

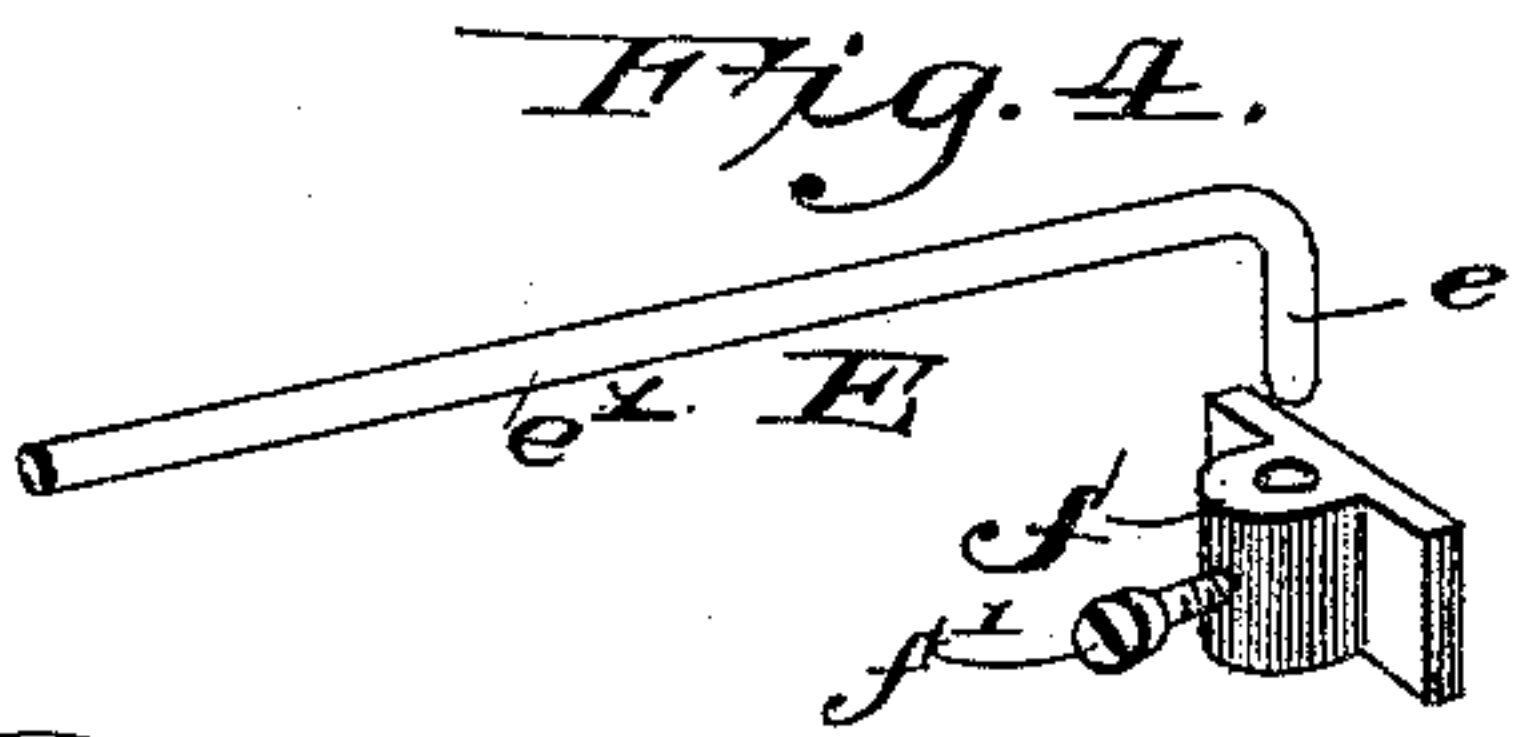
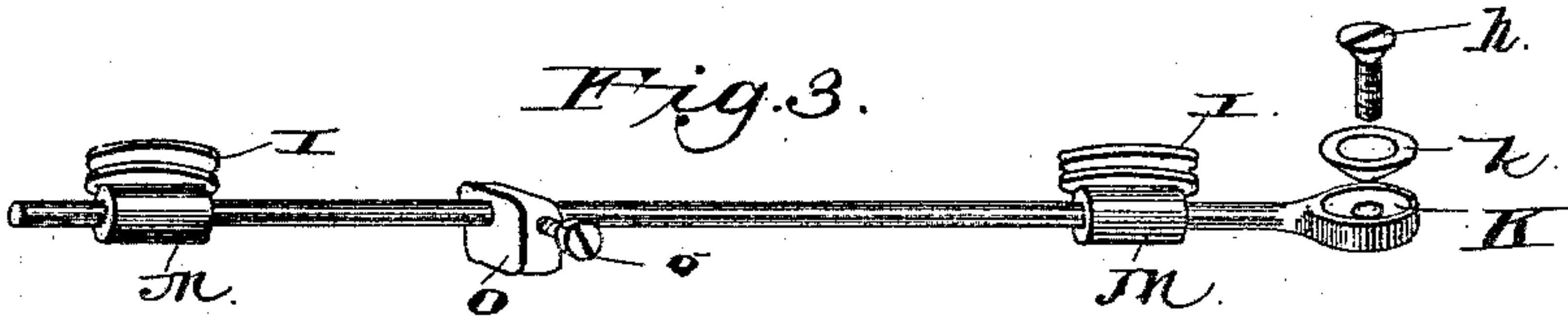
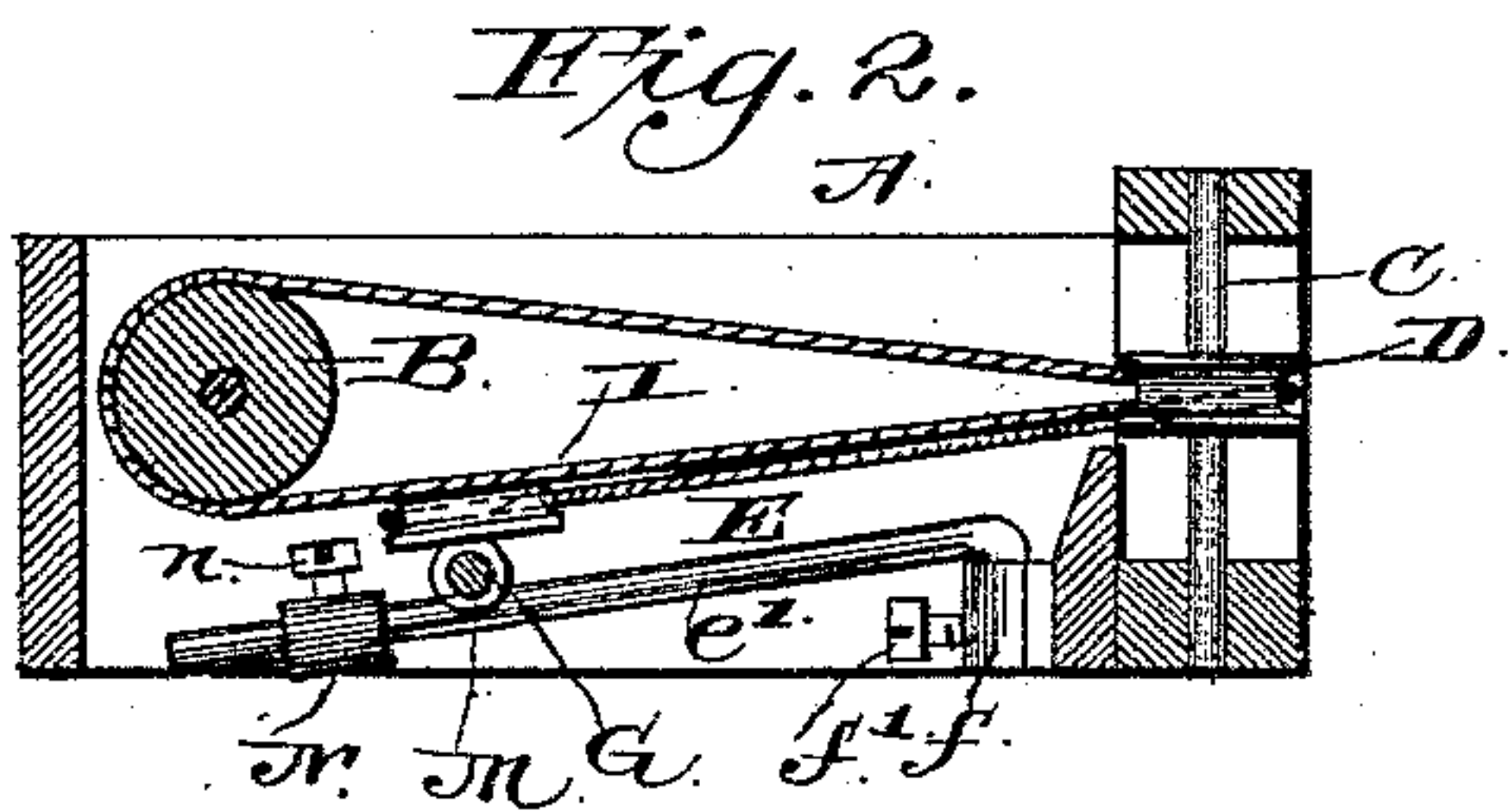
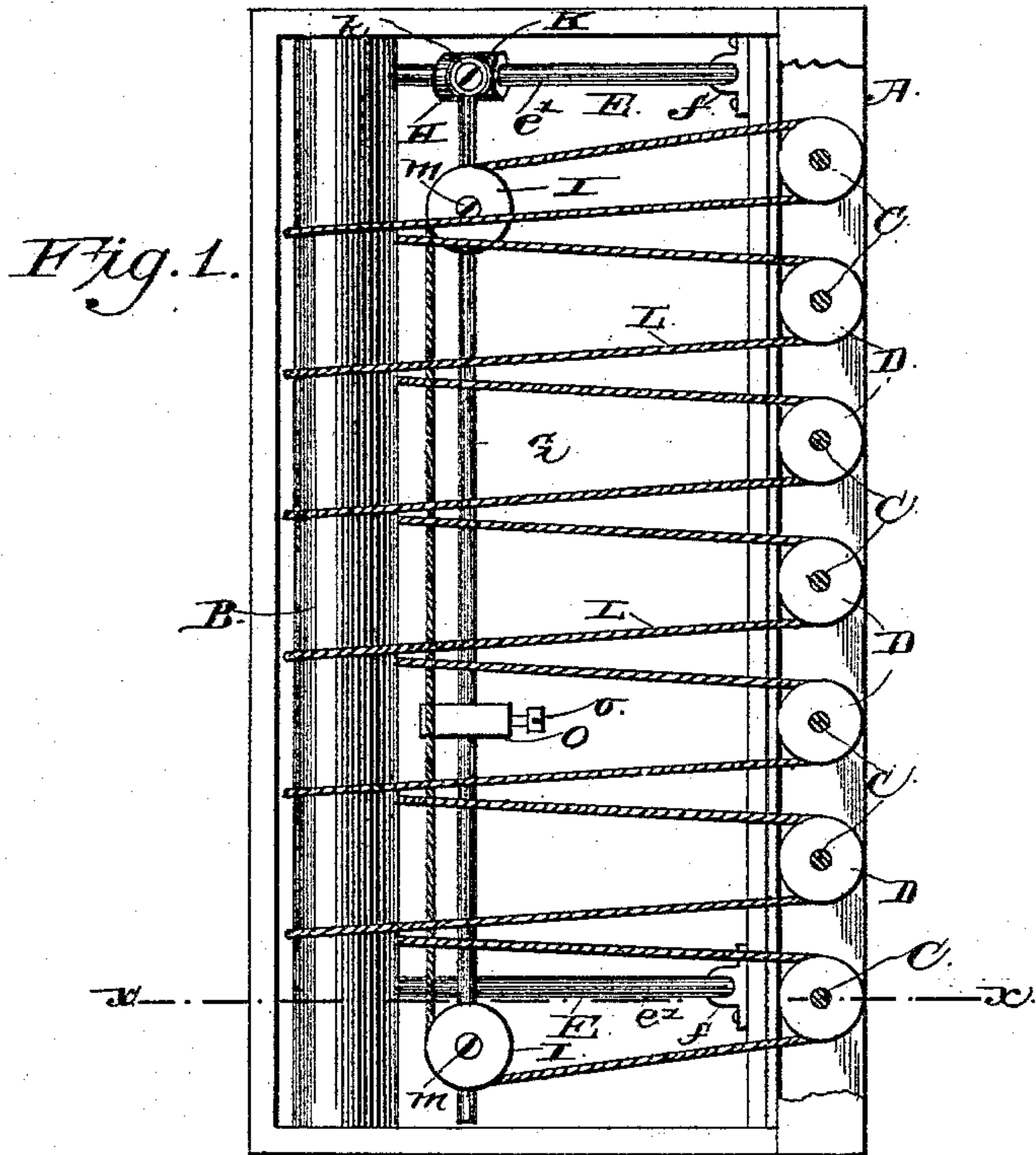
(No Model.)

P. L. KENNEY.

# TENSION REGULATOR FOR SPINDLE DRIVING BANDS.

No. 401,281.

Patented Apr. 9, 1889.



Witnesses

Witnesses  
M. E. Fowler  
C. E. Hayle.

Inventor  
*Patrick L. Kenney*

By His Attorneys.

Attorneys.



# UNITED STATES PATENT OFFICE.

PATRICK L. KENNEY, OF PITTSFIELD, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO LOUIS C. WERNER, OF SAME PLACE.

## TENSION-REGULATOR FOR SPINDLE-DRIVING BANDS.

SPECIFICATION forming part of Letters Patent No. 401,281, dated April 9, 1889.

Application filed January 3, 1889. Serial No. 295,280. (No model.)

### *To all whom it may concern:*

Be it known that I, PATRICK L. KENNEY, a citizen of the United States, residing at Pittsfield, in the county of Berkshire and State of Massachusetts, have invented a new and useful Improvement in Tension-Regulators for Spindle-Driving Bands, of which the following is a specification.

The invention relates to band-tension regulators for spinning-machines; and it consists in a certain novel construction and combination of devices, fully described hereinafter in connection with the accompanying drawings, and specifically pointed out in the appended claims.

In the drawings, Figure 1 is a plan view of a regulating device embodying my invention. Fig. 2 is a transverse sectional view on the line  $xx$  of Fig. 1. Fig. 3 is a perspective view of the swinging arm with its attachments. Fig. 4 is a similar view of one of the brackets and the casting to which it is attached. Fig. 5 is a detail vertical sectional view of one of the idler-pulleys.

Referring by letter to the drawings, A designates the frame of the machine, near one side of which is mounted the cylinder or drum, B, and C C designate the spinning-spindles, which are arranged near the opposite side of the frame, and are provided with the whirls D D, of the ordinary or any approved construction.

E E designate brackets which are arranged near opposite ends of the frame, and are provided with vertical arms  $ee$ , which are mounted in vertical sockets  $ff$  in the castings, which are secured to the side of the frame opposite the cylinder or drum. These castings are bolted to the side of the frame and are provided with set-screws  $f' f'$ , which engage threaded apertures in the sides of the sockets and impinge against the vertical arms of the brackets. The brackets are also provided with the downwardly-inclined arms  $e'$ .

The swinging tension-arm G is pivoted at one end to a collar, H, which is fitted to one of the brackets E, and bears at its free end on the other bracket. The vertical bolt  $h$ , on which the said arm is mounted, engages a threaded aperture in the side of the collar H, and bears at its inner end against the inclined

arm of the bracket to clamp the collar in the desired position thereon, and the head of the said bolt bears on an inverted conical washer,  $k$ , which fits into the similarly-shaped eye K on the swinging arm. When the washer  $k$  or the parts of the joint become worn, a second washer, of a similar shape, may be added, or the screw may be slightly shortened by filing off its inner end, or in any other suitable manner.

Idler-pulleys I are attached to the swinging arm at suitable points, around which the band L, which extends around the spindle-whirls and the cylinder or drum, passes, and the said pulleys are mounted on vertical bolts  $m$ , which engage threaded apertures in the collars M. These collars may be arranged at any desired points of the swinging arm, and they are clamped in position when the bolts  $m$  are tightened.

The operation of the improved regulator will now be readily seen. The free end of the swinging arm is caused by the inclined position of the arm on which it rests, and of that to which it is pivoted, to swing away from the whirls and thereby tighten the band; but when the said band contracts, the free end of the arm is allowed to approach the whirls and thereby relieve the strain.

An adjustable safety-stop, N, is arranged on the inner end of the inclined arm, on which the free end of the swinging arm rests, to limit the inward movement of the said swinging arm, and the said stop is provided with a set-screw,  $n$ , to enable it to be adjusted at the desired point.

An adjustable weight, O, is mounted on the swinging arm, which may be moved toward or from the free end thereof, thereby either increasing or decreasing the tension of the band, the said weight being also provided with a set-screw,  $o$ .

From the above description it will be seen that the pivoted end of the swinging arm may be adjusted toward or from the cylinder or drum.

Having thus described the invention, I claim—

1. The combination, with the cylinder or drum, the whirls, and the band passing around the same, of the bracket provided with a sup-



porting-arm which inclines downwardly from the whirls, and the swinging arm bearing at its free end on the said supporting-arm and provided with idler-pulleys around which the  
5 band extends, whereby as the band slackens the swinging arm slides along the supporting-arm away from the whirls, substantially as and for the purpose specified.

2. The combination, with the cylinder or  
10 drum, the whirls, and the band passing around the same, of the brackets provided with downwardly-inclined supporting-arms  $e' e'$ , the removable collar fitting on one of the arms, the swinging arm pivoted to the said collar and  
15 bearing on the other supporting-arm, and the idler-whirls secured to the swinging arms and having the band passing therearound, substantially as specified.

3. The combination, with the cylinder, the  
20 whirls, and the band extending around the same, of the castings provided with sockets, the brackets provided with vertical arms mounted in the said sockets and having downwardly-inclined arms  $e' e'$ , the swinging arm  
25 provided at one end with a collar which fits on one of the inclined arms  $e'$  and bearing at its free end on the other inclined arm, and the adjustable idler-whirls provided with collars which fit on the swinging arm, substantially  
30 as specified.

4. The combination, with the cylinder, the whirls, and the band extending around the same, of the brackets having arms  $e' e'$ , the collar H, mounted on one of the arms, the  
35 swinging arm bearing at one end on one of

the arms  $e'$  and provided at the other end with an eye, K, the adjusting-bolt fitting in the said eye engaging a threaded aperture in the side of the collar, the conical washer arranged between the head of the bolt and the  
40 eye, and the idler-pulleys arranged on the swinging arm, substantially as specified.

5. The combination, with the cylinder, the whirls, and the band passing around the same, of the bracket provided with a downwardly-  
45 inclined arm  $e'$ , the swinging arm bearing at its free end on the said arm and provided with idler-pulleys around which the said band passes, and the weight mounted on the swinging arm and provided with a set-screw to  
50 clamp it in the desired position, substantially as specified.

6. The combination, with the cylinder, the whirls, and the band passing around the same, of the bracket provided with an inclined sup-  
55 porting-arm, the swinging arm bearing at its free end on the supporting-arm, the adjustable collars M M, arranged on the arm and provided with the vertical bolts  $m$ , which fit in threaded apertures in the collars and bear  
60 against the arm, and the idler-pulleys mounted on the said bolts and having the band passed therearound, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in  
65 presence of two witnesses.

PATRICK L. KENNEY.

Witnesses:

JOHN F. VAN DEUSEN,  
L. C. WERNER.