

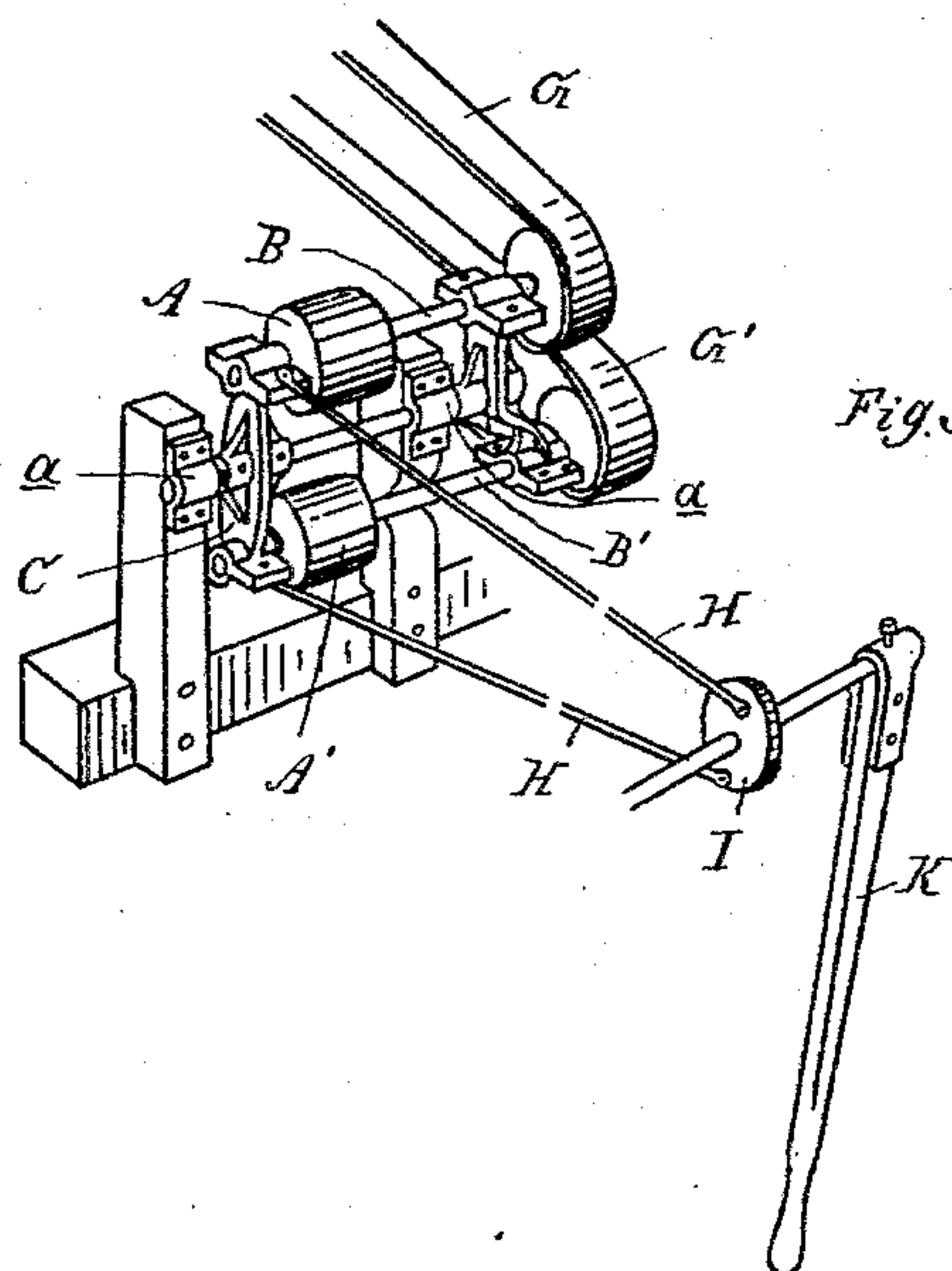
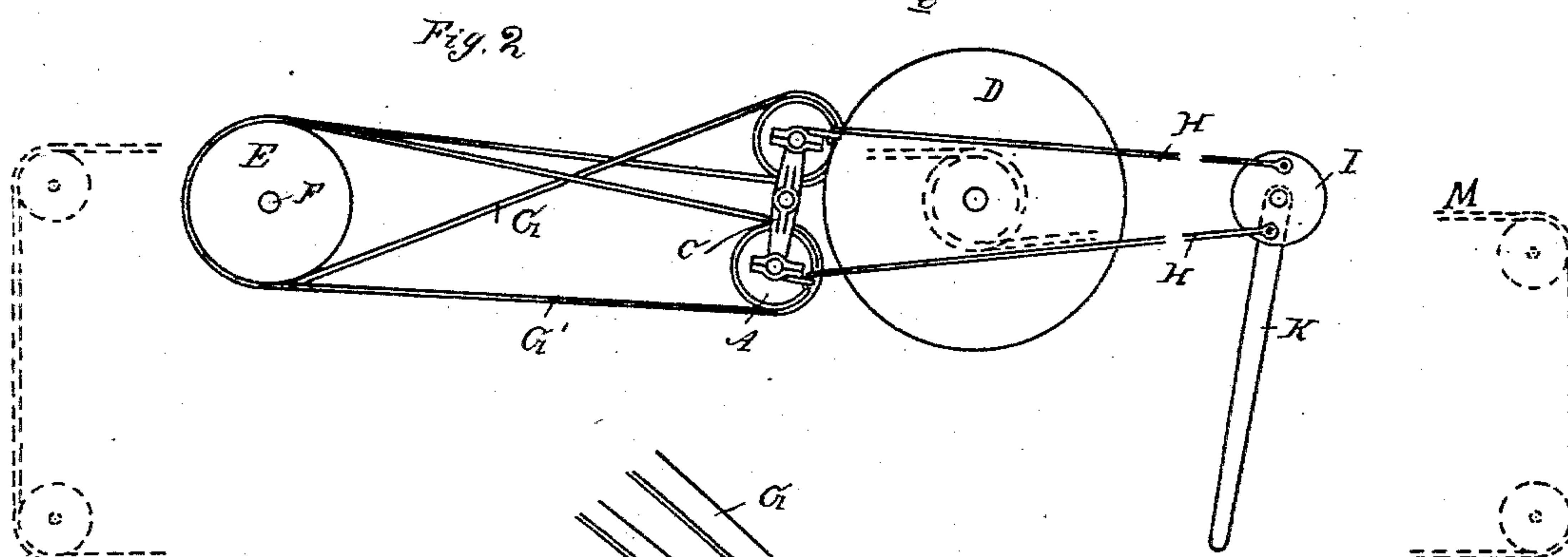
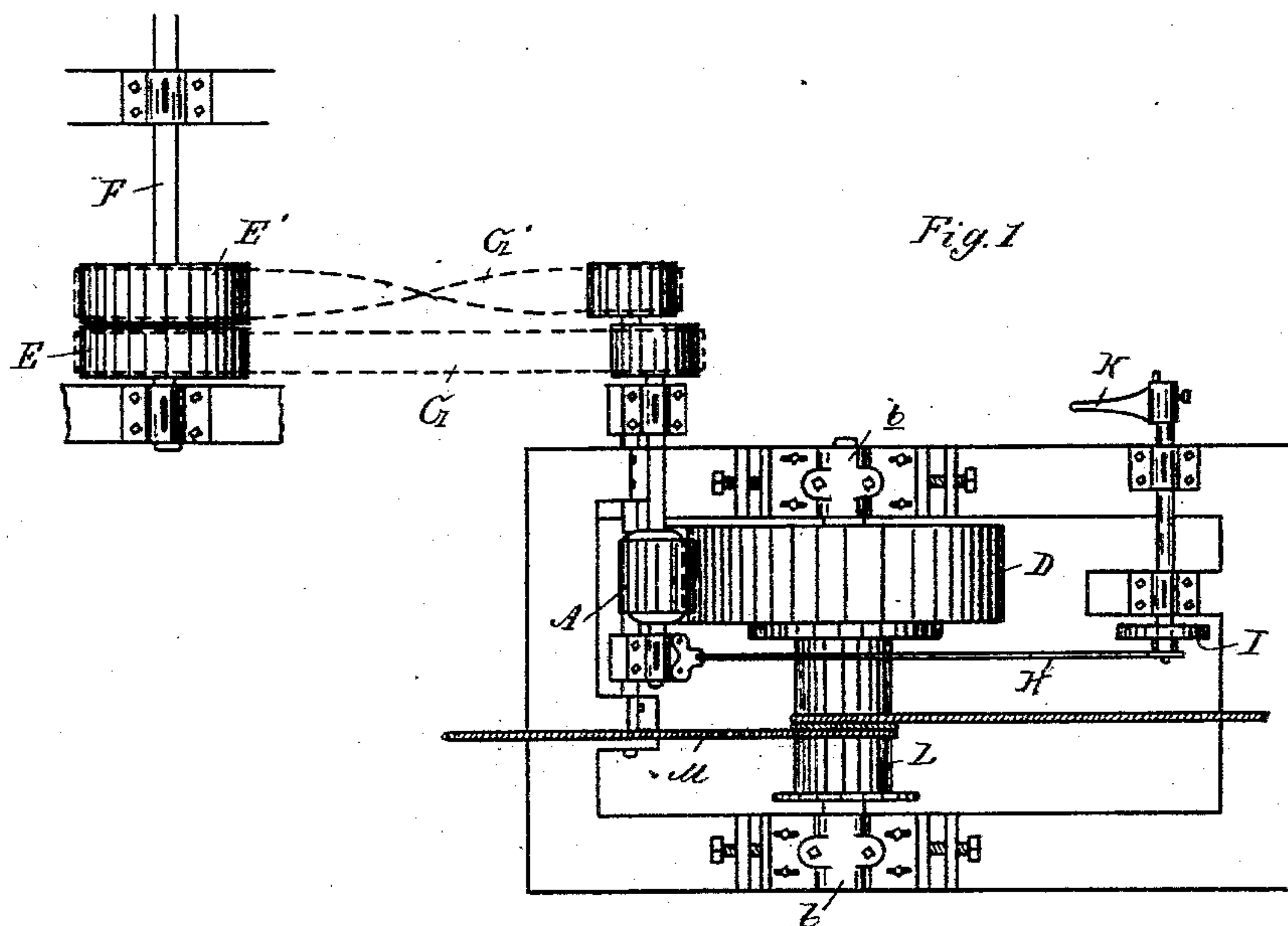
(No Model.)

J. H. WHITING.

REVERSIBLE FRICTION GEARING.

No. 315,687.

Patented Apr. 14, 1885.



Attest:
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UNITED STATES PATENT OFFICE.

J. HILL WHITING, OF DETROIT, MICHIGAN.

REVERSIBLE FRICTION-GEARING.

SPECIFICATION forming part of Letters Patent No. 315,687, dated April 14, 1885.

Application filed February 18, 1885. (No model.)

To all whom it may concern:

Be it known that I, J. HILL WHITING, of Detroit, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Reversible Friction-Gearing; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

10 This invention relates to certain new and useful improvements in reversible friction-gearing; and the invention consists in the arrangement and construction of the different parts, all as more fully hereinafter described and claimed.

15 In the drawings which accompany this specification, Figure 1 is a plan view of my reversible friction-gearing arranged to operate a traction-cable. Fig. 2 is a side elevation thereof. Fig. 3 is a perspective of a portion of the device only.

20 Two small friction-pulleys, A A', upon parallel shafts B B', are secured in an oscillating frame, C, in such relation to the friction-wheel D that by oscillating the frame C one or the other of the two friction-pulleys A A' may be brought in frictional contact therewith. Two belt-pulleys, E E', upon a counter-shaft, F, transmit motion to the friction-pulleys A A' by means of the belts G G', one of which is straight and the other crossed, so as to revolve the friction-pulleys in opposite directions. The frame C oscillates in bearings a, and two connecting-rods, H H, are 35 pivotally secured to the crank-disk I, so as to oscillate the frame C by means of the hand-lever K or other equivalent device.

40 L is a cable-drum secured upon the shaft of the friction-wheel D, which has adjustable bearings b b.

M is an endless cable passing around the cable-drum, so as to be operated by it.

45 In practice the counter-shaft F revolves continuously, and by means of the lever K the operator can oscillate the frame C and bring either one of the two friction-pulleys A A' in contact with the friction-wheel D, thus making

the cable draw in one direction or in the opposite, or stopping it whenever he desires.

50 It will be seen that the counter-shaft F, with its belt-pulleys E E', is in such position that if either one of the friction-pulleys is brought into contact with the friction-wheel its drive-belt is simultaneously tightened.

55 The crank-disk and connecting-rods H H are in such position in relation to the oscillating frame that the frictional contact between either of the friction-pulleys A A' and the friction-wheel D is effected and maintained by the direct pull of the connecting-rods, respectively. 60

65 The degree of oscillation which must be given to the frame C to effect the proper operation of the friction-pulleys A A' need be but comparatively small, thus permitting of a relatively small disk, I, and long lever K, giving the operator a large advantage of leverage to effect and maintain the required frictional contact as long as he desires without the expenditure of more force than can be expected from a boy. 70

75 The device herein described is especially designed to operate such traction-cables of moderate length as are frequently made use of in large manufacturing establishments or foundry and machine shops to operate transfer-trucks of all kinds on the level, and to suit the varying conditions under which it may be used other suitable devices may be substituted for the lever K. 80

I am aware of the Patent No. 244,050, and make no claim to the construction shown therein as forming part of my invention.

85 I attach importance to my disk I and connecting-rods H H, for by their use the device can be operated at any desired distance, the rods being made longer or shorter, according to the distance.

What I claim as my invention is—

90 1. In a reversible friction-gearing, two friction-pulleys journaled in an oscillating frame and revolving in opposite directions, and a friction-pulley in stationary bearings, in combination with the disks I, the rods H H, con-

necting said disk with the oscillating frame, and the lever K, positively oscillating the friction-pulleys in and out of contact with the friction-wheel, all arranged substantially as described.

2. In a reversible friction-gearing, the combination of the friction-pulleys A A', journaled in an oscillating frame, C, of the counter-shaft F, belt-pulleys E E', and belts G G',

for revolving the friction-pulleys in opposite directions, of the friction-wheel D, of the connecting-rods H H and crank-disk I, of the cable-drum L and cable M, and of the operating-lever K, all arranged substantially as described.

J. HILL WHITING.

Witnesses:

H. S. SPRAGUE,
E. J. SCULLY.