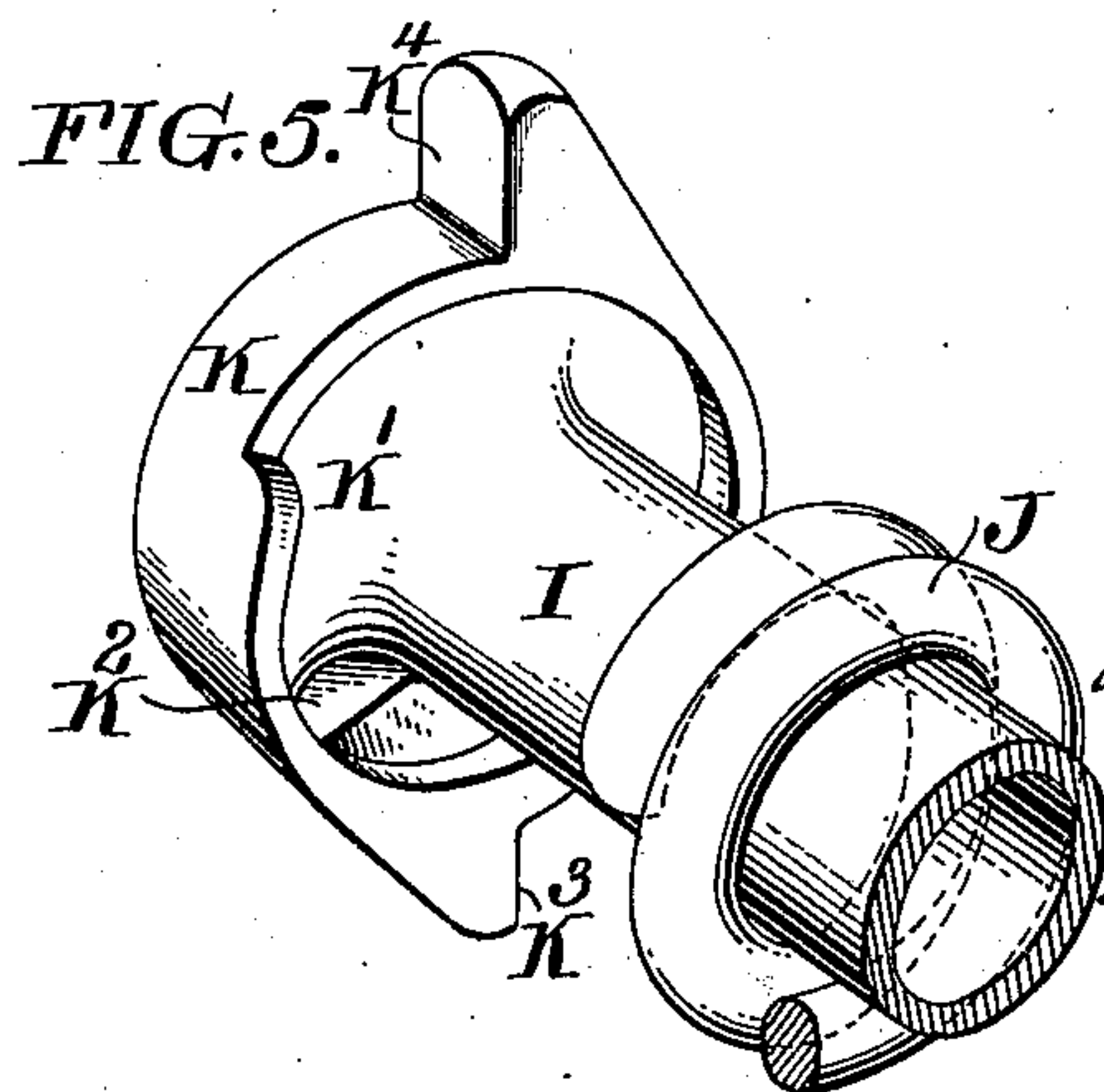
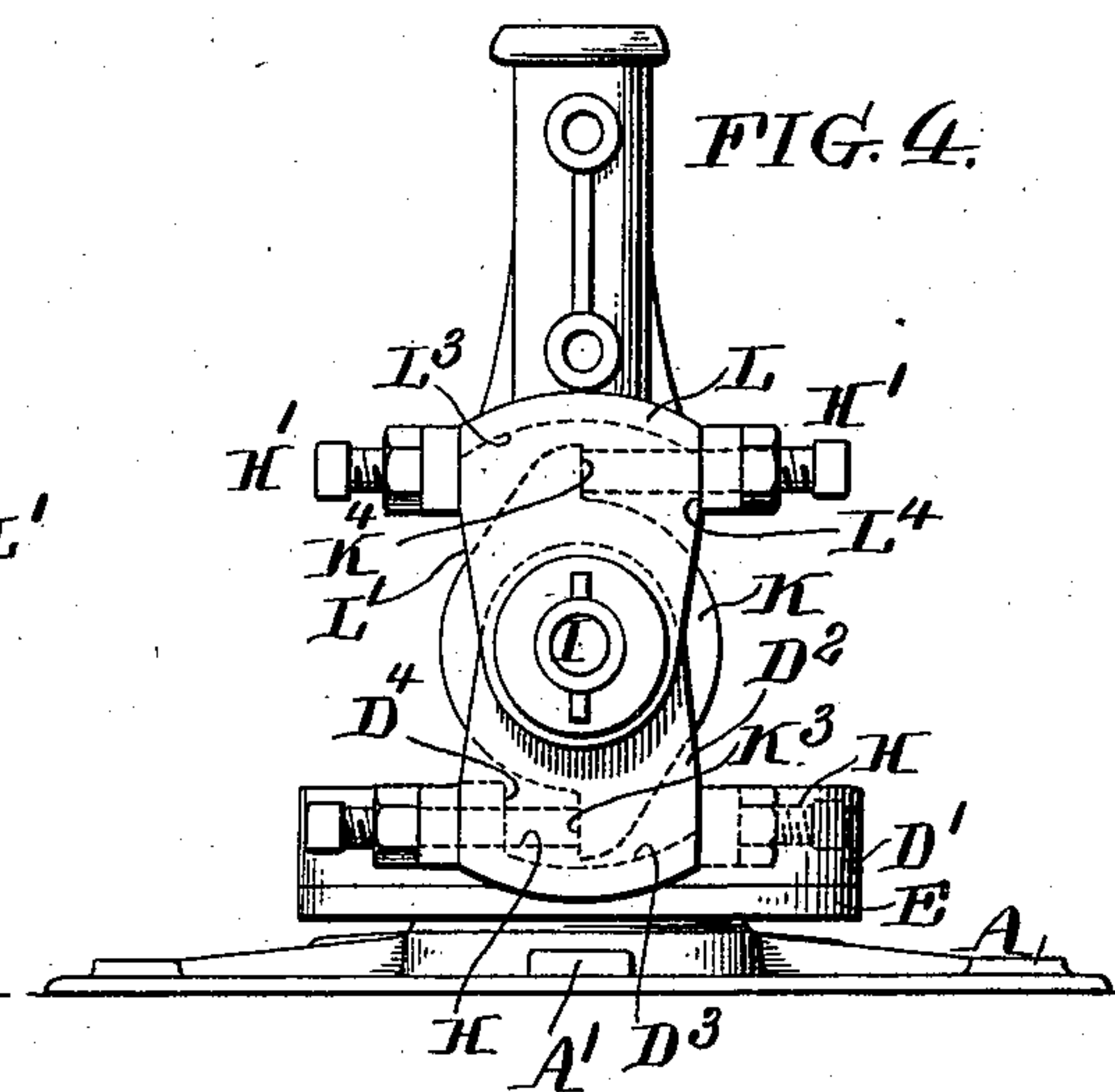
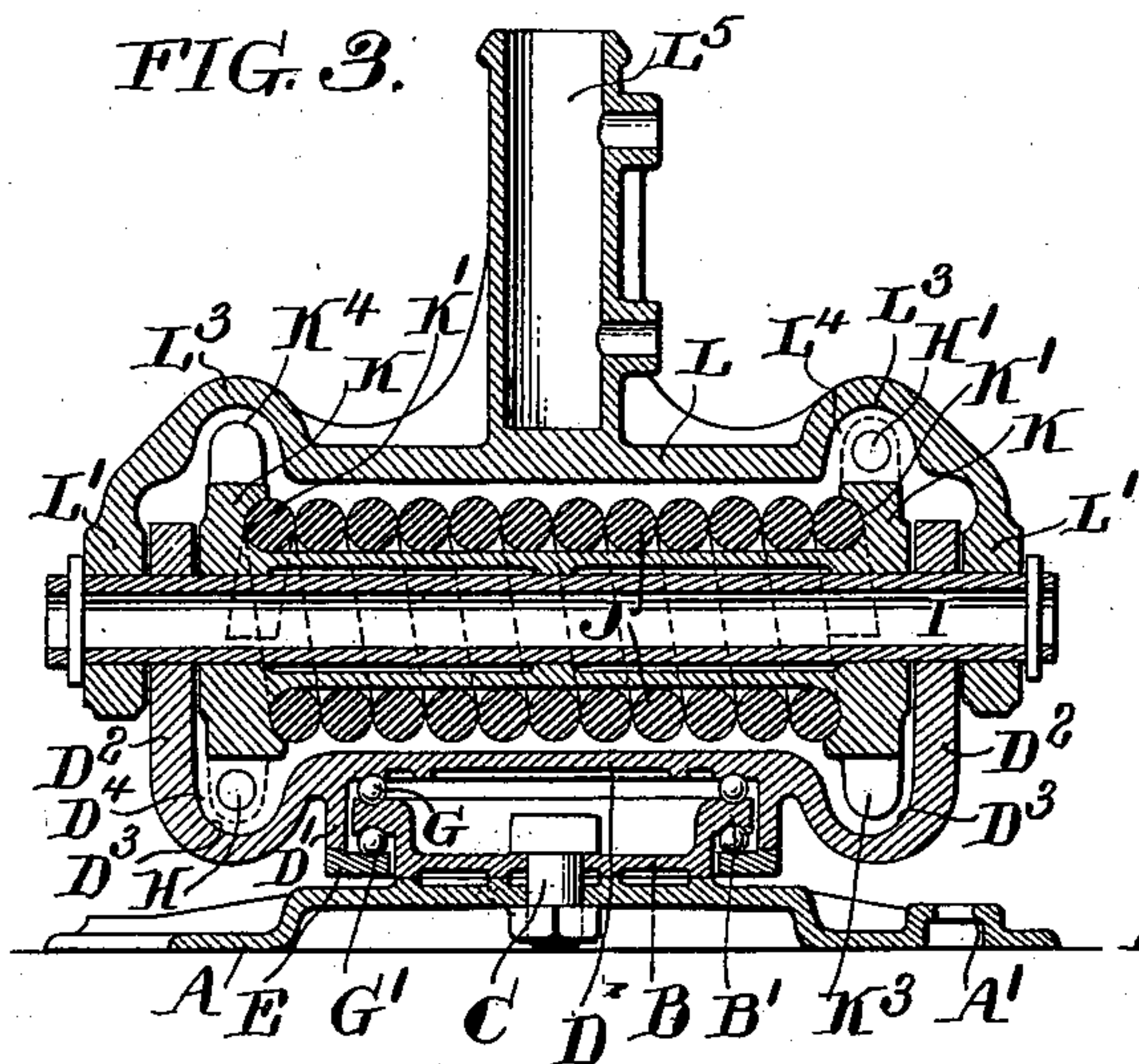
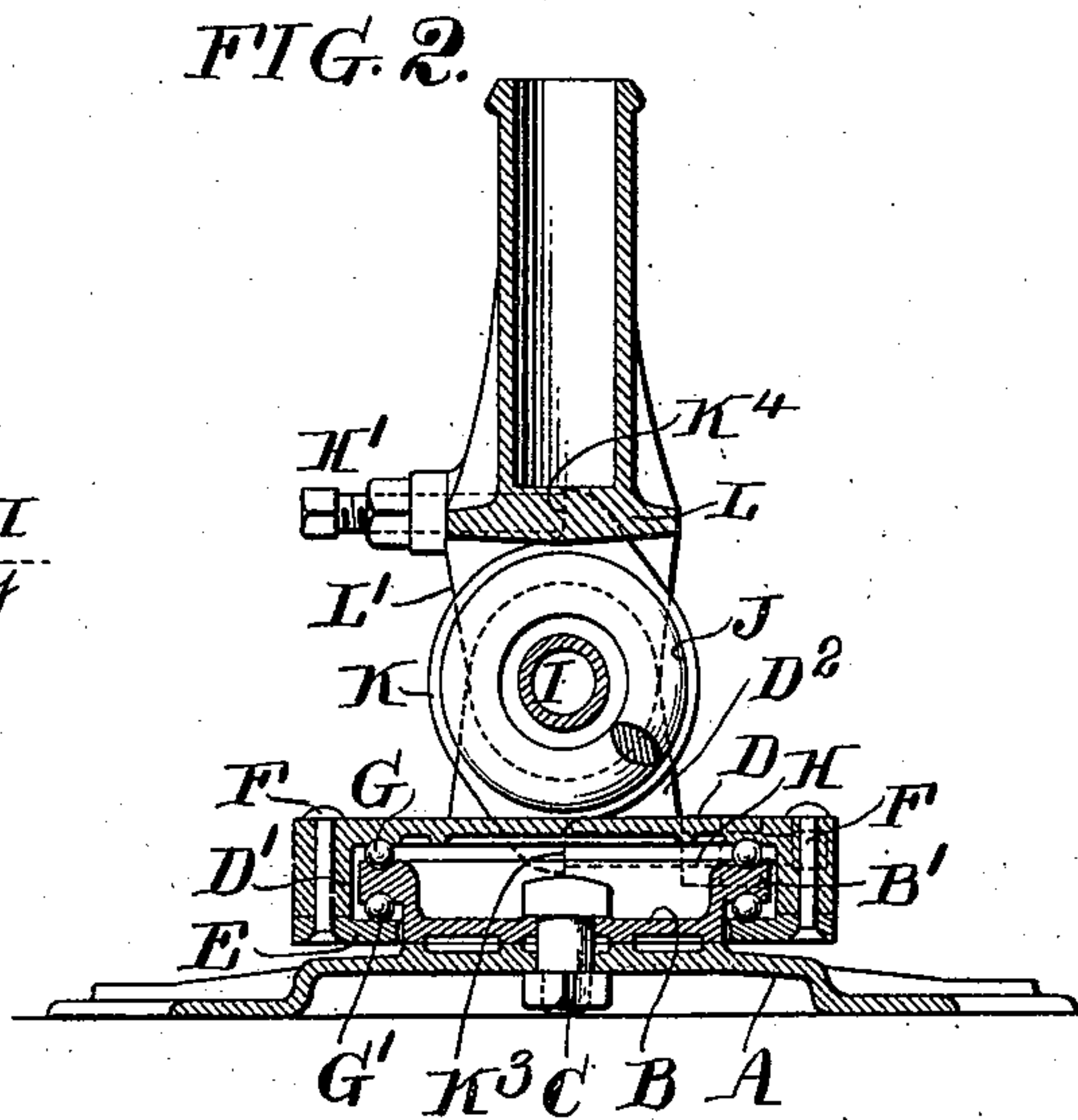
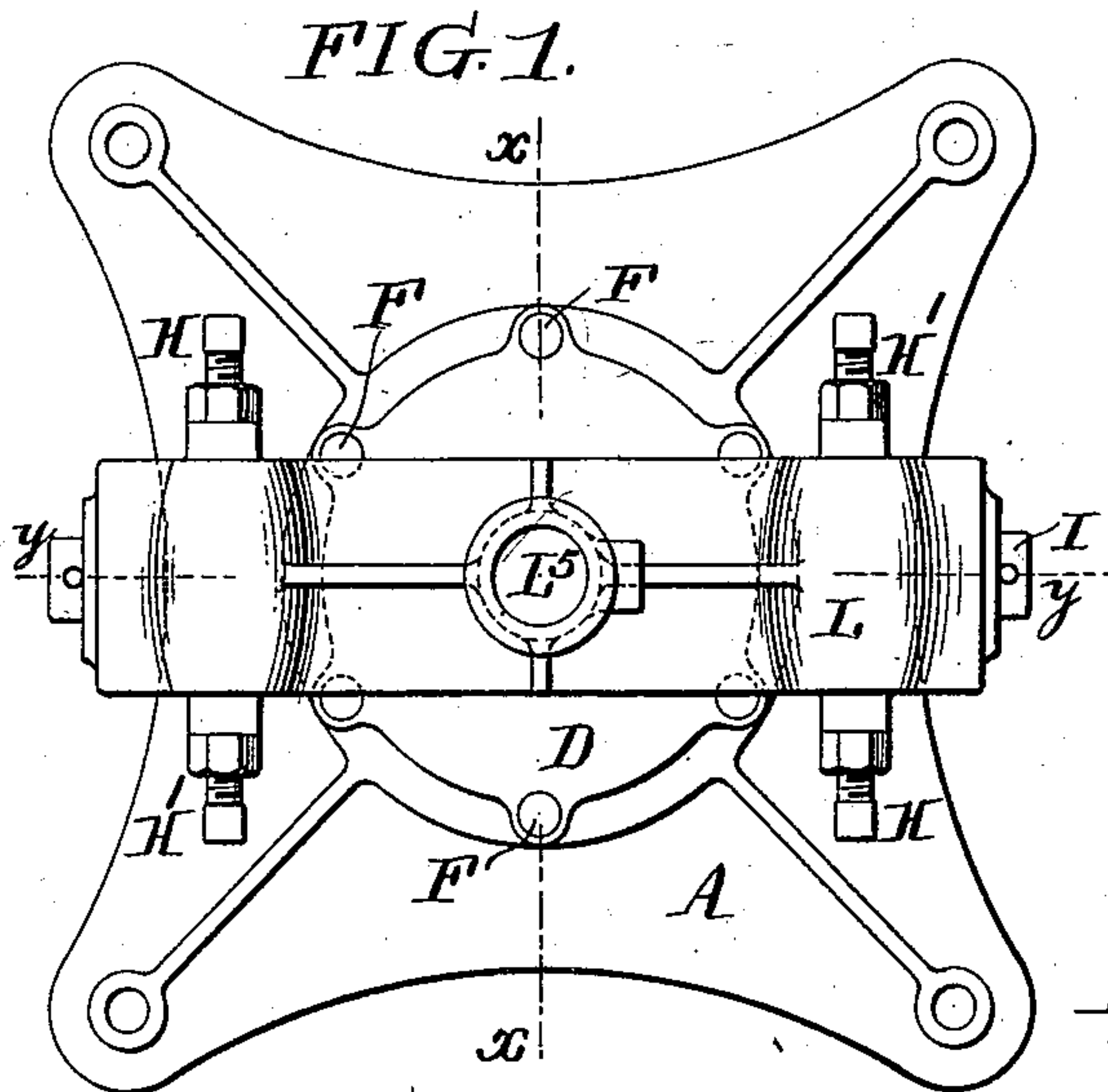


(No Model.)

N. H. DAVIS.
TROLLEY POLE SUPPORT.

No. 557,114.

Patented Mar. 31, 1896.



WITNESSES:

Henry Dwyer
Schwartz

INVENTOR:

Nathan H. Davis
by his atty.
Francis T. Chambers

UNITED STATES PATENT OFFICE.

NATHAN H. DAVIS, OF PHILADELPHIA, PENNSYLVANIA.

TROLLEY-POLE SUPPORT.

SPECIFICATION forming part of Letters Patent No. 557,114, dated March 31, 1896.

Application filed November 8, 1895. Serial No. 568,355. (No model.)

To all whom it may concern:

Be it known that I, NATHAN H. DAVIS, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a certain new and useful Improvement in Trolley-Pole Supports, of which the following specification is a true and exact description, reference being had to the accompanying drawings, which form a part thereof.

My invention relates to the mechanism by which the trolley-pole of electrically-actuated cars are supported, and has for its object to provide a pivoted spring-support at once simple, cheap, and thoroughly effective.

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 of my improved device; Fig. 2, an elevation on the line xx of Fig. 1; Fig. 3, an elevation on the section-line yy of Fig. 1; Fig. 4, an end view, and Fig. 5 a perspective view of a part of my improved mechanism.

A is a base-plate, which is secured to the roof of the car or other convenient position in the usual way, and preferably I provide it with a perforated elevation A' , whereby the wire serving to conduct the current to the motor may be secured to and placed in electrical connection with the base-plate.

B is a plate, which is provided with a circular outwardly-extending flange B' , grooved by preference on top and bottom, as indicated, said plate being rigidly secured to the base-plate A by a bolt C or any other convenient fastening device.

D is a bracket provided with a circular depending flange D' , adapted to fit over and around the flange B' of the plate B.

E is an annular ring extending around the lower part of the plate B and lying beneath the flange B' , the said annular ring E being in use bolted securely to the end of the depending flange B' .

G and G' are balls forming ball-bearings between the top of the flange B' and the under part of the bracket D and between the bottom of the flange B' and the top of the annular ring E.

The bracket D is formed with upwardly-

extending lugs $D^2 D^2$, which serve to support a transverse shaft I, and by preference between the center of the bracket D and the upwardly-extending lugs D^2 , I form a bracket in the downward curves, as indicated at $D^3 D^3$, and lying in the bend of the said curves I form shoulders D^4 , which are provided with threaded perforations, into which fit adjusting set-screws H. (Best shown in Fig. 4.) Obviously the set-screws are not essential and may be dispensed with.

L is what I may call a "stirrup," formed with downwardly-extending lugs L' , which are journaled on the ends of the shaft I and by preference with outwardly-curved intermediate sections L^3 between the central part of the stirrup and the lugs L' , said curved portions corresponding with the curves D^3 of the bracket B and being provided with shoulders L^4 , which by preference are also made with threaded perforations, into which fit set-screws H' . The stirrup L carries the socket L^5 , in which the trolley-pole is seated and secured.

J is a coil-spring which surrounds the shaft I between the lugs $D^2 D^2$.

K K are spring-sockets, which are journaled on the shaft I and on their inner sides formed to more or less conform to the shape of the ends of the coiled spring, shoulders K^2 being formed against which the ends of the coiled spring fit. The sockets are also provided with outwardly-extending lugs K^3 and K^4 , one of which rests against the shoulder D^4 or against the end of the set-screw H fitting in said shoulder, while the other rests against the shoulder L^4 or against the end of the adjusting-screw H' fitting in the last-mentioned shoulder.

It will be observed that the shoulders $L^4 L^4$ face in different directions, as do also the shoulders $D^4 D^4$, and it will also be observed that the shoulder L^4 at each end of the stirrup faces in the opposite direction to the shoulder D^4 in the corresponding end of the bracket, and it will readily be seen that by reason of the construction and arrangement shown and described each movement of the stirrup L to one side or the other is opposed by the power of the spring J, resisting the tendency to uncoil it, and I have found that a greatly-improved action is secured by taking means to keep the spring normally under ten-

sion, and this I accomplish by the use of the adjusting-screws H and H', by means of which any desired tension can be put upon the spring in its normal position.

5 While I prefer to use balls G G', as shown, the joint formed by the flange D' with the bracket D and annular ring E is, by reason of its strength and compactness, a particularly good one, even without balls, and the bracket
10 D may rest directly upon the flange B'.

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

1. A trolley-pole support having in combination a pivoted bracket D, having lugs D²
15 D² and shoulders D⁴ D⁴, a shaft I supported on the lugs D², a coiled spring J surrounding shaft I, spring-sockets K K journaled on shaft I and having means whereby they are secured
20 to the spring ends so as to put the spring under tension when one socket is moved without the other, said sockets having also lugs K³ K⁴ and a pole-supporting stirrup L having lugs L' L' pivoted on shaft I and shoulders
25 L⁴ L⁴, said shoulders D⁴ and L⁴ being arranged to engage the lugs on the spring-sockets as described.

2. A trolley-pole support having in combination a pivoted bracket D, having lugs D²
30 D² and shoulders D⁴ D⁴, a shaft I supported on the lugs D², a coiled spring J surrounding shaft I, spring-sockets K K journaled on shaft I and having shoulders K² adapted to abut against the ends of the spring and lugs K³ K⁴,
35 a pole-supporting stirrup L having lugs L' L' pivoted on shaft I and shoulders L⁴ L⁴, said shoulders D⁴ and L⁴ being arranged to engage the lugs K³ and K⁴ respectively and so that a movement of stirrup L in either direction will
40 tend to uncoil the spring J.

3. A trolley-pole support having in combination a pivoted bracket D, having lugs D²
D² and shoulders D⁴ D⁴, a shaft I supported

on the lugs D², a coiled spring J surrounding shaft I, spring-sockets K K journaled on shaft 45 I and having shoulders K² adapted to abut against the ends of the spring and lugs K³ K⁴, a pole-supporting stirrup L having lugs L' L' pivoted on shaft I and shoulders L⁴ L⁴, and adjusting-screws as H whereby the tension of 50 the spring can be regulated.

4. A trolley-pole support having in combination a pivoted bracket D, having lugs D²
D² and shoulders D⁴ D⁴, a shaft I supported on the lugs D², a coiled spring J surrounding 55 shaft I and having shoulders K² adapted to abut against the ends of the spring and lugs K³ K⁴, a pole-supporting stirrup L having lugs L' L' pivoted on shaft I and shoulders L⁴ L⁴, and adjusting-screws as H and H' whereby 60 the tension of the spring can be regulated.

5. A trolley-pole support having in combination a base-plate A adapted to be secured to a car, a plate B having an annular flange B', a bracket D adapted to fit over the flange 65 B' having a cylindrical flange D' adapted to fit over the plate B, an annular plate E adapted to fit under the flange B' and to be secured to the flange D', and mechanism for supporting the trolley-pole secured on bracket D. 70

6. A trolley-pole support having in combination a base-plate A adapted to be secured to a car, a plate B having an annular flange B', a bracket D adapted to fit over the flange 75 B' having a cylindrical flange D' adapted to fit over the plate B, an annular plate E adapted to fit under the flange B' and to be secured to the flange D', balls G and G' fitted between the flange B' the bracket D and the plate E, and mechanism for supporting the trolley- 80 pole secured on bracket D.

NATHAN H. DAVIS.

Witnesses:

CHARLES F. ZIEGLER,
D. STEWART.