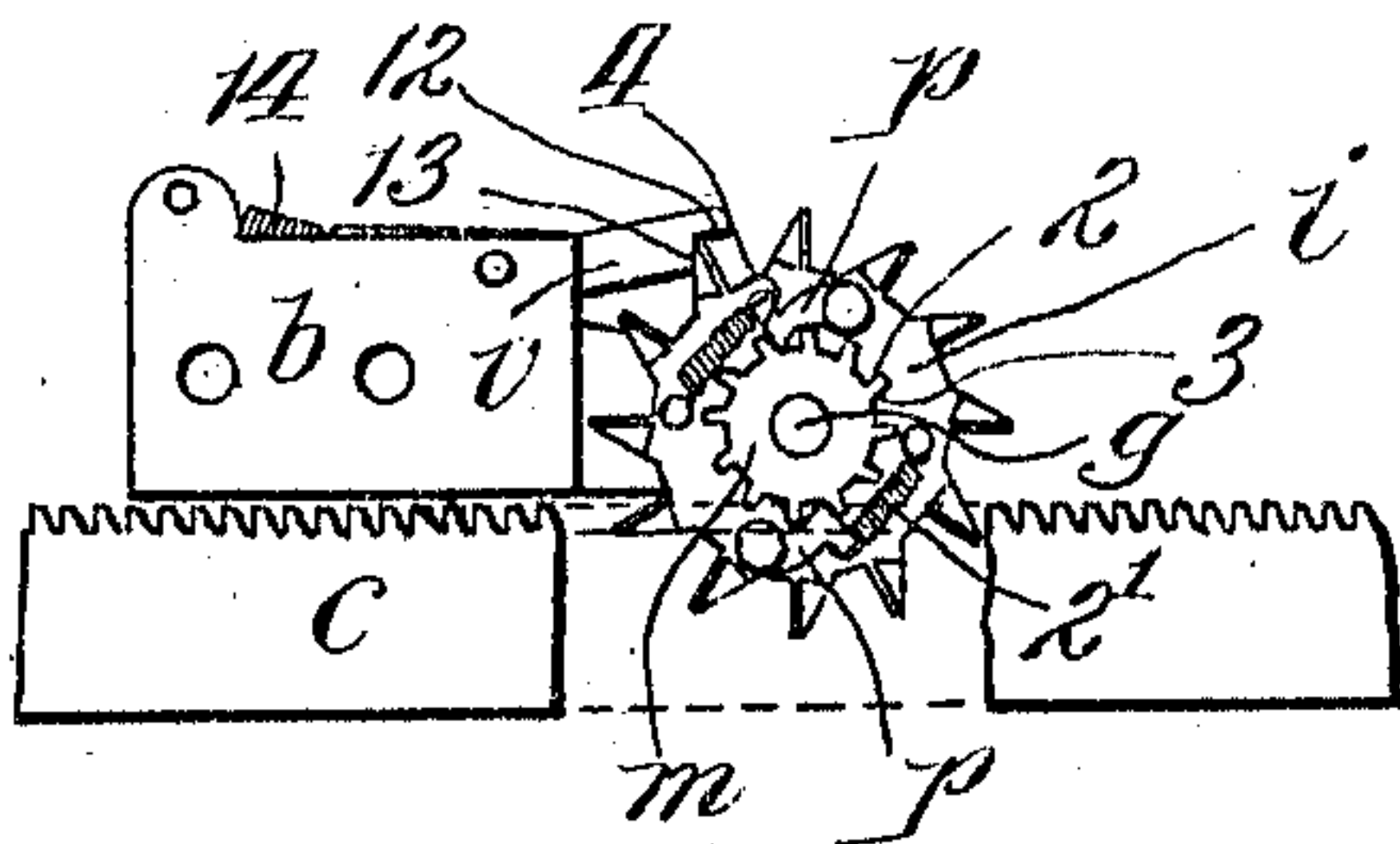
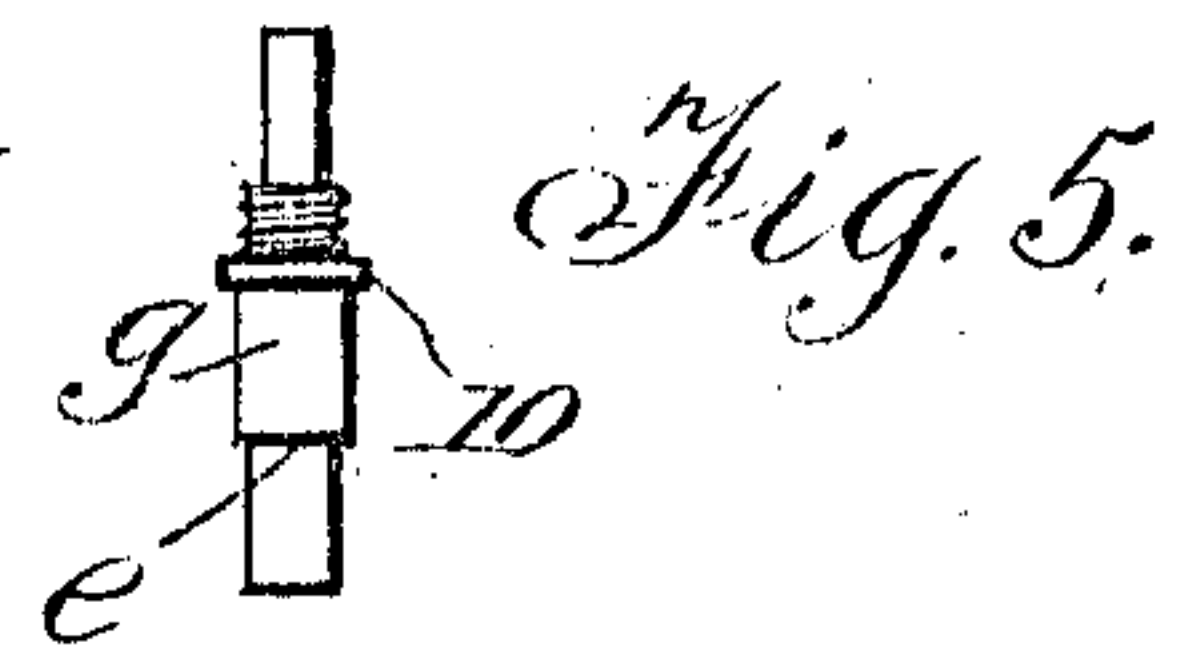
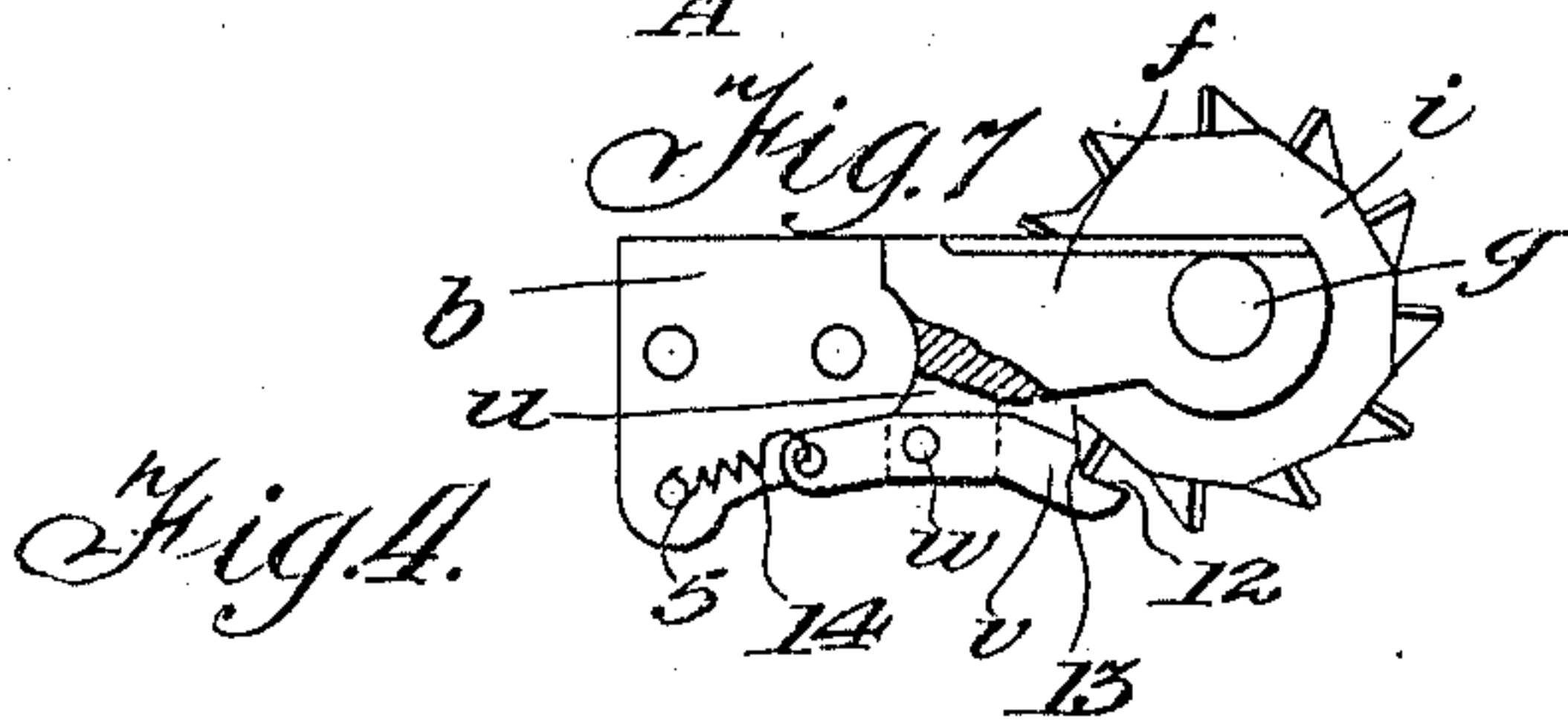
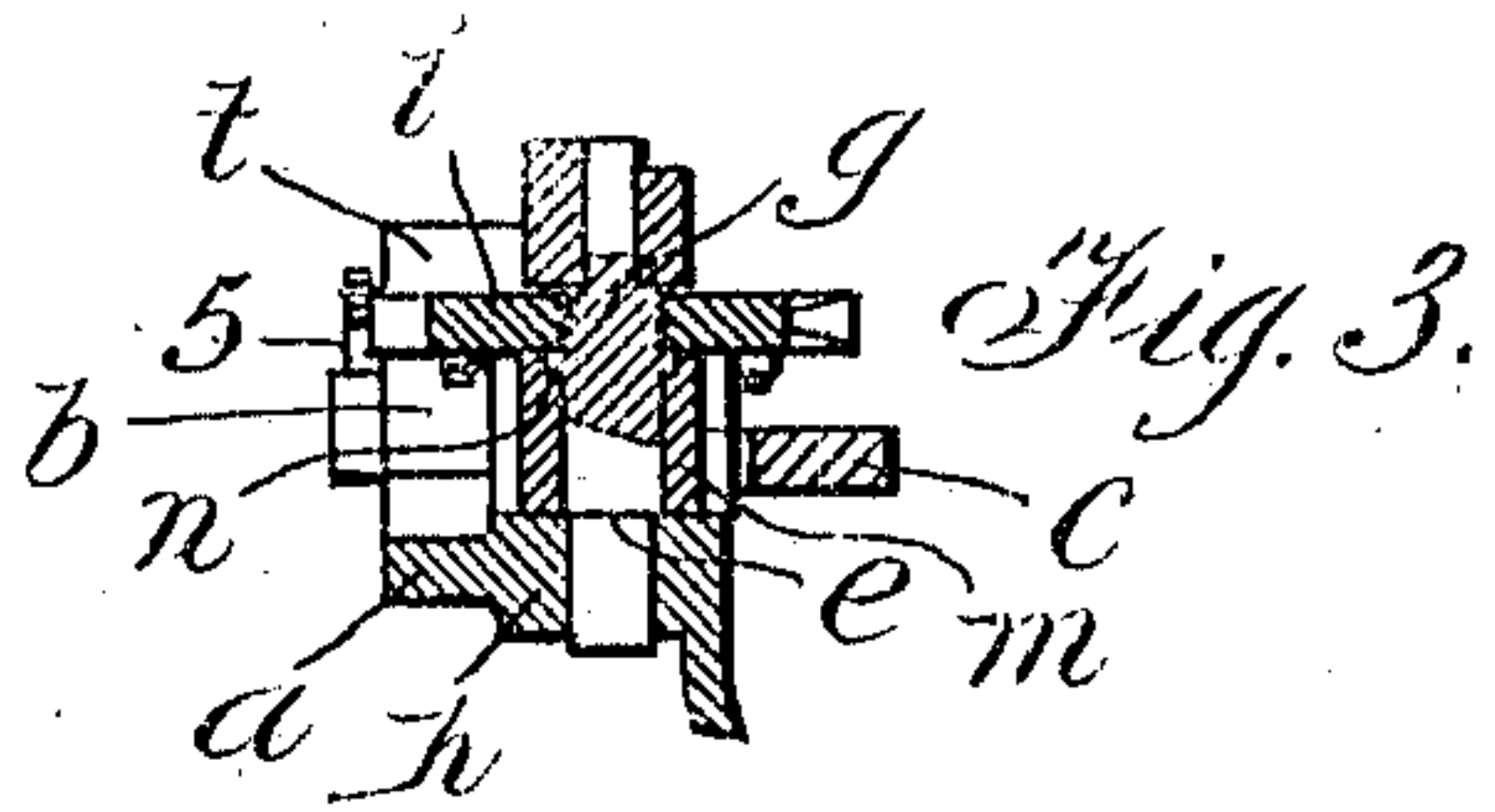
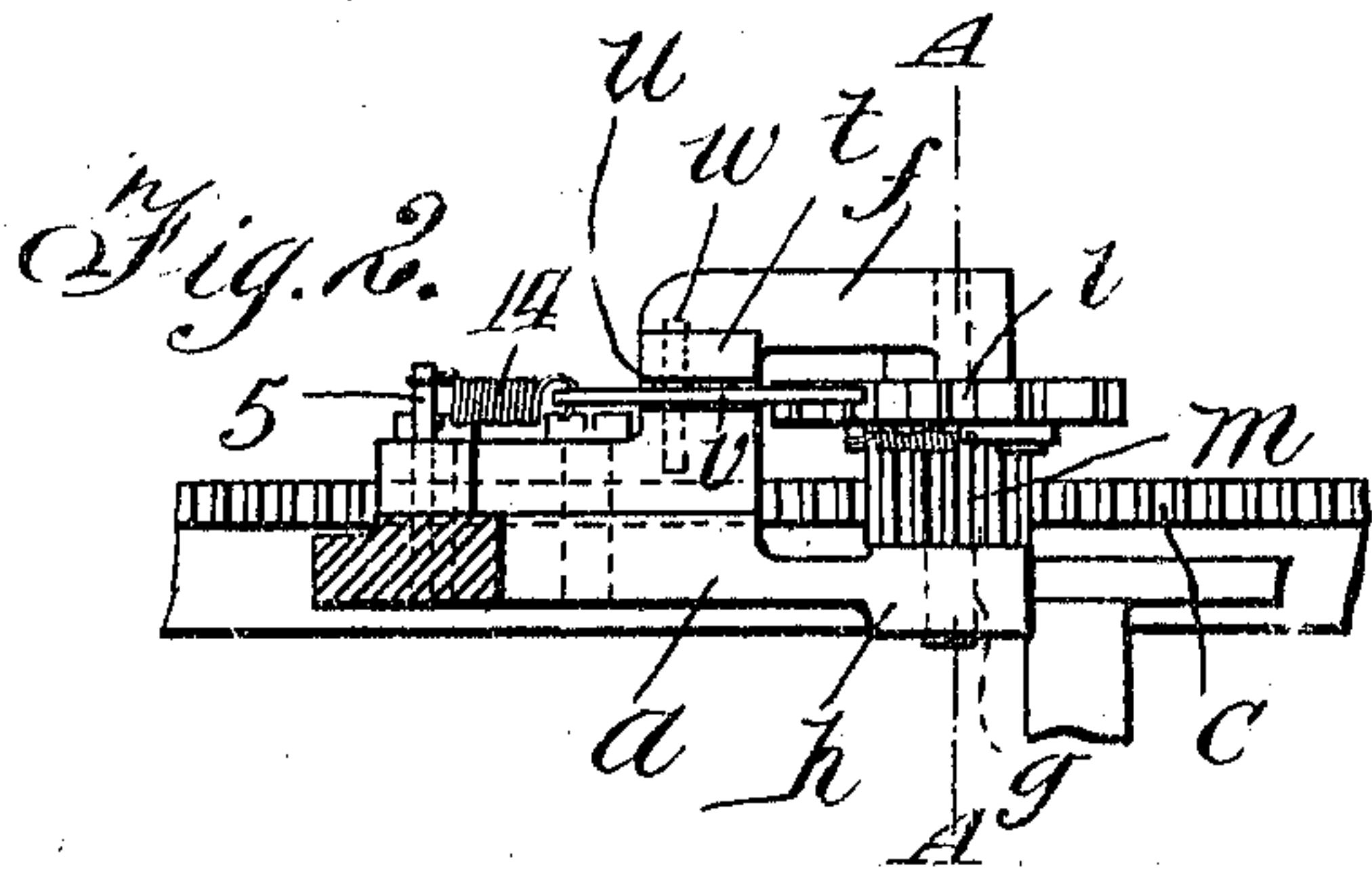
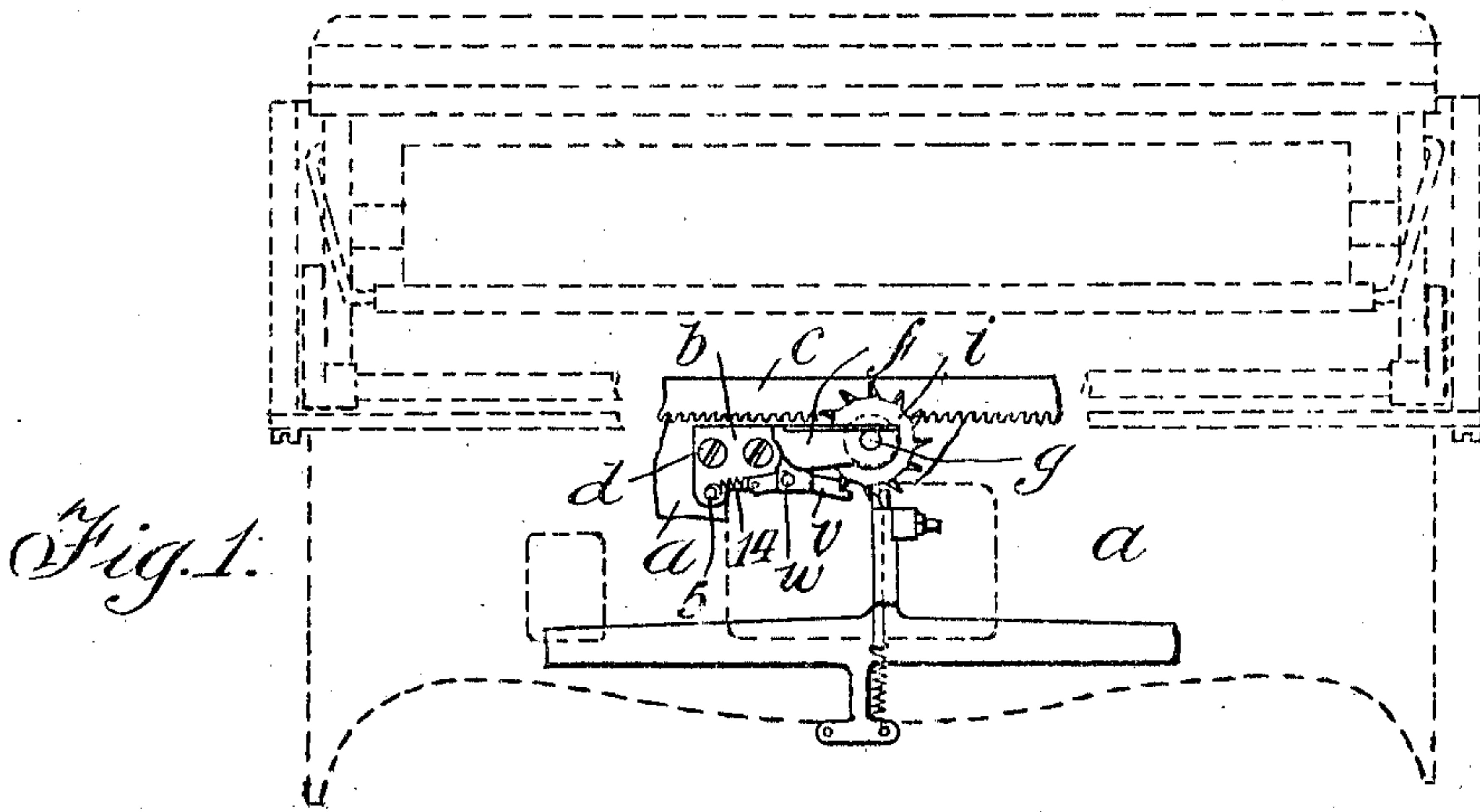


G. W. DAVIS.  
 ESCAPEMENT MECHANISM FOR TYPE WRITERS.  
 APPLICATION FILED APR. 15, 1910.

993,585.

Patented May 30, 1911.



Witnesses

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By Attorney  
*John H. Shaw*



# UNITED STATES PATENT OFFICE.

GEORGE WILLIAM DAVIS, OF MONTREAL, QUEBEC, CANADA.

## ESCAPEMENT MECHANISM FOR TYPE-WRITERS.

993,585.

Specification of Letters Patent.

Patented May 30, 1911.

Application filed April 15, 1910. Serial No. 555,590.

*To all whom it may concern:*

Be it known that I, GEORGE WILLIAM DAVIS, of the city of Montreal, Province of Quebec, Canada, have invented certain new and useful Improvements in Escapement Mechanism for Type-Writers; and I do hereby declare that the following is a full, clear, and exact description of the same.

Heretofore the ratchet wheel of the escapement mechanism has been free on its arbor and the defect experienced was the tendency of the former to cant thus disturbing the regularity of its action when released by the dogs carried by the dog-rocker bar.

The object of my invention is to eliminate the above mentioned defects, and it may be said to consist of the construction and several combinations of parts hereinafter described and pointed out in the claims.

For full comprehension, however of my invention reference must be had to the accompanying drawings forming a part of this specification in which similar reference characters indicate the same parts and wherein—

Figure 1 is a plan view of my improved escapement mechanism applied to a type-writer, the frame of the latter and carriage being shown in dotted lines; Fig. 2 is an enlarged side elevation thereof showing a portion of the frame; Fig. 3 is a sectional view taken on line A A Fig. 2; Fig. 4 is a plan view of the underside thereof. Fig. 5 is a side elevation of the arbor forming part of my invention; and Fig. 6 is a transverse sectional view of the pinion and illustrating the shoulder formed by the recess. Fig. 7 is a plan view partly broken away, of a portion of the escapement mechanism illustrating particularly the detent pawl engaging the ratchet wheel.

My improved escapement mechanism comprises a bracket *b*, situated adjacent to the escapement racks *c*, on the carriage, and secured by screws *d* to the frame *a* of the machine, the said bracket presenting an upwardly offset horizontally extending arm *f* which is vertically bored at its outer end to form a bearing. An arbor *g* having its lower end of reduced diameter to present an end thrust shoulder *e* is supported by the shoulder in a bearing *h* on the frame *a* and has the escapement wheel *i* mounted rigidly thereon, a screw threaded connection being preferably employed, the upper end of such

arbor bearing rotatable in the boring at the outer end of the arm *f*.

Mounted loosely upon the arbor *g* and in abutment with the escapement wheel is a pinion *m* disposed in position to engage the escapement rack, the pinion having an annular recess *n* at its upper end to accommodate the rigid collar 10 on the arbor and serving as an abutment for the ratchet-wheel *i* when it is screwed home. A pair of pawls *p*, pivoted upon the underside of the ratchet-wheel and at diametrical opposite sides of the center, engage the teeth of the pinion, and such teeth present radial and tangential sides 2 and 3 respectively, while the nose of each pawl is angular in form and presents a detent face 4 adapted to act as an abutment retaining the pinion against rotation in the direction indicated, and its other face permits of its riding over the teeth when the pinion rotates in an opposite direction. A pair of coiled springs 2' fastened at their opposite ends to the pawls and to pins projecting from the underside of the wheel, hold the pawls yieldingly in engagement with the teeth of the pinion. With this relative arrangement of the ratchet-wheel and pinion the latter is free to rotate in the direction reverse to that required to release the carriage and independently of the sprocket wheel, thus permitting the carriage to be returned at any point in a line without the necessity of disconnecting the escapement rack therefrom and without rotating the ratchet-wheel.

At the inner end of the arm *f* of the escapement wheel bracket is an enlargement or boss *t* which is horizontally slotted as at *u* to accommodate a pawl *v* pivoted therein on a pin *w* and projecting to a point adjacent the escapement wheel, such pawl having its end notched to present longitudinal and transverse faces 12 and 13 respectively the latter acting as a detent to prevent retrograde rotation of the sprocket wheel and the former (12) serving as a stop acting on the point of the tooth. This pawl is retained yieldingly in engaging position by a retractile spring 14 connected at one end to the tail thereof and at its opposite end to a pin 5 carried by the base of the bracket, the spring lying substantially in alinement with the pawl. This alinement gives the pawl a very delicate action and exerts but slight wear on the teeth of the ratchet-wheel.



What I claim is as follows:—

1. In the escapement mechanism of a typewriter, the combination with the frame of the typewriter, of an arbor rotatively supported  
5 thereby; an end-thrust shoulder presented by the arbor and bearing against the frame; a rigid collar on the arbor; a ratchet-wheel screwed upon the arbor and abutting upon the  
10 collar; a pinion loosely mounted upon such arbor between the shoulder and the collar and formed with an internal recess accommodating the said collar and means adapted to operatively connect the pinion and  
15 ratchet wheel when the former rotates in one direction.
2. In the escapement mechanism of a typewriter, the combination with the escape-

ment wheel, a bracket for supporting the wheel, such bracket having a slotted enlargement, and means for releasing such wheel, 20 of a detent pawl mounted in the said slotted enlargement and disposed tangentially to the wheel and having its forward end notched to present a transverse detent face adapted to be engaged by the teeth and a 25 longitudinal face adapted to act centripetally upon the points of the teeth.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

GEORGE WILLIAM DAVIS.

Witnesses:

WILLIAM P. McFEAT,  
J. A. O'KEEFE.