

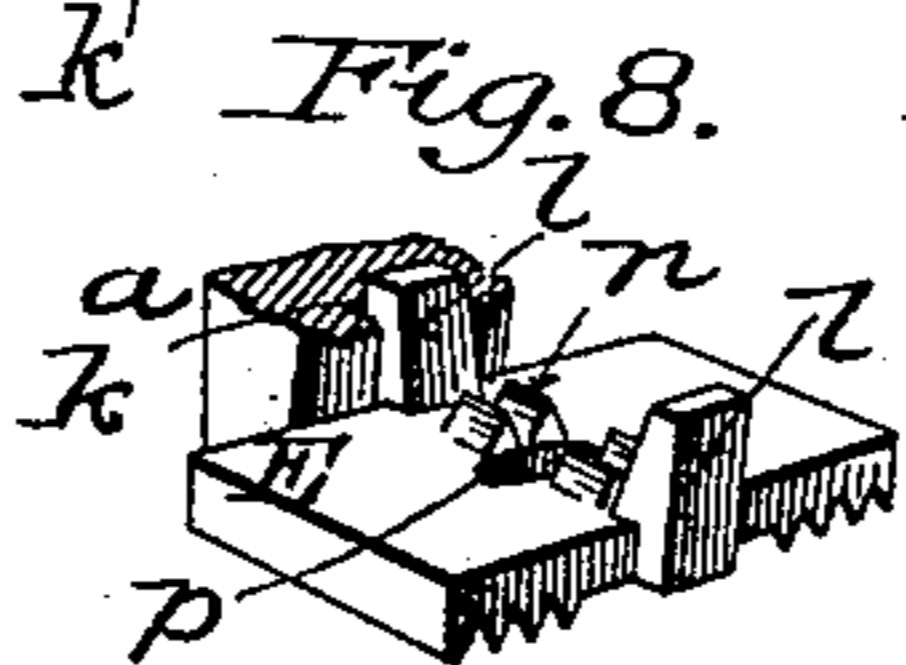
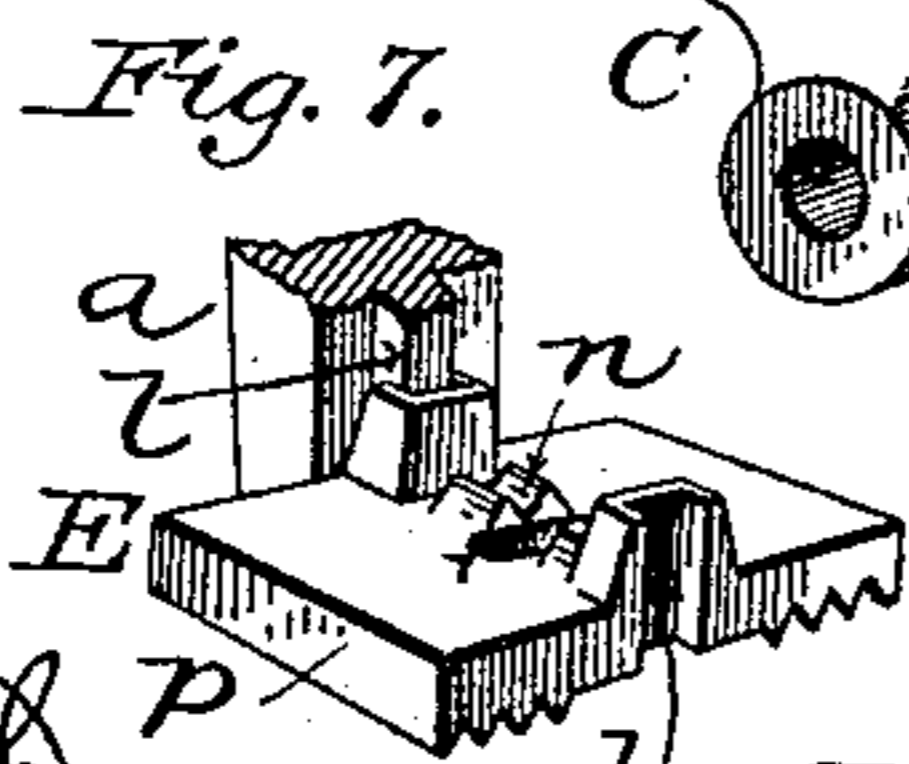
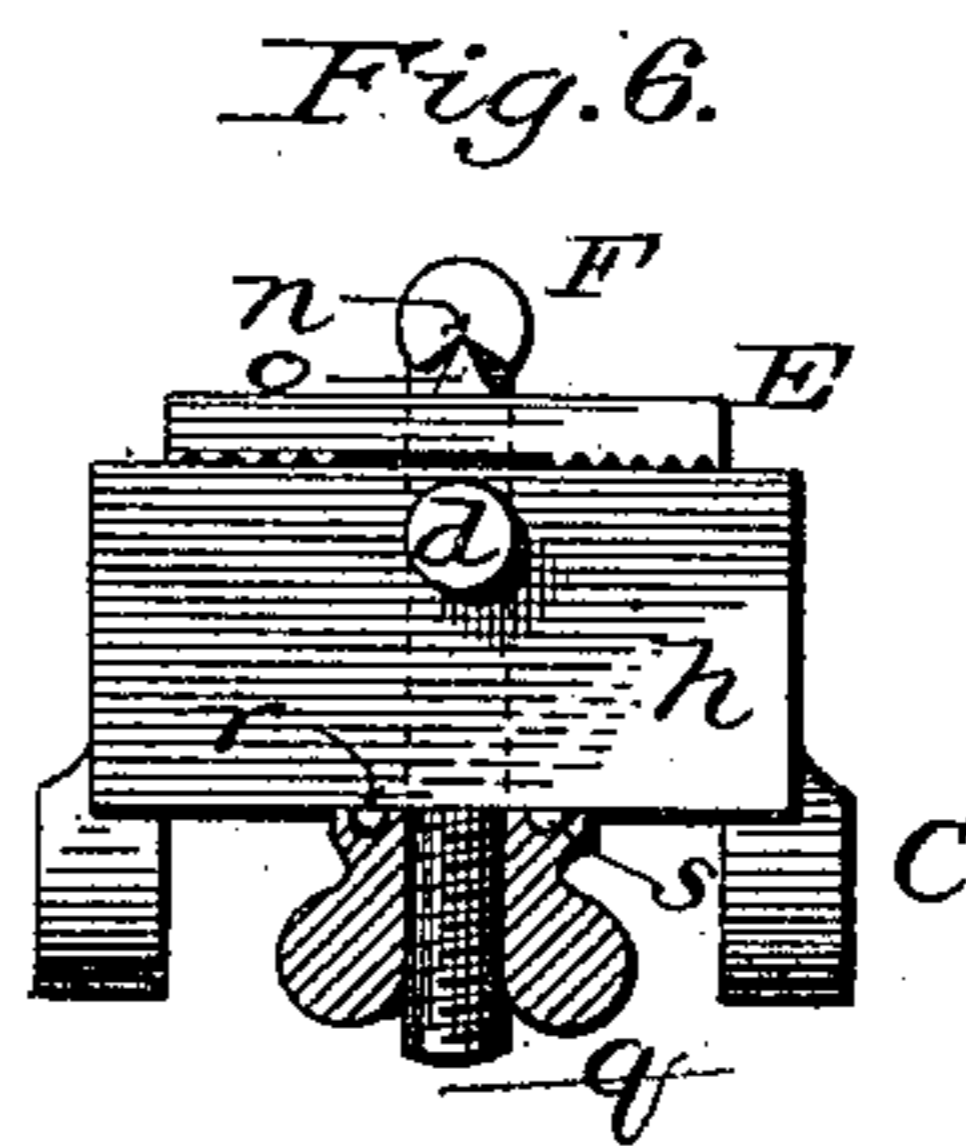
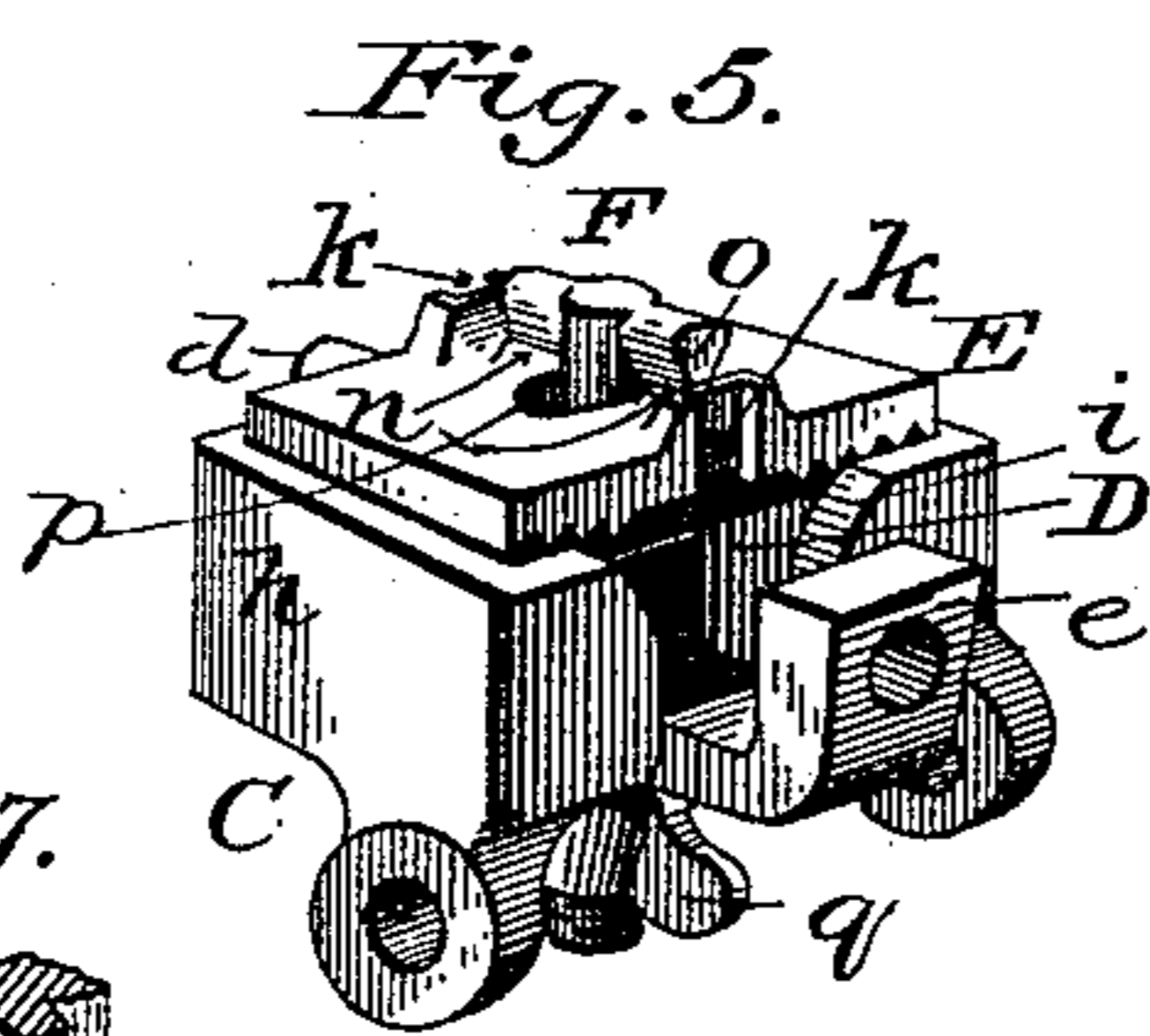
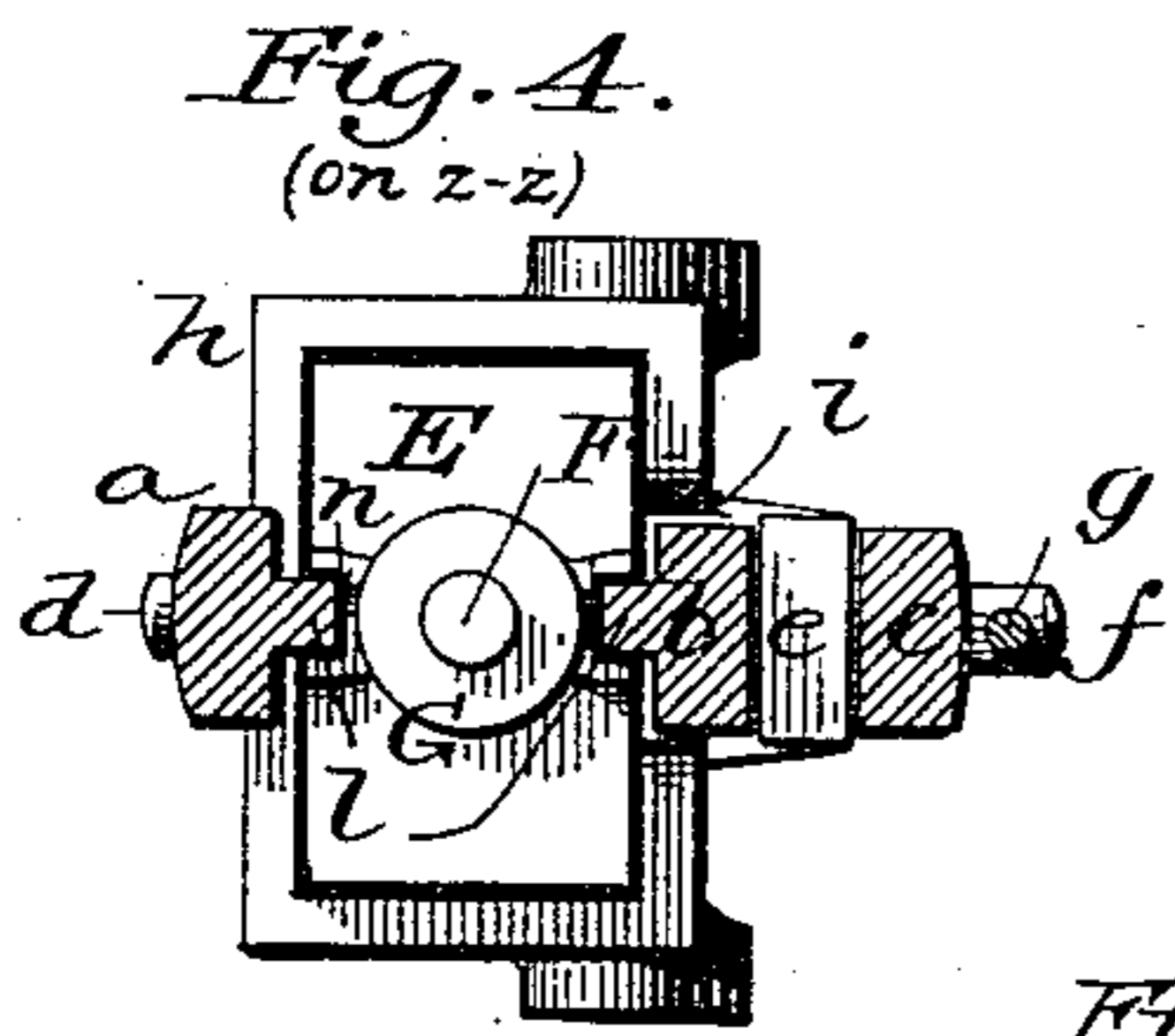
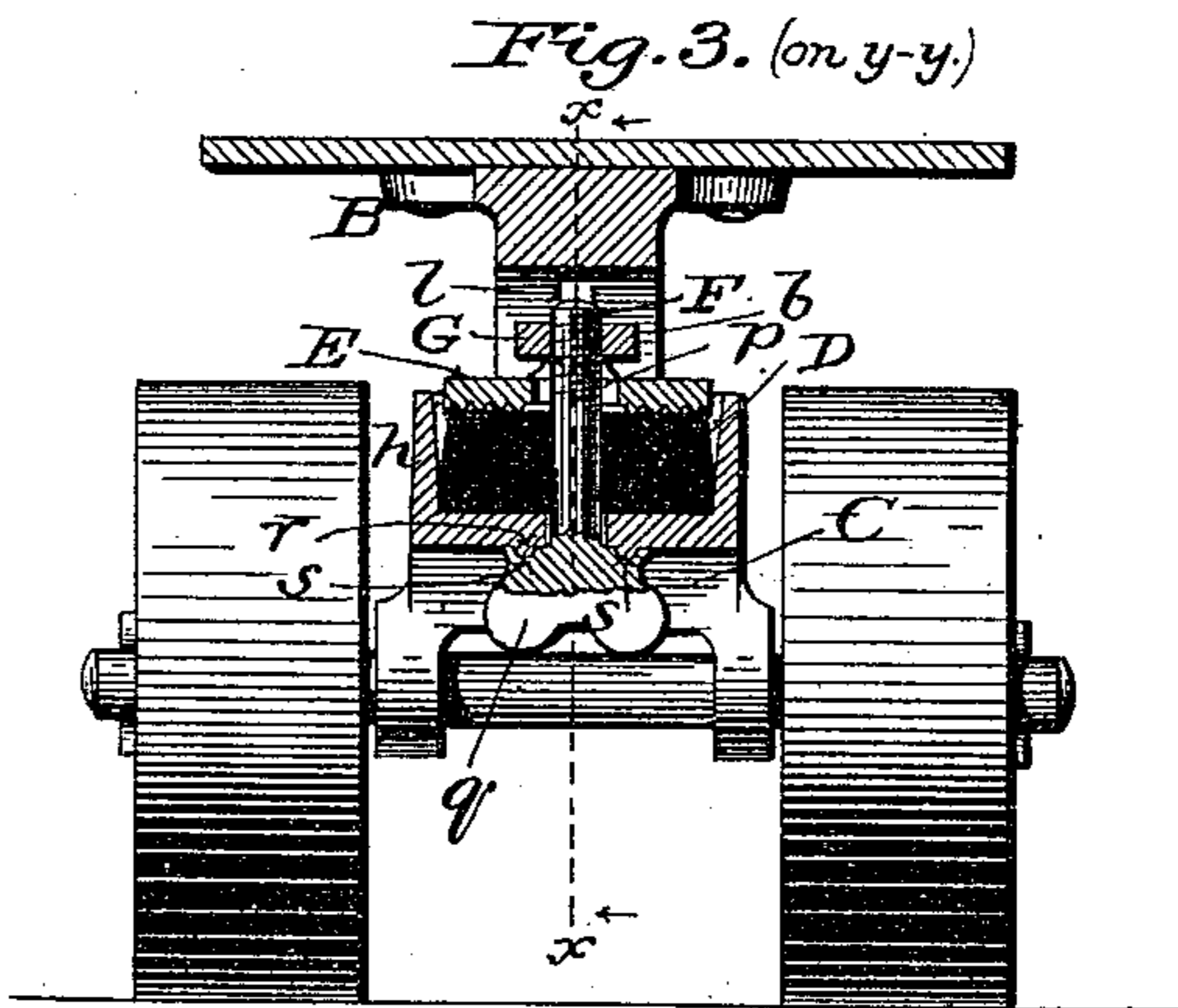
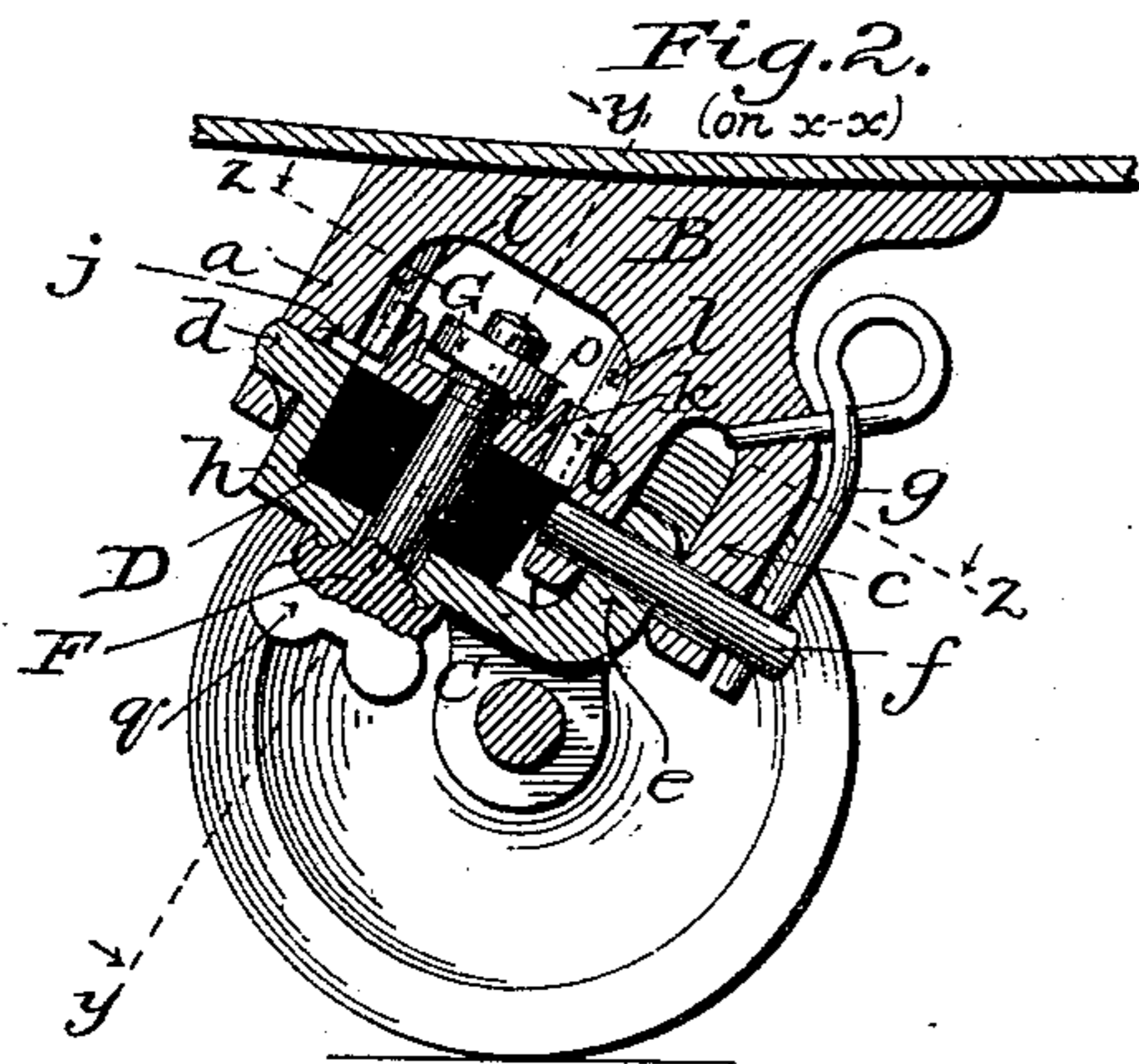
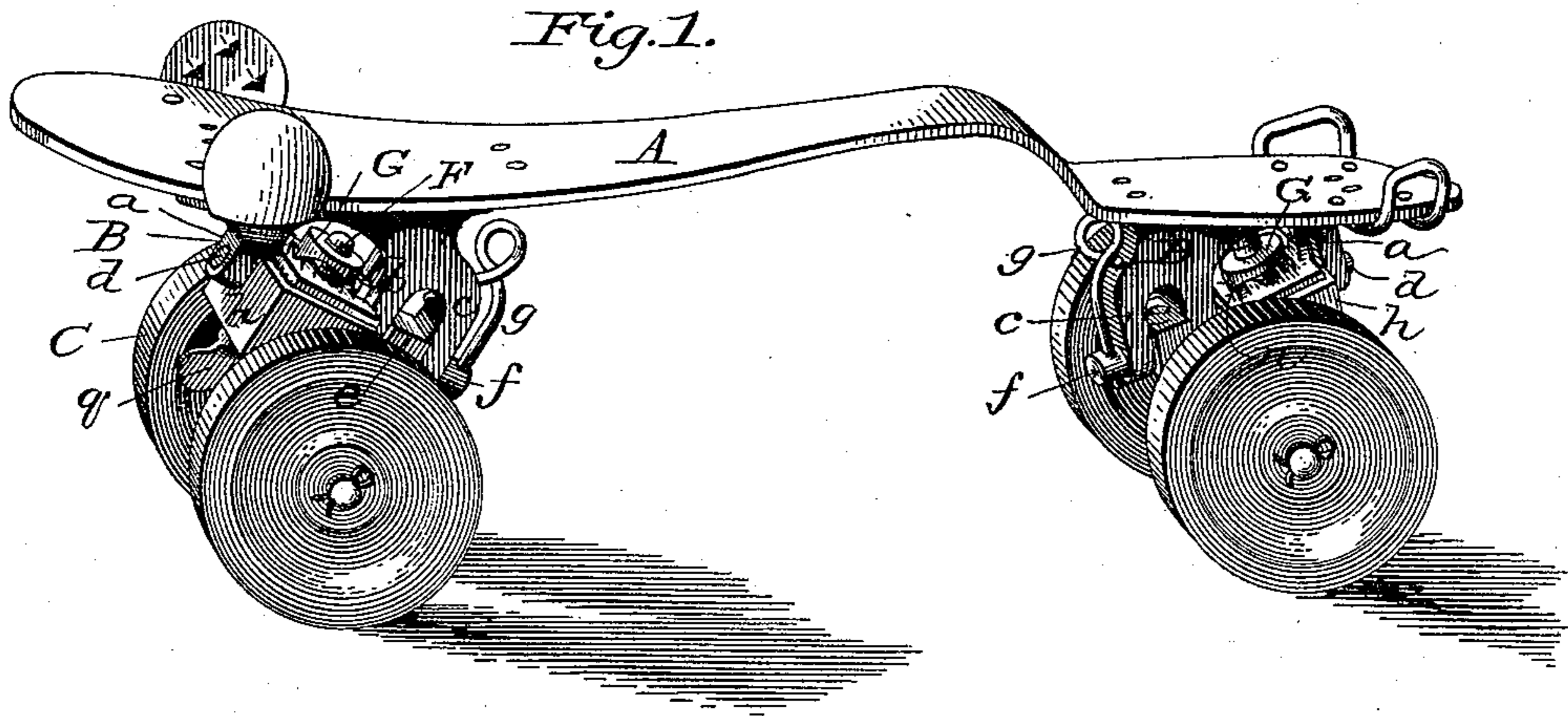
(No Model.)

M. C. HENLEY.

ROLLER SKATE.

No. 338,736.

Patented Mar. 30, 1886.



Witnesses:

Jas. F. O'Hanlon
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UNITED STATES PATENT OFFICE.

MICAJAH CHARLES HENLEY, OF RICHMOND, INDIANA.

ROLLER-SKATE.

SPECIFICATION forming part of Letters Patent No. 338,736, dated March 30, 1886.

Application filed April 18, 1885. Serial No. 162,695. (No model.)

To all whom it may concern:

Be it known that I, MICAJAH CHARLES HENLEY, of Richmond, in the county of Wayne and State of Indiana, have invented certain new and useful Improvements in Roller-Skates, of which the following is a specification.

My invention relates to roller-skates, and particularly to the manner of attaching the truck-frame to the hangers, and the devices for regulating the tension or compression of the elastic cushions.

In the drawings, Figure 1 is a perspective view of my improved skate complete; Fig. 2, a vertical section on the line xx of Fig. 3; Fig. 3, a vertical section on the line yy of Fig. 2; Fig. 4, a section on the line zz of Fig. 2, and Figs. 5 and 6 perspective views illustrating slight modifications in the form of the device; Figs. 7 and 8, views of the plate detached.

In the construction of roller-skates it is of great importance that the pivotal connection of the roller or truck frames and their hangers be firm and durable, and that the means of adjusting the tension or compression of the cushion be readily accessible and easy of manipulation advisably without the aid of special tools or implements. The present invention is designed to attain these ends and will be readily understood from the following description, taken in connection with the drawings.

A indicates the sole-plate or foot-piece, which will be provided with any suitable means of attachment to the shoe of a skater, and B indicate hangers riveted or otherwise secured to said sole-plate. These hangers are designed to receive the truck or roller frames C C, and for this purpose they are formed with three depending lugs or ears, a , b , and c , the lugs a and b being separated and the intervening portion of the hanger cut away sufficiently to afford room for the body of the truck or roller frame to enter between them, as in the skate for which Letters Patent were granted me bearing date April 21, 1885, and numbered 316,266. The ears $a b c$ are perforated, as shown in Fig. 2, said perforations having a common axis, which axis is inclined relative to the horizon, as in my former patent just mentioned. The truck-frames C are each formed with a cylindrical stud, d , to enter the perforation of ear a , and with a perforated lug, e ,

to receive a pivot pin or bolt, f , which passes through the ears $b c$ and the lug e , when said lug is inserted between them, as best shown in Fig. 2. The bolt or pin f is held in the position shown in said Fig. 2 by a wire spring, g , the lower end of which, projecting through below the bolt or pin, affords a hold for a hook or other retracting device, as heretofore. Being sustained by the ears $b c$ on both sides of the lug e , the pin or bolt f is not liable to rock or tip lengthwise, as under former constructions, where the inner ear, b , of the hanger was not provided. When the inner ear, b , is not provided, and the pin or bolt is caused, by the severe strain upon it, to play or work within the eye of the lug e and ear f , the eyes and the pin wear away rapidly, and as a consequence the connection becomes loose and shackling, causing noise, and interfering with the execution of difficult or fancy movements or maneuvers. Such difficulty is entirely overcome by my improvements.

It is obvious that the two lugs or ears might be made on the roller or truck frame and the single ear formed upon the hanger, in which case the locking-pin would be carried by the roller or truck frame; but the construction shown is preferred.

The roller or truck frames C are each made with a box or chamber, h , open at its upper side, to receive an elastic cushion, D, preferably of rubber, the inner wall of which chamber is cut away, as shown at i , to receive the ear b of the hanger B, as shown in Figs. 4 and 5.

The edges of the opening i may be made to form stops to limit the rocking action of the hanger or the truck-frame, or the upper face of lug e may serve this purpose, acting in connection with the upper wall of the space between the ears $b c$, or, finally, the ear a may be formed with a shoulder, j , for the upper edge of box or chamber h to strike against. Upon the top of the cushion rests a plate, E, which is roughened on its under face, preferably by means of transverse serrations, as shown in Figs. 3, 5, 6, 7, and 8, to prevent the rubber or other cushion from unduly spreading out lengthwise of the box h , a feature which is not claimed in this application, but is embraced in my patent above referred to. The plate E is formed with notches or recesses k in its front

and rear edges, to receive ribs *l*, formed upon the inner faces of the ears *a* and *b*, as shown in Figs. 2, 5, and 7, and by which the plate is caused to rock with the hanger, but is prevented from partaking of the motion of the roller or truck-frame or of the cushion. The ribs and notches may of course be reversed, as shown in Fig. 8, without affecting the principle of operation, and under either construction the plate is permitted to rise and fall as required in varying the compression of the cushion.

For the purpose of compressing the cushion and varying the compression as desired, I employ a screw-bolt, *F*, and nut *G*, and arrange them in either of two ways, which are the substantial equivalents of each other and produce the same effect, one plan being simply a reversal of the other.

As shown in Figs. 1, 2, 3, 4, 5, 7, and 8, the plate *E* is formed with a V-shaped groove or seat, *n*, in its upper face, extending across the same from front to rear, midway between the ends, and, as shown in Figs. 1 and 2, the nut *G* is formed with a V-shaped or knife-edged rib, *o*, to rest in said groove or seat. The bolt or screw stem *F* passes upward through the bottom of chamber *h*, through cushion *D*, through an elongated hole, *p*, in plate *E*, and finally screws into the nut *G*. The nut is prevented by rib *o* from turning, and said rib forms a pivot on which the nut or the plate *E* may rock as the truck-frame or the hanger-frame rocks one in relation to the other. The elongation of hole *p* prevents the bolt from striking therein, and, if found desirable, the hole through the cushion may be similarly elongated. By turning the screw *F*, which, under this arrangement is preferably formed with thumb-button *q*, the plate *E* may be drawn more firmly down upon the cushion, and thereby made to compress it to any extent required.

To prevent the bolt from working loose or turning back, I form upon the under side of box *n* one or more small conical or hemispherical studs, *r*, and in the face of the bolt-head or thumb-button a series of cavities, *s*, of like form, so that as the button is turned the cavities and studs will ride by each other and engage when the turning ceases, the elasticity of the cushion retaining them in engagement.

This lock device also constitutes a feature of my patent above mentioned, but is described here in order to set forth a complete construction.

In Fig. 5 the nut is shown applied to the lower end of the bolt, and the rib *o* is formed upon a cross-head at the upper end of the bolt, the action remaining, however, precisely the same. In Fig. 6 the rib *o* is shown upon the plate, and the groove *n* is represented as being in the under side of the cross-head of the bolt. This, too, gives the same action and result, and is simply a reversal of the preceding arrangement.

The form of the bolt-head or of the nut may be varied as desired.

As is customary in this class of skates, two hangers and two rollers or truck-frames are used in each skate—one at each end—with their pivotal axes inclining downward and inward from each end of the skate.

Instead of a box, *h*, a simple plate or platform may be employed, or the ends of the box may be omitted.

Instead of the knife-edged bearing or pivot a circular concave seat or socket and a rounded bearing-face fitting said socket may be substituted, such arrangement adapting itself to all motions of the parts readily and easily.

Having thus described my invention, what I claim is—

1. In a roller-skate, the combination of a sole-plate, a hanger secured to said plate and provided with ears *a b c*, and with a locking pin or bolt, *f*, passing through the ears *b c*, and a roller or truck-frame provided with a stud to enter the perforation of ear *a*, and with a perforated lug, *e*, to enter between the ears *b c* and receive the pin or bolt *f*.

2. In a roller-skate, the combination, with a sole-plate, of a hanger and a truck-frame, one of said parts being formed with three perforated ears and the other with a perforated lug to fit between two of said ears, and with a stud to enter the third one, a bolt or pin passing through the ears and the lug, and, together with the stud in the third ear, forming a pivotal connection between the hanger and truck-frame.

3. The combination, substantially as described and shown, of a sole-plate, *A*, hangers *B B*, secured thereto and provided each with perforate ears *a b c*, truck or roller frames *C*, provided each with stud *d* and lug *e*, locking pins or bolts *f*, and springs *g*, all substantially as described and shown.

4. In a roller-skate, the combination of a sole-plate, a hanger secured thereto, a truck or roller frame pivotally connected with the hanger, a vertically-adjustable plate mounted in the hanger, an elastic cushion interposed between the plate and truck or roller frame, and a bolt passing through said frame, cushion, and plate, and having a pivotal support upon the latter, substantially as described.

5. In a roller-skate, the combination of a sole-plate, a hanger secured thereto, a truck or roller frame pivotally connected with the hanger, a plate vertically movable in said hanger and interlocking therewith to prevent rocking or tipping of either independently of the other, an elastic cushion interposed between the plate and frame, and a compression-screw passing through the frame, cushion, and plate, and pivotally supported on the latter.

6. In a roller-skate, the combination of a sole-plate, a hanger, *B*, secured thereto and provided with ears *a b*, having ribs *l*, a truck or roller frame, *C*, pivotally connected with

the hanger, a plate, E, provided with notches
k to receive the ribs l, an elastic cushion, D,
interposed between the frame and plate, a
bolt, F, passing through the frame, cushion,
5 and plate, and resting pivotally upon the plate
and forming a support for the bolt.

7. In combination with a sole-plate, a
hanger, B, secured thereto, a truck or roller
frame, C, pivotally connected with the hang-
10 er, a cushion, D, resting upon the frame, a
roughened plate, E, resting upon the cushion,
a bolt passing through the frame, cushion,
and plate, and pivotally supported on said
plate, and a head or button at the lower end
15 of the bolt for effecting a compression of the

cushion, said head or button and the lower
side of the frame being provided, respect-
ively, with cavities and studs to engage with
each other and prevent the rotation of the
head or button.

8. In combination with a sole-plate and a
hanger, B, secured thereto, and provided with
ears a b, a truck or roller frame pivotally
connected therewith and formed with a box,
h, having opening i to receive the ear b, sub- 25
stantially as and for the purpose explained.

MICAJAH CHARLES HENLEY.

Witnesses:

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CHARLES V. PATTERSON.