

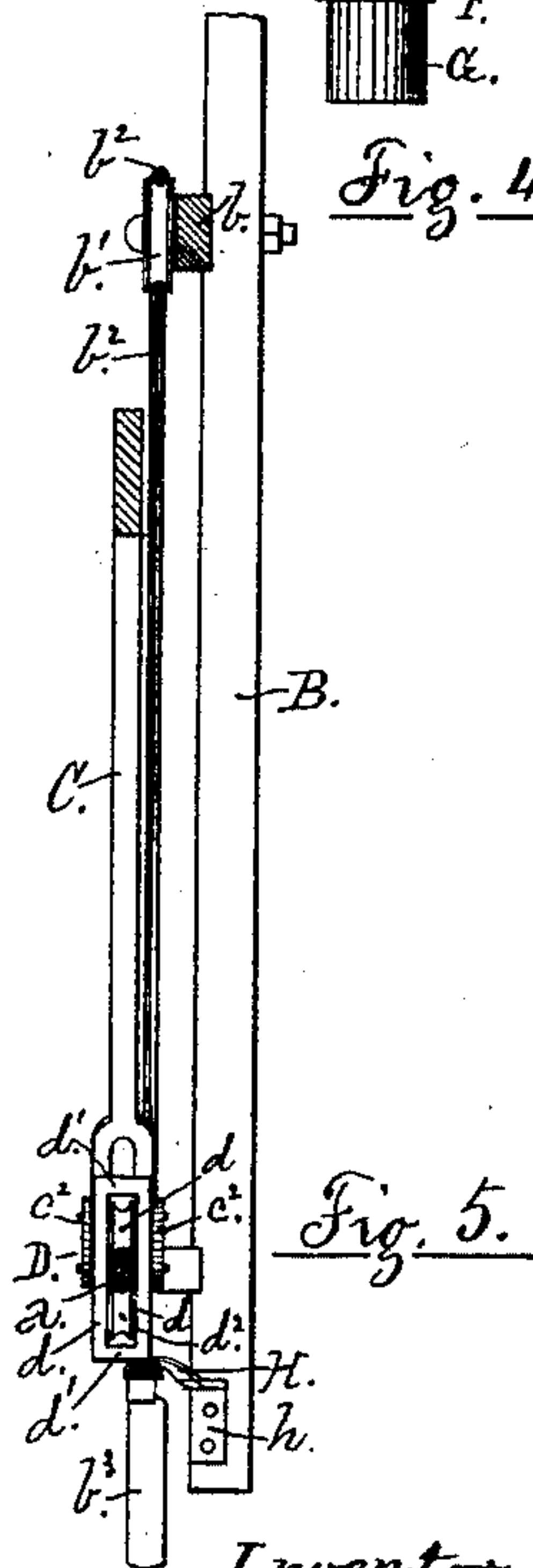
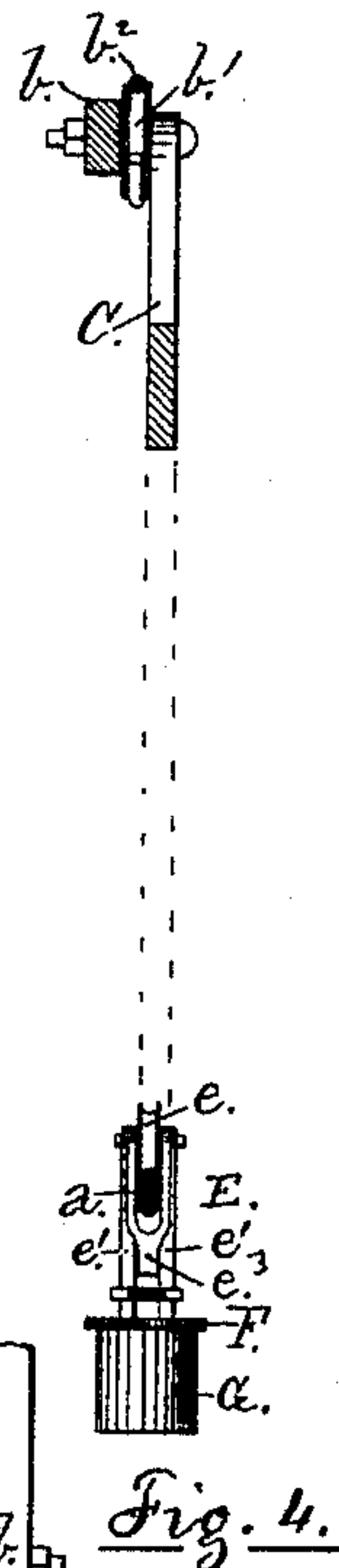
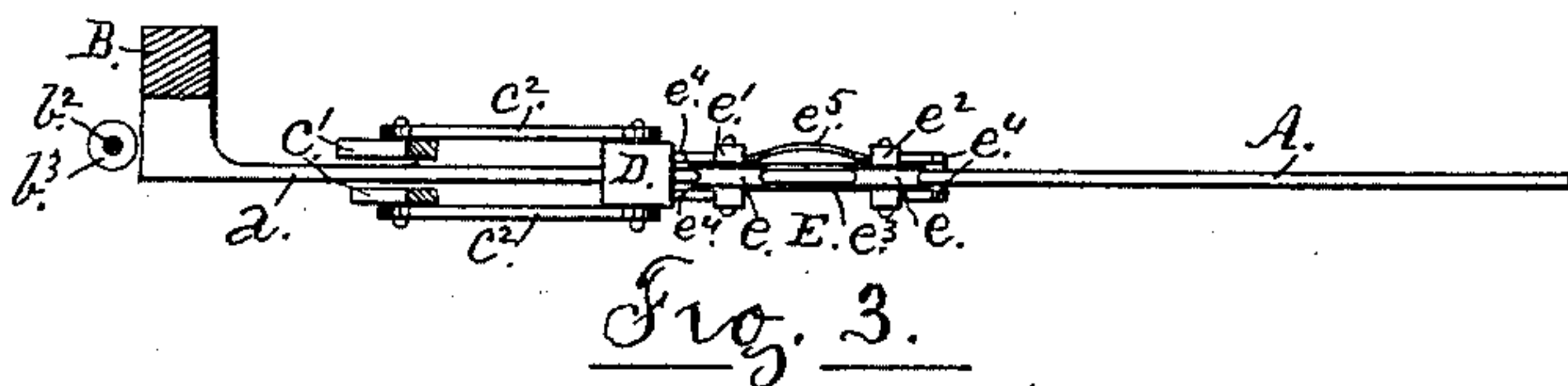
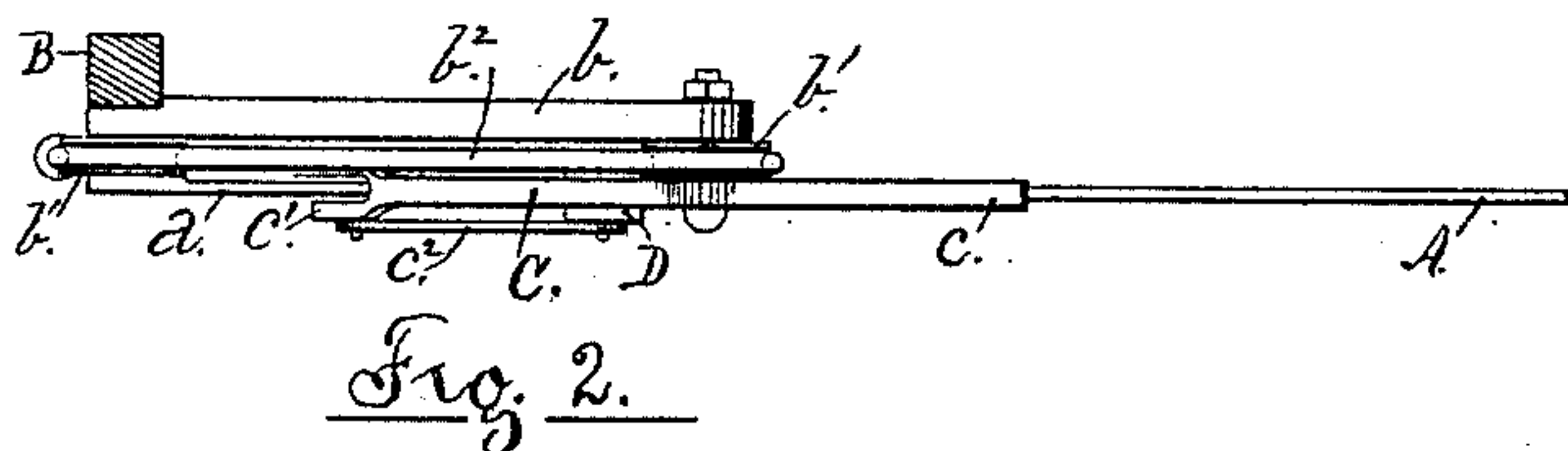
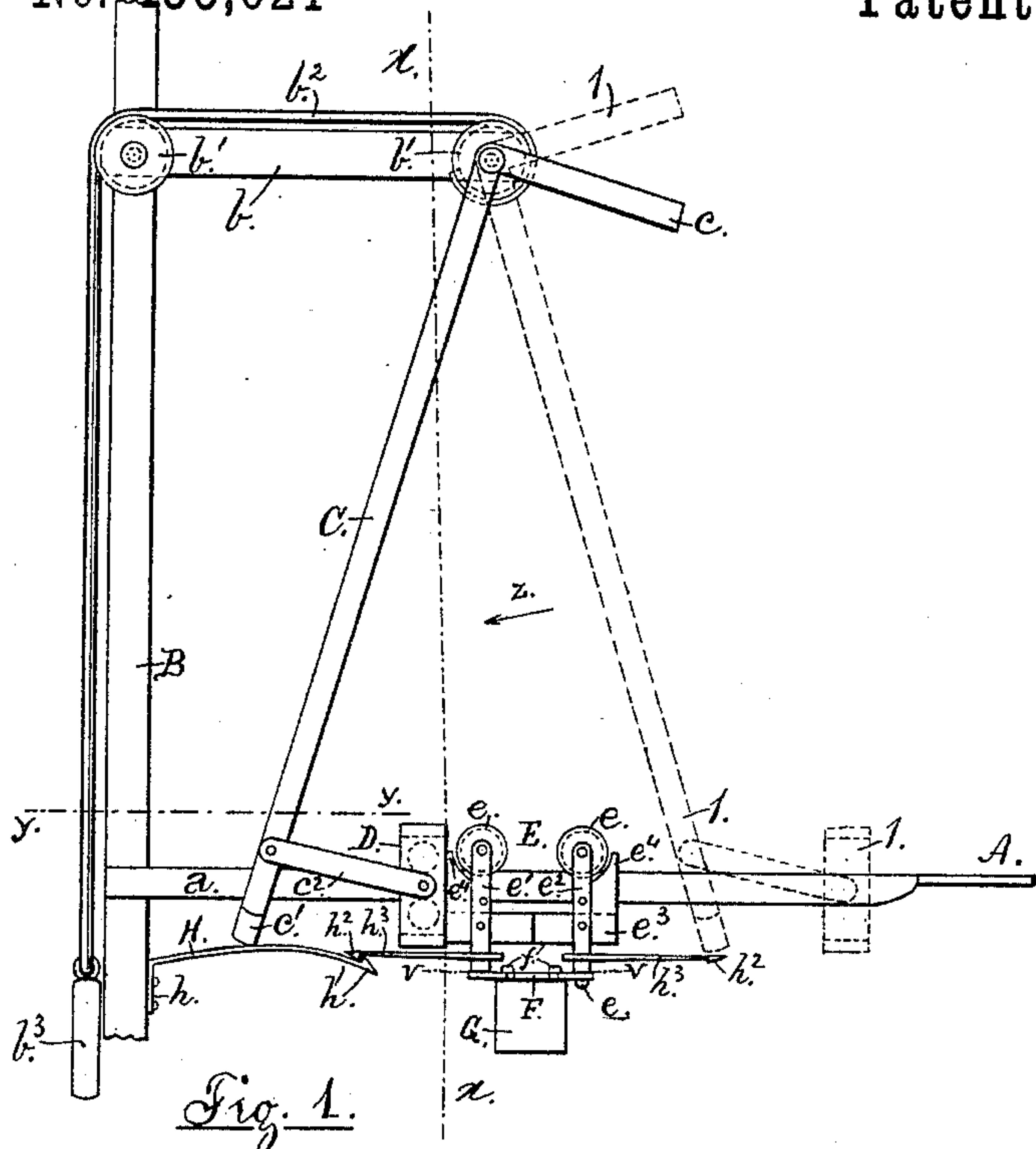
(No Model.)

3 Sheets—Sheet 1.

W. F. BEYER.
CASH CARRIER.

No. 435,621

Patented Sept. 2, 1890.



Witnesses:

Frank H. Kerr,
Geo. A. Lane

Wm. F. Beyer
Inventor.

By *Wm. R. Gerhardt*
Attorney.

(No Model.)

3 Sheets—Sheet 2.

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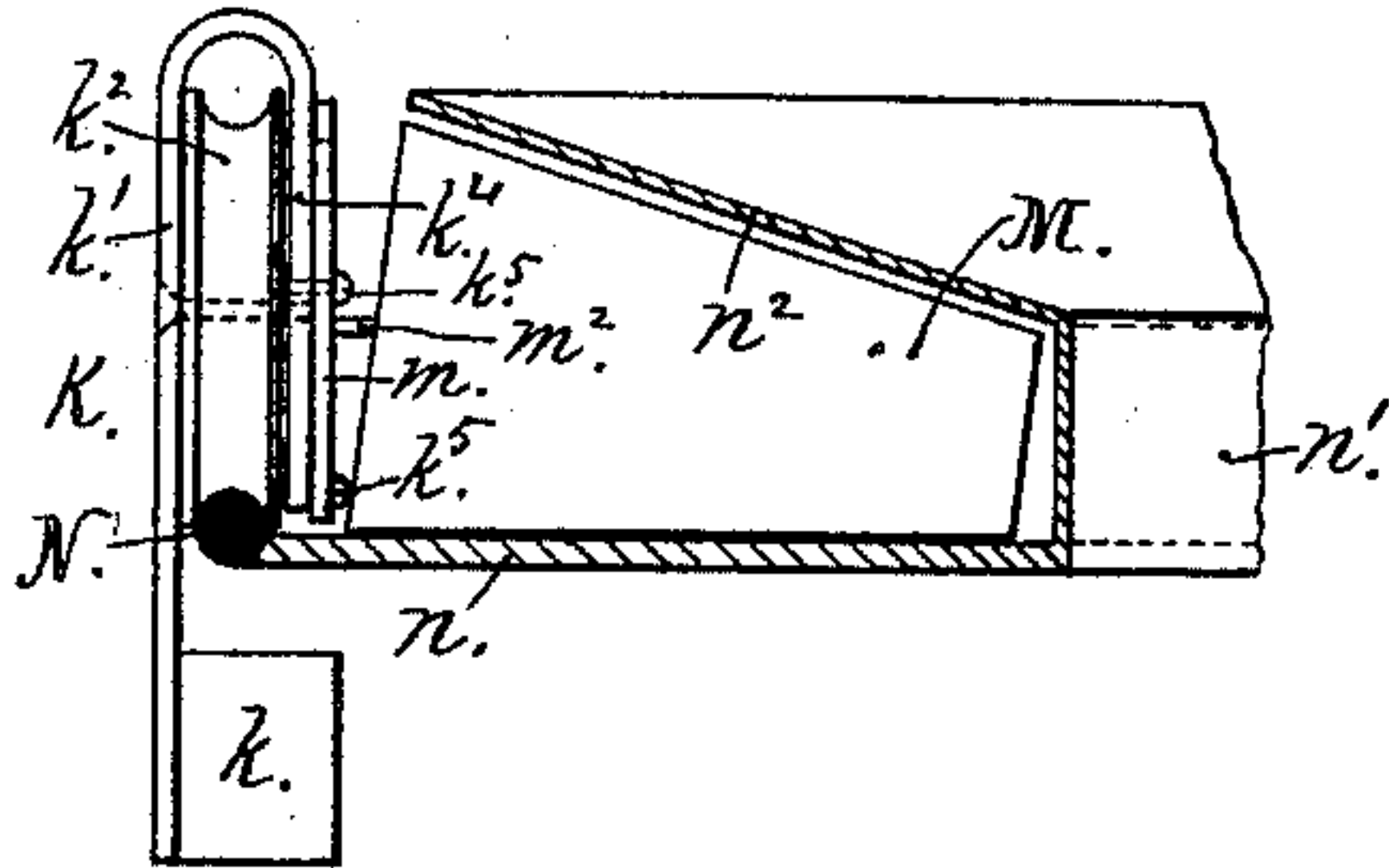


Fig. 6.

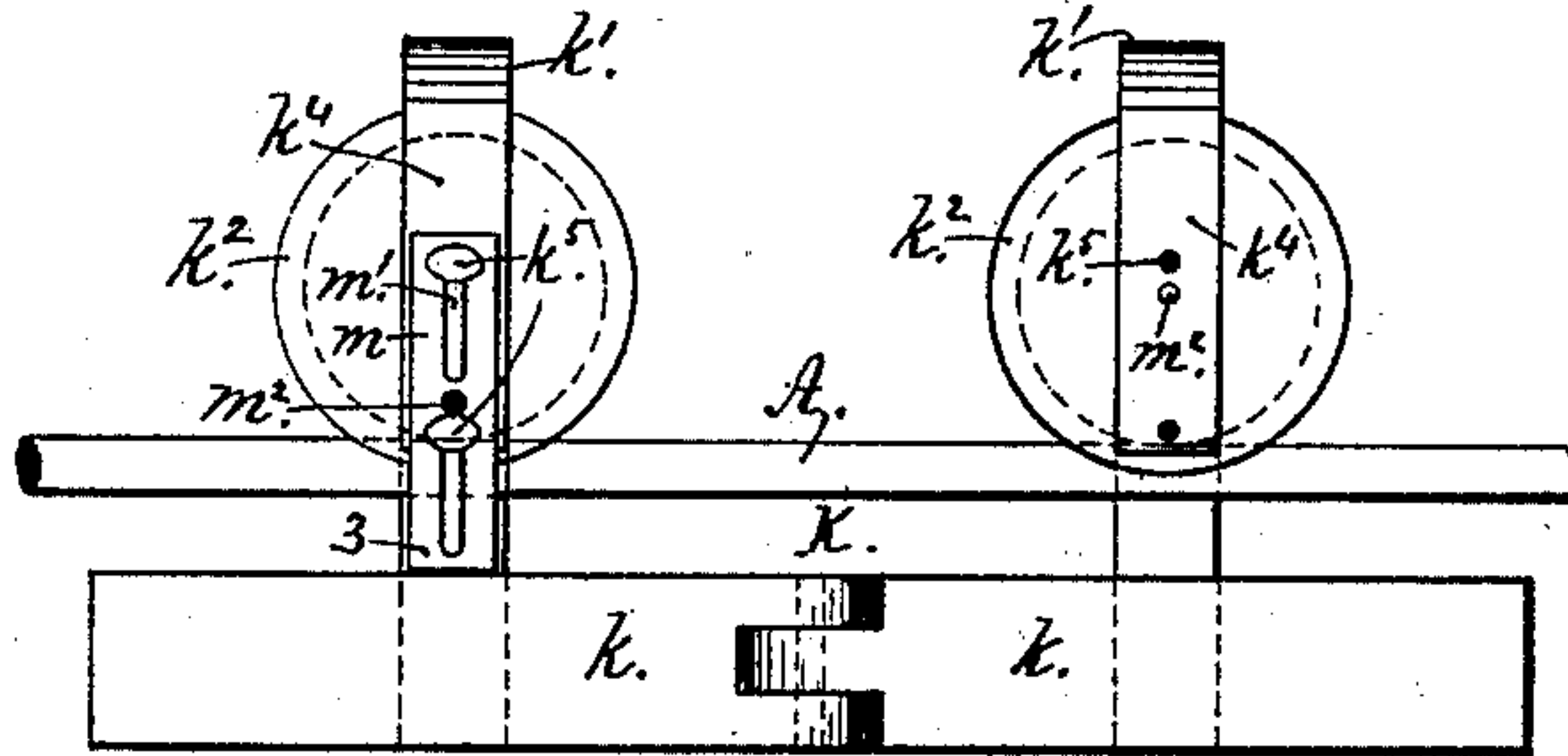


Fig. 7.

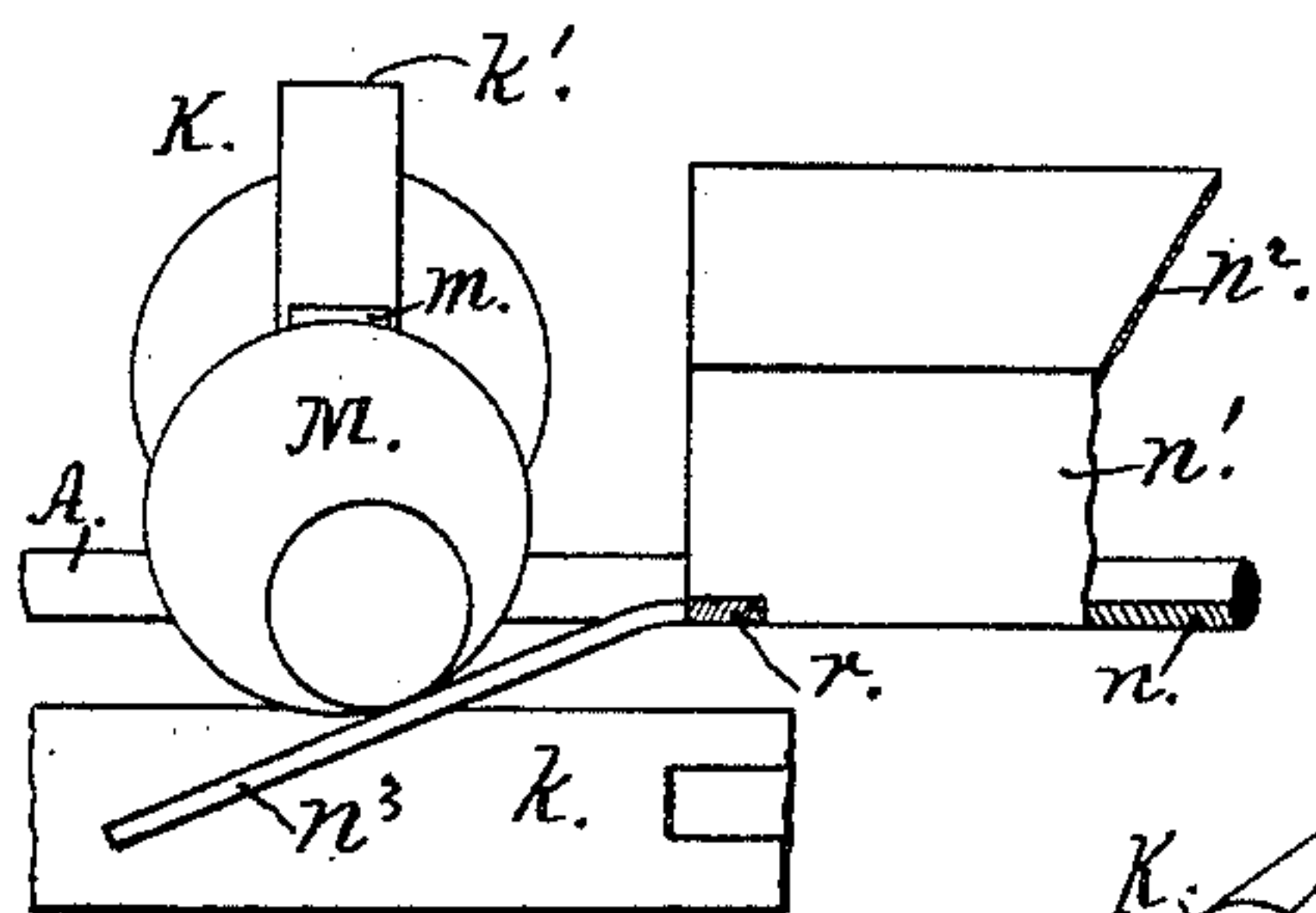


Fig. 9.

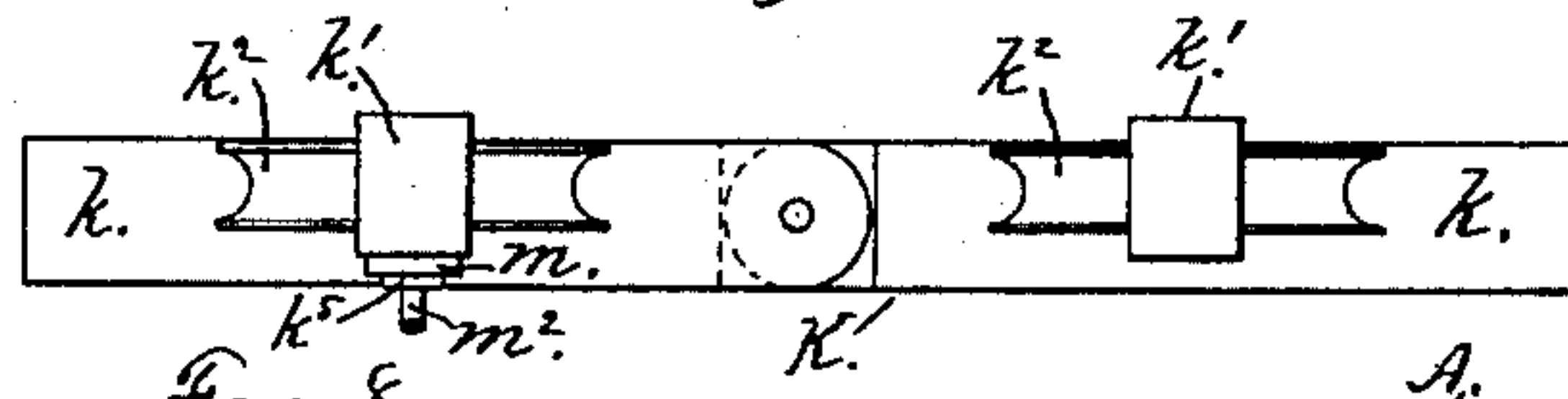


Fig. 8.

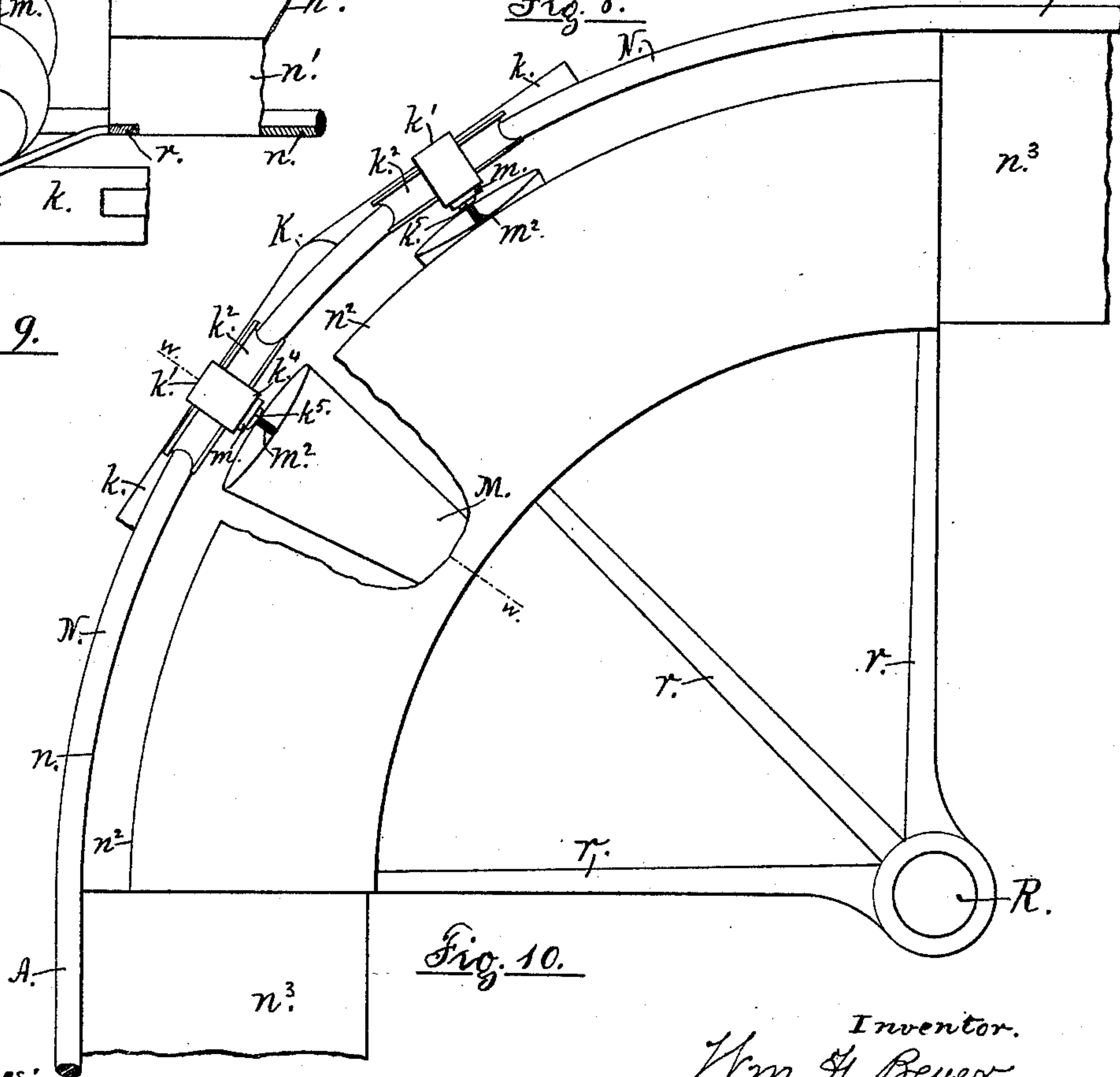


Fig. 10.

Witnesses:

Paul H. Herr.
Geo. B. Lane

Inventor.
Wm. F. Beyer

By *Wm. R. Gerhart*

Attorney.

(No Model.)

3 Sheets—Sheet 3.

W. F. BEYER.
CASH CARRIER.

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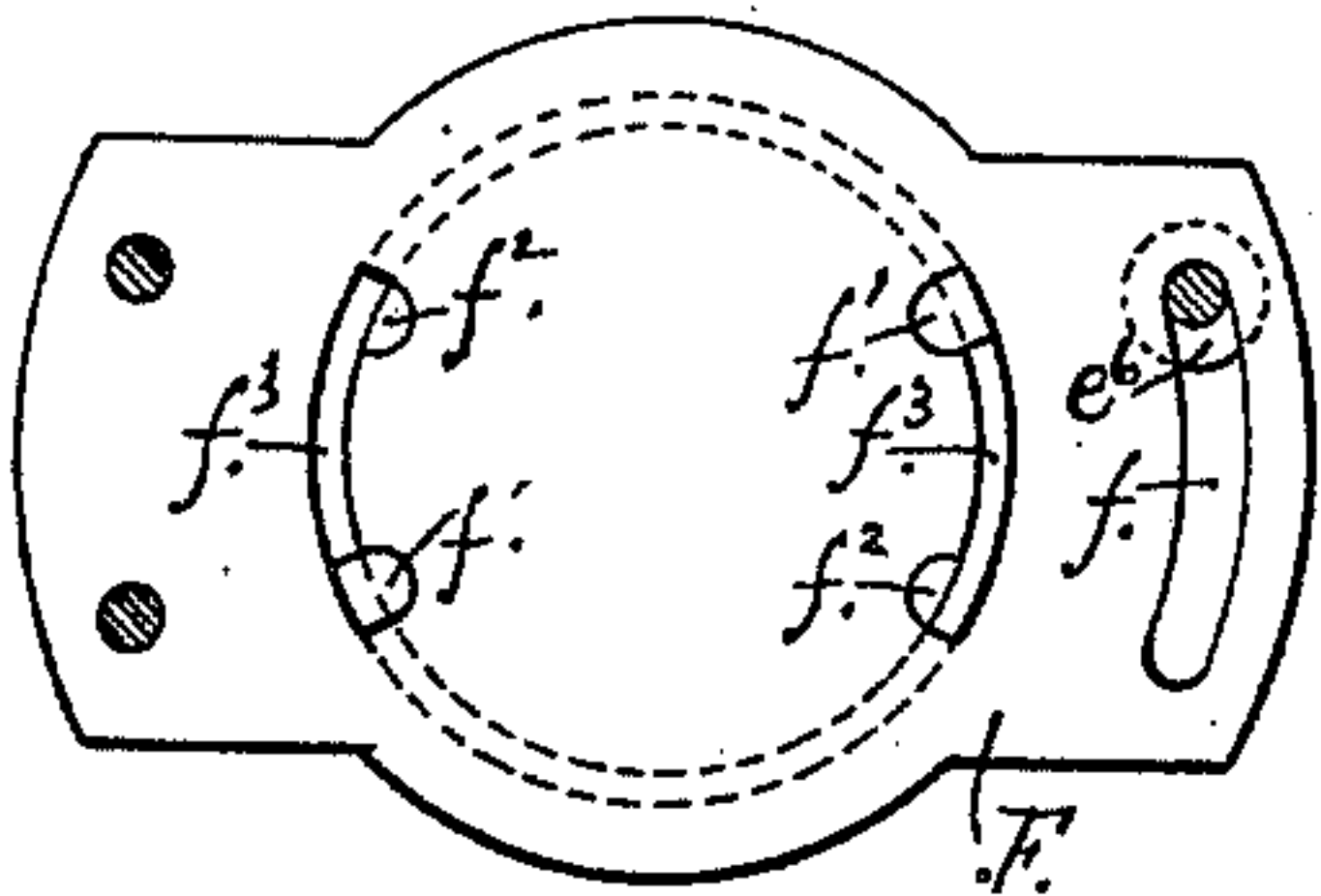


Fig. 11.

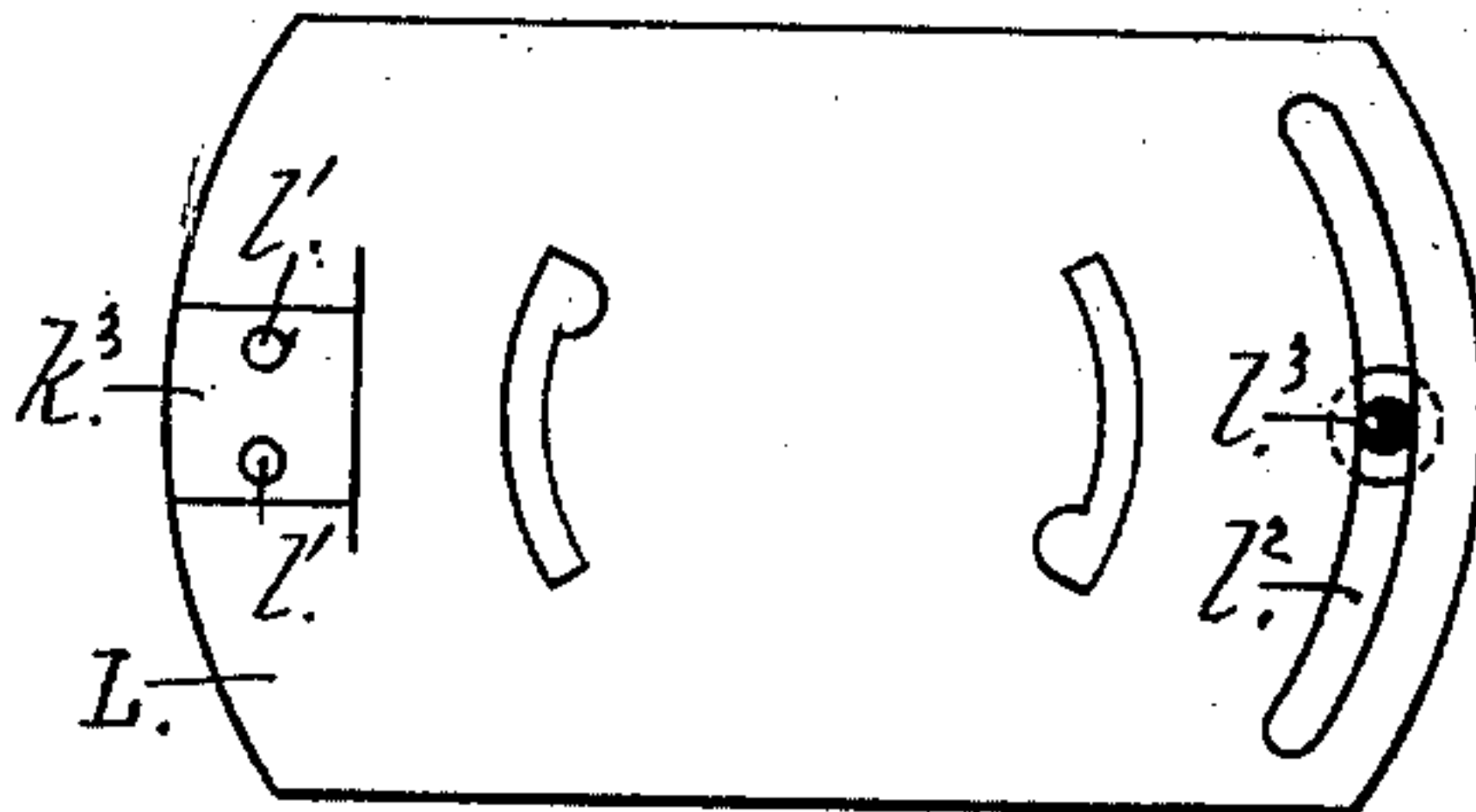


Fig. 12.

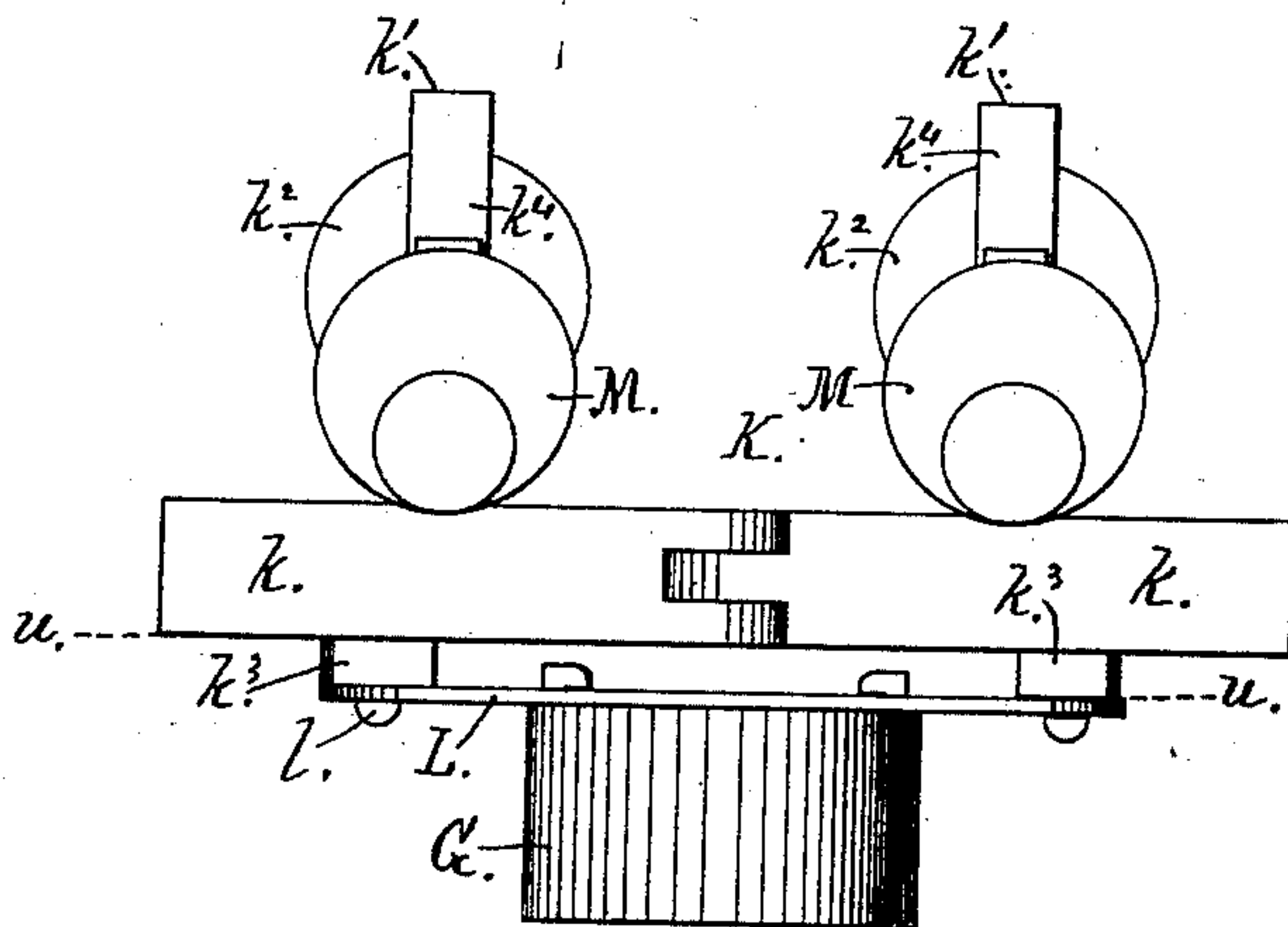


Fig. 13.

Witnesses:

Sam. H. Herr,
Geo. A. Lane

Inventor

Wm. F. Beyer,

By

Wm. R. Gerhart

Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM F. BEYER, OF LANCASTER, PENNSYLVANIA.

CASH-CARRIER.

SPECIFICATION forming part of Letters Patent No. 435,621, dated September 2, 1890.

Application filed October 31, 1889. Serial No. 328,826. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. BEYER, a citizen of the United States, residing in Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Cash-Carriers, of which the following is a specification.

My invention relates to that class of cash-carriers in which a carrier is propelled upon a way or wire; and it has for its objects improvements in the construction of the carrier, the manner of moving the same from and detaining it at the station, and in the construction of the way, as will be hereinafter set forth, and specifically pointed out in the claims. I accomplish these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of an end of a track or way and of a carrier and a propelling mechanism embodying my invention. Fig. 2 is a top or plan view of the same. Fig. 3 is a horizontal section on the line $y y$ of Fig. 1. Fig. 4 is an end view of the carrier and of the pulley to which the propelling-lever is attached, on the line $x x$, Fig. 1. Fig. 5 is a vertical section on the line $x x$, Fig. 1, the parts being viewed in the direction of the arrow z . Fig. 6 is an end view of a modified form of carrier with a guide-roller attached, and a vertical sectional view of a track-frame on the line $w w$, Fig. 10. Fig. 7 is a side elevation of the carrier shown in Fig. 6, certain attachments thereof being removed; and Fig. 8, a top view of the same. Fig. 9 is a side view of one end of a carrier as it is about to enter the frame of a curve of the track. Fig. 10 is a top view of a curved portion of the track, a part of the guard-plate being cut away. Fig. 11 is a top view of the plate to which the receptacle of the carrier is attached, on the line $v v$, Fig. 1. Fig. 12 is a similar view of the same plate used with the modified form of carrier on the line $u u$, Fig. 13. Fig. 13 is a side elevation of the modified form of carrier with the receptacle attached.

Similar letters indicate like parts throughout the several views.

Referring to the details of the drawings, A represents the track between the terminal rails and is formed, preferably, of wire, the ends of which are secured to metal rails a ,

over or along which the propelling-lever operates. The end of the rail a is attached to a rod or post B, resting on the floor or fastened to the ceiling above. A horizontal beam b is secured to the post B above the plate a , and projects inward over the same, as shown in Fig. 1. To each end of this beam there is a pulley b' journaled, and to the outer face of the inner pulley there is rigidly fastened the propelling-lever C, from the upper end of which there extends an arm c , inward over the track, for a purpose to be hereinafter explained. The lower end c' of the lever C is bifurcated, as shown in Figs. 2 and 3, and the jaws formed thereby embrace the rail a . In front of the lever there is a propeller-head D, mounted upon the track, and it and the lever are connected by rigid links c^2 , pivotally attached to both. The propeller-head is formed of two side walls d , between which the rail a passes, and end plates d' connecting the walls above and below the track-plate. In and between the side walls there are rollers d^2 , journaled above and below the rail, which form an upper and lower bearing for the propeller-head on said rail. The rail is of sufficient depth to give steadiness to the movement of the lever and propeller-head, the latter communicating the motion received by it from the lever C to the carrier in front of it in lines parallel with the direction of the track. A cord b^2 is fastened to the pulley pivoted to the outer end of the beam b , and passes around and over said pulley to and over the pulley at the other end of the beam, and is provided at its free end with a hand-pull b^3 .

E represents the carrier illustrated in the first five figures of the drawings. It consists of rollers e , which rest upon the track, hangers e' e^2 upon each side of each roller, between the upper ends of which the latter are journaled, and a vertical plate e^3 , supported between the lower ends of the hangers, the ends of which plate extend upward and are provided with jaws e^4 , which embrace the track outside of the rollers e and serve as guides for the same. The plate e^3 is hinged at the center to permit the rollers to pass with more freedom around curves in the track. This hinge is constructed to open to one side only, and upon the other side of the plate there is fastened a spring e^5 , which assists to

restore the sections of the plate to their normal position as the carrier passes from a curve to a tangent. A horizontal plate F is supported by the lower ends of the hangers and is rigidly secured to the hangers e^1 , and has a movable connection with the hangers e^2 . In the latter case the two hangers e^2 are connected with the plate F by a single pin depending from a cross-bar extending between them and passing through a curved slot f in said plate, and provided with a head e^6 , which takes under the edges of the slot. The receptacle G, detachably suspended from the plate F, is provided with pins having lips f' , formed upon one side, which in connecting the receptacle with the said plate are passed through recesses f^2 , formed in curved slots f^3 , cut through the ends of the plate F. The turning of the receptacle engages the lips f' with the sides of the slots f^3 . The connections of the hangers and receptacle with the plate F are shown in the enlarged plan view of said plate in Fig. 11. A spring H is fastened to the post B at h , and extends forward, so as to occupy a portion of the track, followed by the lower end of the propeller C in its oscillations about its pivot, and is provided with a hook h' at its free end adapted to be engaged by a corresponding hook h^2 on the end of one of the spring-arms h^3 , secured to the ends of the carrier, and hold the same in place at the station. The central part of the spring H curves upward, and when the propeller is swung back, as shown in Fig. 1, holds it in position until it is forced forward by a pull upon the cord b^2 .

A propelling apparatus as just described, with a spring H, is located at each end of the line. In operating, the hand-pull is drawn down, throwing the propeller into the position shown by the dotted lines 1, in Fig. 1. The first movement of the propelling-lever, the lower end of which bears against the spring H, forces that spring down and disengages the hook h' upon its end from the hook h^2 attached to the carrier. The carrier is thus freed from its connection with the post B, and the propeller-head, moving parallel with the track by reason of its construction, impels said carrier forward. When the forward movement of the propelling-lever is completed, it falls back, with its lower end resting against the front part of the curve in the spring H, the weight of the arm c tending to hold it in that position. Upon the return of the carrier its momentum forces the end of the propelling-lever over the curve in the spring, and the hooks h^2 and h^3 are again engaged.

K represents a modified form of carrier. (Shown in Figs. 6, 7, 8, 9, 10, and 13.) In this carrier a plate k , similar to the plate e^3 of the carrier first described, is provided with upwardly-projecting brackets k' , having bearings carrying rollers k^2 , adapted to rest upon the track. The plate k is hinged at the center, so that the sections may form an angle

with reference to each other on either side, and each section has a depending lug k^3 , formed upon its lower edge, to which is secured a horizontal plate L. One end of the plate L is rigidly fastened to one of the lugs by screws l , which are received by screw-holes l' in the bottom of the lug. The other end of the plate is provided with a curved slot l^2 , which receives a pin l^3 , projecting from the bottom of the other lug k^3 , and having a head formed thereon that takes under the edges of the slot l^2 , as shown in Fig. 12. If preferable, plate L may be formed with a hinge constructed to close on but one side, and have a spring attached thereto on the other, as described, for the first-mentioned carrier. The receptacle G is secured to this carrier in the manner before described.

Upon the depending arms k^4 of the brackets k' there are secured vertically-sliding plates m , having vertical slots m' cut through them, which are engaged by headed pins k^5 , projecting from the sides of the arms k^4 . To plates m and between the slots m' are fastened outwardly-projecting spindles m^2 , on which are journaled rollers M, having the shape of a frustum of a cone and with their bases turned toward the sliding plates. Rollers M serve to guide the carrier around curves in the track, as will be described, and may be varied in size and construction to conform with the curves over which they are to travel.

The curved portion N of the track (shown in Fig. 10) is supported by arms r , radiating from a central post R. Extending inward a short distance from the curved track toward the post R there is a platform n , having its upper surface somewhat lower than the top of the track. At its rear edge the platform is provided with a vertical wall n' , and from this wall there extends outward toward the track an upwardly-sloping guard-plate n^2 . At each end of the curved portion of the platform n there is a downwardly-sloping tangential part n^3 , which guide the rollers M up onto the platform as they approach it. When the carrier is traveling over the tangential portion of the track the rollers droop somewhat from the horizontal. As the carrier is about to enter on a curve the rollers M strike the sloping part n^3 of the platform n and travel up the same onto the platform beneath the guard-plate n^2 . As the carrier passes around the curve the carrying-rollers k^2 are guided in their course and prevented from leaving the track by the action of the conical-shaped rollers M, which, by reason of their shape, follow the curve and hold the rollers of the carrier to the same course. The guard-plate n^2 prevents the rollers M from being lifted upward by any unusual tilting or lurching of the carrier. In its normal position the lower ends of the plates m rest upon the top of the plate, so that a side wall may be formed on both sides of the track between the rollers k^2 and the carrier. As the conical rollers ascend

the slope n^3 of the platforms at the entrance to the curve they raise the sliding plates to form a passage for the platform n .

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

1. The combination, with a propelling-lever, of a spring secured at the station and adapted to be engaged by the free end of the lever and hold it in a retracted position, and a carrier having a hook constructed to engage a hook on the spring at the station, the said lever being so engaged with the spring as to disengage the hooks as it moves to impart motion to the carrier, substantially as specified.

2. The combination, with a propelling-lever, of a spring secured at the station and constructed to be engaged by the free end of the lever and hold it in a retracted position, a weight connected with the lever and adapted to hold the said lever against the spring, and a carrier having a hook constructed to engage a hook on the spring, the lever being adapted to disengage the hook on the spring from the hook on the carrier as said lever moves to impart motion to the carrier, substantially as and for the purpose specified.

3. The combination, with a propelling-lever, of a curved spring secured at the station, said curve being so located as to be engaged by the free end of the lever and hold it in a retracted position, a weight connected with the lever and adapted to hold the same against the curve of the spring in position to be engaged therewith, and a carrier having a hook constructed to engage a hook on the spring, the lever being adapted to disengage the hook on the spring from the hook on the carrier as said lever moves to impart motion to the carrier, substantially as specified.

4. The combination, in a cash-carrier, of a hinged supporting-frame adapted to close on one side, with a spring for holding said frame rigid, substantially as specified.

5. The combination, in a cash-carrier, of a hinged supporting-frame adapted to close on

one side, with a spring for holding said frame rigid, and a receptacle-carrying plate rigidly connected with the carrier on one side of said hinge and having a sliding connection with it on the other, substantially as specified.

6. In a cash-carrier, the combination, with the rollers, of a plate hinged between the supports attaching it to the rollers, and a rigid plate having a fixed connection with the hinged plate on one side of the hinge and a movable connection with said hinged plate on the other side of the hinge, substantially as specified.

7. The combination, with a curved track having a platform on the inside of the curve, of a carrier and a cone-shaped roller journaled to the side of the carrier, substantially as specified.

8. The combination, with a curved track having a platform on the inside of the curve, of a carrier, a vertically-movable plate attached to the side thereof, and a cone-shaped roller journaled to said movable plate, substantially as and for the purpose specified.

9. The combination, with a curved track having a platform on the inside of the track, of a carrier hinged between the parts connecting it with the rollers supporting it on the track, and a cone-shaped roller journaled to the side of the carrier, substantially as specified.

10. The combination, with the carrier and the conical rollers attached to the side thereof, of a platform and a guard-plate located above said platform, substantially as and for the purpose specified.

11. The combination, with the carrier and the conical rollers attached to the side thereof, of a platform having inclined extensions at the ends thereof, and a guard-plate located above said platform, substantially as and for the purpose specified.

WILLIAM F. BEYER.

Witnesses:

GEO. A. LANE,

WM. R. GERHART.