

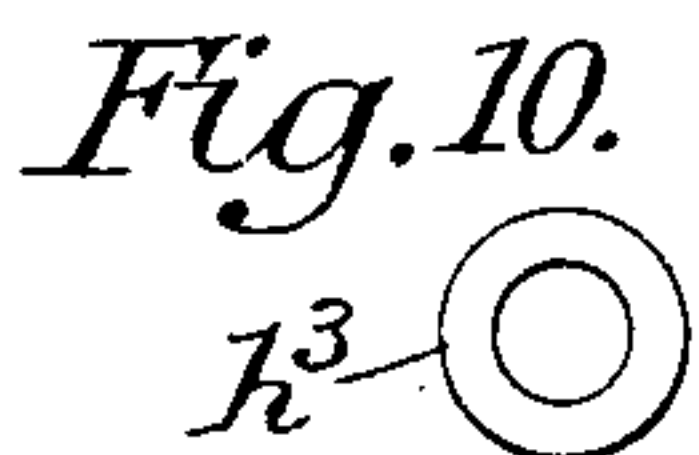
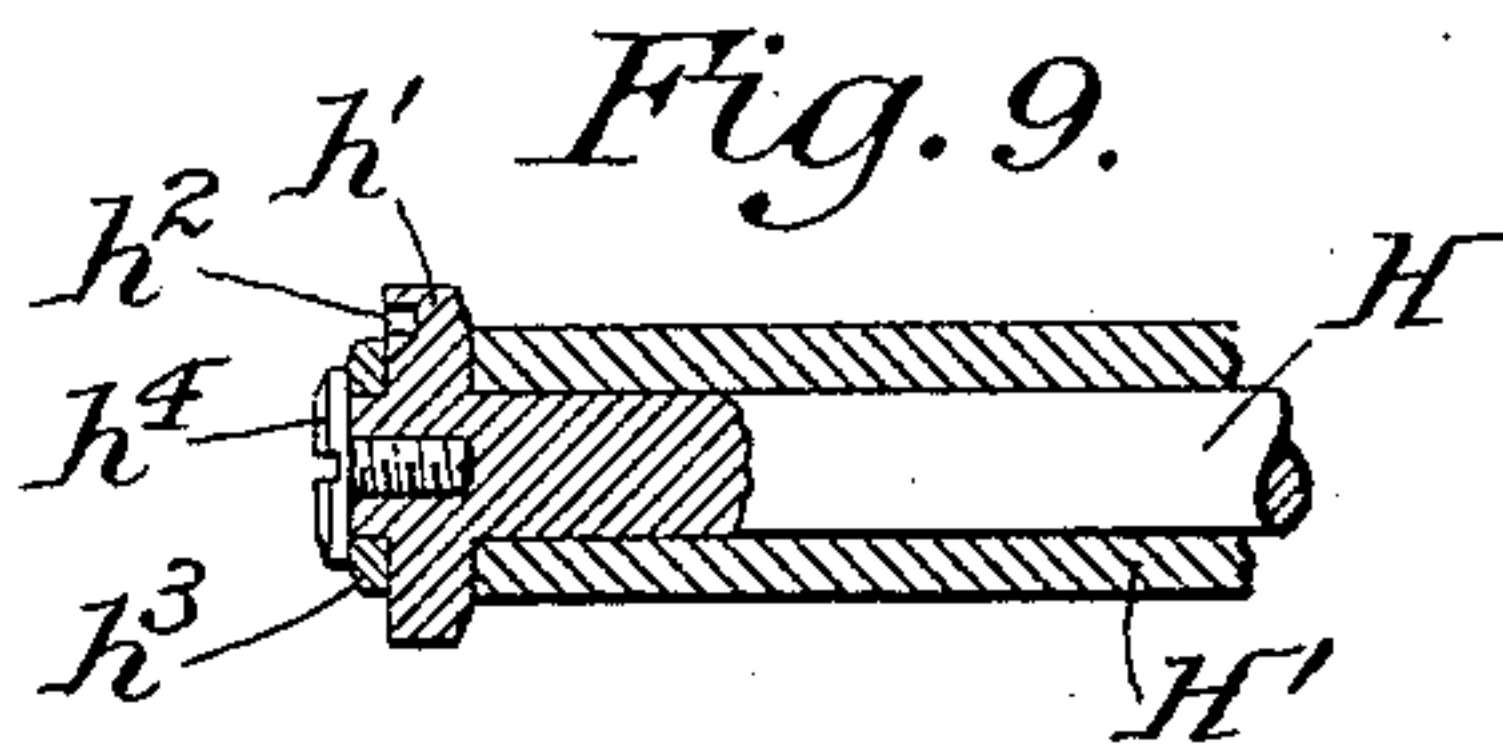
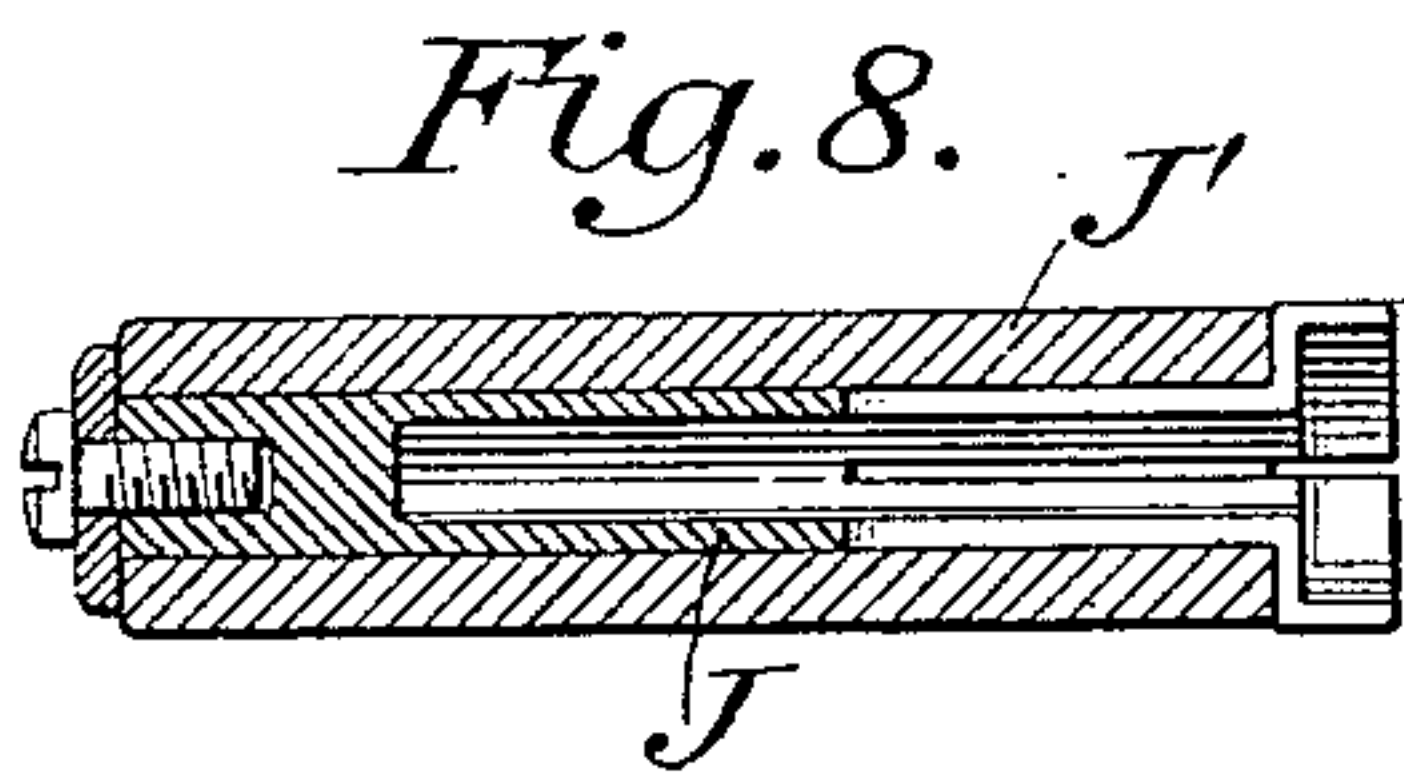
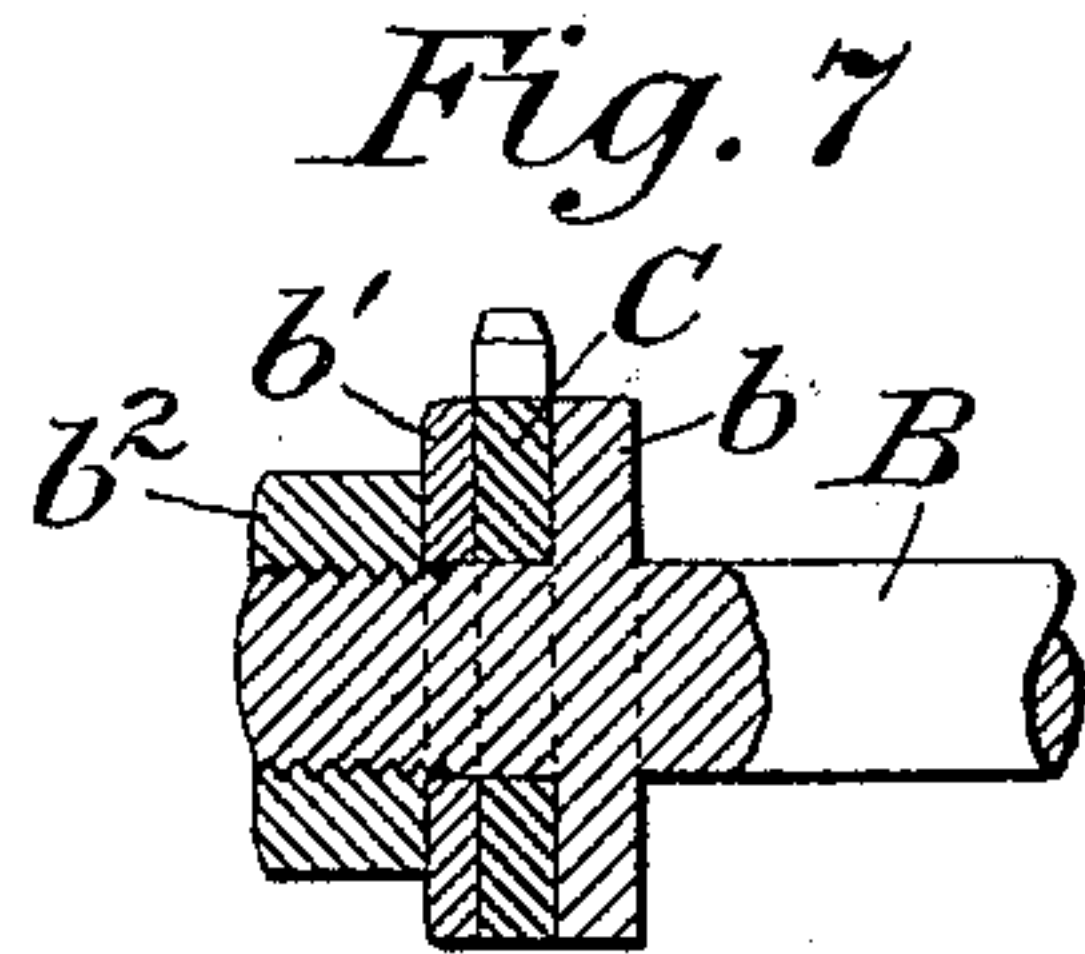
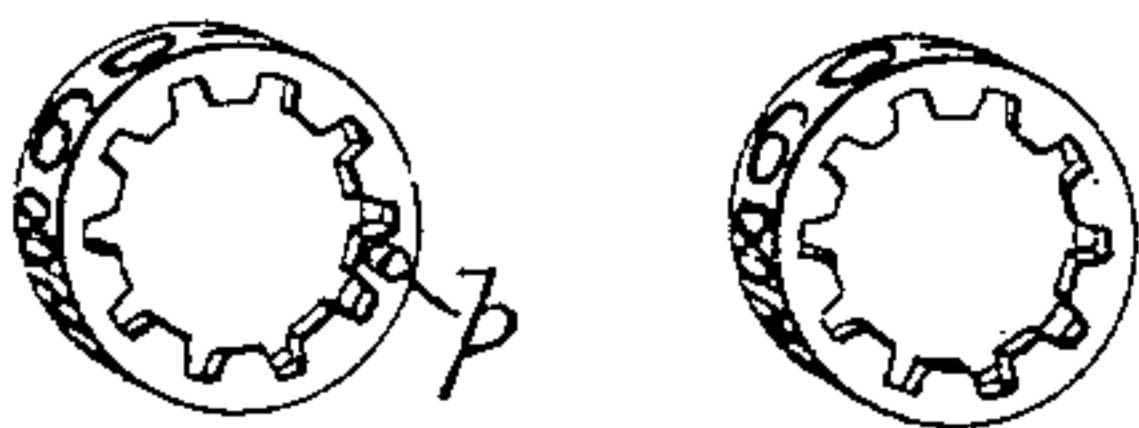
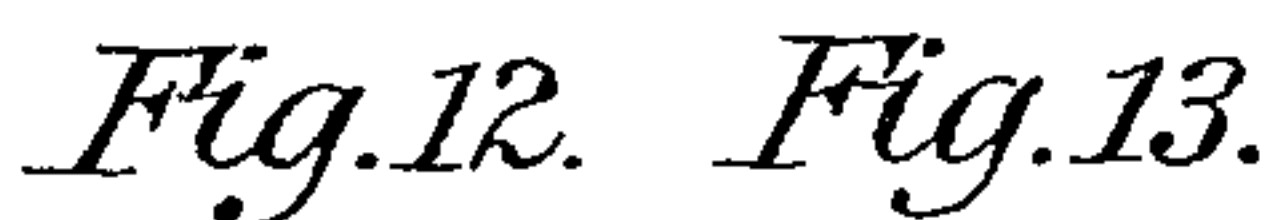
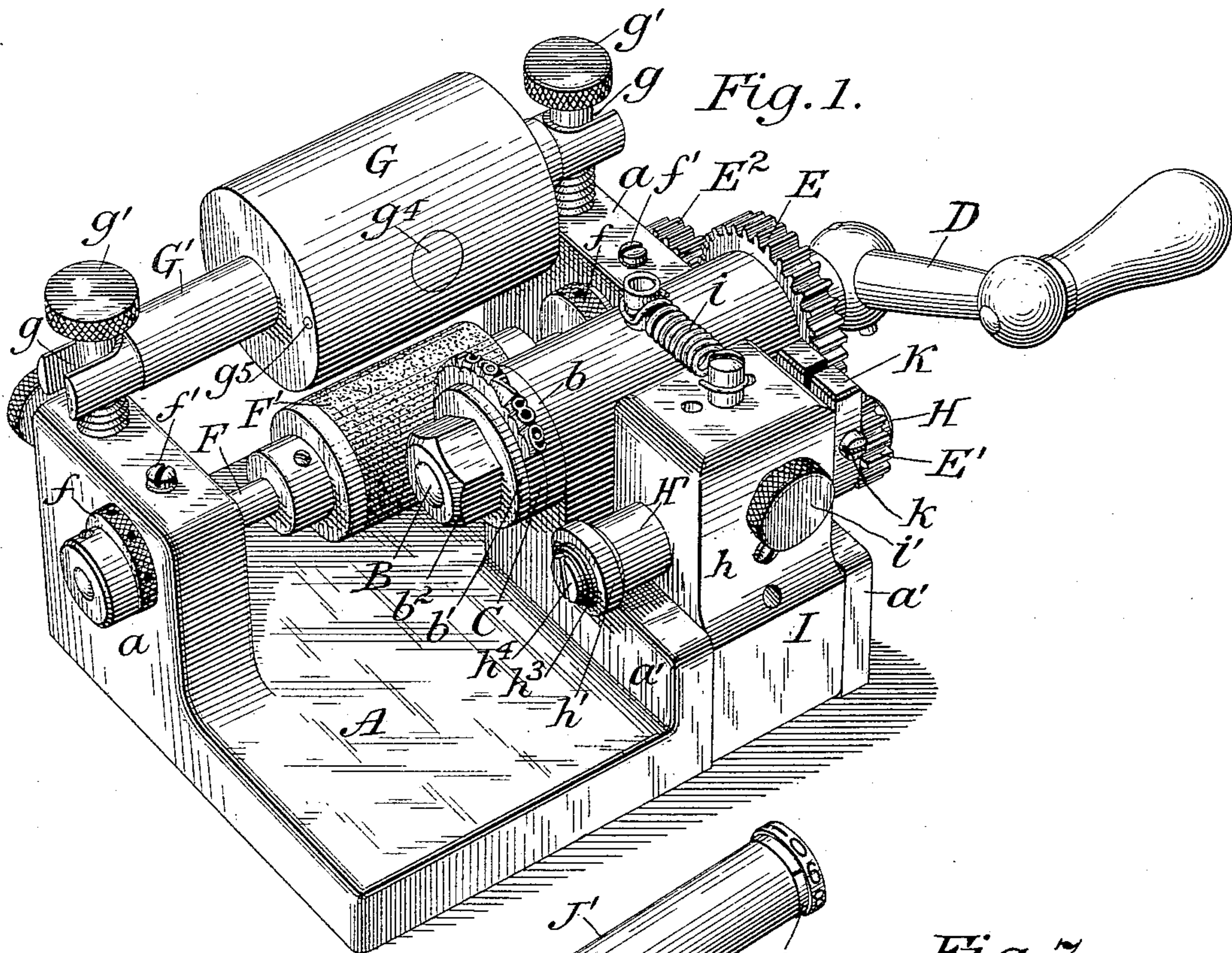
(No Model.)

2 Sheets—Sheet 1.

C. H. VEEDER.
MACHINE FOR PRINTING INDEX RINGS.

No. 602,412.

Patented Apr. 12, 1898.



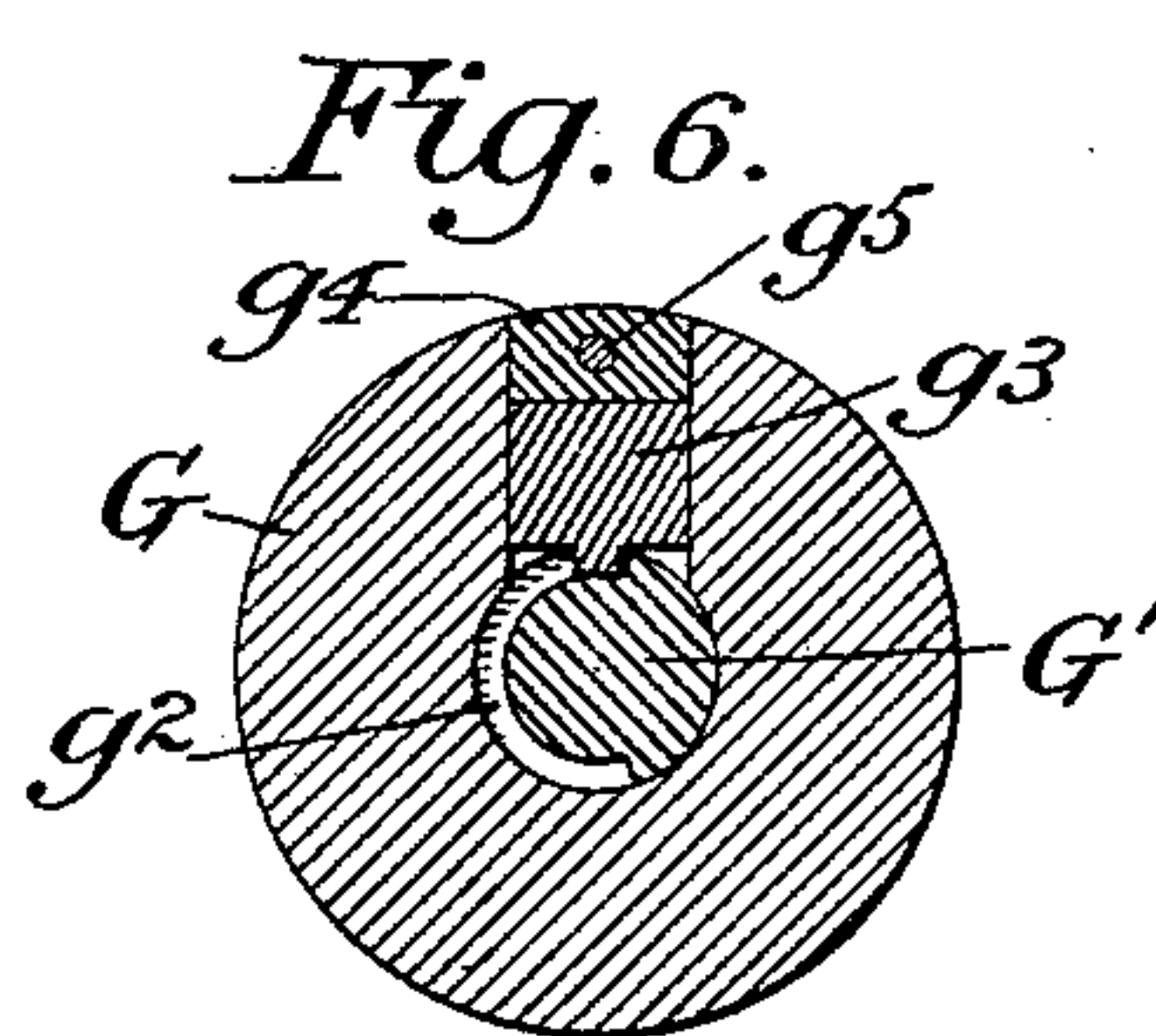
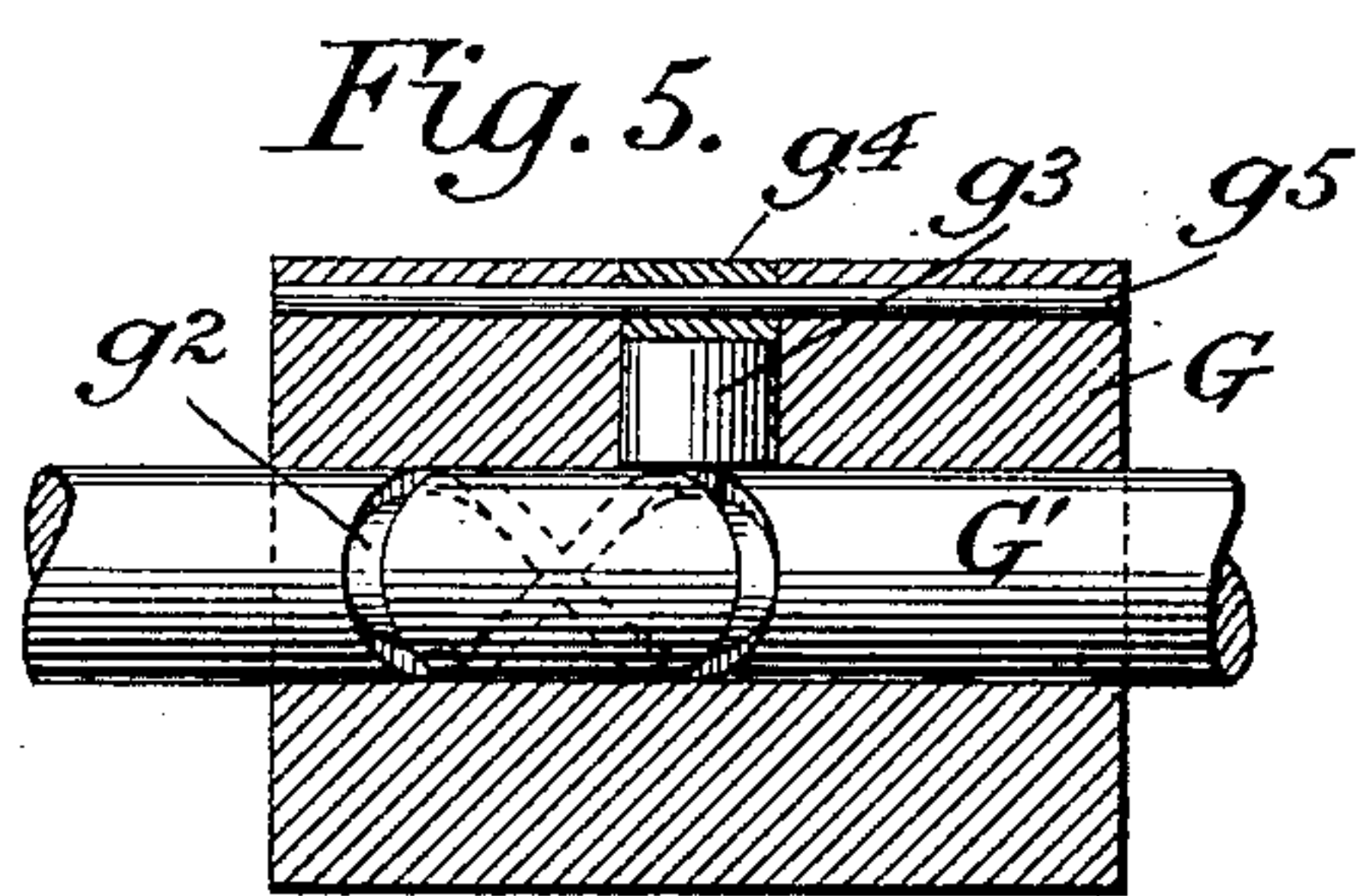
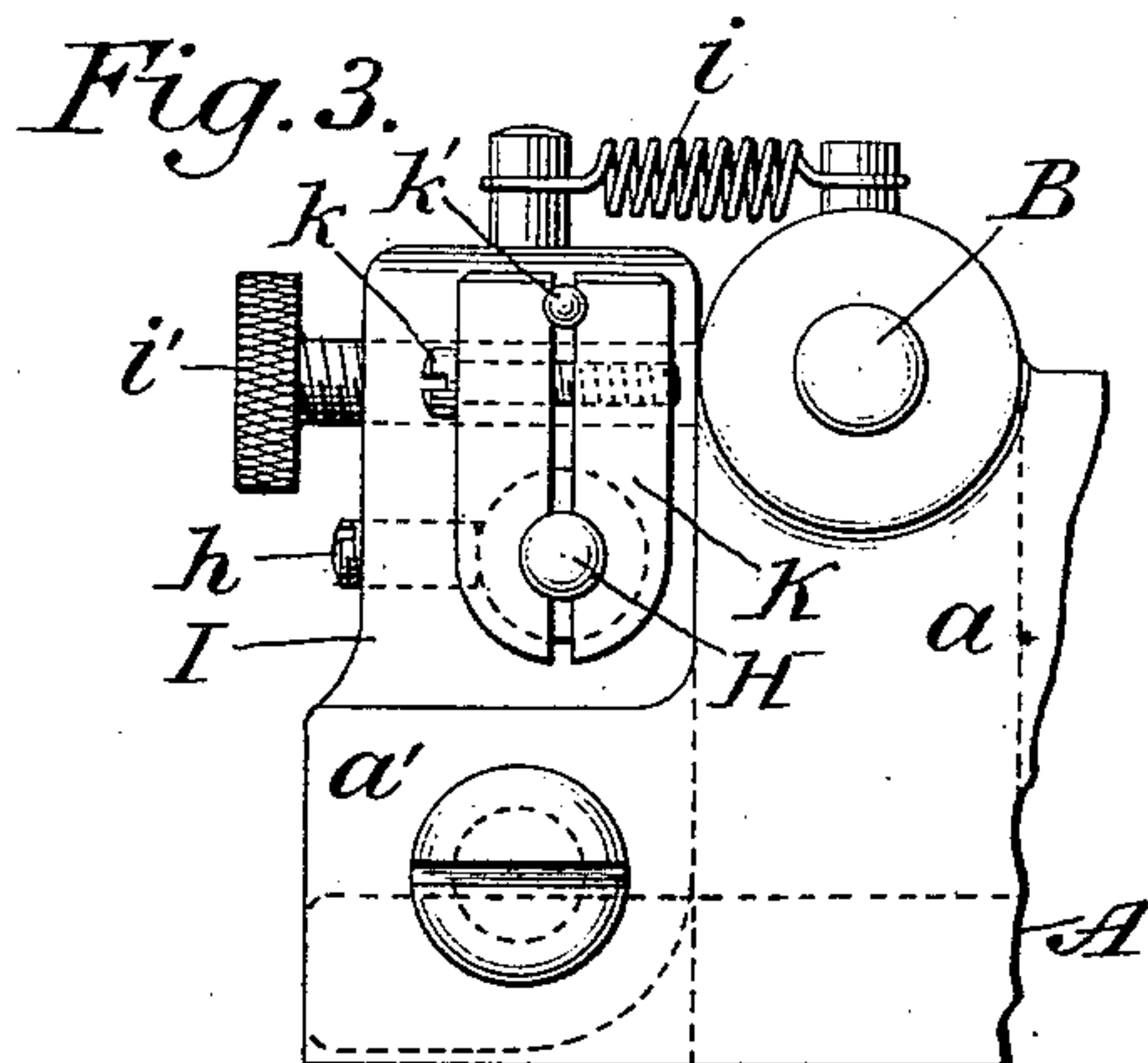
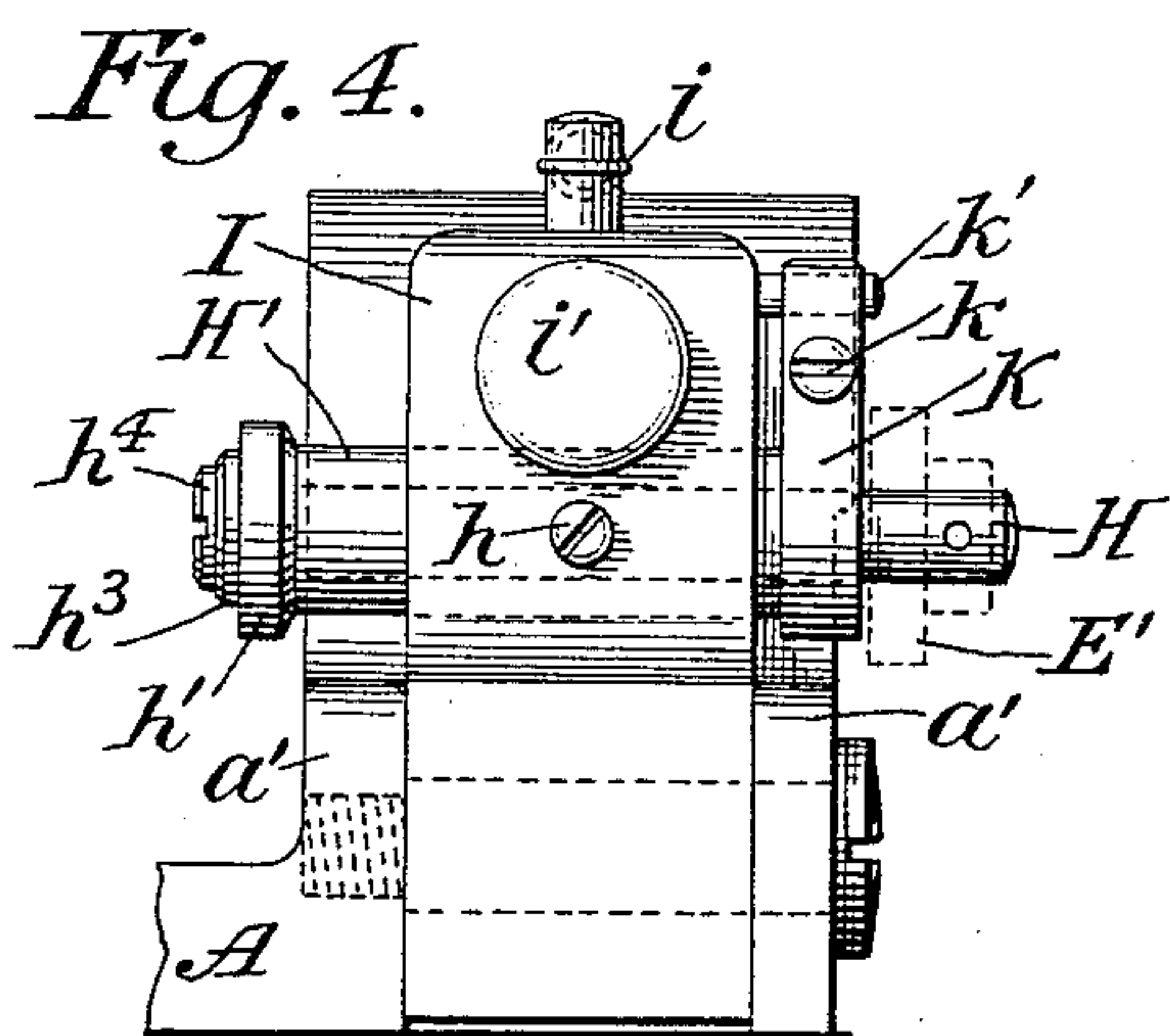
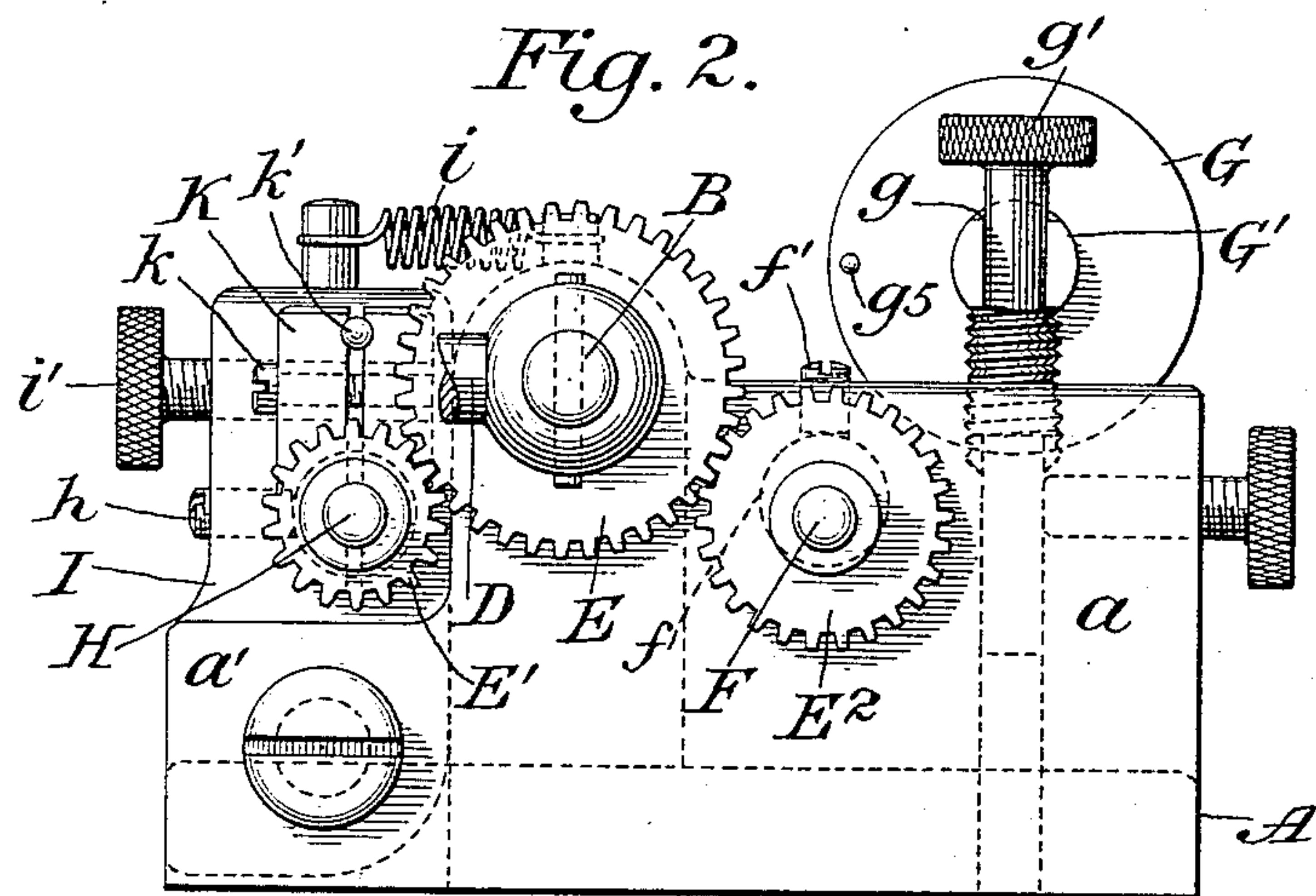
Attest:
A. N. Jester:
Chas. E. Epworth.

Inventor:
Curtis Hussey Velder
by Redding, Kiddle Greeley
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UNITED STATES PATENT OFFICE.

CURTIS HUSSEY VEEDER, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE
VEEDER MANUFACTURING COMPANY, OF SAME PLACE.

MACHINE FOR PRINTING INDEX-RINGS.

SPECIFICATION forming part of Letters Patent No. 602,412, dated April 12, 1898.

Application filed February 12, 1897. Serial No. 623,050. (No model.)

To all whom it may concern:

Be it known that I, CURTIS HUSSEY VEEDER, a citizen of the United States, residing in the city and county of Hartford, in the State of Connecticut, have invented certain new and useful Improvements in Machines for Printing Index-Rings, &c., of which the following is a specification, reference being had to the accompanying drawings, forming a part hereof.

The object of this invention is to produce a machine which shall be capable of printing rapidly and accurately upon the peripheries of index-rings or other like articles the figures or other characters which should appear thereon. In cyclometers and other devices of like character in which such index-rings or other like articles are employed it is necessary that the figures upon the peripheries of such index-rings or other articles should bear a definite relation to the teeth or other parts of the rings or other articles by which the movements are effected, and especially that successive index-rings or other articles shall be printed precisely alike. I have therefore sought to so construct my improved machine as to insure the perfect accuracy and uniformity in its work, which is essential, and at the same time to enable the printing to be done rapidly and economically.

A convenient and practical form of the mechanism which I have devised for the general purpose referred to will be fully described hereinafter with reference to the accompanying drawings, in which—

Figure 1 is a perspective view of a machine constructed in accordance with my invention. Fig. 2 is an elevation of the right-hand end of the machine shown in Fig. 1, the crank being broken off. Fig. 3 is a partial detail elevation of the right-hand end of the machine with parts removed. Fig. 4 is a detail view, in front elevation, of the right-hand portion of the machine. Figs. 5 and 6 are detail views in longitudinal and transverse section, illustrating the devices for effecting the reciprocations of the ink-distributing roll. Fig. 7 is a detail view in longitudinal central section, illustrating the means for securing the line of type or type-wheel to its carrier. Fig. 8 is a longitudinal central section of the chuck or holder for the index-ring or other article

to be operated upon. Fig. 9 is a detail view, in longitudinal central section, of the carrier or driver for the index-ring or other article during printing. Figs. 10 and 11 are detail views of washers applied to the driver or carrier shown in Fig. 9 for cooperation with different index-rings. Figs. 12 and 13 are detail views of different index-rings to be printed. Fig. 14 is a perspective view of the chuck or holder shown in Fig. 8.

The machine represented in the drawings has a suitable base or bed plate A, which is provided with suitable standards or cheek-pieces *a a* to receive and support the working parts. In one of said standards is journaled a shaft B, which in the machine shown constitutes both the main driving-shaft and the carrier for the line of type, the latter being shown as formed upon the periphery of a type-wheel C, which is secured against a flange or shoulder *b* of the shaft B by a washer *b'* and nut *b²*. Said shaft B may receive a crank D, by which motion may be imparted to the machine, and it has also secured there- to a gear E, which meshes with a gear E', connected to the carrier for the index-ring or other article to be printed, and with a gear E² upon the shaft F of an inking-roll F'.

The shaft F is mounted eccentrically in bearing-sleeves *f*, which are in turn supported in the cheek-pieces *a a* of the frame and are retained in adjusted position by set-screws *f' f'*, this provision being made to permit of adjustment of the inking-roll F' toward or from the line of type, as conditions may require, the gears E and E² remaining in mesh at all points of such adjustment. An ink-distributing roll G is mounted upon a stationary shaft G', which is slotted at its end, as at *g g*, to straddle adjusting-screws *g' g'*, by which it may be raised or lowered in order to maintain the proper contact with the surface of the inking-roll F'. In order that the roll G may be caused to reciprocate as it rotates, and thereby insure a uniform distribution of the ink upon the inking-roll F', I cut in the shaft G' (see Figs. 5 and 6) a double thread *g²*, which is engaged by a short sliding piece or plug *g³*, which is carried in a recess or hole in the roll G, the outer end of said recess or hole being filled by a cap-piece

g^4 , which in turn may be secured in place by a pin g^5 , parallel with the axis of the roll, so that the surface of the roll is kept perfectly smooth.

5 The driver or carrier for the index-ring or other article to be printed is shown as a shaft H, mounted to rotate in a bearing-sleeve H', which is carried and is adjustable longitudinally in the swinging block or bearing I, 10 mounted between cheek-pieces a' a' of the base or bed plate A. The longitudinal adjustment is for the purpose of bringing the index-ring or other article to be printed exactly into line with the type, and the parts 15 are held in adjusted position by a set-screw h . The block and the shaft are held toward the line of type with a yielding pressure by a spring i , the movement toward the type being limited by a set-screw i' . The shaft H 20 receives the gear E', which remains always in mesh with the gear E, so that the index-ring or other article to be printed is always geared with the line of type to move therewith at the same surface speed.

25 For the purpose of insuring precision in positioning the index-ring or other article to be printed with relation to the line of type, so that the printed characters on the periphery of the index-ring or other article shall 30 bear a definite relation to the teeth or other parts of the index-ring or other article, the driver or carrier H is adapted to engage the index-ring or other article positively, while permitting the index-ring or other article to 35 be placed in position and removed easily and quickly. To this end a projection on the one part is adapted to engage a corresponding recess on the other part. In a cyclometer or other like device certain of the index 40 wheels or rings (see Fig. 12) are provided with a driving-pin p , which projects laterally, (parallel with the axis,) as well as internal teeth, while others, (see Fig. 13,) such as the left-hand one of the series, have no driv- 45 ing-pin and only the internal teeth. For index-rings of the first kind the flange h' of the shaft H is provided with a recess h^2 to receive the projecting pin of the index-ring, and a washer h^3 , without any tooth or pro- 50 jection, but of a diameter to fit snugly within the index-ring, is secured to the end of the shaft H by a screw h^4 to center and support the index-ring. When printing index-rings which have no driving-tooth, the washer h^3 is 55 replaced by the washer h^5 , (see Fig. 11,) which has a pin h^6 to enter the recess h^2 in the flange h' and a tooth h^7 to enter between two of the internal teeth of the index-ring, whereby the position of the index-ring, and therefore of 60 the printed characters with relation to the teeth of the ring, is determined with precision. To facilitate the work, I prefer that each index-ring while being printed, instead of being firmly fastened to the driver or carrier, 65 shall be held in engagement therewith by the hand of the operator, a holder which will permit the rotation of the ring being supplied

for this purpose and forming a detached part of the machine. Such a holder is shown in 70 Figs. 1 and 8, and as there shown it comprises a spring-chuck J, the end of which is adapted to be sprung within the rim of an index-wheel, and a sleeve or handle J', within 75 which the spring-chuck is free to rotate, so that an index-ring may be held by the operator firmly in contact with the driver or carrier H and yet be permitted to rotate freely with said driver or carrier.

In order to obtain absolute accuracy in the printing, it is desirable to provide means for 80 taking up any lost motion or backlash that there may be between the gears E and E', and I have therefore provided a clamp-brake K for application to the shaft H, such brake 85 comprising two arms which are clamped with the desired pressure by one or more set-screws k , the brake being held in position by a pin k' , which is also embraced between the said arms.

In the use of the machine described an index-ring to be printed is first applied to the 90 spring chuck or holder and is then held by the operator against and in engagement with the driver or carrier H with one hand, while with the other hand a single turn is given to 95 the crank D. In the machine shown the shaft or carrier or driver H makes two complete rotations to one rotation of the shaft B; but the type characters occupy but one-half of the periphery of the type-wheel C, and the 100 peripheral speed of the line of type is the same as that of the index-ring.

It will be obvious that various changes in the construction and arrangement of the machine may be made to suit different require- 105 ments without departing from the spirit of my invention and that, for example, the line of type might be formed as a straight bar to be moved in contact with the surface of the index-ring; but I prefer the arrangement 110 shown.

I claim as my invention—

1. A machine for printing index-rings and other like articles, said machine comprising a line of type, a carrier to support the same and a 115 rotary shaft geared to the type-carrier to move therewith, said shaft having at its extremity a projection to center and support the ring and a recess or projection to engage a corresponding projection or recess of the ring and 120 to rotate the same positively with the periphery of the ring in contact with the line of type whereby an absolute relation of the printed characters with the teeth or other parts of the ring or other article is secured and the 125 ring may be readily applied to and removed from the shaft, substantially as shown and described.

2. A machine for printing index-rings and other like articles, said machine comprising a 130 rotary shaft, a type-wheel mounted thereon to rotate therewith, a second rotary shaft and gearing connecting said shafts for rotation together, said second-named shaft having at its

extremity a projection to center and support the ring and a recess or projection to engage a corresponding projection or recess of the ring and to move the same positively with the periphery of the ring in contact with the line of type, whereby an absolute relation of the printed characters with the teeth or other parts of the ring or other article is secured and the ring may be readily applied to and removed from the shaft, substantially as shown and described.

3. A machine for printing index-rings and other like articles, said machine comprising a line of type, a carrier to support the same, a rotary shaft geared to the type-carrier to move therewith, said shaft having at its extremity a projection to center and support the ring and a recess or projection to engage a corresponding projection or recess of the ring and to rotate the same positively, with the periphery of the ring in contact with the line of type, and a swinging bearing, in which said shaft is mounted to rotate, whereby the ring or other article may be moved toward or from a line of type, substantially as shown and described.

4. A machine for printing index-rings and other like articles, said machine comprising a line of type, a carrier to support the same, a rotary shaft geared to the type-carrier to move therewith, said shaft having at its extremity a projection to center and support the ring and a recess or projection to engage a corresponding projection or recess of the ring and to rotate the same positively with the periphery of the ring in contact with the line

of type, a bearing-block for said shaft and a bearing-sleeve in which said shaft is mounted for rotation, said sleeve being adjustable longitudinally, substantially as shown and described.

5. A machine for printing index-rings and other like articles, said machine comprising a line of type, a carrier to support the same, a rotary shaft geared to the type-carrier to move therewith, said shaft having at its extremity a projection to center and support the ring and a recess or projection to engage a corresponding projection or recess of the ring and to rotate the same positively, with the periphery of the ring in contact with the line of type, and a brake supplied to said shaft to take up lost motion or backlash, substantially as shown and described.

6. The combination with a type-carrier and an inking-roll, of a shaft supported in proximity to said inking-roll and having a double reversed thread and an ink-distributing roll mounted on said shaft, said ink-distributing roll having a recess, a sliding piece or plug supported in said recess and engaging said threaded shaft, a cap to close said recess and a pin parallel with the axis of the roll to secure said cap in place, substantially as shown and described.

This specification signed and witnessed this 10th day of February, A. D. 1897.

CURTIS HUSSEY VEEDER.

In presence of—

ETHEL L. WILLIAMS,
E. BARRIE SMITH.