

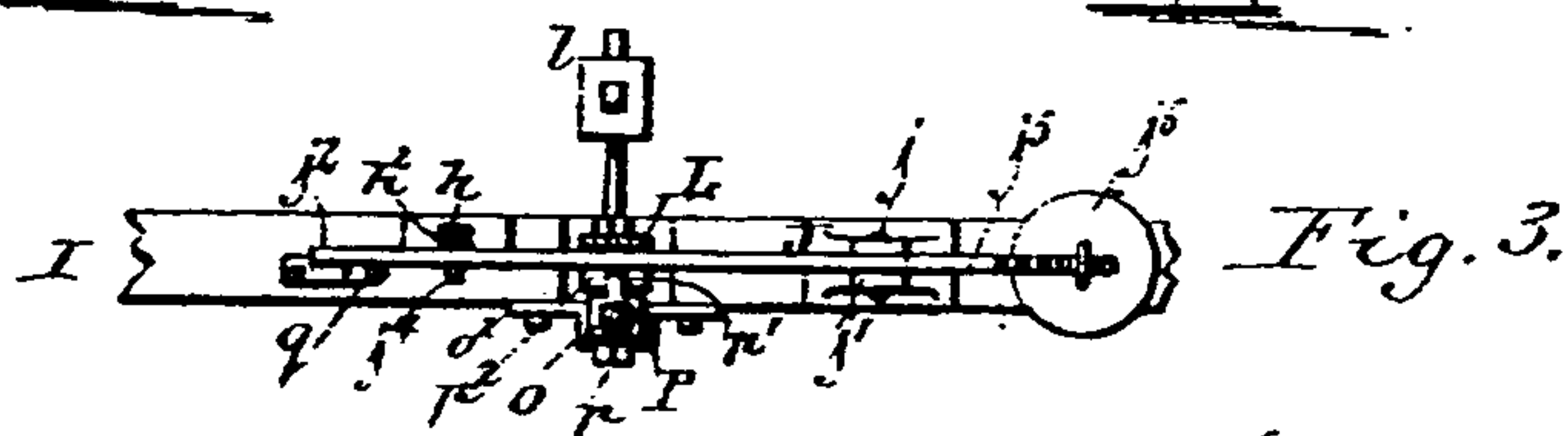
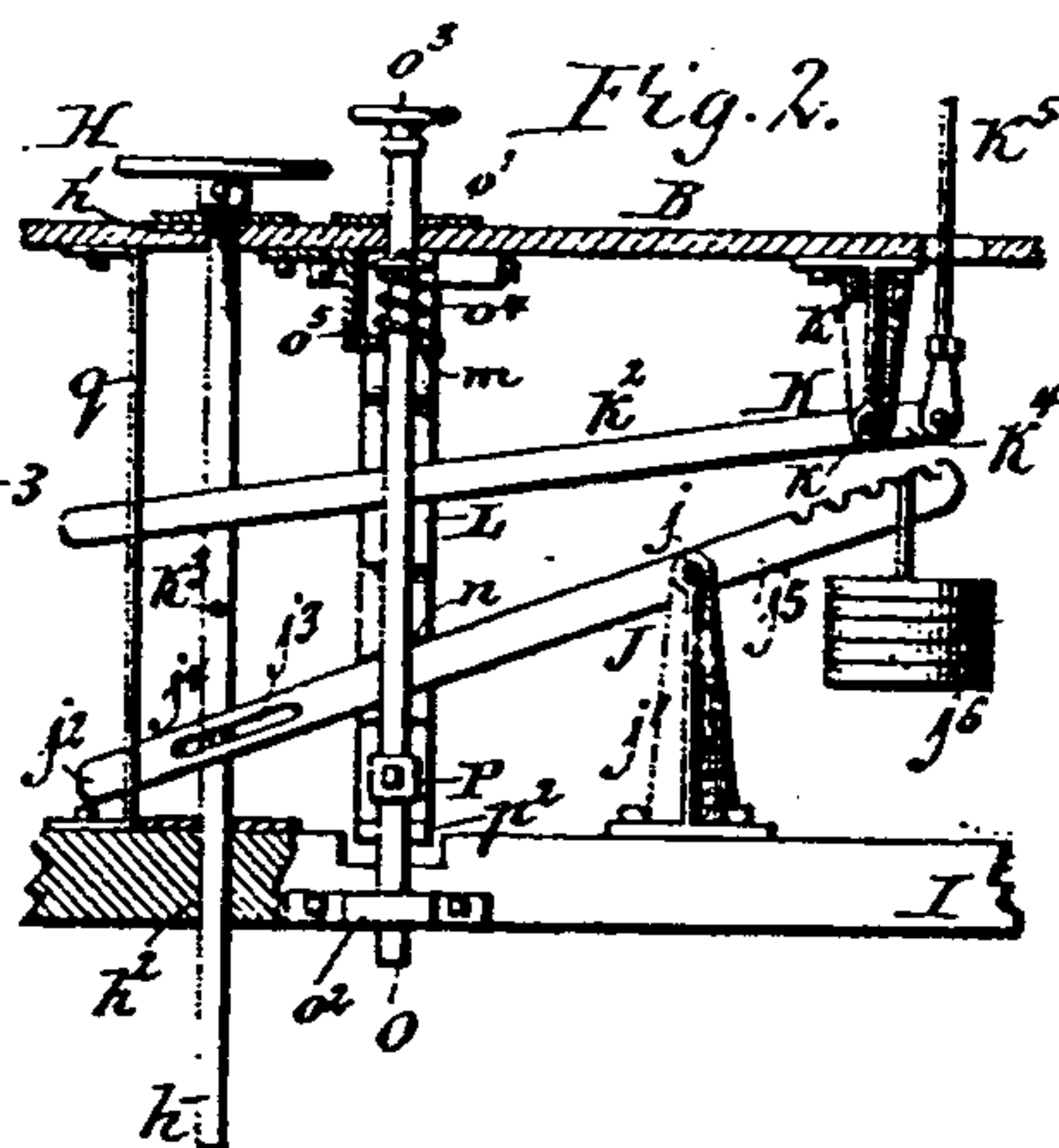
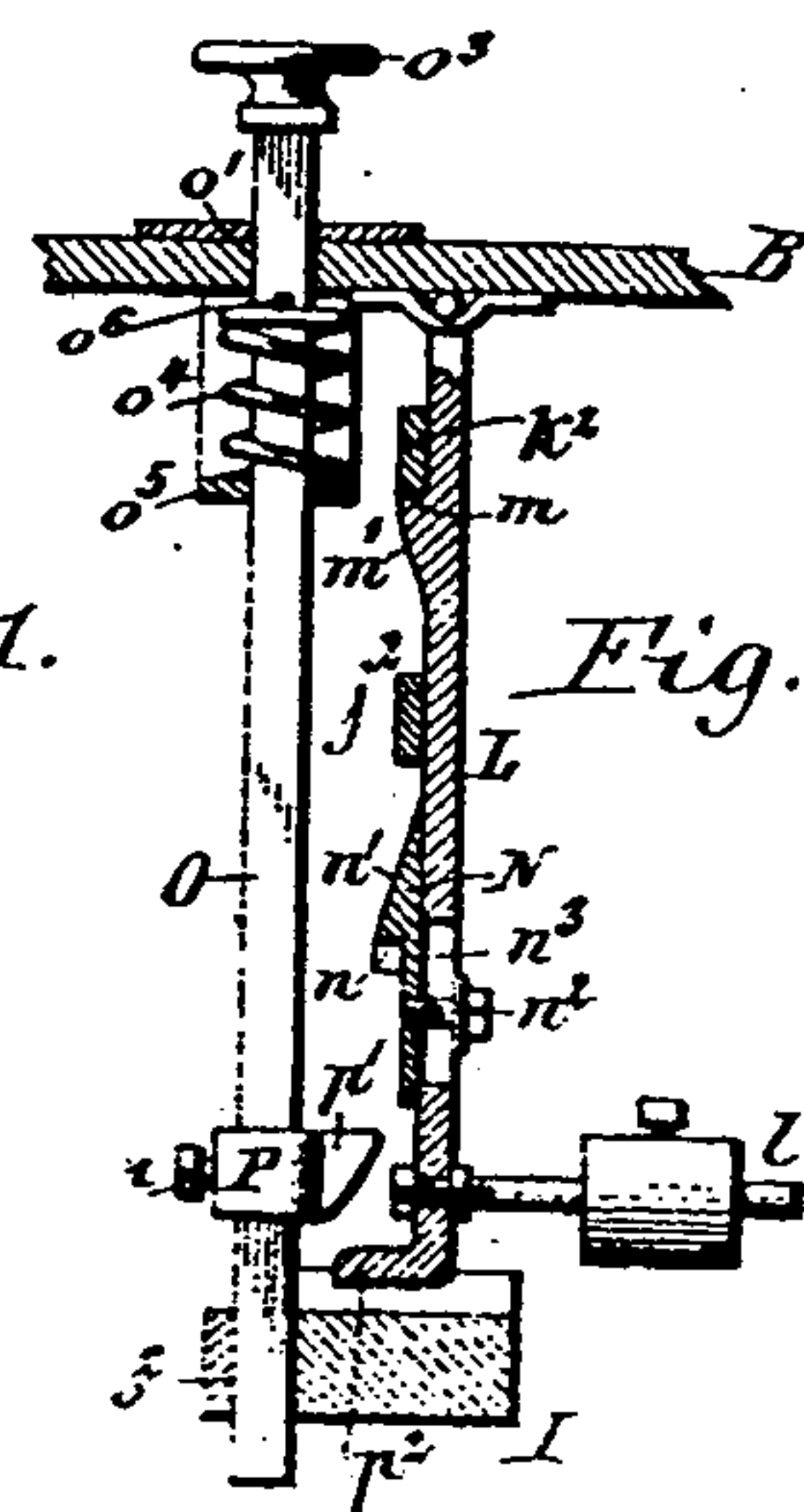
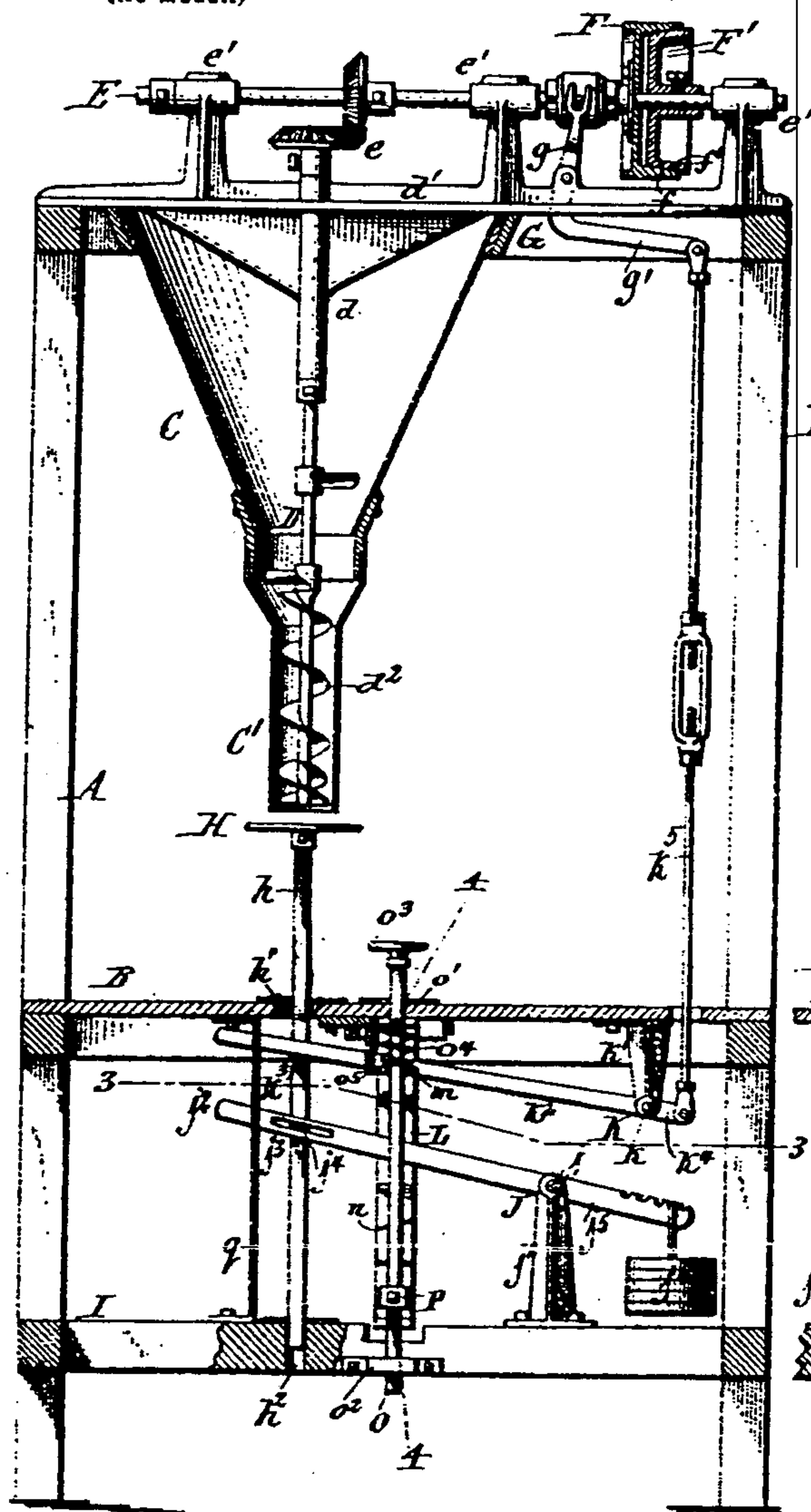
**No. 617,863.**

**Patented Jan. 17, 1899.**

**C. S. RIDER.**  
**PACKING MACHINE.**

(Application filed Feb. 24, 1898.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## PACKING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 617,863, dated January 17, 1899.

Application filed February 24, 1898. Serial No. 671,442. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES S. RIDER, a citizen of the United States, residing at Silver Creek, in the county of Chautauqua and State of New York, have invented a new and useful Improvement in Packing-Machines, of which the following is a specification.

This invention relates to that class of packing-machines which are more especially designed for filling small packages or sacks with seeds and similar material.

The object of my invention is to produce a packing-machine of this character in which the tripping mechanism is simple in construction and reliable in operation and permits of filling the packages expeditiously.

In the accompanying drawings, Figure 1 is a vertical section of a packing-machine provided with my improved tripping mechanism and showing the position of the parts at the beginning of the filling operation. Fig. 2 is a fragmentary sectional elevation of the tripping mechanism, showing the position of the parts when the platform is in its lowest position. Fig. 3 is a fragmentary horizontal section in line 3 3, Fig. 1. Fig. 4 is a fragmentary vertical section, on an enlarged scale, in line 4 4, Fig. 1.

Like letters of reference refer to like parts in the several figures.

A represents the main frame of the packing-machine; B, the table arranged horizontally in the lower portion of the frame; C, the supply hopper or bin mounted on the upper portion of the frame, and C' the vertical filling-tube arranged on the outlet at the lower end of the supply-hopper.

D represents the vertical feed-shaft arranged in the hopper and filling-tube and journaled with its upper portion in a bearing  $d$  in a cross-piece  $d'$ , while its lower end is provided within the filling-tube with a packing screw or auger  $d^2$ . The auger-shaft is driven from a horizontal driving-shaft E by a pair of intermeshing bevel or miter gear-wheels  $e$ , secured, respectively, to these shafts. The driving-shaft is journaled in bearings  $e'$  on the cross-piece and is rotated intermittently by a continuously-rotating driving-pulley F, mounted loosely on the driving-shaft and capable of a reciprocating movement

lengthwise of the driving-shaft for the purpose of engaging its friction-face  $f$  with or disengaging the same from the friction-face  $f'$  of a clutch-wheel F', secured to the shaft, thereby operating or stopping the packing-auger. The longitudinal movement of the driving-pulley is effected by an elbow or clutch lever G, pivoted to swing in a vertical plane on the cross-piece  $d'$  and having its upper arm  $g$  connected with the hub of the driving-pulley, so that the latter is compelled to move lengthwise of the driving-shaft with the elbow-lever, but is free to turn independently thereof.

H represents the vertically-movable platform, which supports the package to be filled and which is arranged on the upper end of a vertically-reciprocating lifting rod or bar  $h$ . The latter slides with its upper portion in a guide-opening  $h'$  in the table and with its lower portion in a guide-opening  $h^2$ , arranged in a cross-bar I of the main frame. The platform is elevated and yieldingly held against downward movement by a lifting-lever J, which is pivoted by a horizontal pin  $j$  to a standard  $j'$ , arranged on the cross-bar I. The inner arm  $j^2$  of this lifting-lever is provided with a longitudinal slot  $j^3$ , which receives a pin or projection  $j^4$  on the platform-rod  $h$ , and the outer arm  $j^4$  of the lever is provided with a weight  $j^5$ , which is capable of lengthwise adjustment on the respective arm.

K represents a shifting-lever whereby the driving mechanism is coupled with and uncoupled from the feed mechanism and which is arranged lengthwise above the lifting-lever. This lever is pivoted by a horizontal pin  $k$  to a hanger  $k'$  on the under side of the table, and its inner arm  $k^2$  is arranged over a shoulder or pin  $k^3$  on the platform-rod, while its outer arm  $k^4$  is connected by an upright rod  $k^5$  with the lower arm  $g'$  of the clutch-lever G.

L represents a vertical catch-bar whereby the clutch may be held in its coupled position during the packing operation and the platform may be held in its depressed position while replacing the filled package by an empty package. The catch-bar is pivoted at its upper end to the under side of the table, so as to swing transversely to the shifting and lifting levers, and is provided with an over-



hanging weight  $l$ , whereby it is yieldingly pressed against the rear sides of these levers. The catch-bar is provided near its upper end with an upwardly-facing shoulder  $m$  and with an incline or cam face  $m'$ , arranged below the shoulder and leading to the outer or front end thereof. Upon raising the inner arm of the shifting-lever for coupling the driving-pulley with the feed mechanism the lever engages with the incline  $m'$  of the catch-bar and deflects the latter rearwardly and then passes above said shoulder  $m$ , which permits the catch-bar to swing forwardly by gravity, so that its shoulder  $m$  stands under the shifting-lever and prevents the latter from descending, thereby holding the driving and clutch pulley in a coupled position for operating the packing-auger. Upon moving the catch-bar rearwardly its shoulder  $m$  is disengaged from the shifting-lever, the inner arm of this lever drops, owing to its preponderating weight, and its outer arm disengages the driving-pulley from the clutch-pulley through the medium of the connecting-rod  $k^5$  and clutch-lever  $G$ , thereby stopping the operation of the auger.

$N$  represents a catch block or plate arranged on the front side of the catch-bar and provided with a downwardly-facing shoulder  $n$  and with an incline or cam face  $n'$ , arranged above the shoulder and leading to the outer or front end thereof. The catch-block is capable of vertical adjustment on the catch-bar and is connected with the latter by a clamping-screw  $n^2$ , engaging with the block and passing through a vertical slot  $n^3$  in the catch-bar. During the downward movement of the inner arm of the lifting-lever with the platform-rod this arm engages with the incline of the catch-block and deflects the same backwardly, together with the catch-bar, thereby disengaging the upper shoulder  $m$  from the shifting-lever. Upon depressing the inner arm of the lifting-lever into its lowest position the same is carried below the shoulder  $n$  of the catch-block and the latter, together with the catch-bar, swings forward by gravity, so that its shoulder stands above the inner arm of the lifting-lever and prevents the same from rising, thereby holding the platform and connecting parts in a depressed position.

$O$  represents a vertically-movable releasing-rod whereby the catch-bar may be shifted for disengaging its shoulders from the shifting and lifting levers and which is guided with its upper portion in a guide-opening  $o'$  in the table and with its lower portion in a guide  $o^2$  on the cross-bar  $I$  of the frame. This releasing-bar is depressed by means of a handle  $o^3$ , secured to its upper end, and it is yieldingly held in an elevated position by a spring  $o^4$ , bearing with its lower end against hanger  $o^5$  on the table and with its upper end against a shoulder or pin  $o^6$  on the releasing-rod.

$P$  represents a collar secured to the lower portion of the releasing-bar by a set-screw  $p$

and provided with a rearwardly-projecting lug or tappet  $p'$ . The latter is provided with an inclined rear end which is adapted to engage with a forwardly-projecting toe or lug  $p^2$  on the lower end of the catch-bar and move the latter rearwardly.

$q$  represents an upright guide-bar, which engages with the front sides of the shifting and lifting levers and holds the rear sides thereof against the platform-rod and which is secured with its ends to the table and cross-bar  $I$ .

In the operation of my machine the platform is elevated by the lifting-lever so as to support the package, which has been slipped over the filling-tube, and the inner arm of the shifting-lever is engaged with the upper shoulder of the catch-bar, (as represented in Fig. 1,) in which position of the parts the package is being filled. As the filling of the package proceeds the platform is gradually depressed, together with the inner arm of the lifting-lever, by the action of the packing-auger, but the inner arm of the shifting-lever is held in an elevated position by the upper shoulder of the catch-bar. When the desired quantity has been fed into the package, the inner arm of the lifting-lever in its descent with the platform engages with the lower incline  $n'$  of the catch-bar and deflects the same rearwardly sufficiently to disengage its upper shoulder  $m$  from the inner arm of the shifting-lever, thereby permitting the latter to drop and disconnect the driving mechanism from the packing mechanism for stopping the filling of the package. The operator now depresses the platform until the inner arm of the lifting-lever is engaged with the lower shoulder  $n$  of the catch-bar, whereby the platform is held in a depressed position, as represented in Fig. 2. The operator now replaces the filled package by an empty package and then depresses the releasing-bar, whereby the lower shoulder of the catch-bar is disengaged from the inner arm of the lifting-lever and the latter is raised by the weight  $j^5$ , together with the platform and its rod. During the latter portion of the upward movement of the platform-rod the pin or shoulder  $k^3$  engages with the inner arm of the shifting-lever and lifts the same above the upper shoulder  $m$  on the catch-bar, thereby coupling the driving mechanism with the feeding mechanism and starting filling of the package.

I claim as my invention—

1. The combination with the vertically-movable platform and the rod extending downwardly therefrom, the feed mechanism, the driving mechanism, and the clutch connecting the driving mechanism with the feed mechanism, of a shifting-lever connected with the clutch and adapted to be lifted by a projection on the platform-rod to throw the clutch into gear, a movable catch-bar provided with a shoulder which engages under the shifting-lever after the same has been lifted and



holds the same in its elevated position, and a weighted lifting-lever connected with the platform-rod to move up and down therewith, said lifting-lever engaging with an incline on  
 5 said catch-bar at the end of the downward stroke of the platform and releasing the catch-bar from the shifting-lever, thereby allowing the same to drop and uncouple the clutch, and said lifting-lever also operating to lift the  
 10 platform when the same is released, substantially as set forth.

2. The combination with the vertically-movable platform and the rod extending downwardly therefrom, the feed mechanism,  
 15 the driving mechanism, and the clutch connecting the driving mechanism with the feed mechanism, of a shifting-lever connected with the clutch and adapted to be lifted by a projection on the platform-rod to throw the clutch  
 20 into gear, a lifting-lever connected with the platform-rod to move up and down therewith, a movable catch-bar provided with a shoulder which engages under the shifting-lever after the same has been lifted and holds the same  
 25 in its elevated position, and a releasing and locking block arranged on said catch-bar and provided with an incline against which the lifting-lever engages, to release the shoulder of the catch-bar from the shifting-lever at the  
 30 end of the downward stroke of the platform, and below said incline with a shoulder which engages over the lifting-lever after the shifting-lever has been released and whereby the lifting-lever and the platform are locked in  
 35 their depressed position, substantially as set forth.

3. The combination with the vertically-

movable platform having a lifting-rod, the feed mechanism, the driving mechanism and the clutch adapted to couple and uncouple  
 40 the driving mechanism and the feed mechanism, of a lifting-lever connected with said lifting-rod, a shifting-lever connected with said clutch and adapted to be engaged by a shoulder on said lifting-rod, a movable catch-  
 45 bar provided with shoulders adapted to engage with the lifting and shifting levers, and a vertically-movable releasing-rod provided with a tappet adapted to shift said catch-bar, substantially as set forth. 50

4. The combination with the vertically-movable platform having a lifting-rod, the feed mechanism, the driving mechanism and the clutch adapted to couple and uncouple  
 55 the driving mechanism and the feed mechanism, of a lifting-lever connected with said lifting-rod, a shifting-lever connected with said clutch and adapted to be engaged by a shoulder on said lifting-rod, a pivoted catch-  
 60 bar provided with shoulders adapted to engage with the lifting and shifting levers, a vertically-movable releasing-rod provided with an inclined tappet adapted to engage with a projection on the catch-bar, and a  
 65 spring whereby the releasing-bar is yieldingly held in an elevated position, substantially as set forth.

Witness my hand this 21st day of February, 1898.

CHARLES S. RIDER.

Witnesses:

W. H. MERRITT,  
 L. M. BURNS.