, it is plain that the bar F will be raised or lowered and that either the wheel E' or E² will be brought into engagement with the wheel D⁵. Now, by
 20 properly manipulating the lever, it is evident that either wheel may be brought into engagement with the wheel D⁵ and may then be set in motion, and the direction of rotation of shaft D will depend upon which wheel, E' or
 25 E², is in engagement with D⁵.

I claim—

1. The combination of a shaft having a gear wheel on the end thereof, with a transverse shaft mounted upon a cap on the end of the
 30 first mentioned shaft so as to swing thereon, and gear wheels on such transverse shaft adapted to intermittently engage the gear wheel on the first mentioned shaft.

2. In a thrashing machine the combination
 35 of a steering gear with a controlling shaft therefor, a gear on such shaft, a tilting shaft with gears thereon which move therewith said gears adapted one at a time to engage the controlling shaft, and means for driving said
 40 gears.

3. The combination of a controlling shaft with a gear thereon, a transverse shaft with gears thereon adapted alternately to engage the first mentioned gear, and means whereby
 45 the transverse shaft may be raised or lowered at one end to bring the gears thereon alternately in engagement with the gear on the controlling shaft.

4. In a thrashing machine the combination of a rotating driving wheel with a shaft having a friction wheel on one end thereof opposed to the driving wheel and gears on the other end, means for moving the end of the shaft carrying the friction wheel either vertically or laterally, and a shaft and gear adapted alternately to engage the gears on the transverse shaft.

5. The combination of a shaft adapted to be alternately rotated in opposite directions, with a gear wheel on the upper end thereof, a tilting bearing on the top of said shaft, a transverse shaft in such bearing, gears there-
 60 to on opposite sides of the bearing and adapted alternately to engage the gear on the reversing shaft.

6. The combination of a shaft adapted to be alternately rotated in opposite directions, with a gear wheel on the upper end thereof, a tilting bearing on the top of said shaft, a transverse shaft in such bearing, gears there-
 70 to on opposite sides of the bearing and adapted alternately to engage the gear on the reversing shaft, and a friction wheel on the other end of the transverse shaft, and means for moving that end of the shaft to bring one and
 75 then the other of its gears into engagement with the gear on the vertical shaft.

7. The combination of a shaft adapted to be alternately rotated in opposite directions, with a gear wheel on the upper end thereof, a tilting bearing on the top of said shaft, a transverse shaft in such bearing, gears there-
 80 to on opposite sides of the bearing and adapted alternately to engage the gear on the reversing shaft, and a friction wheel on the other
 85 end of the transverse shaft, and means for moving that end of the shaft to bring one and then the other of its gears into engagement with the gear on the vertical shaft, and to bring the friction gear against an opposed
 90 driving gear, whereby the transverse shaft is rotated.

CHARLES F. GODDARD.

Witnesses:

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