

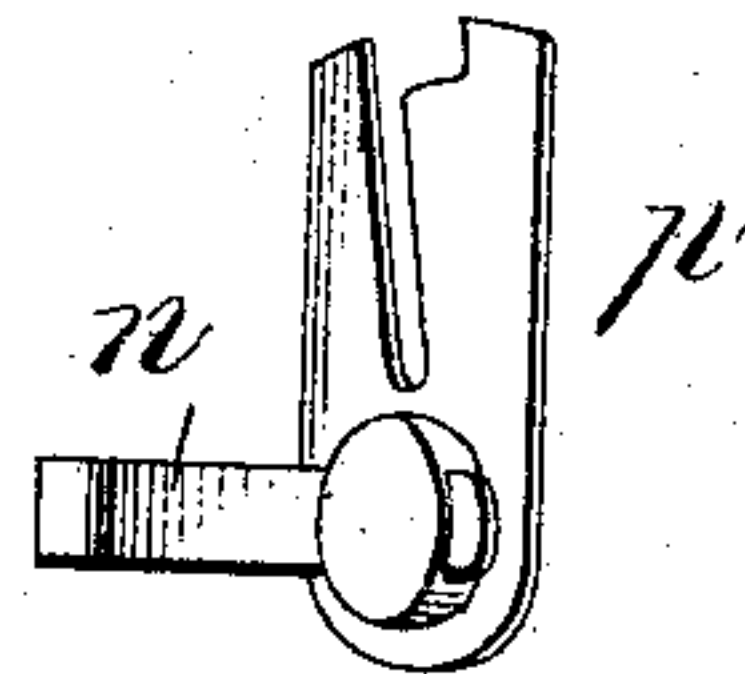
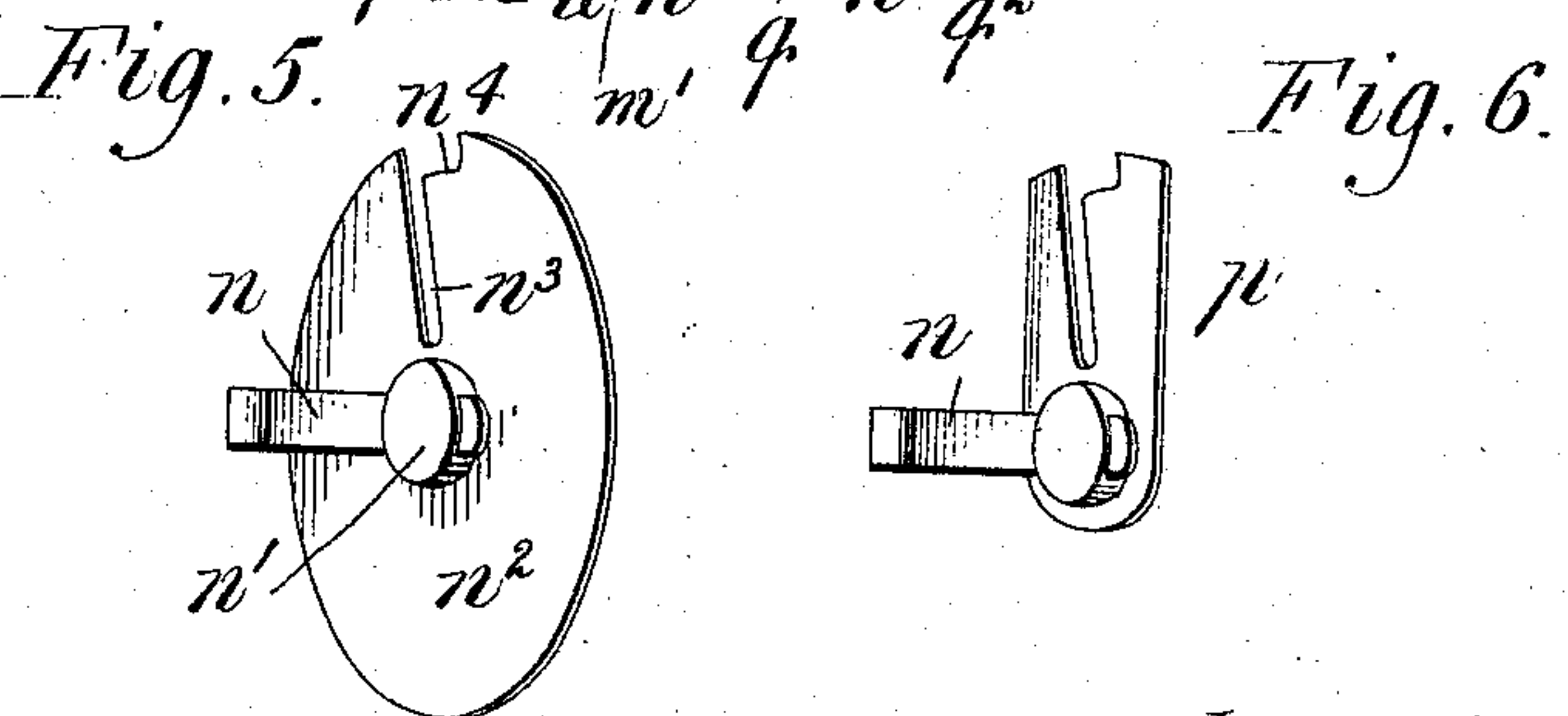
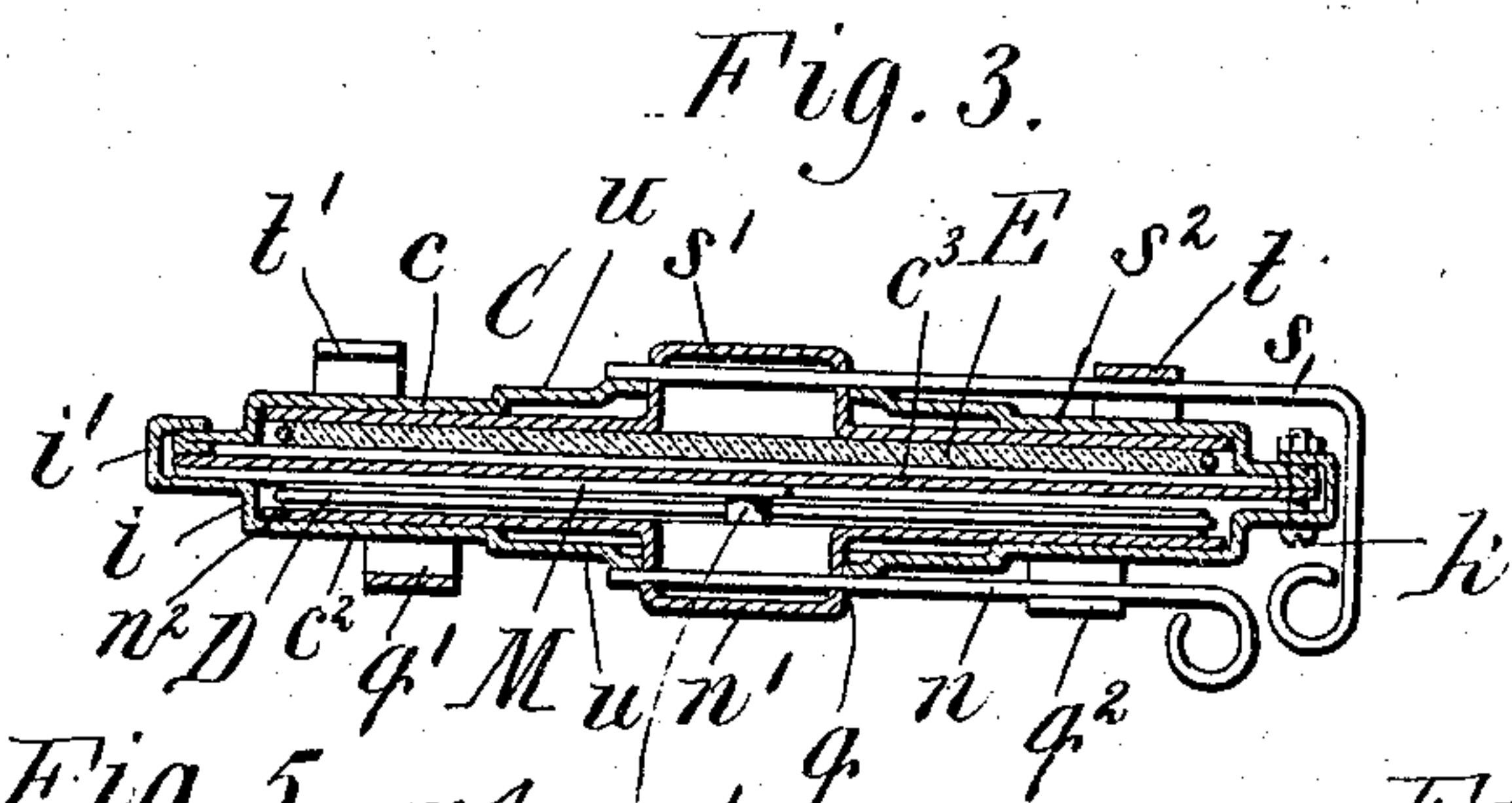
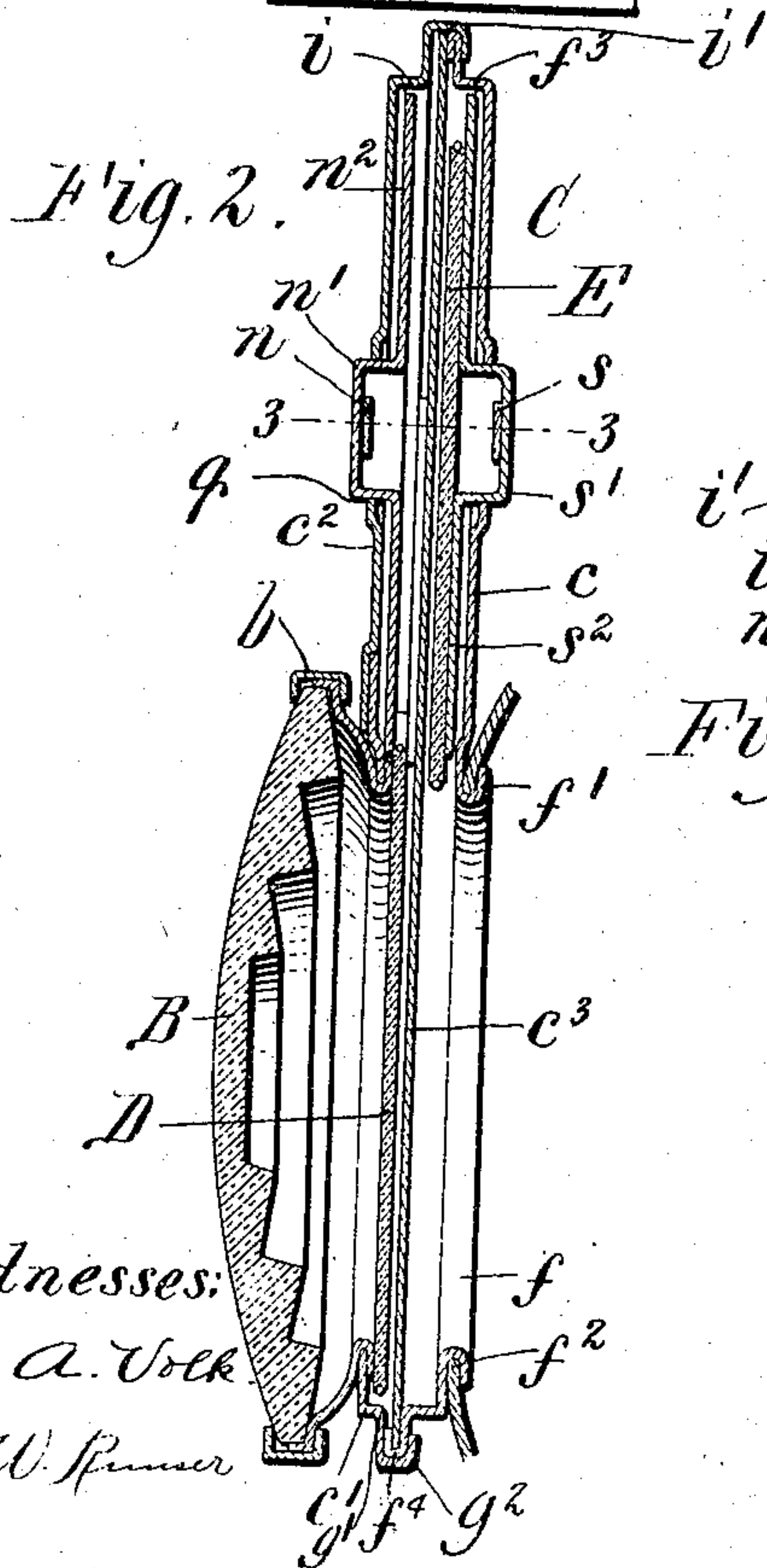
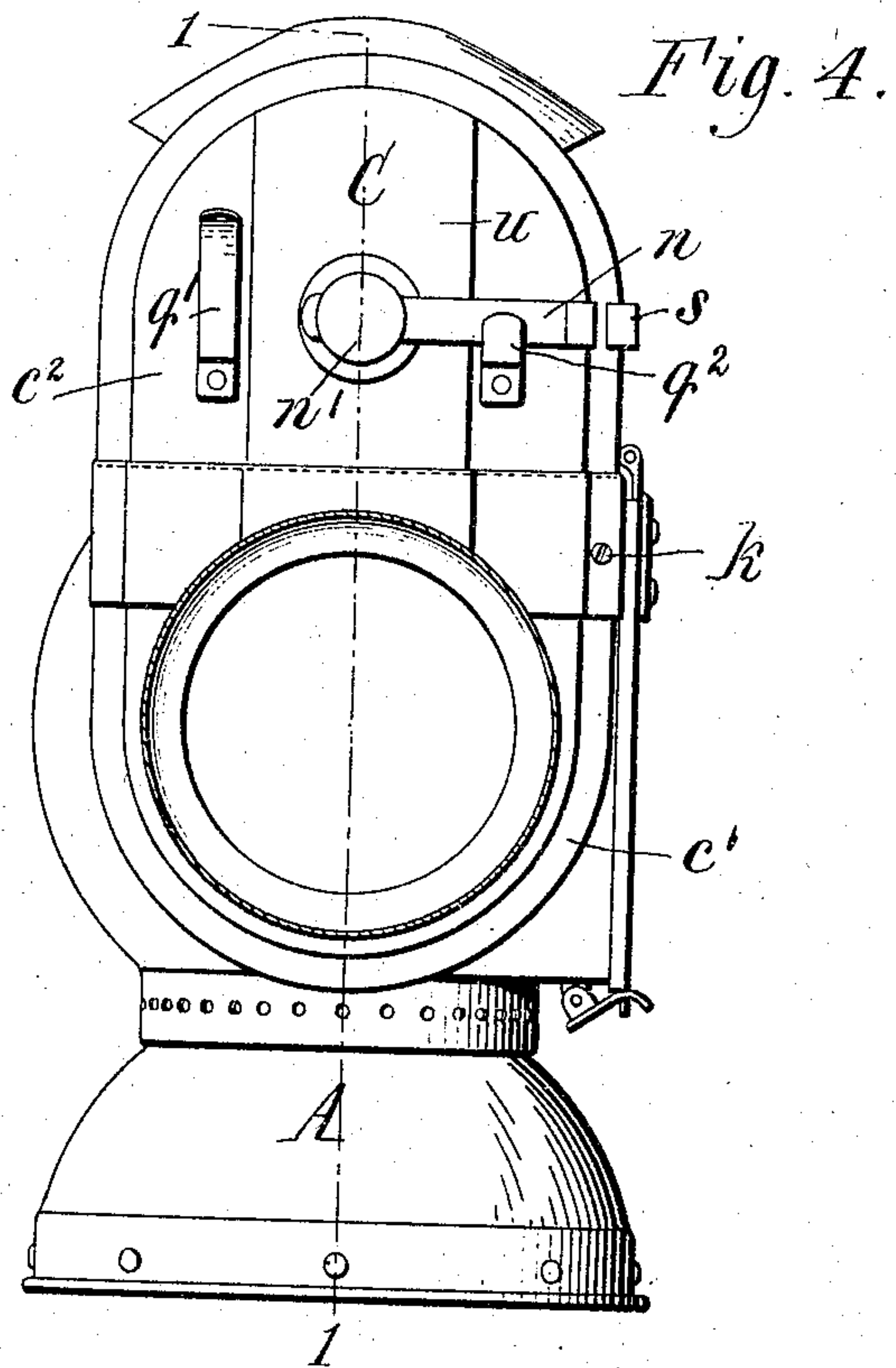
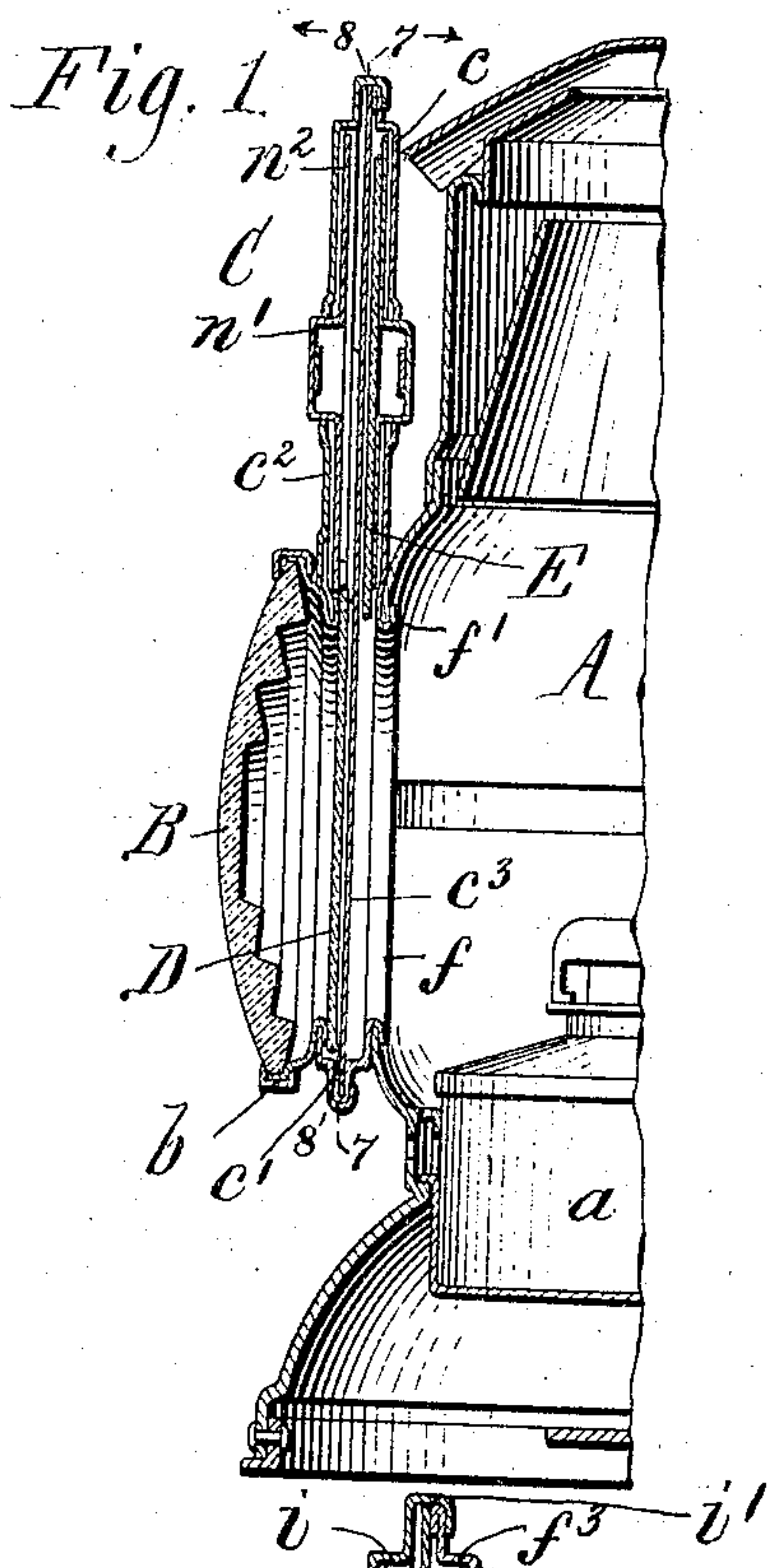
No. 785,145.

PATENTED MAR. 21, 1905.

F. K. WRIGHT.
SIGNAL LAMP.

APPLICATION FILED MAY 21, 1904.

2 SHEETS—SHEET 1.



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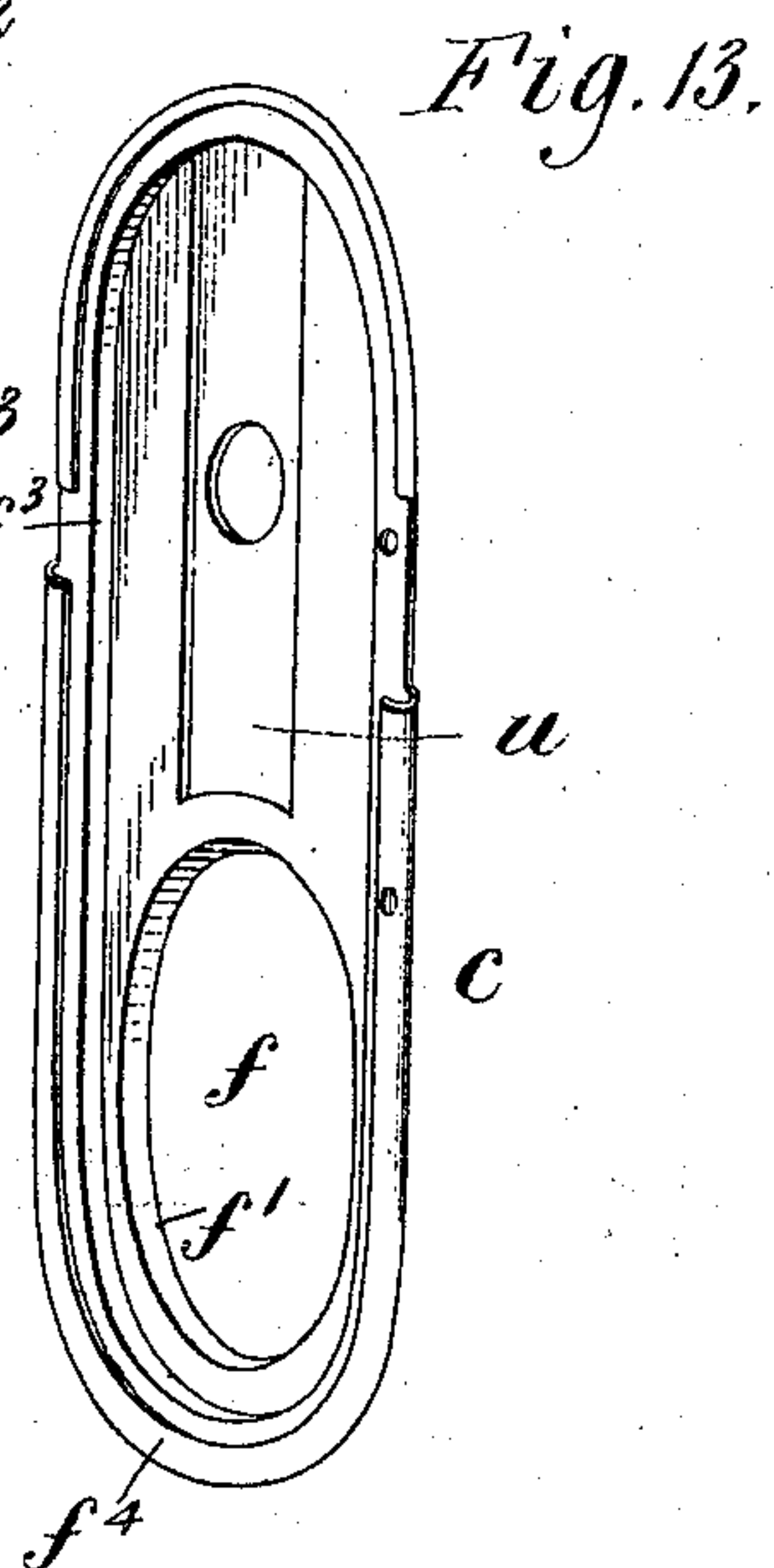
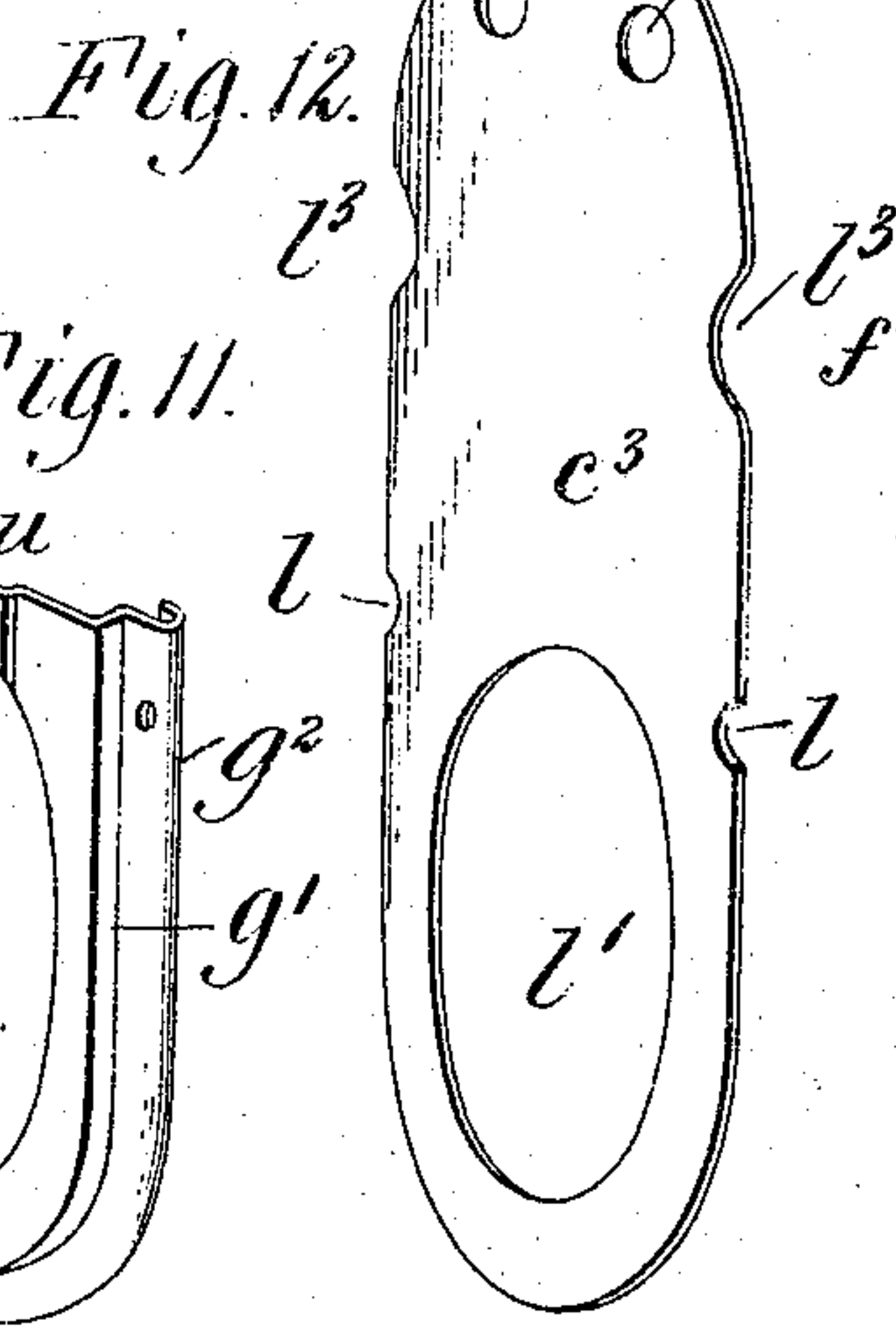
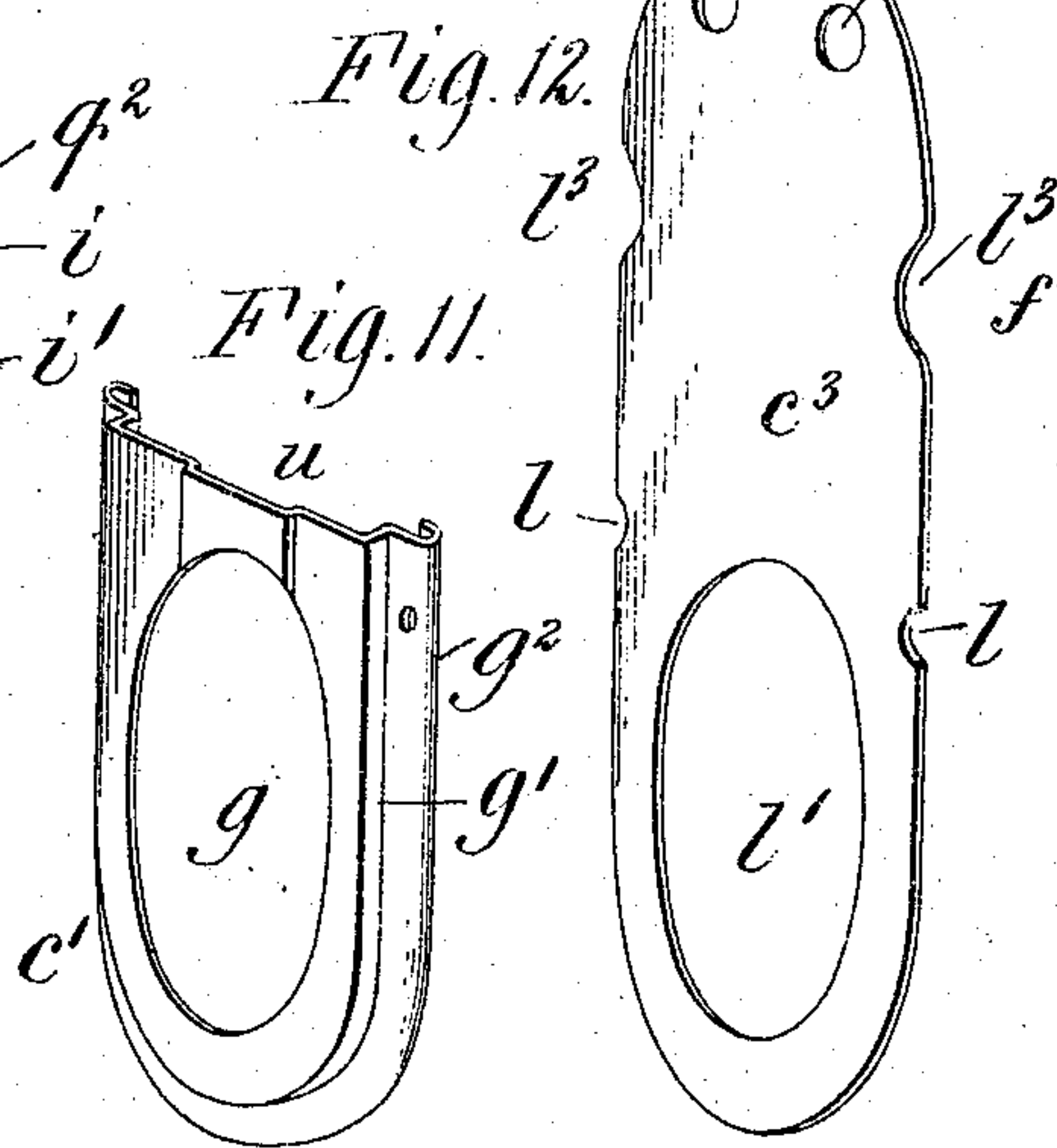
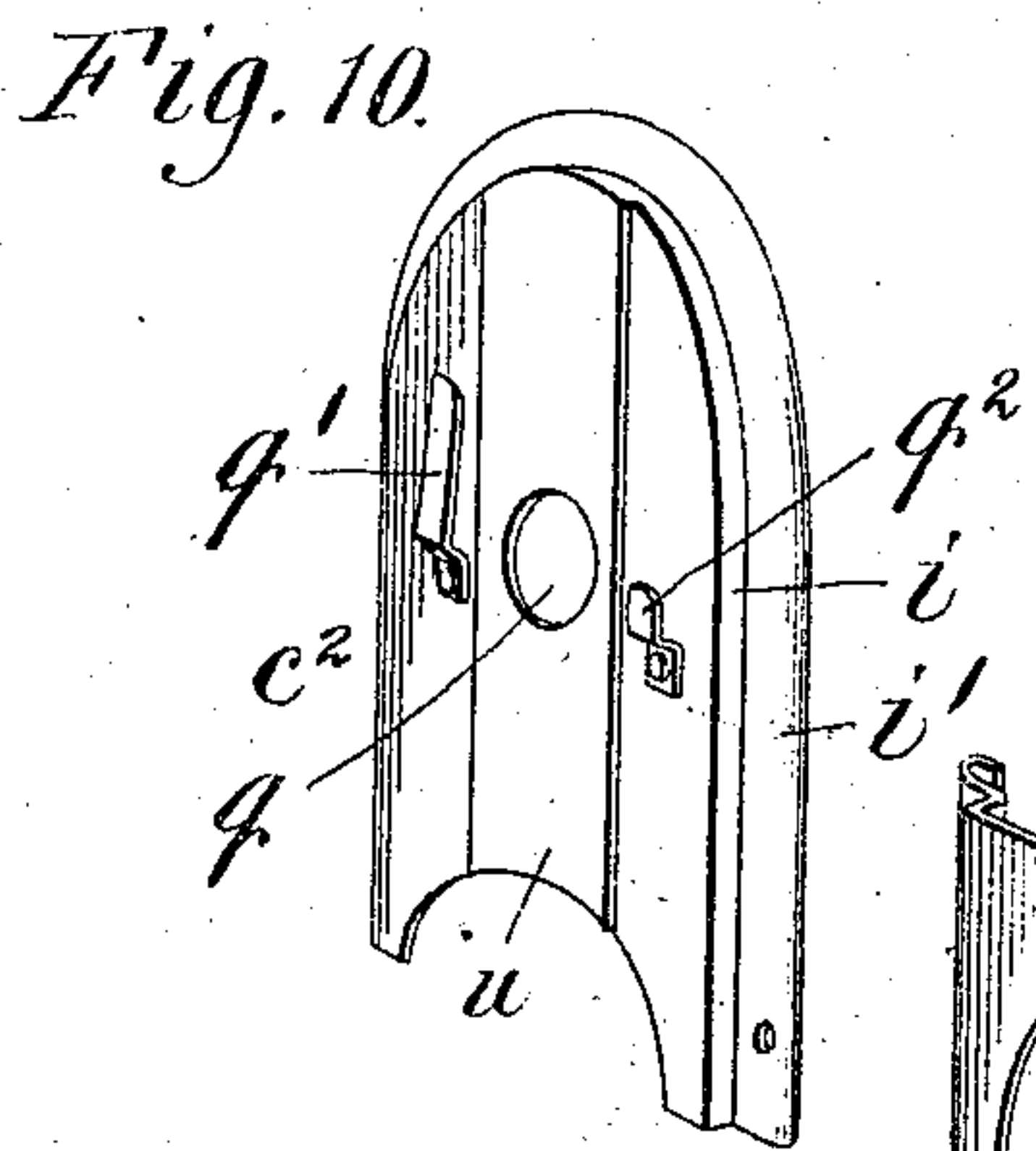
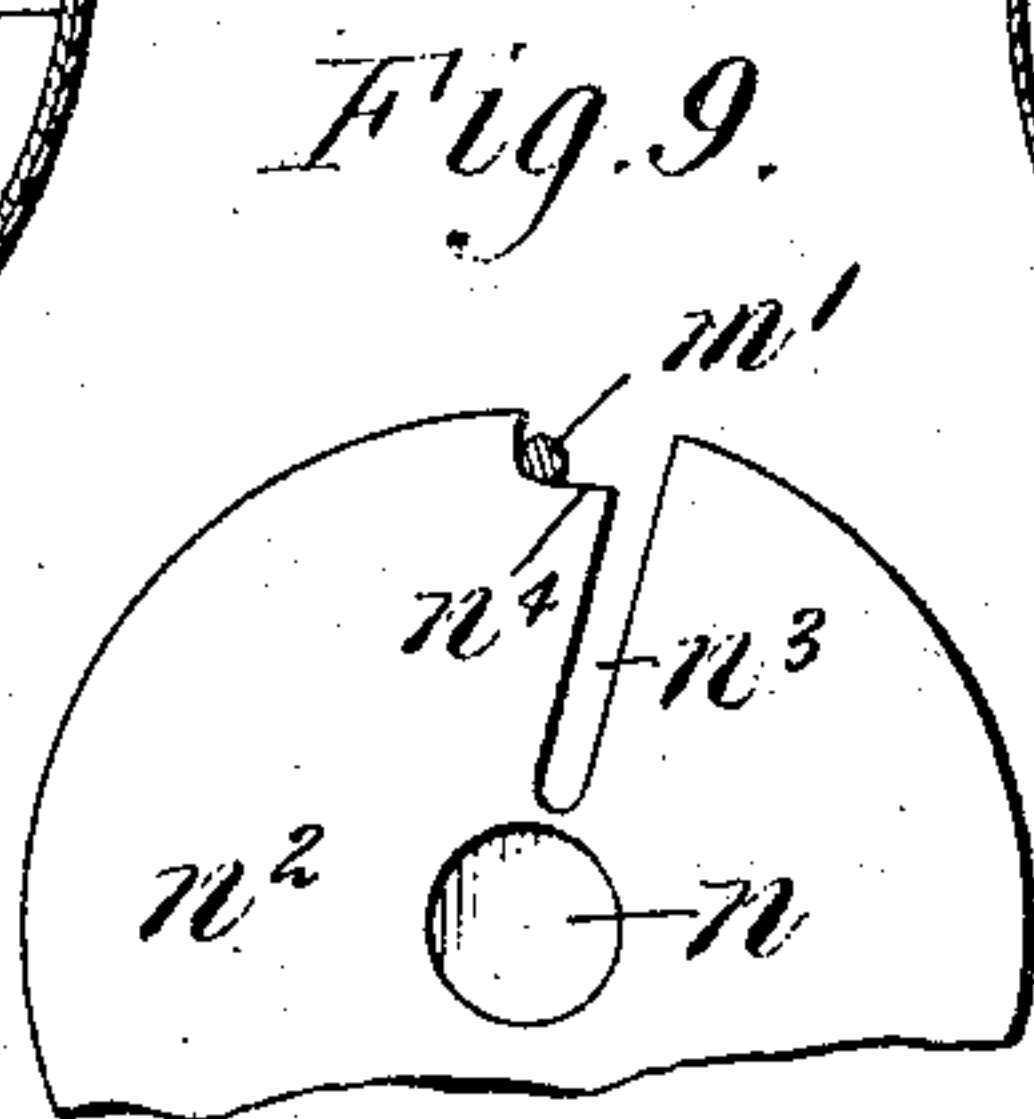
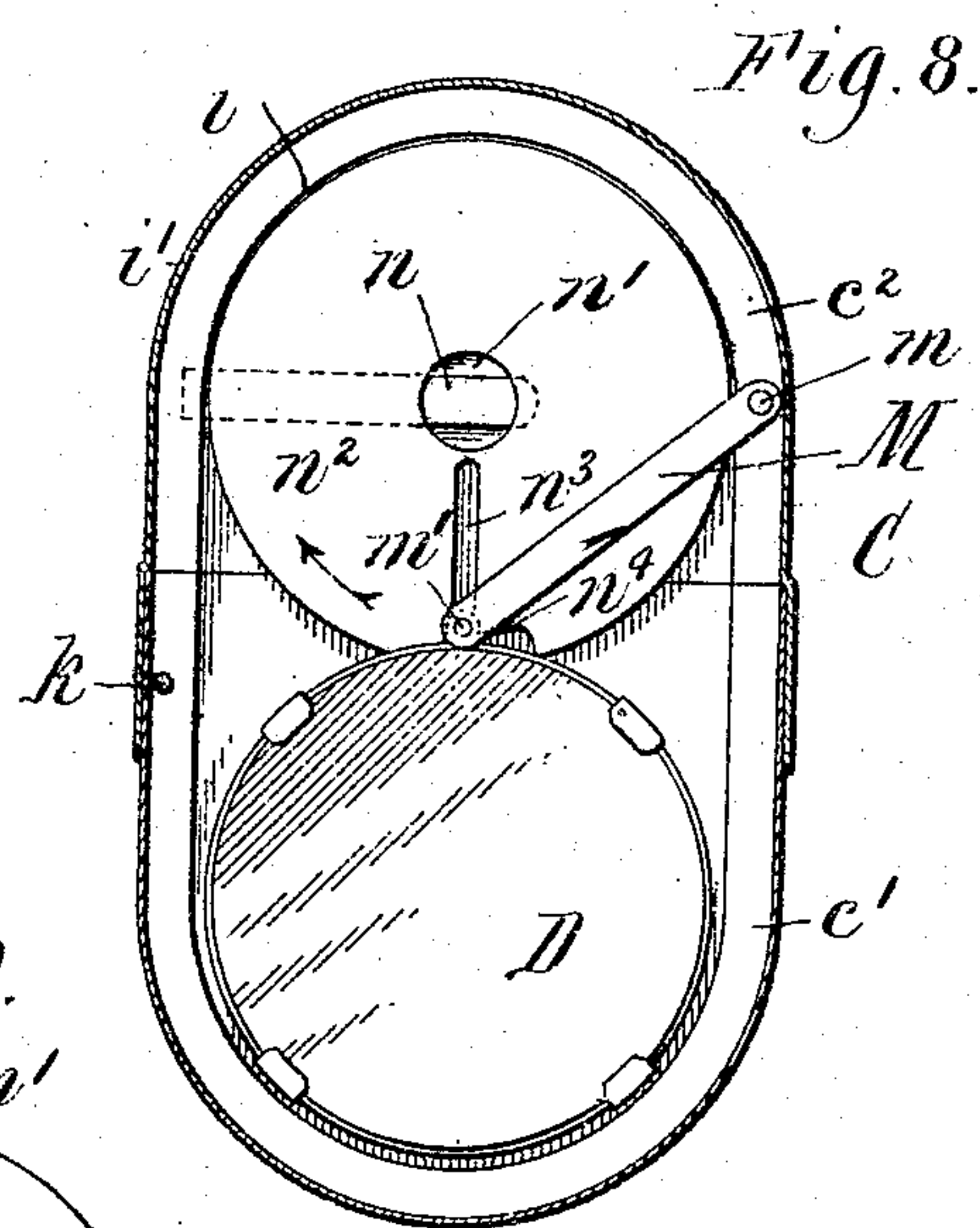
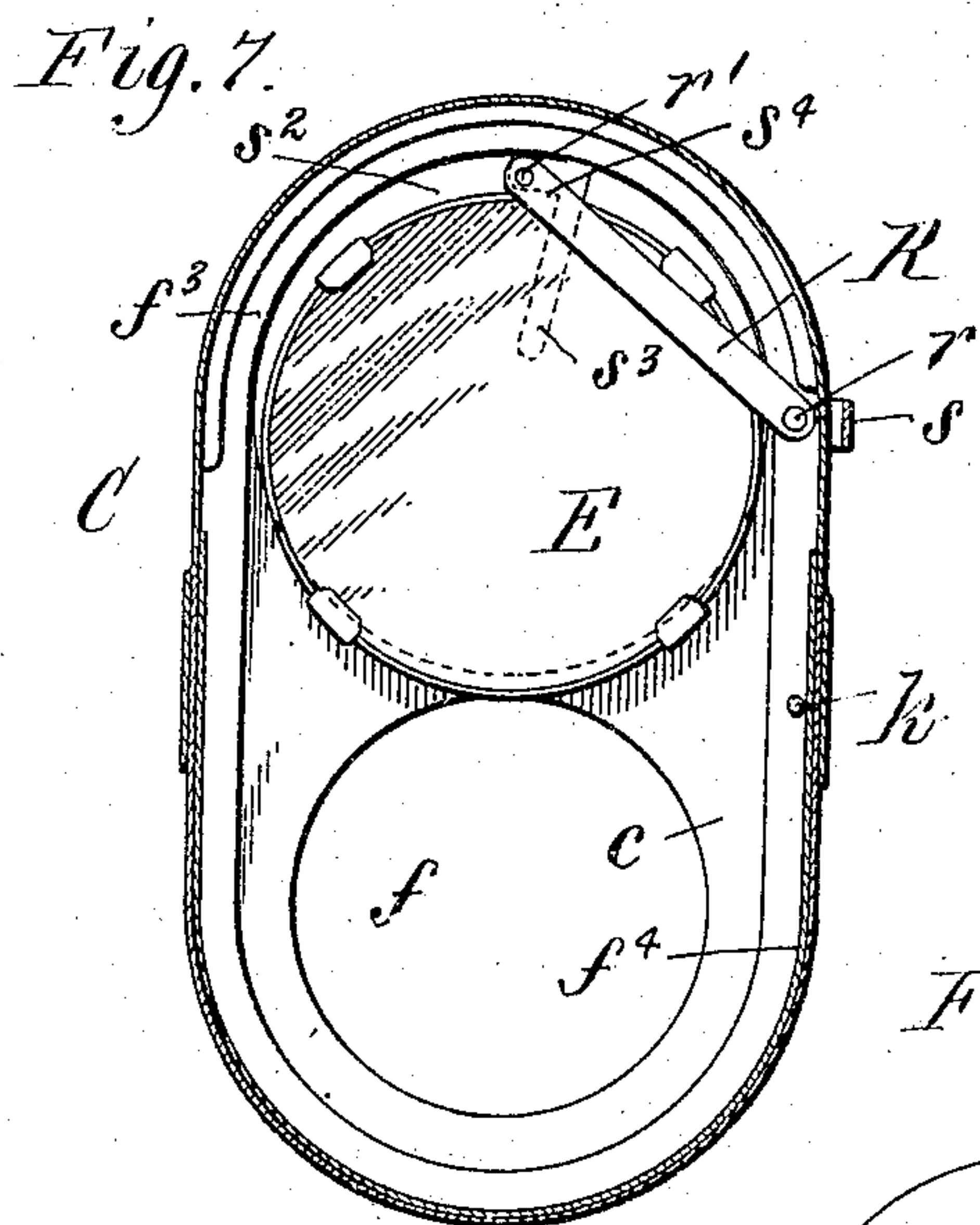
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

FREDERICK K. WRIGHT, OF SYRACUSE, NEW YORK.

SIGNAL-LAMP.

SPECIFICATION forming part of Letters Patent No. 785,145, dated March 21, 1905.

Application filed May 21, 1904. Serial No. 209,133.

To all whom it may concern:

Be it known that I, FREDERICK K. WRIGHT, a citizen of the United States, and a resident of Syracuse, in the county of Onondaga and State of New York, have invented new and useful Improvements in Signal-Lamps, of which the following is a specification.

This invention relates to that class of signal lamps or lanterns which contain a white lens and in rear of the same one or more colored lenses—for instance, a red and a green lens, both of which are normally held above the white lens and either of which can be lowered to stand in line with the white lens for giving a colored signal through the latter. A lamp of this character is disclosed by my Letters Patent No. 705,808, dated July 29, 1902. In the lamp of that patent each signal-plate is attached at its periphery to a lever-arm which is pivoted approximately in line with the center of the plate when the latter is in its elevated position. It has been found that in lowering the plate, during which movement the lever-arm exerts a pushing action downwardly against the peripheral portion of the plate, the latter is at times liable to be pressed against one side of the upright guideway in which the plate moves, whereby the plate is caused to bind or stick in the guideway.

One object of the present invention is to overcome this difficulty and to construct the plate-actuating mechanism in such manner that the plate moves easily and freely up or down.

Another object of this invention is to improve the guideway with a view of preventing it from being dismembered by unauthorized persons.

In the accompanying drawings, consisting of two sheets, Figure 1 is a fragmentary sectional elevation of a lamp provided with my improvements, the section being taken in line 1 1, Fig. 4. Fig. 2 is a similar vertical section through the lens, signal-plates, and connecting parts in line 1 1, Fig. 4, but on an enlarged scale. Fig. 3 is a horizontal section in line 3 3, Fig. 2. Fig. 4 is a front elevation of the lamp. Fig. 5 is a perspective view of one of the actuating-levers for the signal-

plates. Fig. 6 is a similar view showing a modified construction thereof. Fig. 7 is a vertical transverse section through the rear compartment, showing the rear signal-plate viewed from the front, the section being taken in line 7 7, Fig. 1. Fig. 8 is a similar section through the front compartment, showing the front signal-plate viewed from the rear, the section being taken in line 8 8, Fig. 1. Fig. 9 is a fragmentary rear view of the slotted actuating-arm in the position which the same occupies when the signal-plate is in its elevated position, the actuating-pin of the signal-plate being shown in section. Fig. 10 is a perspective view of the upper front plate of the housing in which the signal-plates are arranged. Fig. 11 is a perspective front view of the lower front plate of the housing. Fig. 12 is a perspective front view of the partition. Fig. 13 is a perspective front view of the rear plate of the housing.

Like letters of reference refer to like parts in the several figures.

A represents the body of the lamp, which may be of any suitable construction and which contains an oil-pot *a*.

B represents one of the white lenses, secured in an annular vertical frame *b*. Lamps of this class are usually provided with two such lenses at right angles to each other.

C represents the upright housing for the colored signal-plates D and E. This housing is located between the lamp-body and the lens-frame *b* and connects the latter to the lamp-body. The housing, which extends above the lens-frame sufficiently to accommodate the signal-plates in their elevated position, is composed of a rear plate *c*, a lower front plate *c'*, and an upper front plate *c''*, and is provided with a transverse partition-plate *c'''*, which divides the housing into a front compartment, in which the front signal-plate D is arranged, and a rear compartment, in which the rear signal-plate E is arranged. The rear plate *c* is provided in its lower portion with a light-opening *f* and around said opening with a collar *f'*, by which this plate is permanently secured in the light-opening *f''* of the lamp-body. The rear plate is further provided with a forwardly-projecting marginal wall *f'''* of suffi-

cient depth to make room for the rear signal-plate and connecting parts and with a hook-shaped marginal flange f^4 , which extends around the lower portion of the rear plate and upwardly along the sides thereof to a short distance above the light-opening. This flange receives the lower portion of the partition-plate c^3 , which is slid from above into the ways formed by the flange.

The lower front plate is provided with a light-opening g , in which the annular lens-frame b is secured, and with a rearwardly-projecting marginal wall g' , having a marginal flange g^2 , which embraces the similar marginal flange f^4 of the rear plate. The lower front plate is connected with the fixed rear plate by engaging the flange of this front plate with that of the rear plate and sliding the front plate upwardly into position on the rear plate.

The upper front plate c^2 is provided with a rearwardly-projecting marginal wall i , having a marginal flange i' , which embraces the flange f^4 of the rear plate. This front plate is slid into position from above. When in position, the lower part of the upper front plate overlaps the upper part of the lower front plate, and these two detachable front plates are secured to the fixed rear plate by a fastening-bolt k , which passes through the marginal portions of the plates.

Although but one fastening-bolt k is ordinarily used, the partition-plate c^3 is preferably provided on each side with a notch l in the proper position for making room for the fastening-bolt, so that the plate can be slid into place in the housing with either side forward. The plate has a light-opening l' and is further preferably provided with thumb-holes l^2 for convenience in handling the plate and with side notches l^3 in its upper portion for a purpose explained below.

The two sets of mechanism by which the signal-plates are actuated are alike and are constructed as follows: M is a transverse link or rock-arm which is movably connected to one side of the housing by a pivot m and which is connected at its free inner end to the peripheral portion of the signal-plate by a pin m' . This link extends from the side of the housing to the upper portion of the circular signal-plate, and its free end therefore swings in an arc which is not far removed from a vertical line, whereby the rolling action of the circular signal-plate is greatly reduced compared with that which occurs when the arm which controls the plate is pivoted in line with the center of the plate, as is the case in my former Letters Patent above mentioned.

The actuating-lever by which the plate is raised or lowered is composed of an outer arm or finger-piece n , a hub portion n' , and an inner arm n^2 , provided with a radial slot n^3 for connection with the actuating-pin m' of the

signal-plate. The inner lever-arm n^2 has preferably the form of a disk, as shown, to form a large bearing-surface for the signal-plate; but it may be a comparatively narrow arm p , as represented in Fig. 6. Upon turning the lever one of the sides of the radial slot n^3 operates against the pin m' and causes the link M to swing upwardly or downwardly, carrying the signal-plate with it.

The hub portion n' of the actuating-lever is journaled in an opening q of the upper front plate c^2 , Fig. 10. This plate is provided on its front side with a spring-catch q' for holding the lever-arm n securely when the signal-plate is elevated and with a stop q^2 , on which the arm rests when the signal-plate has been lowered.

The inner arm n^2 is provided at the outer end of its slot n^3 with a circumferential shoulder n^4 , on which the actuating-pin m' of the signal-plate rests when the latter is in its elevated position, as represented in Fig. 9.

In Fig. 8 the front signal-plate is shown in its lowered position. In this position of the plate the outer arm n of the actuating-lever rests on the stop q^2 , as shown in Fig. 4. Upon so turning the actuating-lever that its inner arm n^2 moves in the direction of the arrow the plate is elevated, and when the outer arm n has been fully swung over and engaged with the spring-catch q' the slot in the inner arm has slightly moved beyond the dead-center and the pin m' rests on the shoulder n^4 at the outer end of the actuating-slot, whereby the signal-plate is securely held in its elevated position against accidental displacement. Upon turning the actuating-arm in the opposite direction the signal-plate is lowered.

The mechanism by which the rear signal-plate is actuated and locked comprises a link or rock-arm R , pivoted at r , an actuating-pin r' , an actuating-lever composed of an outer arm s , hub portion s' , and inner arm s^2 , having a slot s^3 , provided with a supporting-shoulder s^4 , and a spring-catch t and supporting-stop t' on the rear side of the rear plate c of the housing. These parts operate in all respects like the corresponding parts connected with the front signal-plate. The upper side notches l^3 of the partition prevent the latter from pressing against the pivotal portions of the links M R and interfering with the free movements thereof.

As above described, the rear plate of the housing is permanently attached to the lamp-body, and as this rear plate is in one piece and supports the mechanism connected with the rear signal-plate it is not possible to remove this rear plate or the signal mechanism connected therewith, even if the front plates, lens, and front signal mechanism should be removed. In the lamp of my patent above mentioned the lens-frame was permanently secured to the lamp-body and the upper part of the signal-housing, carrying both signal-

plates and their actuating mechanisms, was detachably secured to the lower part of the housing. In that construction it was possible to remove the entire signal mechanism from the lamp without disturbing the lamp in other respects, and it has therefore happened that the signal mechanism has been removed without authority from one lamp for the purpose of replacing a damaged signal mechanism on another lamp. This is not possible in the present construction, because the rear plate of the housing is not removable. The front and rear plates of the housing are preferably provided at the middle with upright recesses *u* to reduce the surfaces against which the inner lever-arms bear.

I claim as my invention—

1. The combination of a lamp, a signal-plate, an upright guideway for said plate, a link pivoted at one end to the side of the guideway and at the other end to the signal-plate, and means for moving said link up or down, substantially as set forth.

2. The combination of a lamp, a signal-plate, an upright housing and guideway for said plate, a link pivoted at one end to the side of the guideway and at the other end to the signal-plate, and an actuating-lever journaled in said housing and having its inner arm connected with said link, substantially as set forth.

3. The combination of a lamp, a signal-plate, an upright guideway for said plate, a link fulcrumed at one end and pivoted at the other end to said signal-plate, and an actuating-lever fulcrumed out of line with the fulcrum of said link and provided with a slot which receives a projection on said link and moves said link up or down, substantially as set forth.

4. The combination of a lamp, a signal-plate, an upright guideway for said plate, a link fulcrumed at one end and pivoted at the other end to said signal-plate, and an actuating-lever provided with a slot which receives a projection on said link and moves said link up or down and with a shoulder at the outer end of said slot on which said projection is supported when the link and plate are in the elevated position, substantially as set forth.

5. The combination of a lamp, a signal-plate, an upright housing and guideway for said plate, a link pivoted at one end to the side of the guideway and at the other end to the sig-

nal-plate, and an actuating-lever journaled in said housing and having its inner arm composed of a disk having a radial slot which receives a projection on the link, substantially as set forth.

6. The combination of a lamp-body having a light-opening in its side, an upright signal-plate housing arranged on the outer side of said lamp-body and having its rear wall permanently secured to said lamp-body around said light-opening, a signal-plate and actuating mechanism mounted in said housing, and a lens-frame secured to the front wall of said housing, substantially as set forth.

7. The combination of a lamp-body having a light-opening in its side, an upright signal-plate housing arranged on the outer side of said lamp-body and having its rear wall permanently secured thereto around said light-opening, and its front wall detachably secured to said rear wall, and a lens-frame secured to said detachable front wall, substantially as set forth.

8. The combination of a lamp-body having a light-opening in its side, an upright signal-plate housing arranged on the outer side of said lamp-body and having its rear wall permanently secured thereto and its front wall composed of an upper and a lower portion both detachably secured to said rear wall, and a lens-frame secured to said lower detachable front wall, substantially as set forth.

9. The combination of a lamp-body having a light-opening in its side, an upright signal-plate housing arranged on the outer side of said lamp-body and having its rear wall permanently secured thereto and its front wall composed of an upper and a lower portion both detachably secured to said rear wall, a lens-frame and lens secured to said lower detachable portion, a rear signal-plate and actuating mechanism mounted on said permanent rear plate, and a front signal-plate and actuating mechanism mounted on the upper detachable portion of said front wall, substantially as set forth.

Witness my hand this 14th day of May, 1904.

FREDERICK K. WRIGHT.

Witnesses:

P. L. SALMON,
EDWARD WILHELM.