

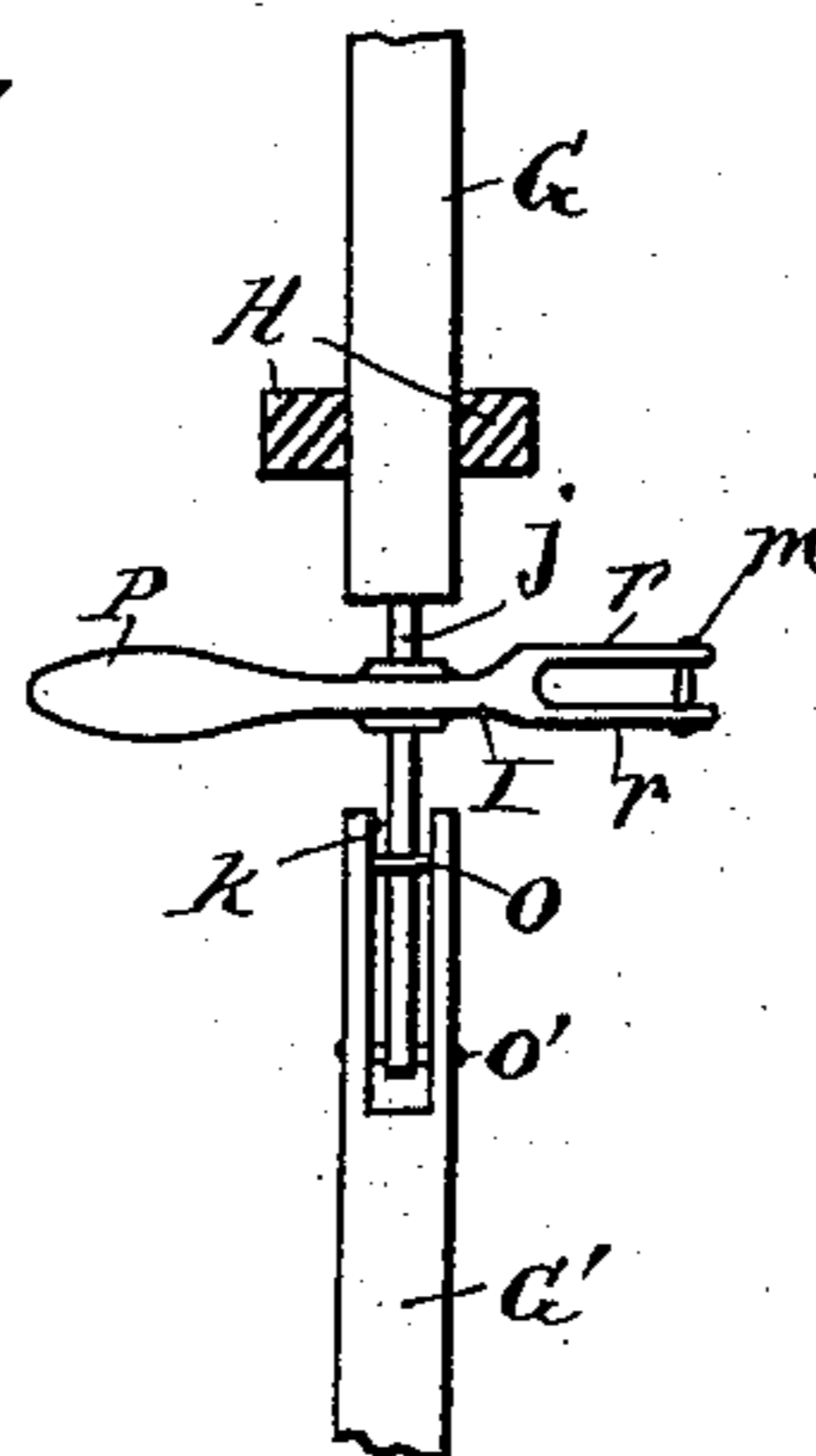
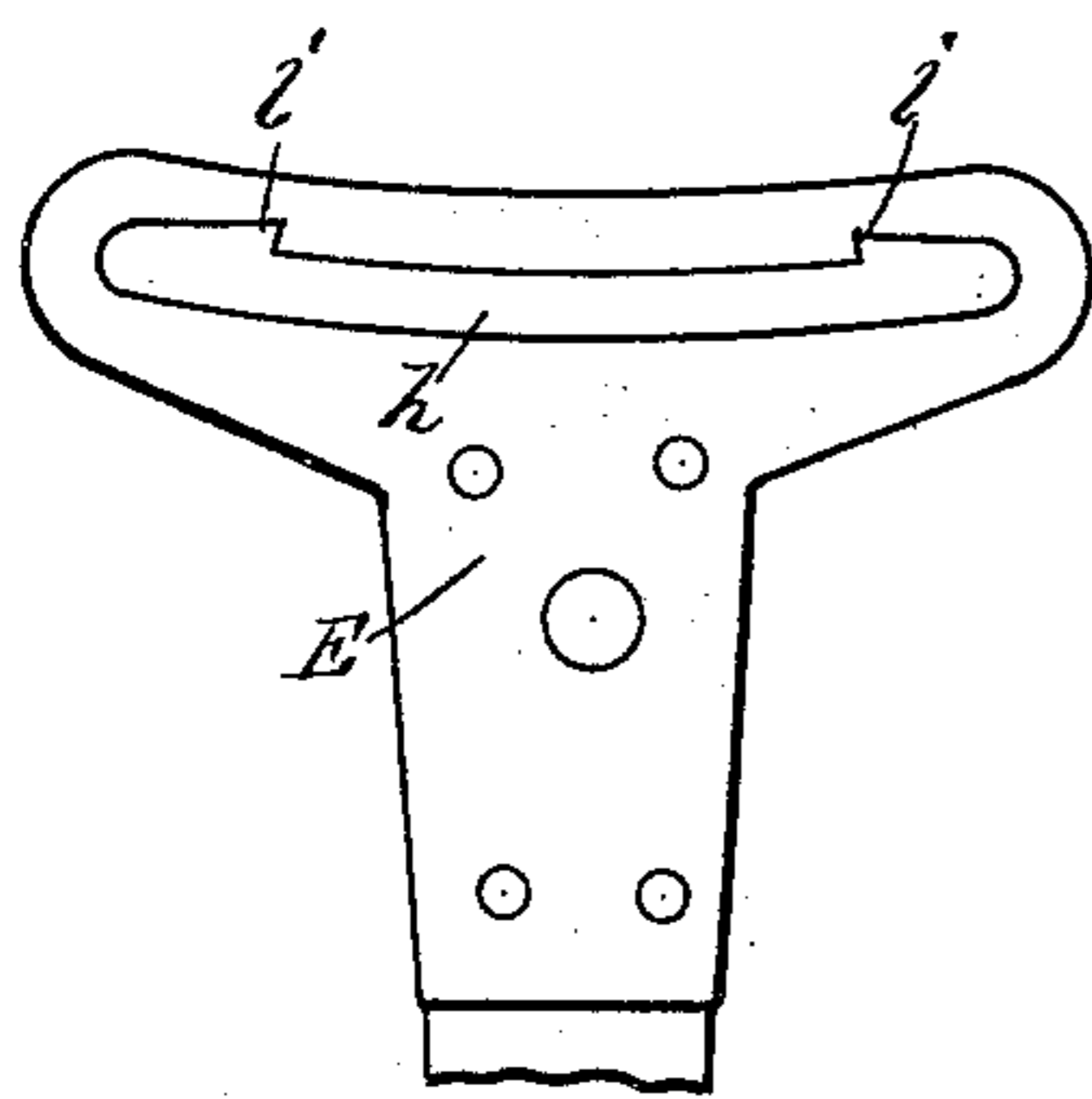
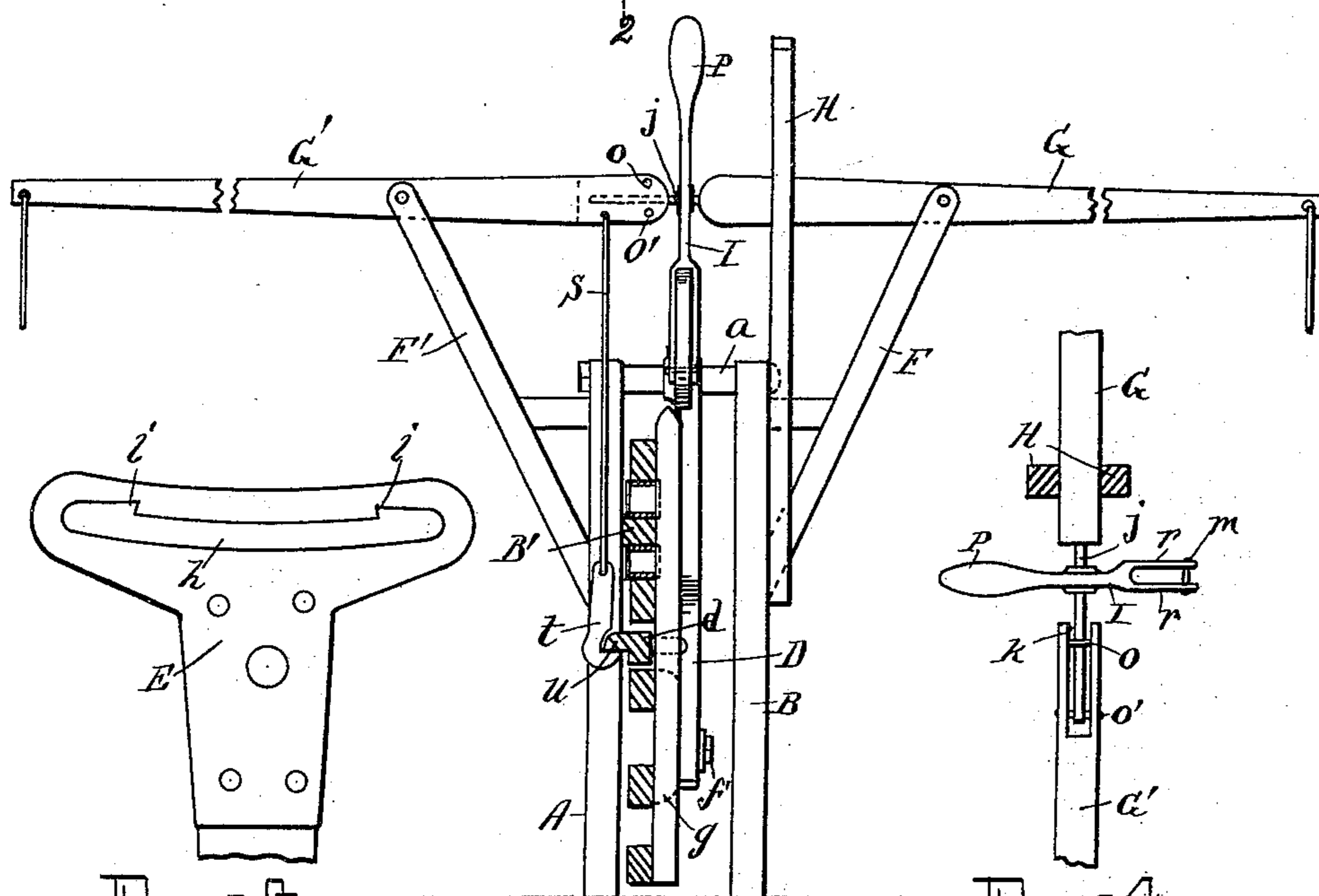
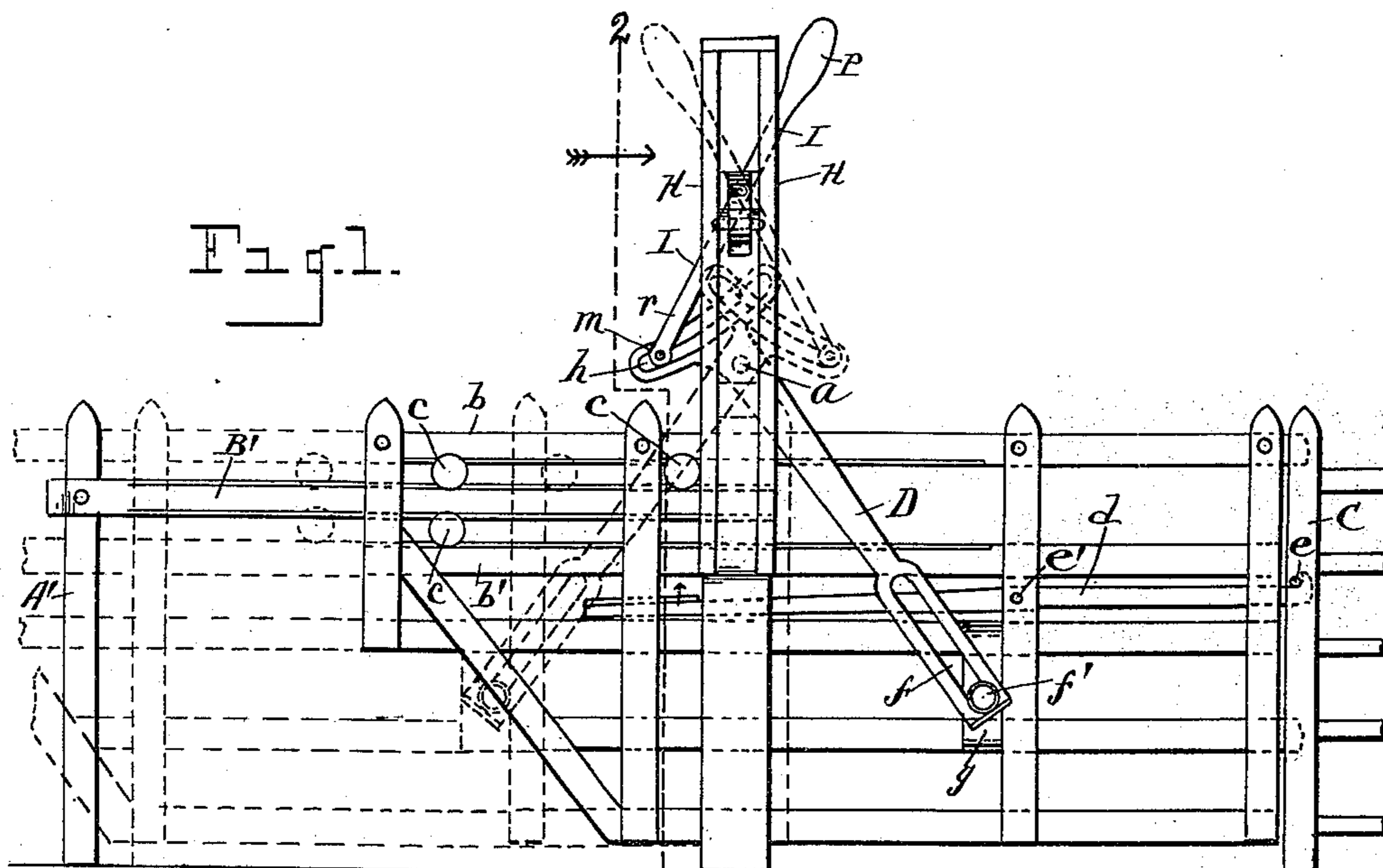
No. 632,256.

Patented Sept. 5, 1899.

M. M. DUNGAN.
FARM GATE.

(Application filed Mar. 9, 1899.)

(No Model.)



WITNESSES.

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UNITED STATES PATENT OFFICE.

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FARM-GATE.

SPECIFICATION forming part of Letters Patent No. 632,256, dated September 5, 1899.

Application filed March 9, 1899. Serial No. 708,308. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL M. DUNGAN, a citizen of the United States, residing at Homer, in the county of Champaign, State of Illinois, have invented certain new and useful Improvements in Farm-Gates; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to farm-gates; and it consists in the construction and arrangement of parts hereinafter fully set forth, and pointed out in the claims.

The object of the invention is to provide a farm-gate of simple and inexpensive construction in which the arrangement is such as to enable the gate to be opened and closed from either side while the operator is seated in his vehicle, obviating the necessity of alighting from the vehicle to open and close the gate.

A further object is to provide for ease and accuracy of operation and to provide for automatically latching and unlatching the gate by the same operation which opens and closes it.

These objects are attained by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a gate embodying my improved features. Fig. 2 is a vertical transverse section, as on line 2 2 of Fig. 1, looking in the direction of the arrow. Fig. 3 is an enlarged side elevation of the slotted head at the upper end of the pivoted operating-arm. Fig. 4 is an enlarged plan view in detail of the united ends of the operating-levers and the forked connecting-link pivoted between them.

Referring to the letters of reference, A and B designate the main posts, between which the gate is hung and adapted to travel longitudinally, the upper ends of said posts being connected by a transverse shaft *a*.

A' designates a rear post, adapted to support the rear end of a horizontal track-rail B', whose forward end is supported by the post

A, as shown in Fig. 2. Between the upper and lower edges of said track-rail and the opposed edges of the two upper bars *b b'* of the gate are interposed a series of flanged rollers *c*, which support said gate upon the track-rail and cause it to ride freely thereon as said gate is caused to travel forth and back in the operation of opening and closing.

C designates the post against which the front end of the gate abuts when closed, said post having a recess therein adapted to receive the hooked end of the latch-bar *d*, which is pivoted in the frame of the gate and which when the gate is closed is adapted to engage the pin *e*, crossing the recess or keeper in the post C, which receives the end of said latch-bar, thereby locking the gate in its closed position. Said latch-bar is pivoted at *e'*, and its rear end is heavier than its forward end, so that said forward end is normally overbalanced and the hook thereon held in contact with the pin *e* notwithstanding any vertical movement of the front end of the gate, thereby preventing the gate from becoming unlatched.

Pivoted upon the transverse shaft *a*, connecting the upper ends of the posts A and B, is the operating-lever D, whose lower end is provided with a longitudinal slot *f*, adapted to freely receive the pin *f'*, which projects from the block *g*, secured to the frame of the gate. The upper end of said operating-arm, above the shaft *a*, is provided with a head E, having a curved longitudinal slot *h* therein, said slot being provided in the upper wall near its ends with notches or shoulders *i*.

Extending obliquely upward from the center post B is a support F, at the upper end of which is pivoted one of the operating-levers G, while from the opposite post A projects a like support F', to the upper end of which is pivoted the other of the operating-levers G'. Said operating-levers stand in the same plane, and their inner ends are in juxtaposition.

Firmly fixed in and projecting from the inner end of the lever G is a rod *j*, whose free end projects into a slot *k* in the inner end of the lever G' and is confined therein by the pins *o o'*, crossing said slot above and below said rod *j*, whereby the inner ends of said levers are linked together, so as to cause them to

travel in unison, but at the same time permit them to swing freely upon their respective fulcrums.

Rising from the post B are two parallel uprights H, which form a way in which the end of the lever G is guided in its vertical movement, whereby said lever, as well as the joined lever G', is prevented from swaying laterally.

I designates a link which is loosely pivoted upon the rod j, connecting the inner ends of the operating-levers. The lower end of said pivoted link is provided with a fork, the sides r of which embrace the slotted head E of the arm D and which are connected at the lower ends by a cross-pin m, which passes through and is adapted to lie freely in the slot h in said head. The upper end p of said pivoted link is weighted so as to overbalance the forked end thereof, for purposes hereinafter stated.

It will now be understood that a reciprocatory movement of the operating-arm D upon its pivot will cause the gate to open and close, riding in said operation upon its supporting track-rail B'. This movement may be imparted to the arm D through the operating-levers as follows: Assuming the parts to be in the position shown in Fig. 1 a downward pull upon the outer end of the lever G will cause its inner end to rise, thereby carrying upward the forked connecting-link I. The position of said link at the beginning of the operation, as shown in said figure, is such that its weighted end p, overbalancing the depending forked end thereof, will cause the pin m, carried by the sides of said fork, to lie against the upper wall of the slot h in the head E of the operating-arm D, whereby as said link is raised through the operation of the lever G the pin m of its fork is caused to engage one of the notches i in the slot h of the operating-arm, turning said arm upon its pivot and causing the lower end thereof to swing rearwardly, whereby the gate is carried backward upon its supporting-track to the open position. Upon the release of the operating-lever the weight of the connecting-link causes said lever to return to its normal position, carrying the pin m, connecting the sides of said fork, downward in the slot h to the opposite or lower end thereof, causing said connecting-link to swing over and assume a position directly opposed to that which it occupied at the beginning of the operation, its weighted upper end portion swinging to the opposite side of its center of oscillation, as clearly shown by dotted lines in Fig. 1, in which position the fork is overbalanced and the pin therein caused to engage the upper wall of the slot h in the head of the actuating-arm, so that upon a succeeding operation of either of the operating-levers the arm D will be swung back to its former position, thereby closing the gate, as will be well understood. The arrangement is such that the operator may ride up on one side of the gate, open it

with one of the levers, pass through the gateway, and close the gate with the lever on the opposite side.

To provide for raising the latch-bar, so as to unlatch the gate by the same operation that opens it, a vertical rod s is employed, which is pivoted to the lever G' and extends downwardly beside the post A. (See Fig. 2.) To the lower end of said rod s is loosely hung a hook t, which is adapted to engage a flange u, projecting from the edge of the latch-bar d, whereby the raising of the inner end of either of the operating-levers will cause said hook to engage and raise the rear end of the latch-bar, thereby depressing the forward end of said bar and disengaging its hook from the pin e in the keeper. This movement of the parts to effect an unlatching of the gate is accomplished in advance of the operation of opening the gate by reason of the fact that the pin m in the forked link is permitted to travel some distance from the end of the slot h before engaging the notch or shoulder i in the wall thereof, so that the gate becomes unlatched before the arm D is moved in the operation of opening it.

Having thus fully set forth this invention, what is claimed is—

1. In a gate, the combination of the gate-frame mounted to move longitudinally, the pivoted actuating-arm having engagement with the gate-frame and provided with a head at its upper end having a slot therein, the operating-levers mounted on opposite sides of the gate, the inner ends of said levers being coupled so as to move in unison, the forked link pivoted between the inner ends of said levers having a weighted upper end, the forked end of said link engaging in the slot in the head of the operating-arm.

2. In a gate, the combination of the gate-frame adapted to move longitudinally, the pivoted operating-lever attached to said gate and having a slotted head at its upper end, the opposed operating-levers, the forked link pivoted between said levers having a weighted upper end, the fork of said link carrying a cross-pin which lies in the slot of said head, the latch-bar on the gate-frame, and means operated by said levers for raising the latch-bar to unlatch the gate simultaneously with the operation of opening it.

3. In a gate, the combination of the longitudinally-movable gate-frame, the pivoted operating-arm attached to the gate-frame, the operating-levers attached to said pivoted arm, the pivoted latch-bar in the gate-frame, the rod attached to one of the operating-levers carrying a depending hook adapted to engage said latch-bar.

In testimony whereof I sign this specification in the presence of two witnesses.

MICHAEL M. DUNGAN.

Witnesses:

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CHAS. H. WALLACE.