

(No Model.)

C. LINDSTRÖM.
BRAKE ACTUATING MECHANISM.

No. 578,573.

Patented Mar. 9, 1897.

Fig. 1.

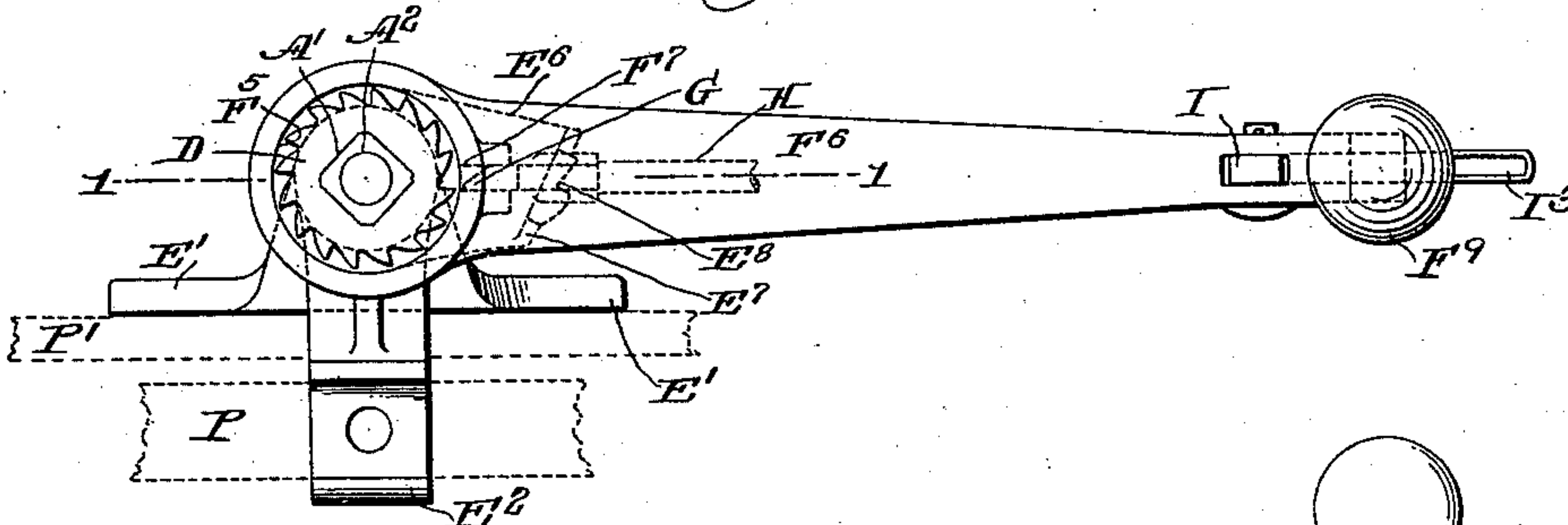


Fig. 2.

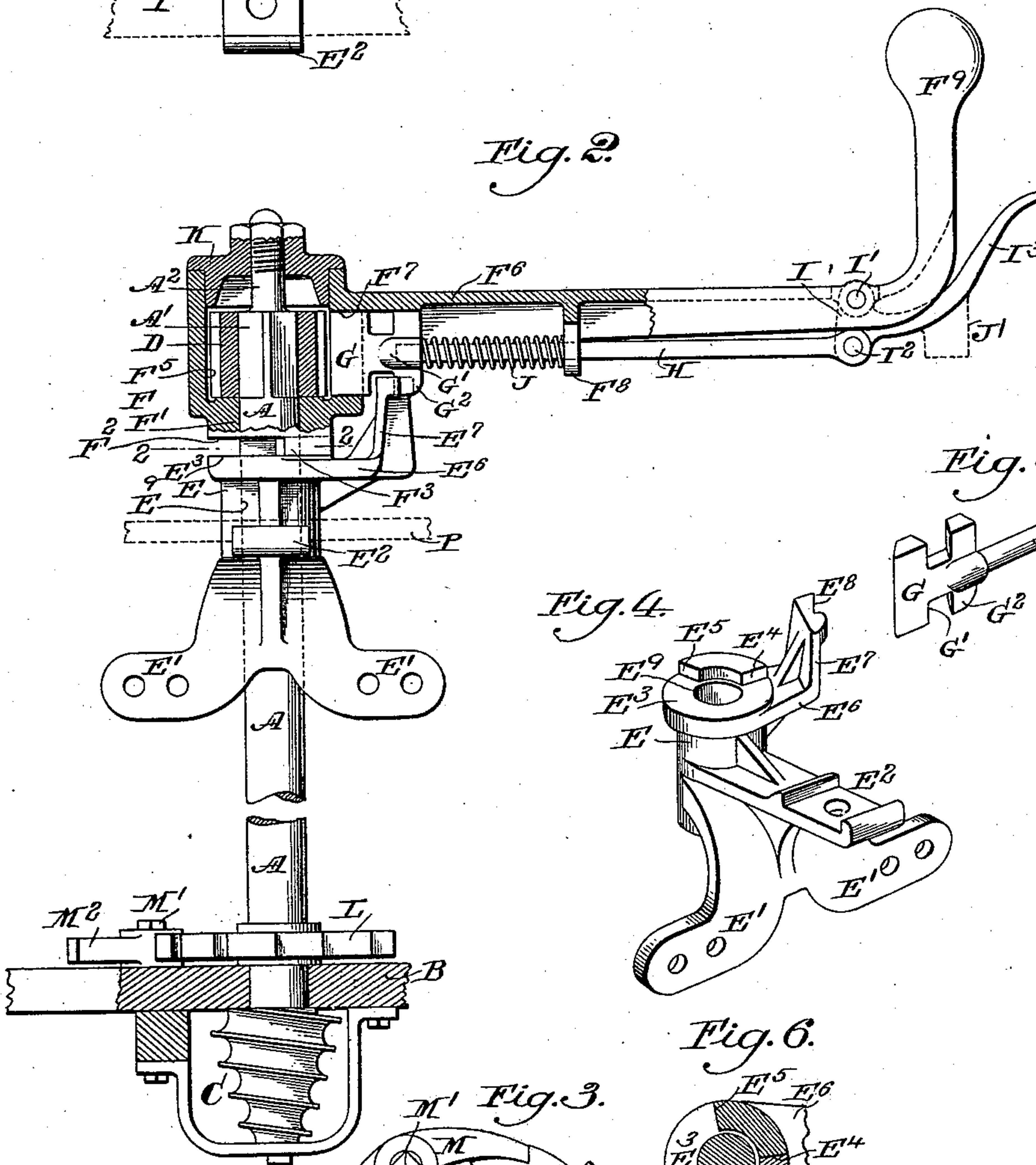


Fig. 5.

Fig. 4.

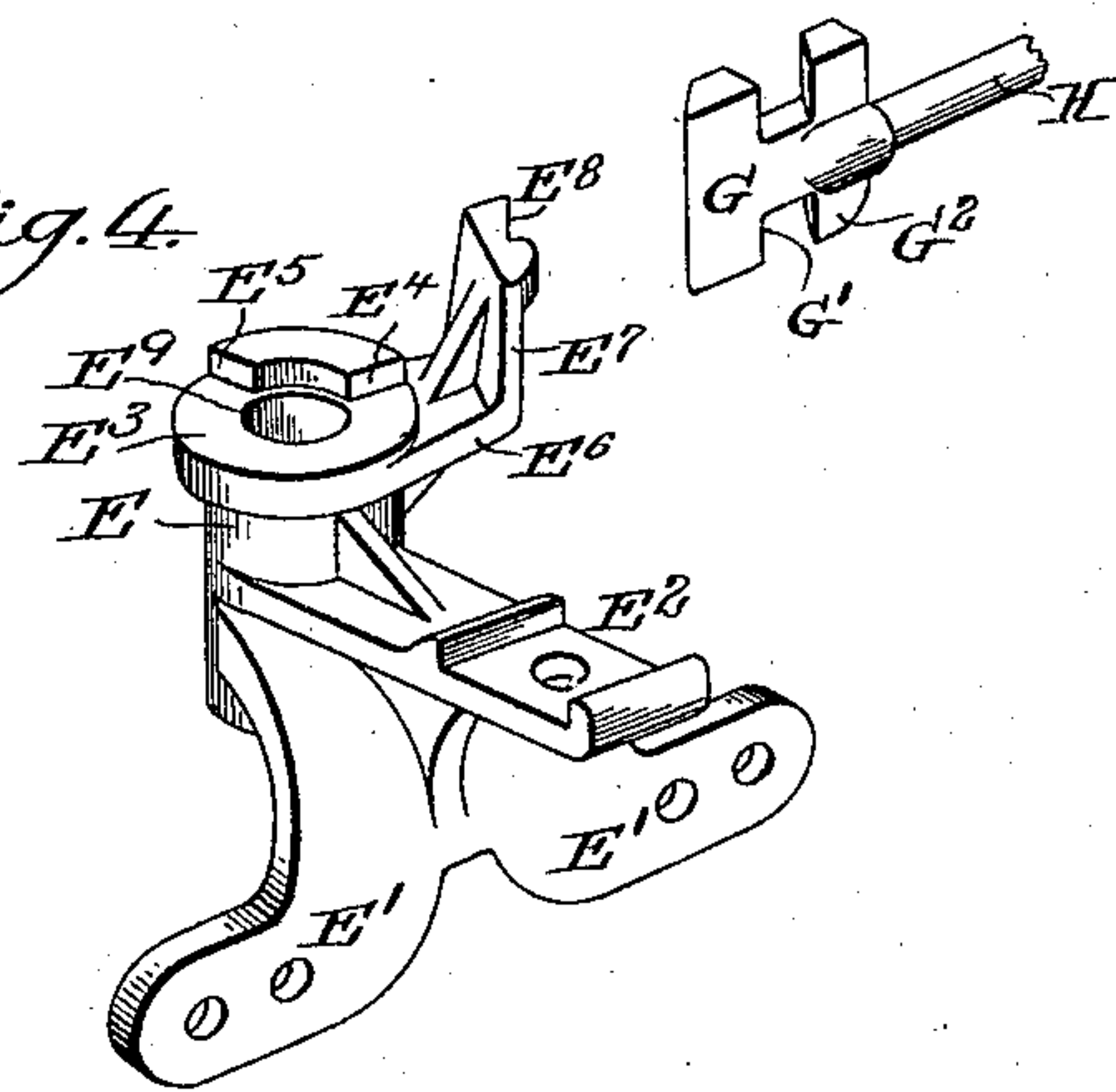


Fig. 6.

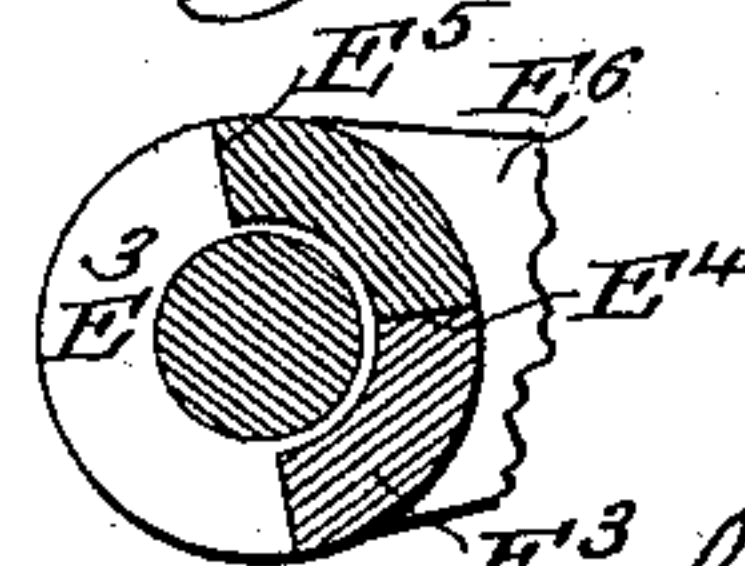
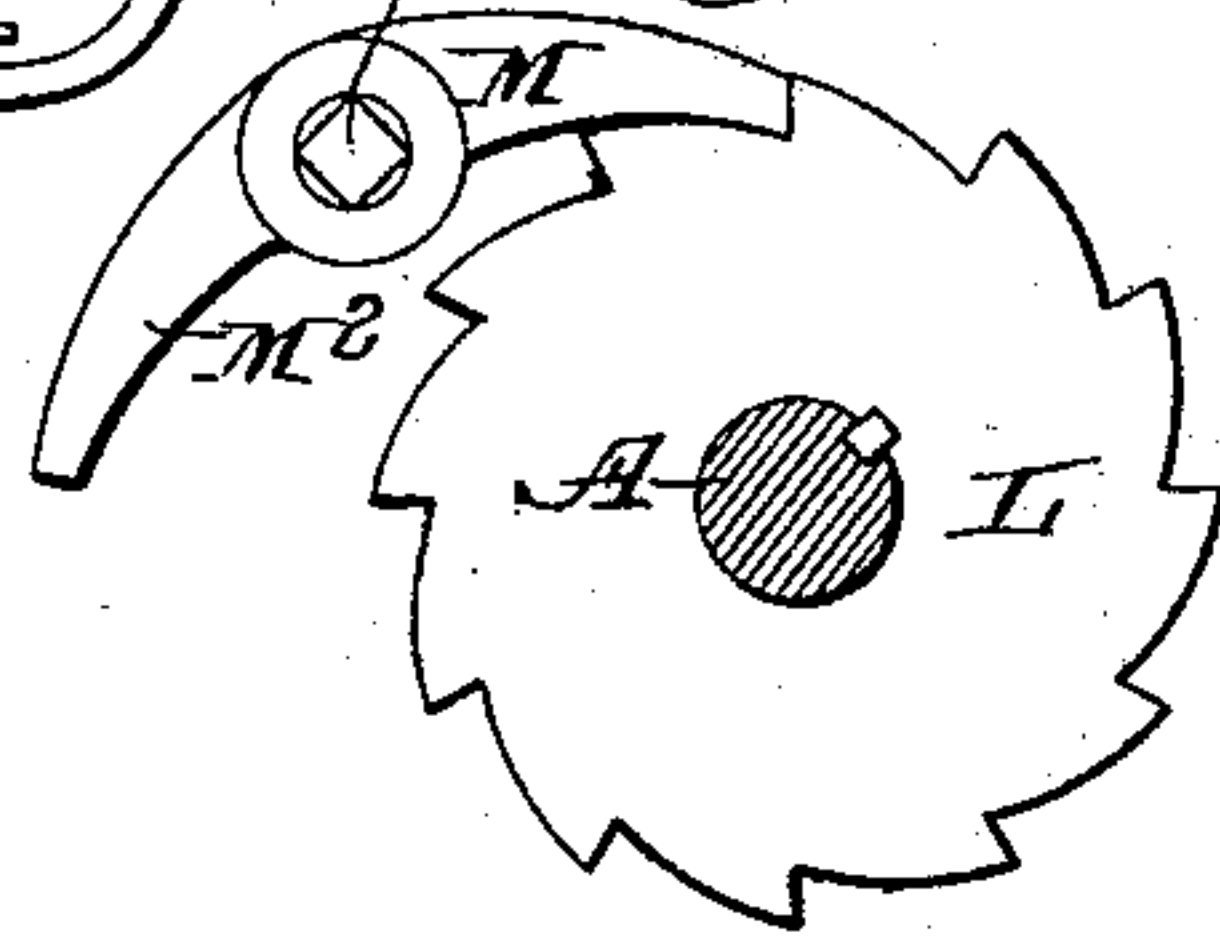


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES LINDSTRÖM, OF ALTOONA, PENNSYLVANIA.

BRAKE-ACTUATING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 578,573, dated March 9, 1897.

Application filed January 18, 1897. Serial No. 619,521. (No model.)

To all whom it may concern:

Be it known that I, CHARLES LINDSTRÖM, a citizen of the United States of America, residing in Altoona, in the county of Blair, in the State of Pennsylvania, have invented a certain new and useful Improvement in Brake-Actuating Mechanism, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part thereof.

My invention relates to brake-actuating mechanism, and particularly to such mechanism as is actuated by a hand brake-lever, the object of my invention being to provide novel means for setting the brake by moving the hand brake-lever backward and forward, and particularly to provide against the possible injury of the brakeman by an undue movement of the brake-actuating lever in either direction, and to facilitate its use on cars with closed or vestibuled platforms.

My present invention is in some respects in the nature of an improvement upon my patent granted January 5, 1897, No. 574,549, and it will be understood that the stop-lug feature of my present invention is equally applicable to the specific mechanism shown in my former patent as to my present mechanism.

The nature of my improvements will be best understood as described in connection with the drawings in which they are illustrated, and in which—

Figure 1 is a plan view showing the bearing-piece in which the upper end of the brake-lever is supported and the mechanism connected with the said upper end of the brake-shaft, the car-base (indicated at B) being removed in Fig. 1. Fig. 2 is a side elevation of my improved brake-actuating mechanism, partly taken on the section-line 1 1 of Fig. 1; Fig. 3, a plan view of the lower ratchet and pawl connected with the brake-shaft; Fig. 4, a perspective view of the bearing-piece supporting the upper end of the brake-shaft; Fig. 5, a perspective view of the latch, and Fig. 6 a cross-sectional view taken on the line 2 2 of Fig. 2.

A is a rotatable brake-shaft such as is commonly used on the platform of a railroad or street car. It is provided with a bearing at or near the platform B of Fig. 2 and with a bearing near its upper end, as indicated at E.

As shown, the upper end of the shaft A is squared, as indicated at A', and provided with a terminal A² of smaller diameter and threaded, as shown. To the lower end of the shaft A is secured the worm C, upon which the brake-chain is wound up.

D is a ratchet-wheel inserted on the squared portion A' of the shaft A and forming with a latch G a clutch.

E is a bearing-piece through a hole E⁹ of which the shaft A passes and which is secured to the railing or to the end of a vestibuled platform in any convenient way. As shown, brackets E' E' and E² are provided for this purpose. The upper end E³ of the bearing-piece is flat to afford a rest or bearing for the hub of the brake-lever, but it is also provided with a stop-lug, as indicated at E⁴ E⁵, the purpose of which will be hereinafter explained. From the side of the bearing-piece E extends a bracket E⁶, from the outer end of which extends the latch-retracting device E⁷, properly made, as shown, of wedge form and provided with a notch E⁸.

F is the hub of the brake-lever, the lower portion F' fitting, as shown, around the shaft A and being formed with a flat lower surface F², which rests upon the top of the stop-lug E⁴ E⁵, and with a depending stop-lug F³, which extends downward to or nearly to the surface E³ of the bearing-piece E. The upper part of the hub F is chambered, as indicated at F⁵, so as to surround the ratchet-wheel D.

F⁶ is the lever extending out from the hub F, F⁷ being a slot formed through the walls of the chamber F⁵ in line with the lever F⁶.

F⁸ is a lug depending from the under side of the lever F⁶, and F⁹ the handle of the lever.

G is a ratchet or pawl having a beveled front edge, as shown, said latch extending through the slot F⁷ and being secured to the lever F⁶, so as to move angularly with said lever and at the same time be free to take a longitudinal motion independent of the lever which will permit it to engage or disengage with the ratchet D.

It is one of the prime features of my present invention that I provide for the retracting of the latch or pawl G and its disengagement from the ratchet D by means acting directly upon the pawl, thus avoiding the risk of non-action incident to the possible break-

age or getting out of order of pawl-retracting mechanism which acts only indirectly upon the pawl, as, for instance, is the case with the specific mechanism shown in my former patent. In the construction specifically illustrated I form the pawl G with the notch G' and a depending latch-like projection G² on the outer side of the said notch, and I arrange the latch or pawl retracting device E⁷ so that as the lever F⁶ moves back to its normal position of rest the latch-like stop or depression G² will come in contact with the wedged surface of the stop E⁷ and thus draw the pawl G back until it leaves contact with the ratchet D, the recess E⁸ being provided to receive the projection G² and prevent the lever F⁶ from swinging forward from its normal position of rest. A spring J or a counterweight, as J', attached to the lever I³, should in all cases be employed to press the pawl G forward into contact and engagement with the ratchet-wheel D, thus insuring that both members G and D of the clutch should come into operation whenever the lever is moved forward and at the same time permitting the pawl to move backward without actuating the ratchet or the shaft A when the lever is moved backward.

In addition to providing for the automatic withdrawal of the pawl G, I prefer to make provision for its withdrawal at will by movement of the same hand of the operator which clutches the handle of the brake-lever, and this I accomplish by connecting the pawl G with the rod H, the outer end of which in turn is pivoted at I² to a lever I, said lever being pivoted in turn to the lever F⁶ at I' and having a grip I³ so placed as to be within easy grasp of the fingers of a hand resting on the handle F⁹.

The brake-shaft A is as usual provided with a ratchet-wheel L on the level of the platform B, a pawl M being pivoted to a stud M' on the platform and having a lever-arm M² extending out from it, so as to permit of its being thrown into or out of engagement by a movement of the foot of the brakeman.

The arrangement of the stop-lugs E⁴, E⁵, and F³ is such as to provide for a positive arrestment of the motion of the lever F⁶ in either direction, affording at the same time a supplemental or safety stop against the backward whirl of the brake-lever and a stop for preventing the brake-lever from being thrown too far forward—an occurrence which sometimes results in the brakeman losing his balance and being thrown forward.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a rotatable shaft as A of brake-setting mechanism having a ratchet and pawl adapted to hold the brake closed, of a bearing-piece as E for the upper part of shaft A, said bearing-piece having a stop-lug as E⁴ E⁵, a clutch arranged to engage and turn the shaft in a direction to set the

brakes, and a lever pivoted on shaft A arranged to actuate said clutch when moved in one direction and to move freely in the reverse direction said lever having a stop-lug as F³ adapted to engage the lug E⁴ E⁵ and thus limit the motion of the lever in both directions.

2. In combination with a rotatable shaft as A of brake-setting mechanism having a ratchet and pawl adapted to hold the brake closed, of a bearing-piece as E for the upper part of shaft A, said bearing-piece having a stop-lug as E⁴ E⁵, a clutch arranged to engage and turn the shaft in a direction to set the brakes, a lever pivoted on shaft A arranged to actuate said clutch when moved in one direction and to move freely in the reverse direction said lever having a stop-lug F³ adapted to engage lug E⁴ E⁵ and thus limit the motion of the lever in both directions, and an automatic clutch-releasing device whereby the clutch and shaft are disengaged when the lever is in its normal position of rest.

3. In combination with a rotatable shaft as A of brake-setting mechanism having a ratchet and pawl adapted to hold the brake closed, of a ratchet D and pawl as G constituting a clutch for rotating the shaft in a direction to set the brake, a lever pivoted on the shaft A and arranged to carry and move the pawl G, and a pawl-retracting device as E⁷ arranged to act directly upon and withdraw the pawl from engagement with its ratchet as the lever and pawl move to their normal position of rest.

4. In combination with a rotatable shaft as A of brake-setting mechanism having a ratchet and pawl adapted to hold the brake closed, of a ratchet D and pawl as G constituting a clutch for rotating the shaft in a direction to set the brake, a lever pivoted on the shaft A and arranged to carry and move the pawl G, a pawl-retracting device as E⁷ arranged to act directly upon and withdraw the pawl from engagement with its ratchet as the lever and pawl move to their normal position of rest, and a pawl-releasing device as rod H and grip-latch I³ arranged on the pivoted lever to provide for the release of pawl G at will.

5. In combination with a rotatable shaft as A of brake-setting mechanism having a ratchet and pawl adapted to hold the brake closed, of a ratchet D and pawl as G constituting a clutch for rotating a shaft in a direction to set the brake, a lever pivoted on the shaft A and arranged to carry and move the pawl G, and a pawl-retracting device as E⁷ secured to a bearing for the upper end of shaft A and arranged to act directly upon and withdraw the pawl from engagement with its ratchet as the lever and pawl move to their normal position of rest.

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Witnesses:

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