

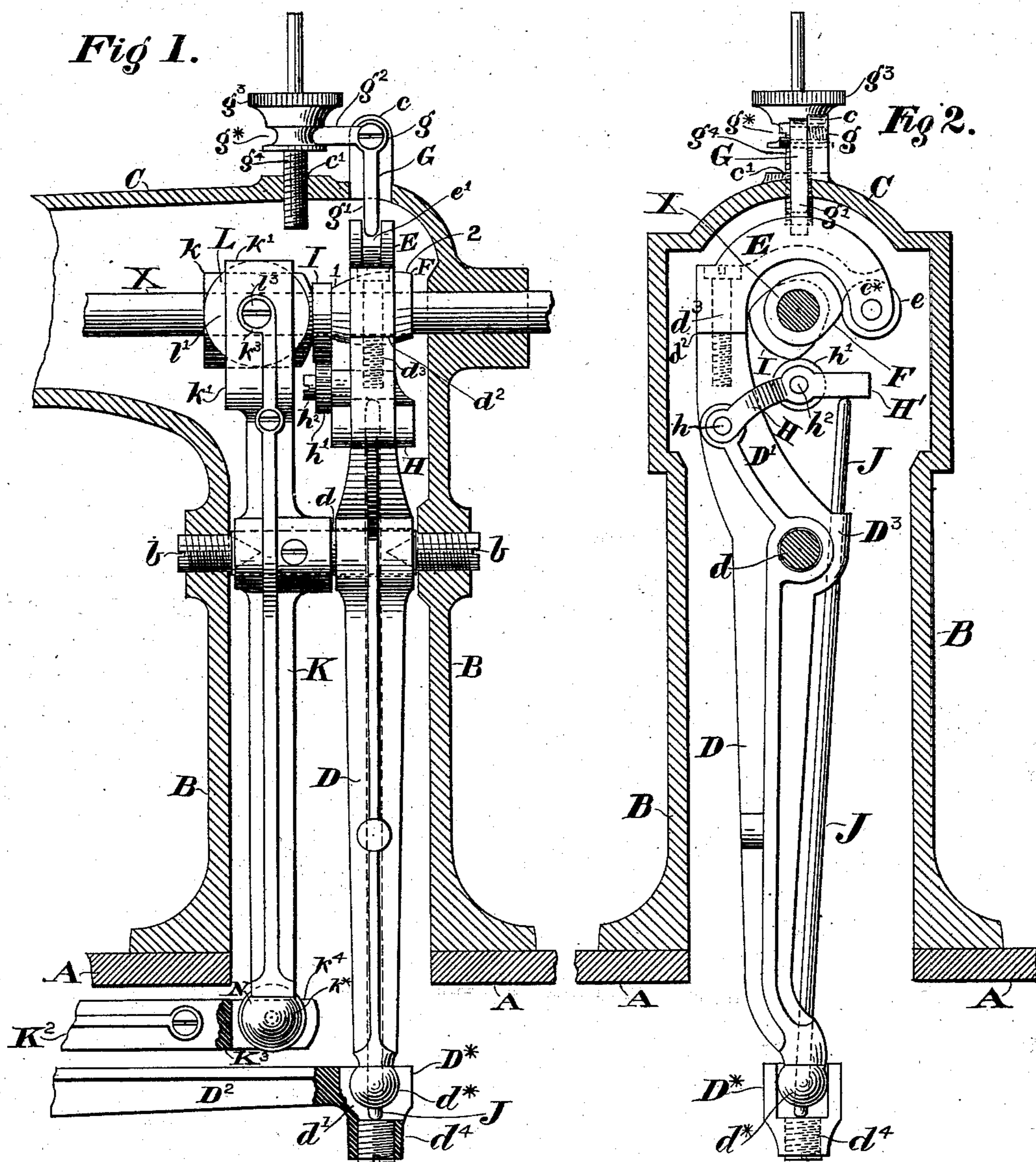
(N'o Model.)

2 Sheets—Sheet 1.

J. TRIPP.
SEWING MACHINE.

No. 282,407.

Patented July 31, 1883.



WITNESSES:

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W. Colborne Brookes

INVENTOR.

James Tripp,
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J. TRIPP.
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Fig 3.

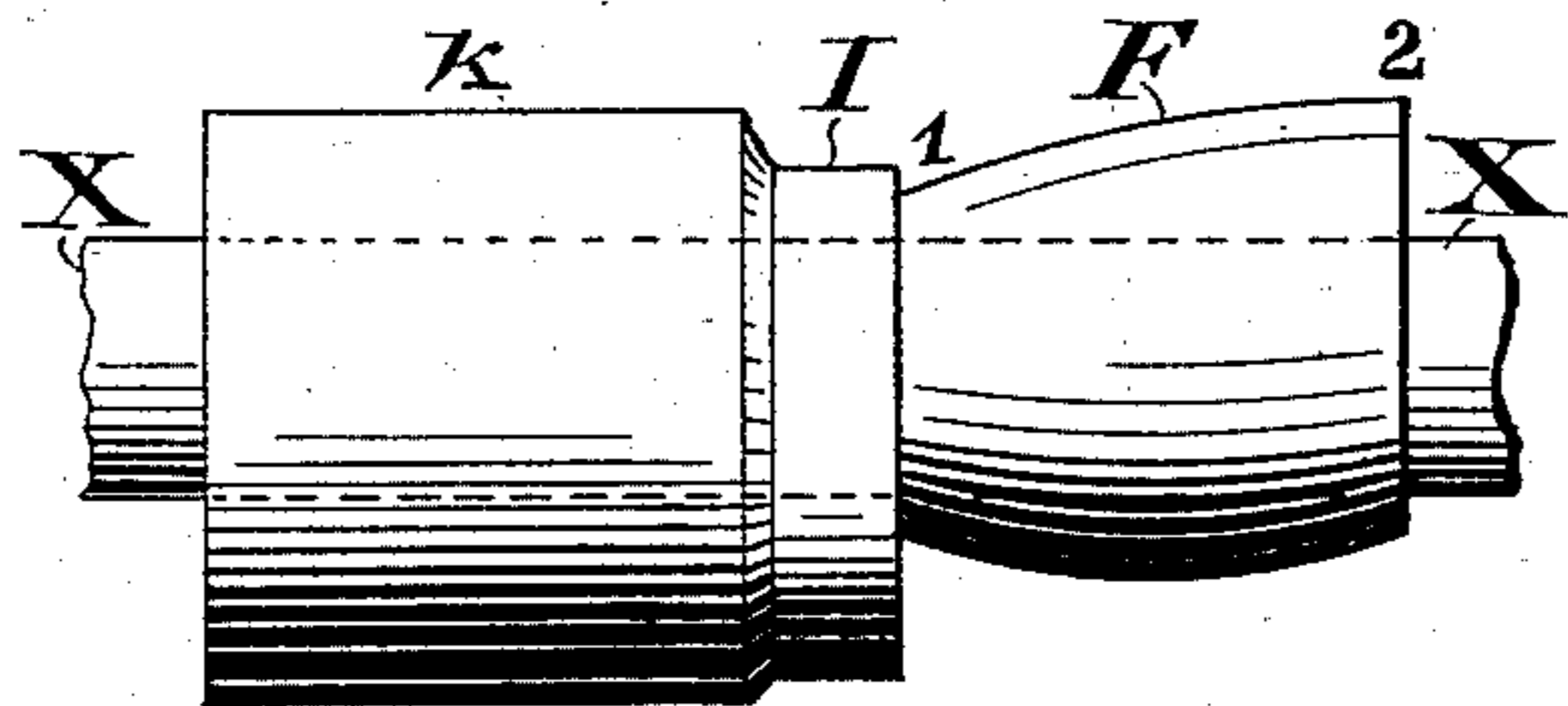


Fig 4

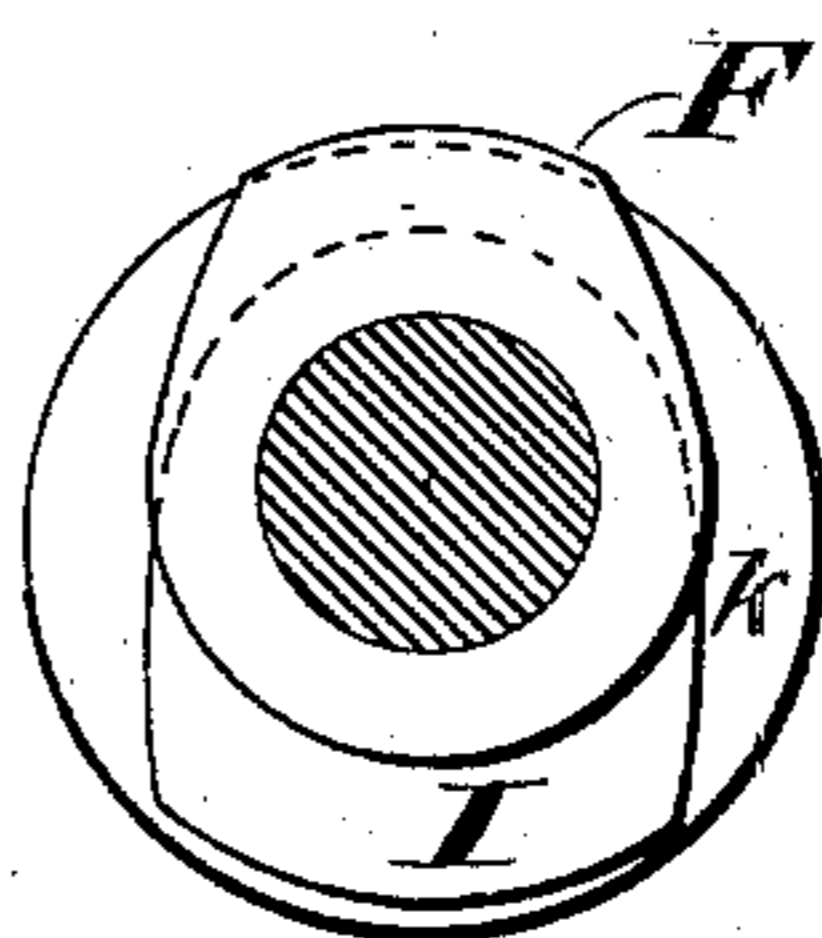


Fig 5.

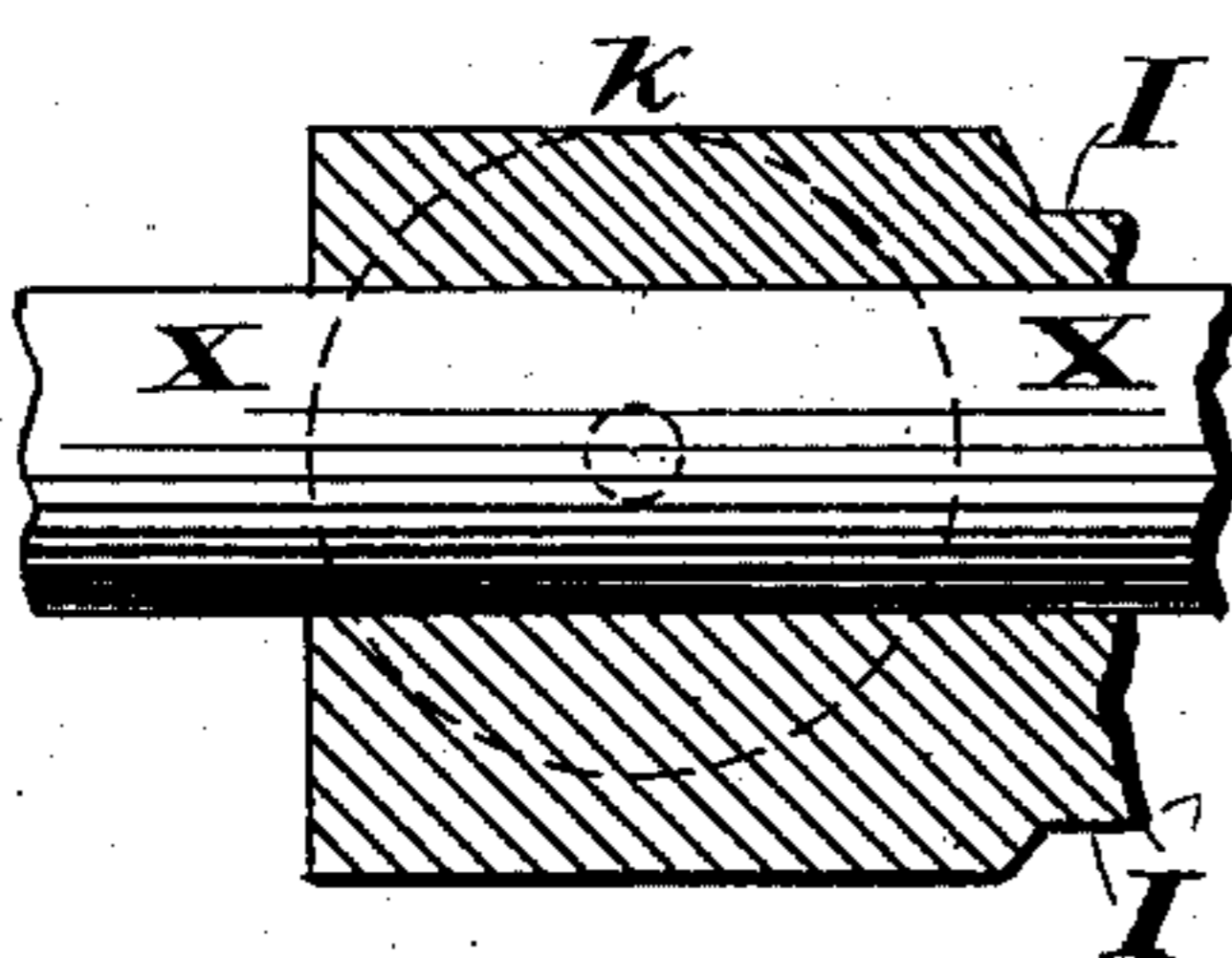


Fig 6.

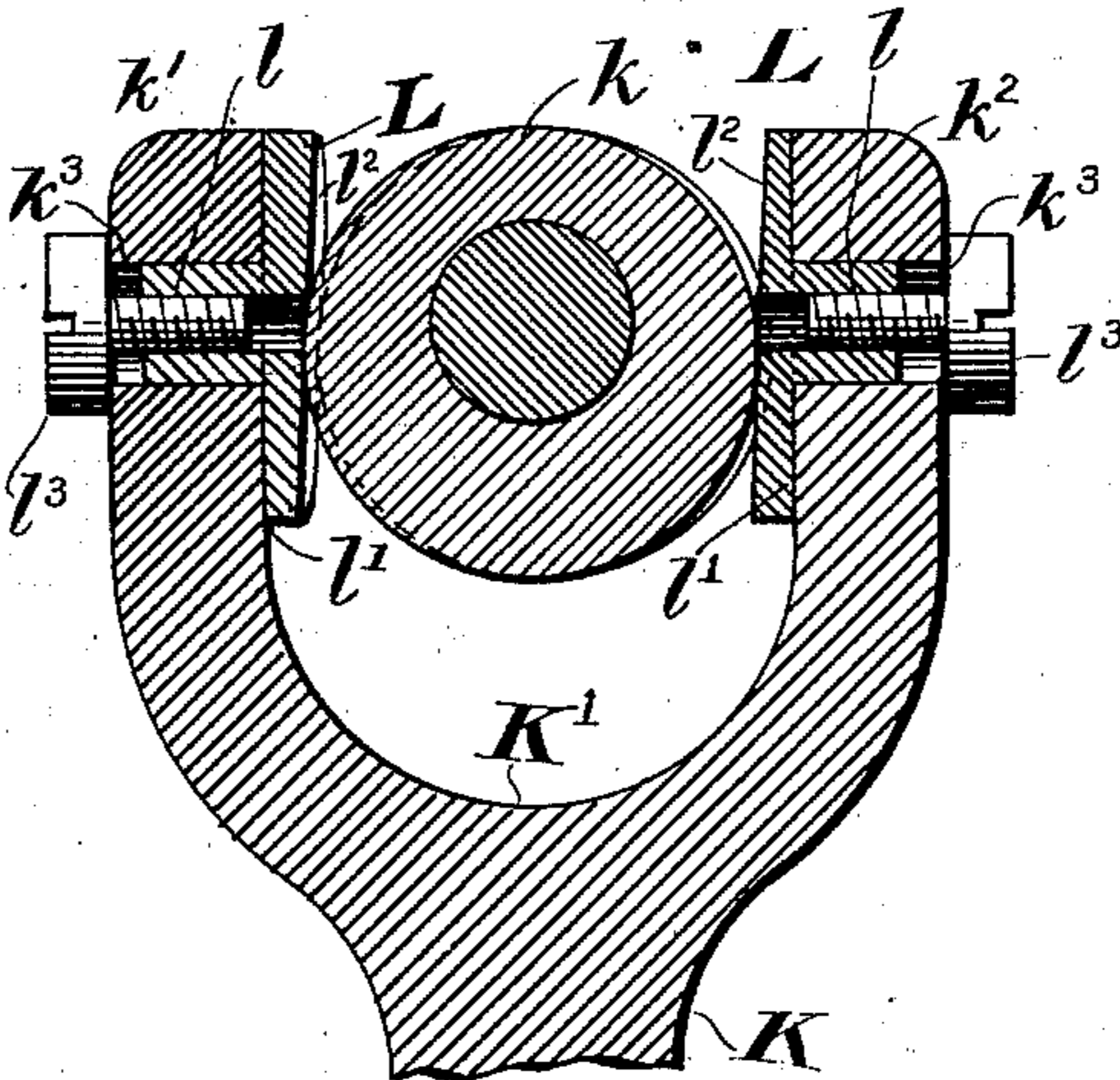


Fig 7.

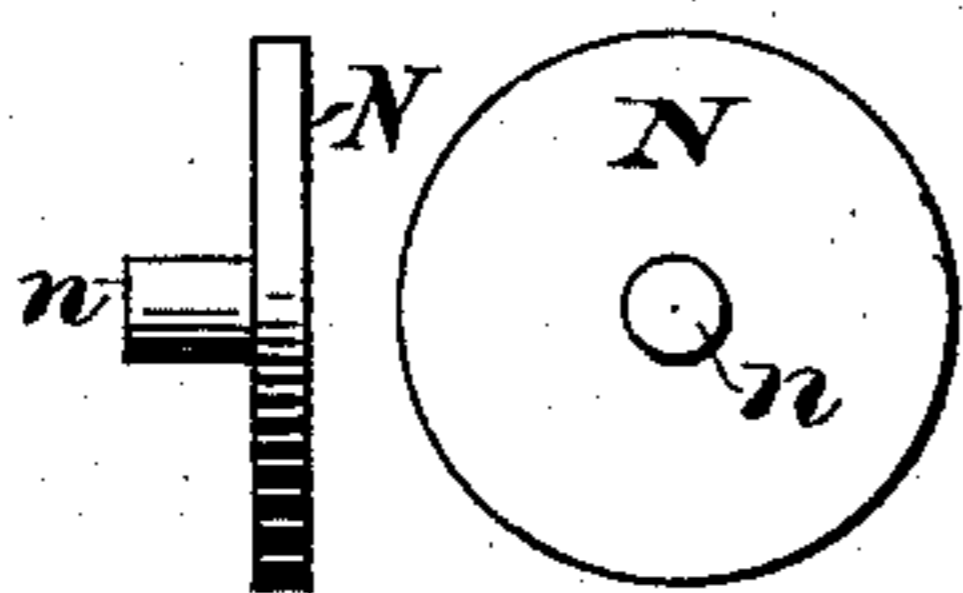


Fig 8.

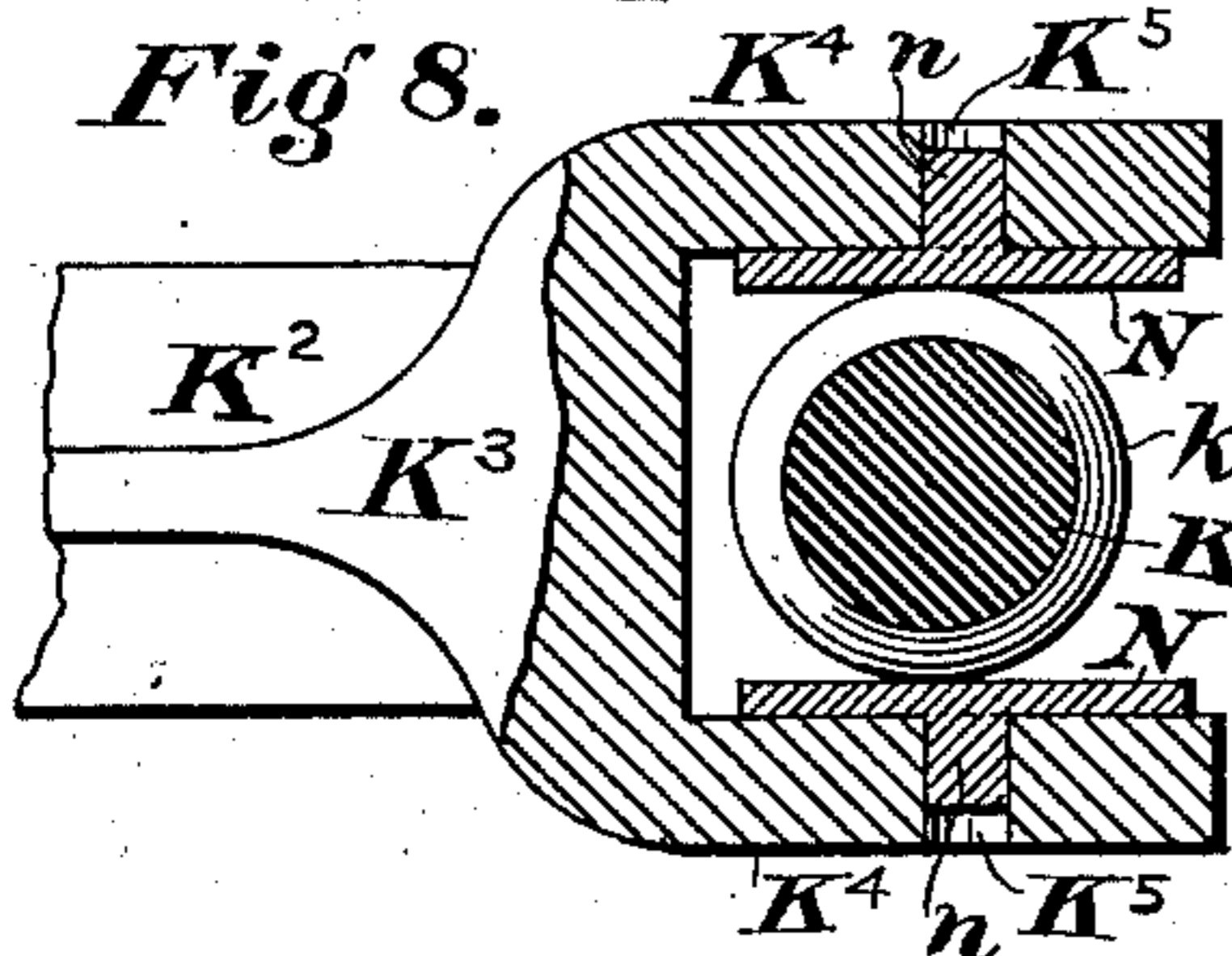
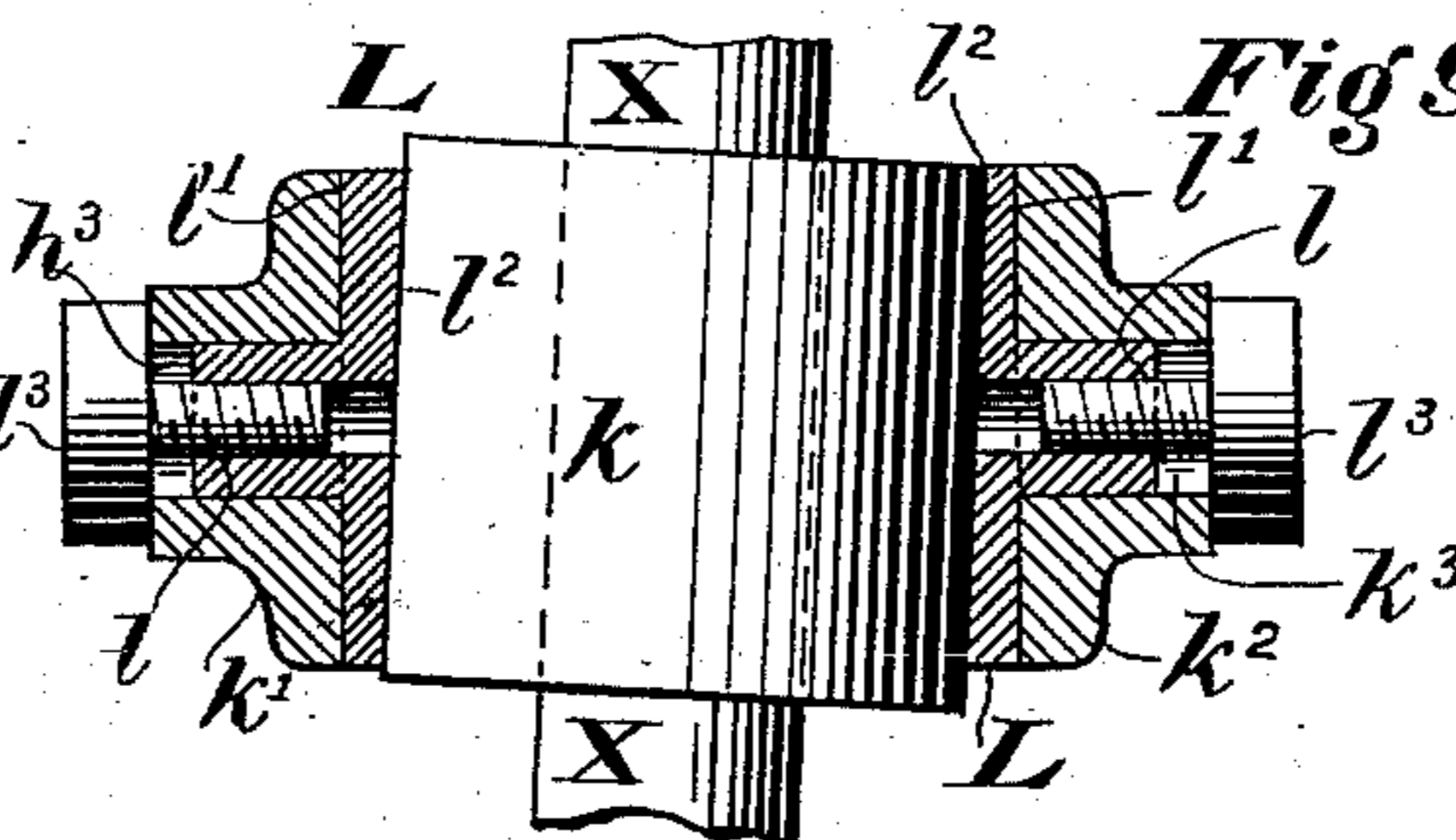


Fig 9.



WITNESSES:

W. Colborne Brooks
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UNITED STATES PATENT OFFICE.

JAMES TRIPP, OF NEW YORK, N. Y., ASSIGNOR TO CHARLES T. BECKWITH
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SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 282,407, dated July 31, 1883.

Application filed November 9, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES TRIPP, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented new and useful Improvements in Sewing-Machines, of which the following is a specification.

My invention relates to improvements in the feed mechanism of sewing-machines and parts immediately connected therewith, the nature of which will be fully understood by reference to the following specification and the drawings annexed, which form part of the same.

Referring to the drawings, Figure 1 is a vertical section of a sewing-machine post and a portion of the arm with my improvements applied thereto. Fig. 2 is a section taken at right angles to Fig. 1. Figs. 3, 4, 5, 6, 7, 8, and 9 show details of parts on a larger scale.

In each of the views similar letters of reference are employed to indicate corresponding parts in all the figures.

A represents the bed-plate of the machine; B, the post of the arm, and C the arm.

D is the feed-lever connection, which, as shown in Fig. 1, is pivoted on a short axle, d , supported in position in the post B by means of centering-screws b . The feed-lever connection D is provided at its lower end with a ball or circular bearing-piece, d^* , of the ordinary construction, adapted to bear in a socket, d' , in the end of the feed-lever D^2 , while at its upper end it is bent, as shown at D' , Fig. 2, and provided with a bearing, d^2 , for the reception of a screw, d^3 , by means of which a pivoted curved arm or crane, E, is attached to the feed-lever connection D, in such position and of such shape as to be capable of spanning the main shaft X and the cam F operating the feed-lever connection D.

The pivoted arm or crane E is provided at e^* with a friction pulley or roller, e , adapted to bear against the surface of the cam F, for the purpose of operating the feed-lever connection and the feed-lever D^2 . The cam F is of peculiar construction, its periphery being so formed that the surface thereof is a portion of an arc of a circle greater than one struck from the axis of the pivoted arm or crane E,

as shown more clearly by separate views at Figs. 3 and 4, that by moving the position of the roller e on its surface the extent of motion of the feed-lever, and consequently of the feed, may be regulated at will. If the crane E is turned so as to bring the roller e toward the end 1 of the cam F, which has the smallest diameter and throw, the stitch will be shortened by reason of the shortening of the feed, while on the other hand, if the crane E is turned so as to bring the roller e toward the end 2 of the cam F, which has the greatest diameter and throw, the stitch will be lengthened on account of the increase in the extent of the feed.

The position of the crane E, and consequently of its friction-roller e , is controlled by means of an inverted-L lever, G, pivoted at g to a bearing-piece, c , formed on or affixed to the upper side of the rear of the arm C above the center of the post B. The long arm g' of the lever G is adapted to be received within a groove or slot, e' , in the upper surface of the crane E, while its short arm g^2 is received into and operated by a circular slot, g^* , formed in a thumb-screw, g^3 , which by preference is formed with a screw-shank, g^4 , tapped so as to be received into a female screw, c' , formed in the arm C. By turning the thumb-screw g^3 in one direction the lever G will cause the crane E to move its roller e onto the smaller diameter of the cam F, while by turning it in the opposite direction the roller e will be brought over the larger diameter to the extent desired to regulate the extent of feed, and consequently the length of stitch.

H is a forked lever, pivoted at h to the feed-lever connection D, and adapted to support a friction-pulley, h' , mounted on an axis, h^2 , and adapted to bear against and be operated by a cam, I, by preference formed in one piece with the cam F, and mounted on the main shaft X.

The forked lever H, at its forward end, is provided with a bearing-piece, H' , adapted to rest upon the upper end of a sliding rod or shaft, J, which is supported in a bearing, D^3 , formed on or affixed to the feed-connection D, and a hole or bearing formed in the ball or

bearing-piece d^* , through which it passes and rests upon a screw or other suitable bearing, d^4 , formed in the end D^* of the feed-lever D^2 .

The object of this part of the mechanism being to regulate the rise of the feed, the lowering of the same being effected in the usual manner by means of the feed-spring, its operation is as follows: The cam I , in its revolution, depresses the lever, and there retains it for the desired time, and in doing so depresses the rod J , and with it the end of the feed-lever.

The rod J is represented in the drawings as resting on a screw-bearing, d^4 , by turning which great delicacy of adjustment may be obtained with facility.

K is the shuttle-lever connection, operated in the usual manner by an eccentric, k , mounted on the main shaft X , and by preference formed in one piece with the cams F and I , the object of forming the cams F and I and the eccentric k in one piece being that by means of a single screw, by preference passing through the surface of the eccentric k and passing into a hole previously prepared in the main shaft X , the whole of the parts may be and are simultaneously and correctly timed.

The limbs k^1 k^2 of the fork K^1 of the shuttle-lever connection K are bored through at k^3 k^3 for the reception of the hollow shank l of a surface-plate, L , the surface l' of which is formed at right angles to the shank l , while the face l^2 is a plane formed at an angle to the surface l' , and by preference of polished case-hardened steel.

The surface-plates L are held in position by binding-screws l^3 , passing through the holes k^3 in the reverse direction to the shanks l , and tapped into the said shanks l , as shown. The object of these inclined surface-plates is to obtain perfectly true and parallel surfaces, against which the eccentric k shall act. This is effected by inserting the shanks l into the holes k^3 and turning the surface-plates around until the desired adjustment is obtained. It is then simply necessary to tighten the screws l^3 , when the parts will be retained in correct relation.

K^2 is the shuttle-lever, which is formed with the ordinary forked end, K^3 , adapted to embrace the ball or bearing piece k^* , formed on or affixed to the end of the shuttle-lever connection K .

The limbs K^4 of the fork of the shuttle-lever connection K , according to my invention, are each bored with a concentric opening or hole, K^5 , into each of which is inserted the shank n of a surface-plate, N , one of which is shown separately at Figs. 7 and 8.

The surface-plates N are, on their outer faces, by preference, formed of case-hardened steel, although any other suitable material may be employed.

In place of employing a binding-screw to hold the combined eccentric and cams in position on the main or driving shaft, I can, if

desired, employ a slot and key or other suitable retaining means.

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

1. In a sewing-machine, a feed-lever connection having a swing-arm or crane capable of external adjustment relative to an operating-cam, adapted to control the extent of motion of the feed-lever and feed, substantially as shown and described.

2. In a sewing-machine, the combination, with a feed-lever connection and a pivoted arm or crane, E , of the cam F , substantially as and for the purpose described.

3. In a sewing-machine, the combination, with a feed-connection and a pivoted arm or crane, E , of a lever or arm for controlling the position of the roller or bearing-surface of the feed-connection in relation to its operating-cam, substantially as shown and described.

4. In a sewing-machine, the combination, with the feed-lever connection D , pivoted arm or crane E , and the cam F , of the pivoted lever G , substantially as and for the purpose described.

5. In a sewing-machine, the combination, with the feed-lever connection D , pivoted arm or crane E , and cam F , of the pivoted lever G and grooved adjustable thumb-screw g^3 , substantially as and for the purpose specified.

6. In a sewing-machine, the combination, with a feed-lever connection, of a pivoted arm operated by a cam, and a rod or shaft, J , adapted to operate the feed-lever connection and feed, substantially as shown and described.

7. In a sewing-machine, the combination, with a feed-lever connection, a pivoted arm or crane, and a cam, of a pivoted lever operated by a cam, and a sliding rod or bar adapted to control the rise of the feed, substantially as shown and described.

8. In a sewing-machine or similar device, a pivoted plate or plates having surfaces formed at an angle to the main portions thereof, and adapted to regulate the position of their working-surfaces by rotation or partial rotation, substantially as and for the purpose described.

9. The combination, with the main or driving shaft of a sewing-machine and a pivoted arm or crane carrying a roller or bearing-surface, and attached to the feed-lever connection in position to control the motion thereof, of a cam the periphery of which is so formed that the surface is a portion of an arc of a circle larger than one struck from the axis of the pivoted crane or lever, substantially as described.

In witness whereof I have hereunto set my hand this 24th day of October, A. D. 1882.

JAMES TRIPP.

Witnesses:

MAX BAYERSDORFER,
WM. E. RICHARDS.