

No. 698,164.

Patented Apr. 22, 1902.

J. & A. WILKINSON.
PHOTOGRAPHIC CAMERA.

(Application filed Feb. 1, 1902.)

(No Model.)

2 Sheets—Sheet 1.

FIG. 1

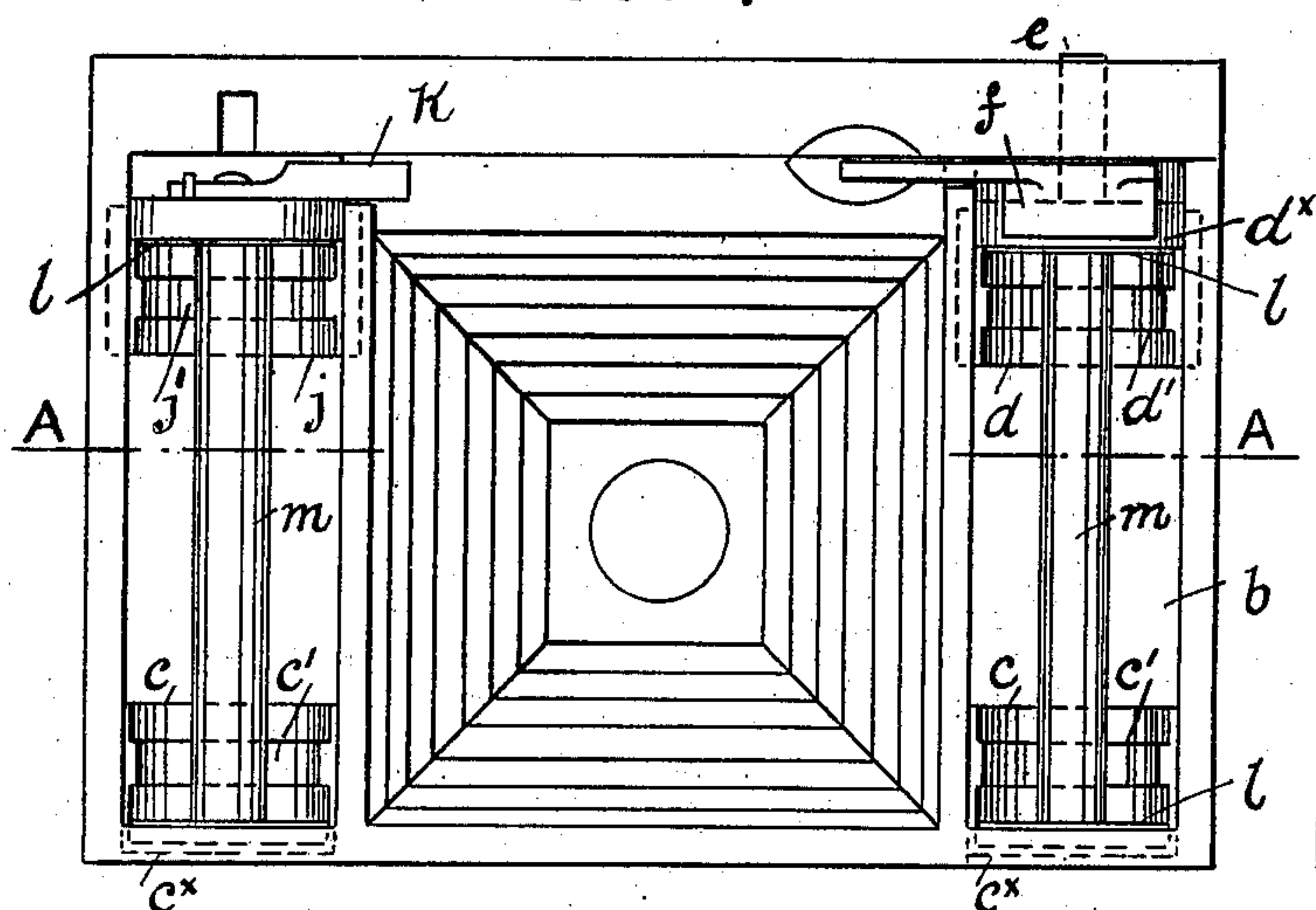


FIG. 2

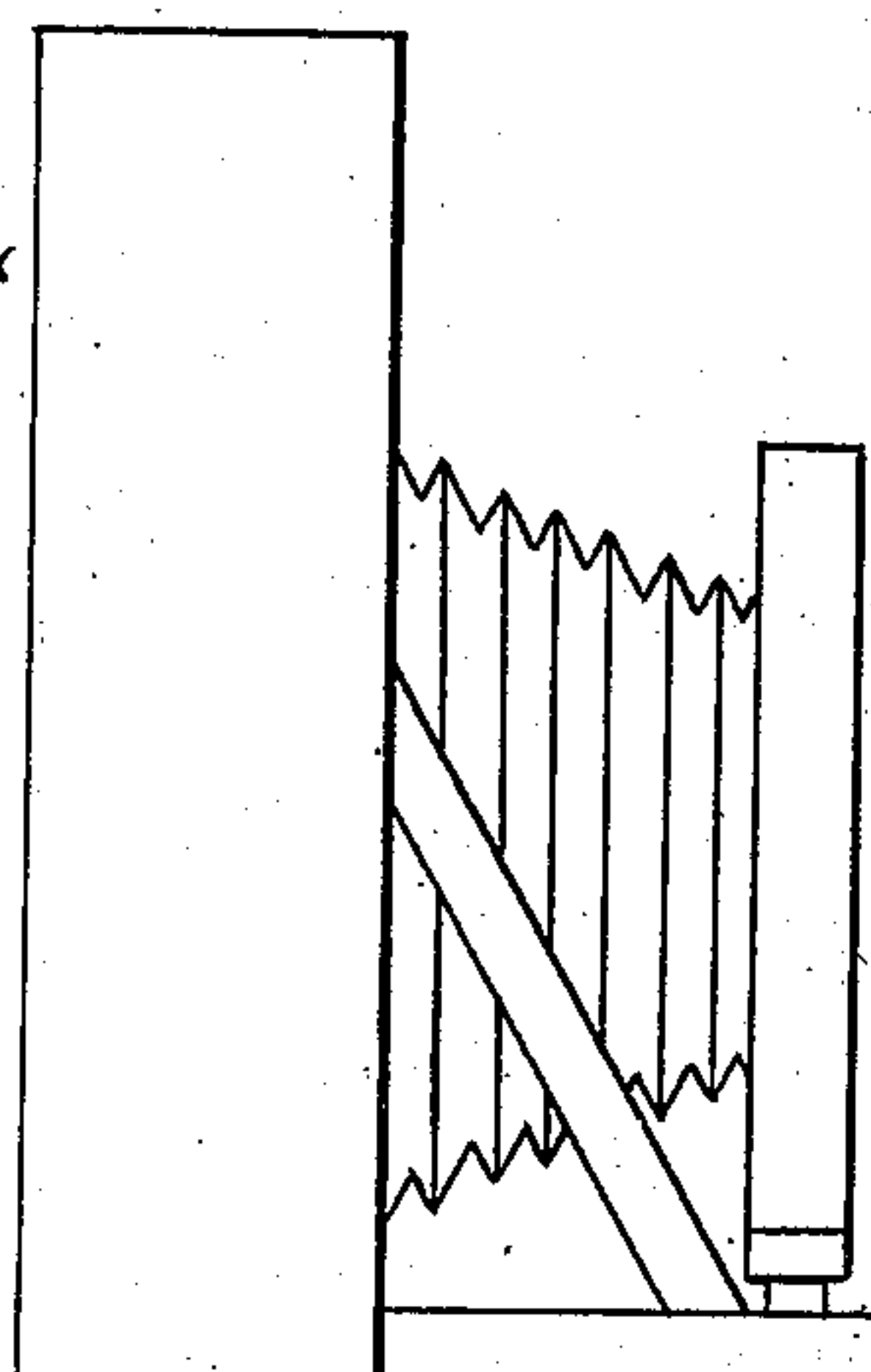


FIG. 3

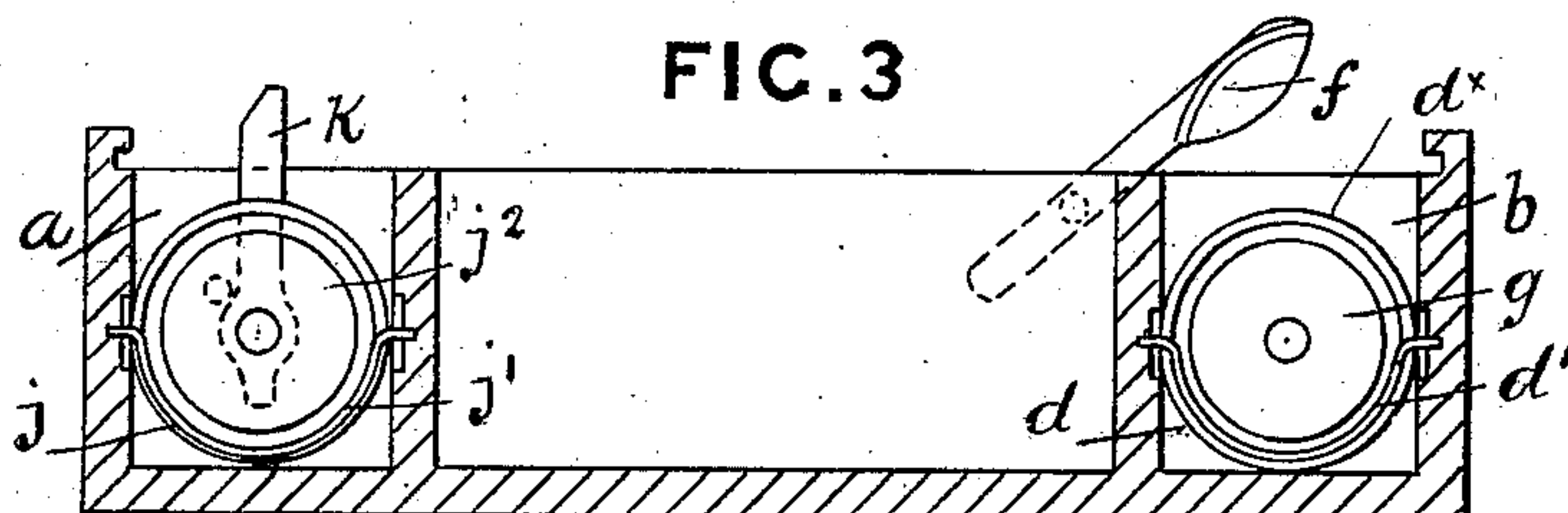
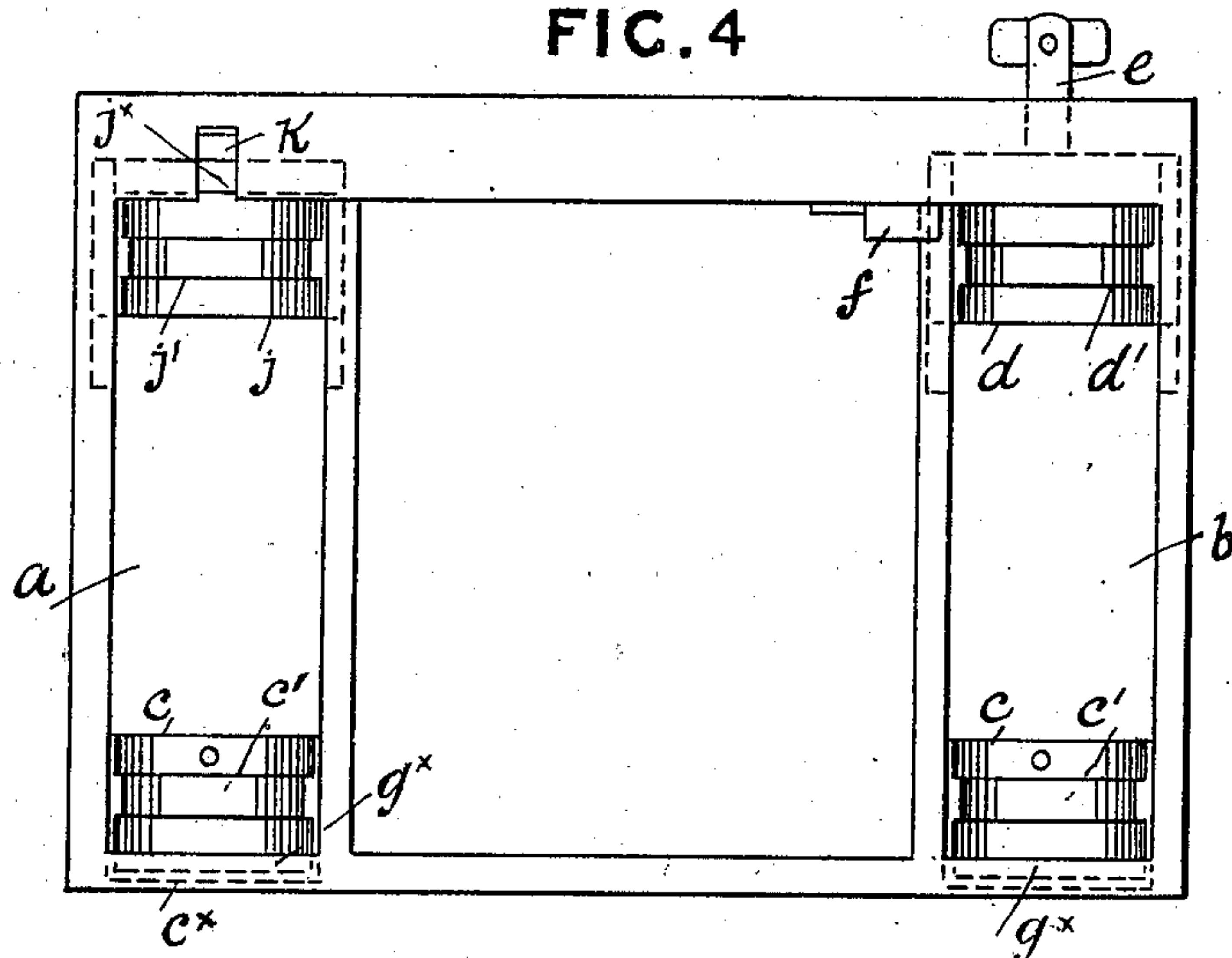


FIG. 4



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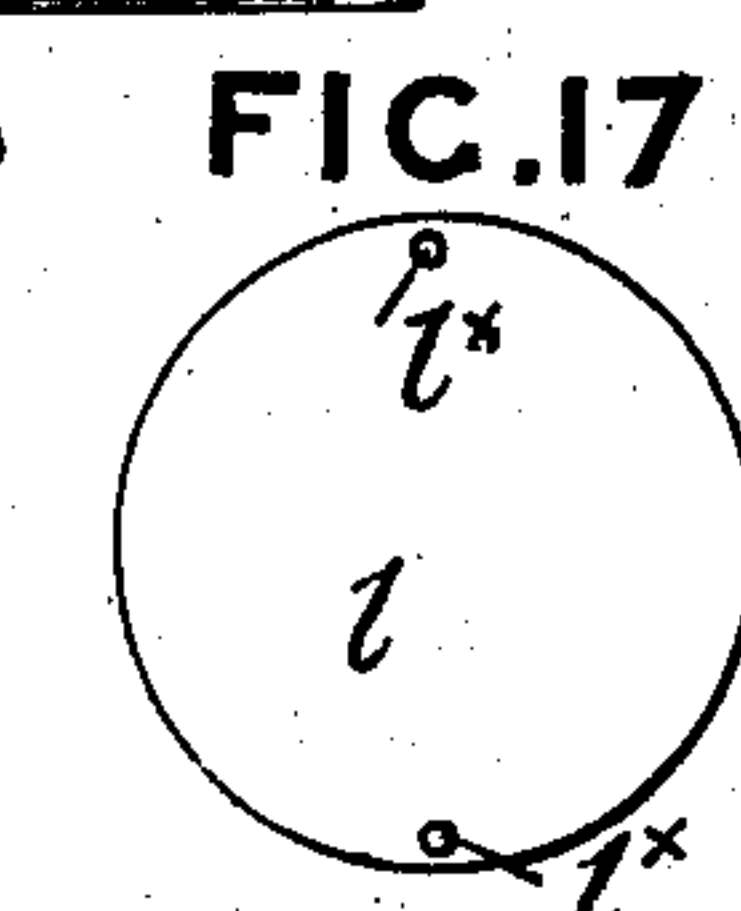
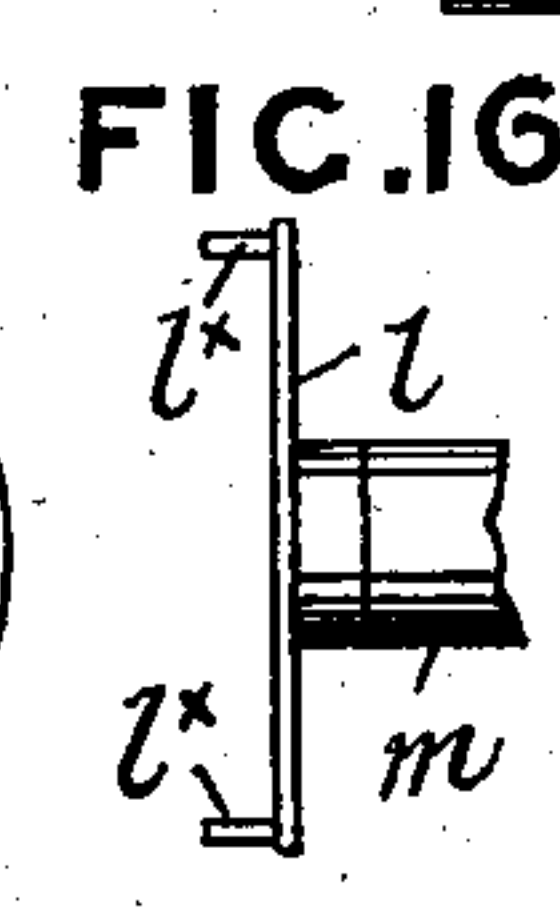
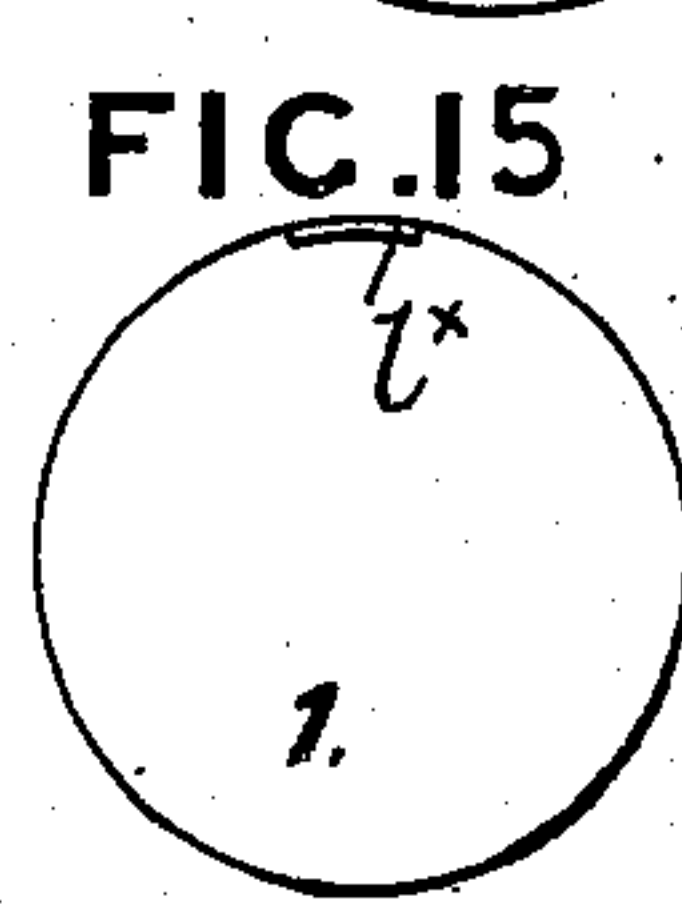
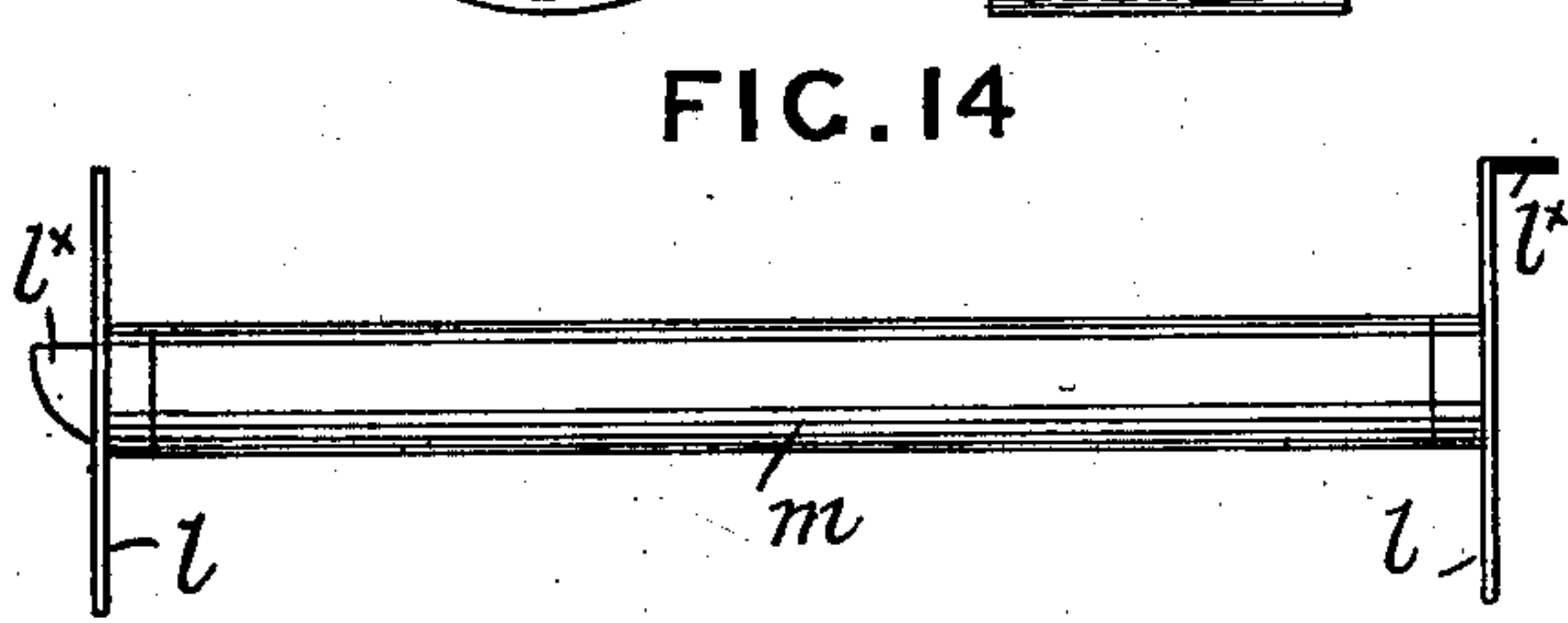
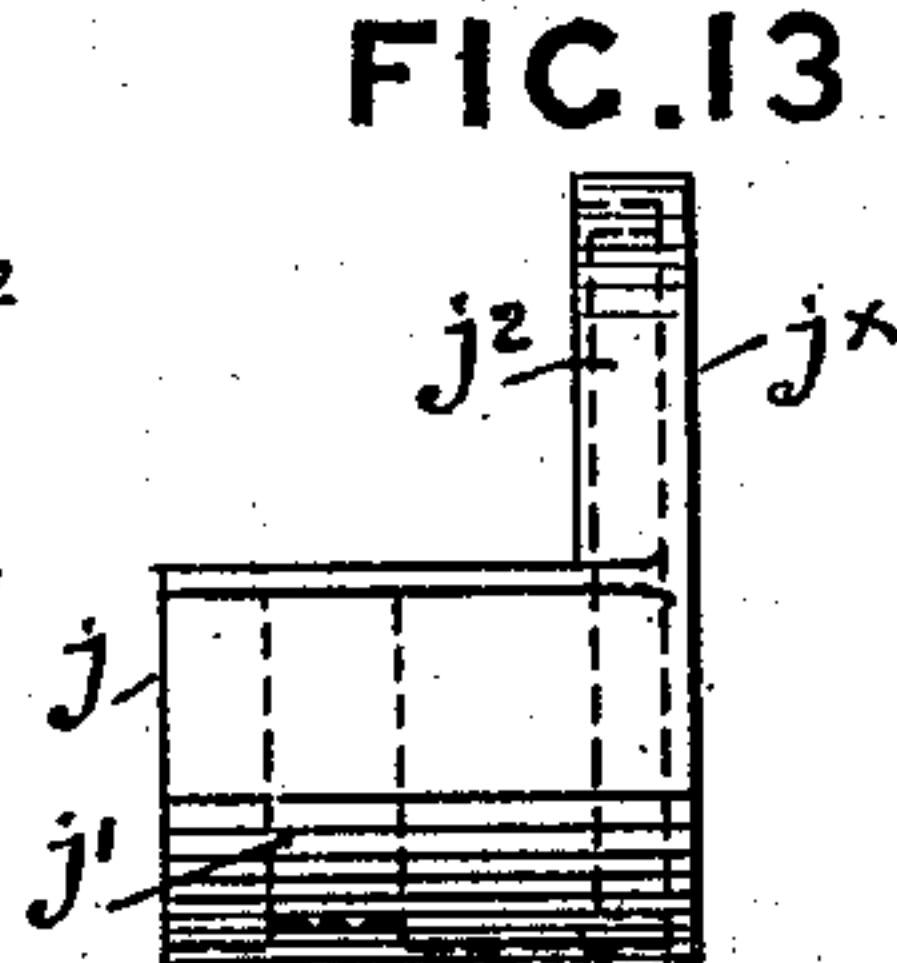
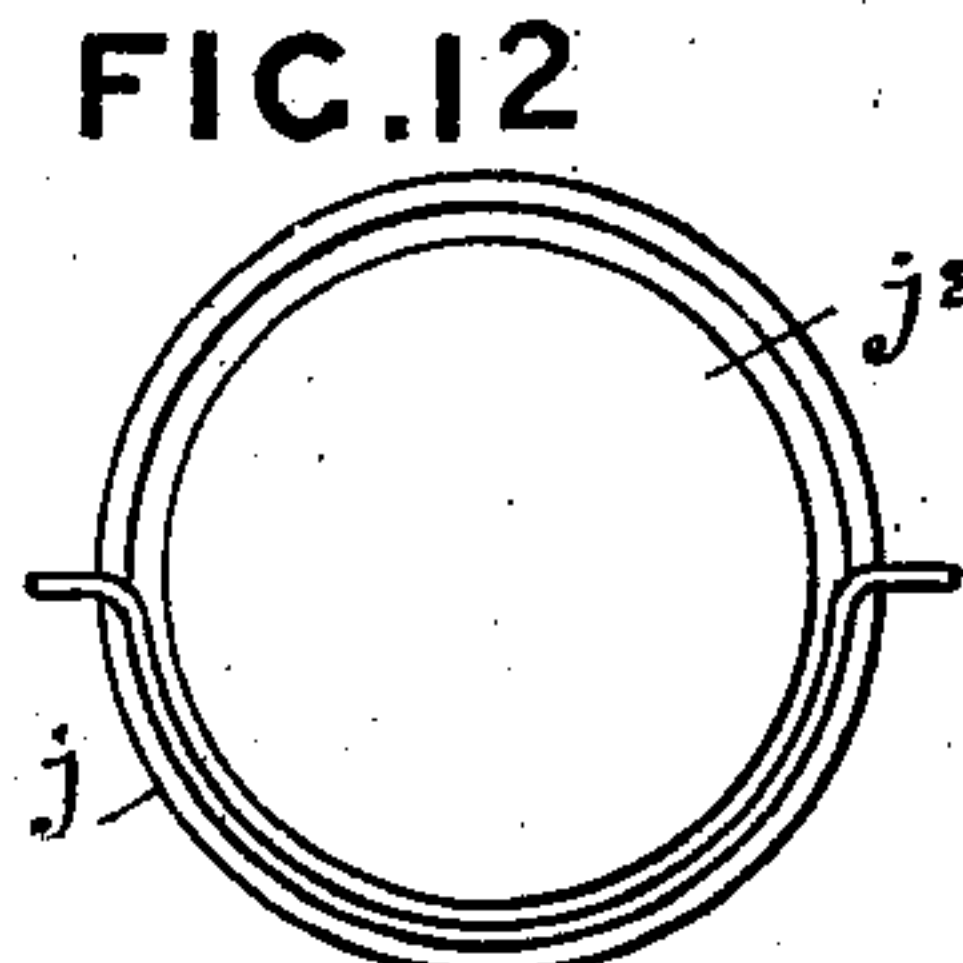
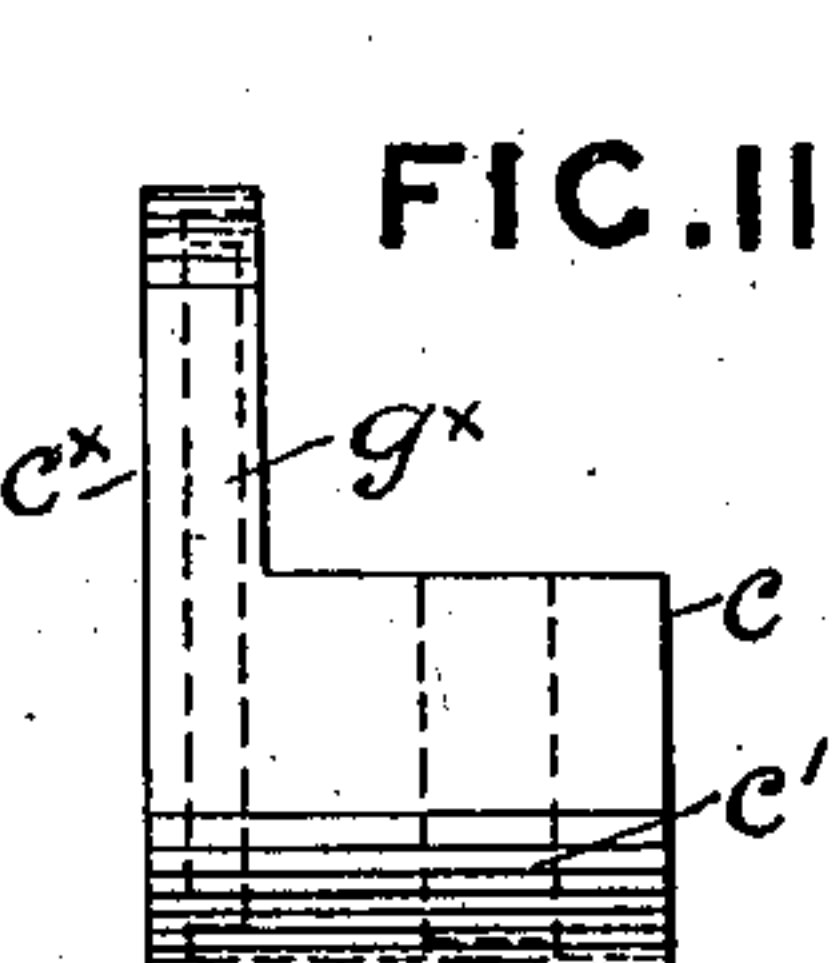
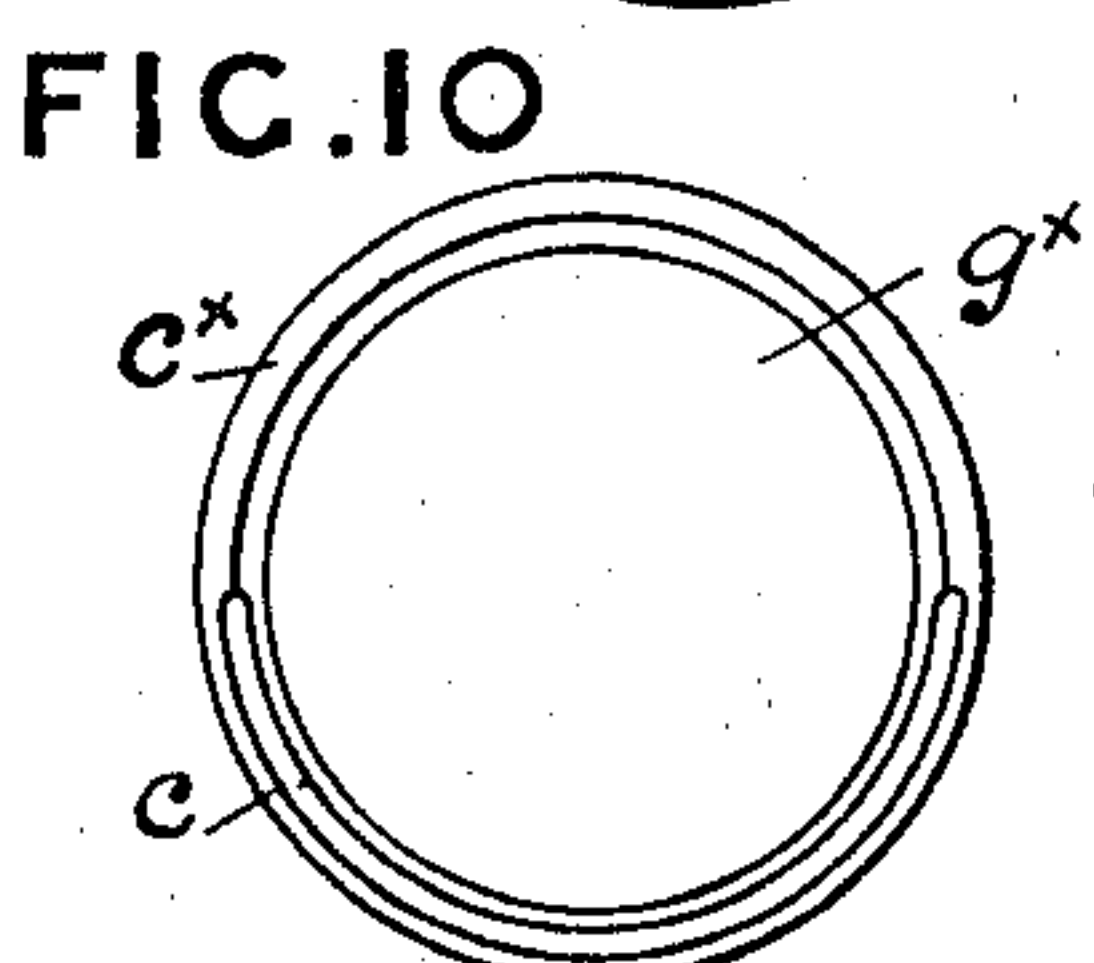
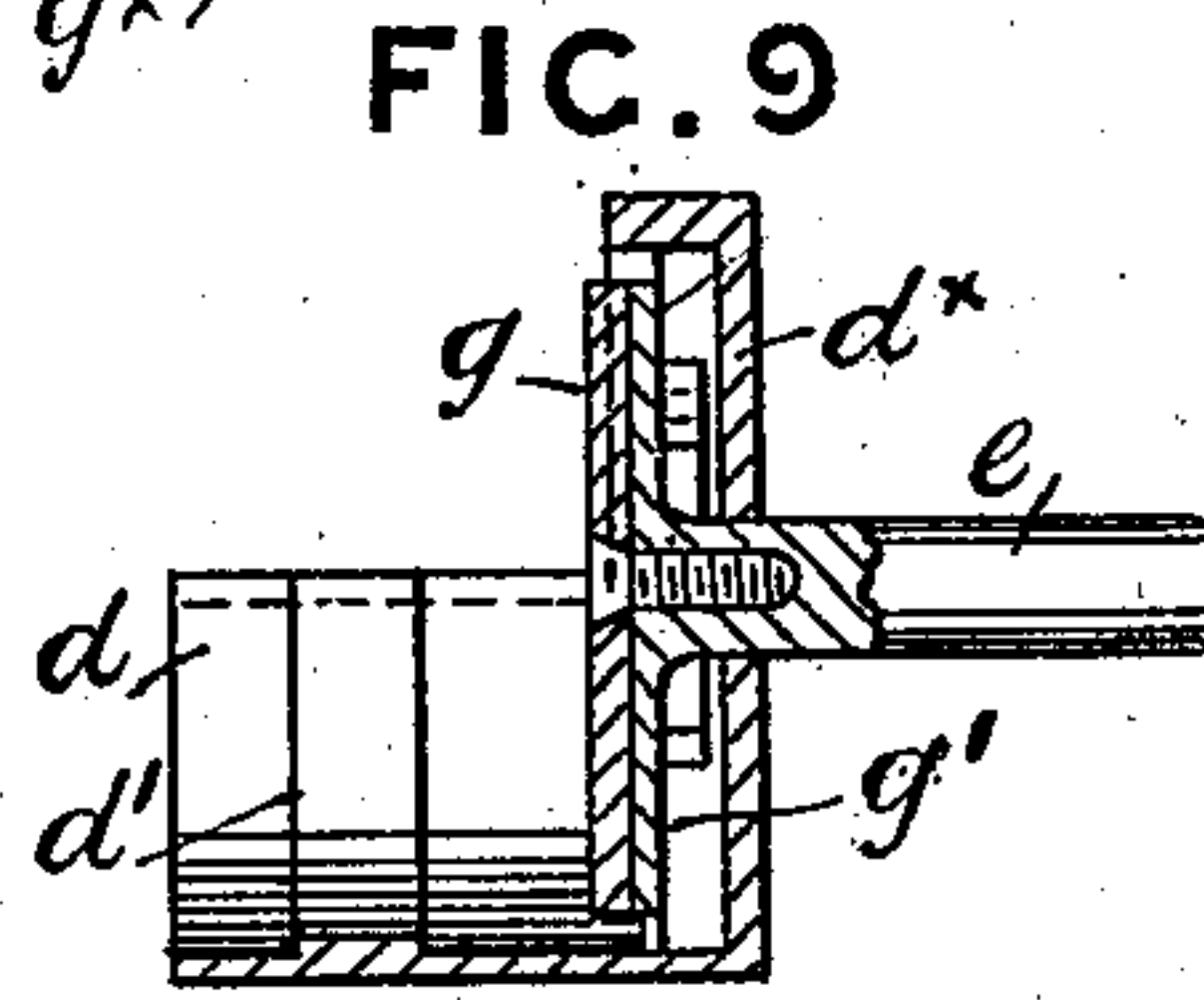
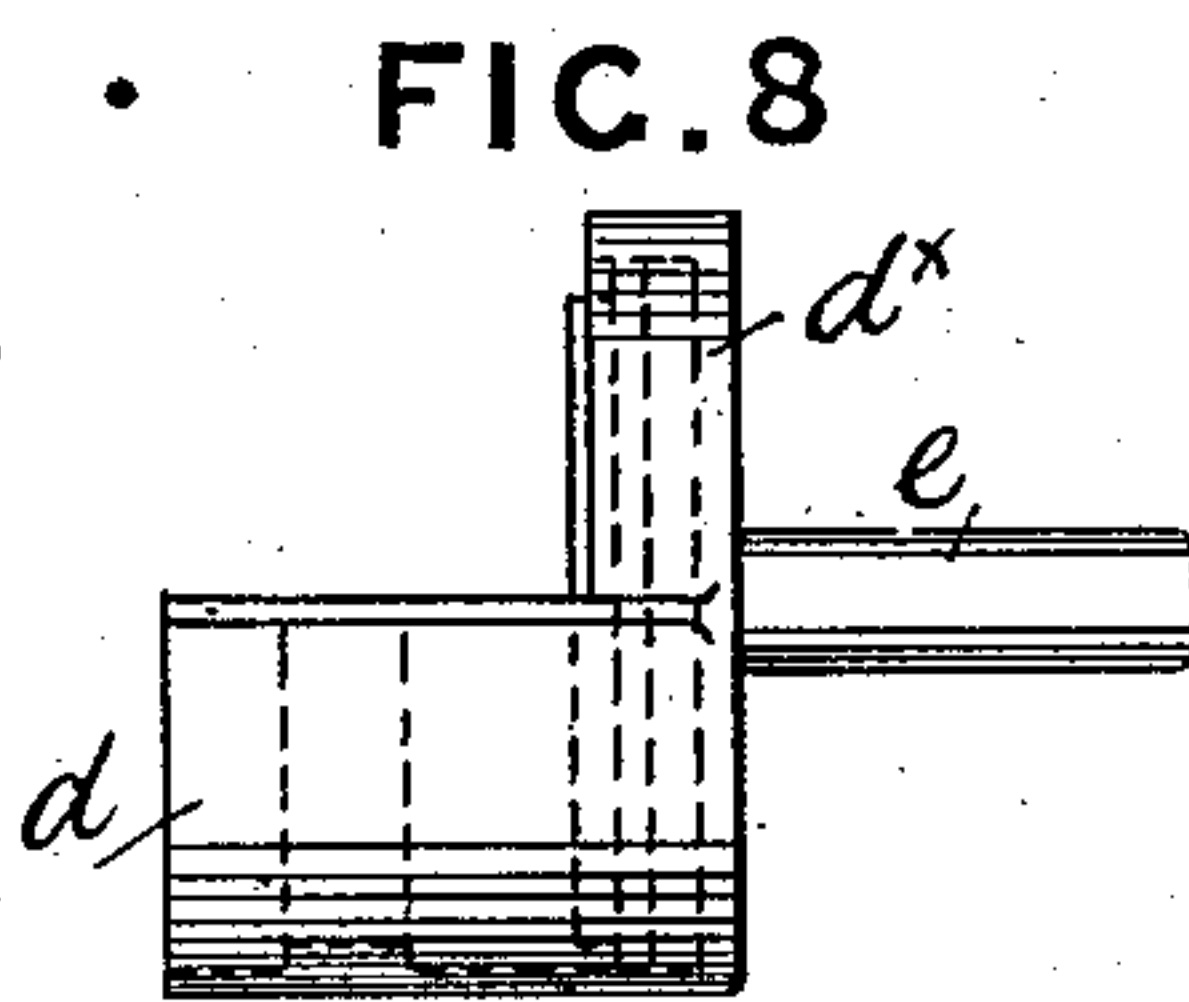
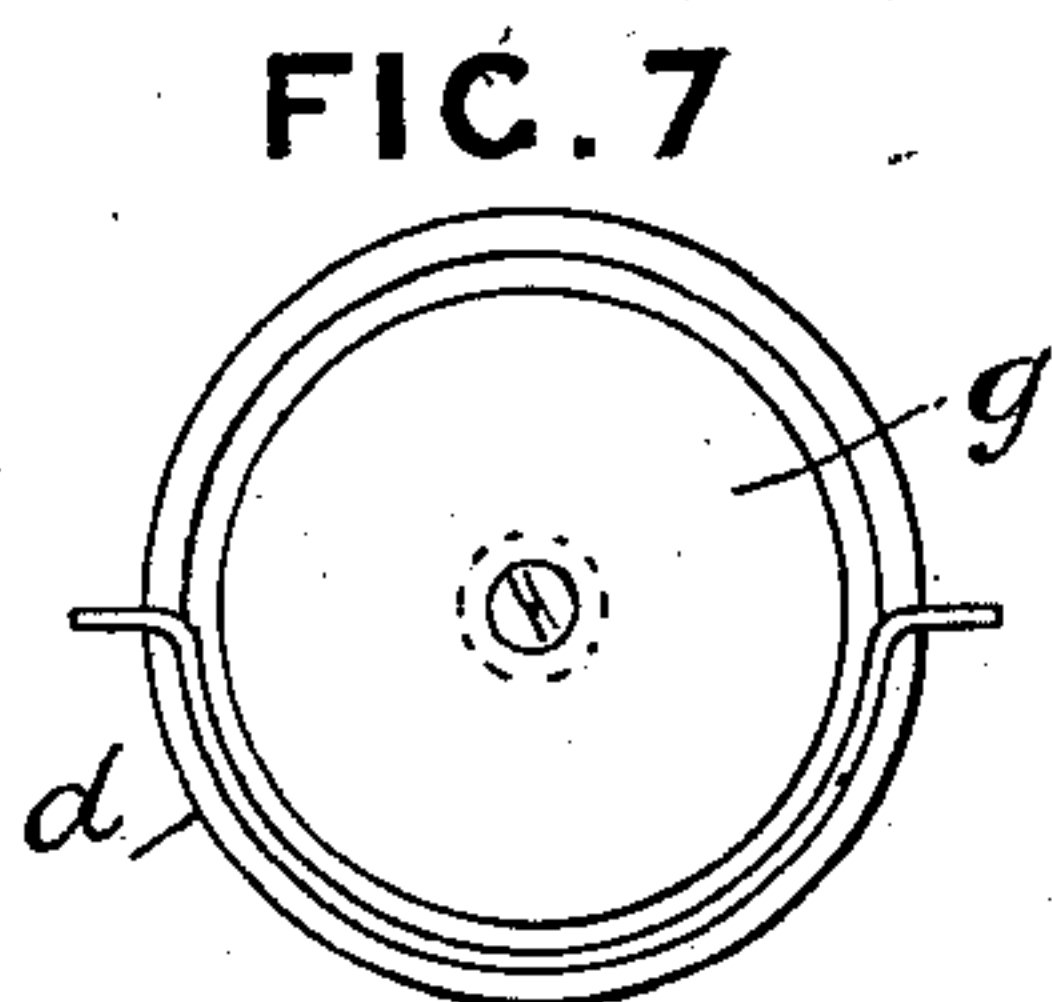
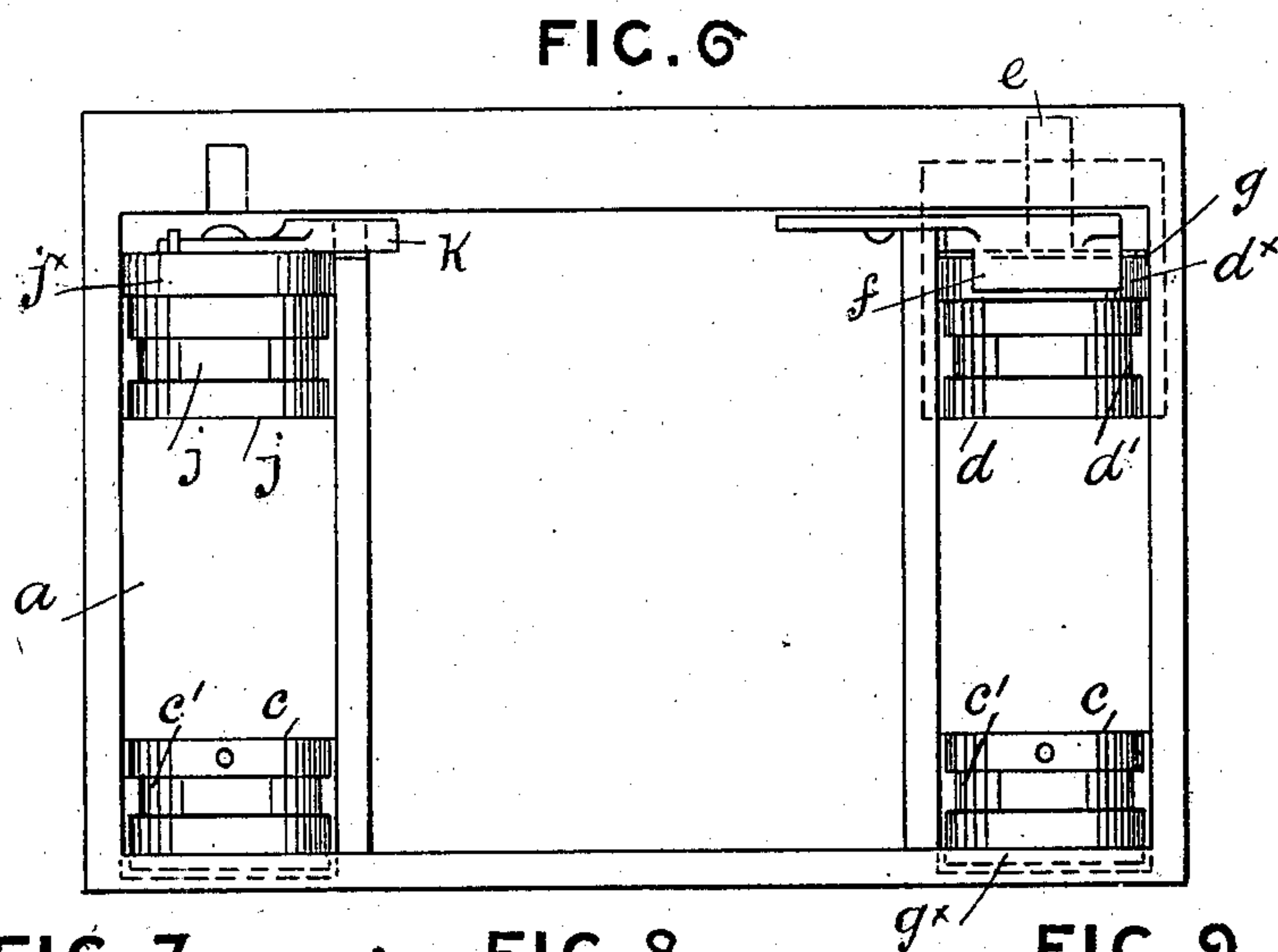
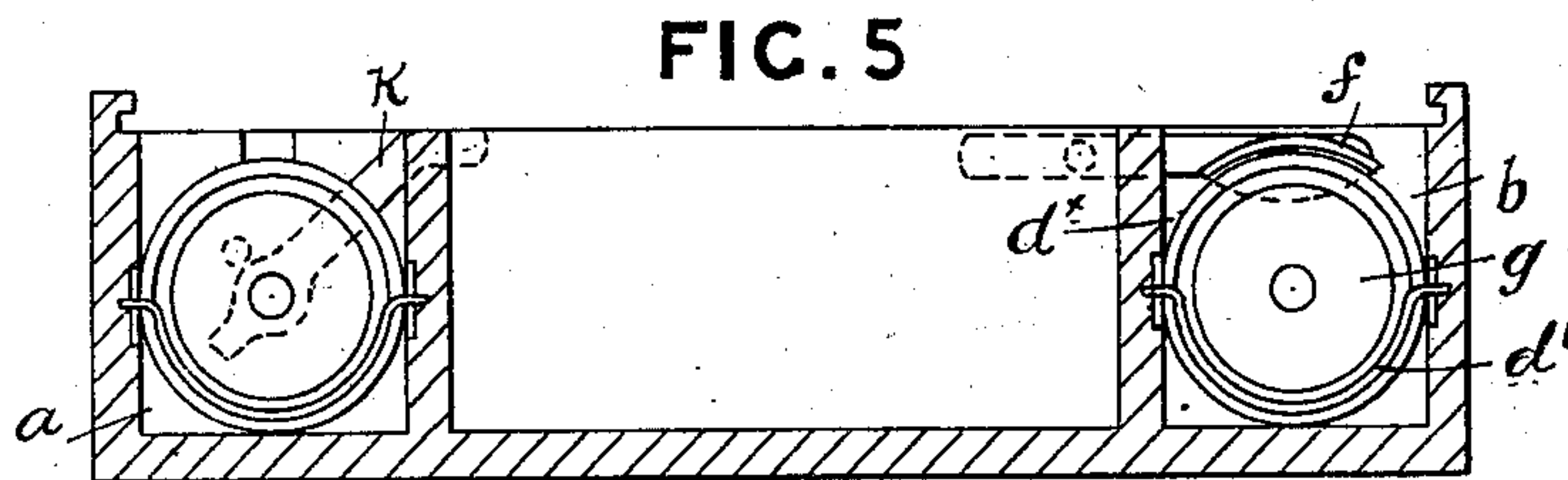
HIS ATTORNEYS

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(Application filed Feb. 1, 1902.)

(No Model.)

2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

JOHN WILKINSON AND ALFRED WILKINSON, OF MANCHESTER, ENGLAND.

PHOTOGRAPHIC CAMERA.

SPECIFICATION forming part of Letters Patent No. 698,164, dated April 22, 1902.

Application filed February 1, 1902. Serial No. 92,183. (No model.)

To all whom it may concern:

Be it known that we, JOHN WILKINSON and ALFRED WILKINSON, subjects of the King of Great Britain, residing at St. Oswald street, Manchester, in the county of Lancaster, Eng-
land, have invented new and useful Im-
provements in or Relating to Photographic
Cameras, of which the following is a specifi-
cation.

10 This invention relates to improvements in the mechanism for charging and discharging the films either in a box or a folding camera and in the spools therefor.

15 The object of our said invention is to enable the spools containing the film required for use and for the reception of the film after it has been exposed to be readily placed in and removed from the camera.

20 In the accompanying drawings, illustrating our invention, and to which we hereinafter refer, Figure 1 is a rear view, with the interior exposed, of a form of camera to which our invention may be applied. Fig. 2 is a side view of the same. Figs. 3 and 5 are trans-
verse sections on line A A and in combina-
tion with Figs. 4 and 6 show the respective
positions of the mechanism to enable the
spools to be removed from or placed in and
retained in the camera. Figs. 7 to 13 are
30 details of the aforesaid mechanism, and Figs. 14 to 17 are details of the spools.

In the views similar letters refer to similar parts.

35 In photographic cameras which have two chambers, as *a* and *b*, one for the loaded spool and one for the spool on which the film is wound after exposure, we form the spools and fix them in said chambers in the manner we hereinafter describe. We fit
40 within each end of said chambers a semicircular rest with an inwardly-flanged circular end, the semicircular portions of the rests on which the peripheries of the disks on the ends of the spool are placed being equal to
45 half the diameter of said disks. Referring to the chamber *b*, in which the spool for receiving the film after exposure is placed, the rest *d* (shown in detail in Figs. 7, 8, and 9) is caused to slide inwardly either by a spring
50 or may be pressed in by a spindle, as *e*, and is retained in the inward position, as shown in Fig. 6, by a catch, as *f*, so that the spool

is held between the disk *g* in the flanged circular end *d*^x and the disk *g*^x in the flanged circular end of the rest *c*, (shown in detail in Figs. 10 and 11,) that is fixed within the op-
posite end of the chamber *b*. The disk *g*, which is rather less in diameter than the in-
ternal diameter of the recess in the circular end of the rest *d*, is secured to a disk on the
inner end of the spindle *e*, that is passed through the circular end *d*^x of the rest *d*, and
between this disk and the inner side of the circular end of the rest a disk *g*¹ with notches
formed in or projections formed on its edge, is also fixed on the spindle *e*. A ratchet at
the back of said disk permits forward rota-
tion, but prevents backward movement.

Referring to the chamber *a*, in which the loaded spool is placed, the rest *j* (shown in detail in Figs. 12 and 13) is caused to slide inwardly either by a spring or may be pressed in by a catch, as *k*, which when turned down will retain the rest in the inward position, as shown in Fig. 6, and hold the spool between the disk *j*² in the circular end of rest and the disk *g*^x in the circular end of the rest *c*. We form the spools by fixing metallic disks *l* onto a spindle, as *m*. These disks have one or more projections, as *l*^x, on or near their edges, said projections entering and rotating in the circular grooves formed between the inner surface of the flanges on the circular ends of the rests and the peripheries of the disks contained therein.

85 In order to place the spools in or take them from the chambers *a* and *b*, the loaded spool is placed in the chamber *a* by drawing back the rest *j*, placing the spool on the rests *j* and *c*, with the flanges on the outside of the registers *j*¹ and *c*¹, then pushing in the rest *j*, and fixing it in position by turning down the catch *k*, as shown. The register *c*¹ will limit the distance the spool has to be drawn back when it is required to be removed from the chamber.

95 After the end of the film has been connected to the spool on which it is wound after exposure said spool is placed on the rests *d* and *c* in the chamber *b*, the rest *d* having been first drawn back by the spindle *e*. The spool is then secured by the rest *d* being pushed in, so as to hold the spool between the disks *g* and *g*^x, the rest *d* being kept in the inward position by the catch *f*. The register *c*¹ will

limit the distance the spool has to be drawn back when required to be removed. The film is wound onto the receiving-spool by rotating the disk g' , the projections on the disk at the
 5 end of the spool engaging with the notches in or projections on the edge of the disk g' , the pressure of the disks j^2 and g^x on the loaded spool obtained by a spring behind the catch k causing sufficient drag to keep the film prop-
 10 erly extended. In place of the projections l^x on the disks of the spool holes or notches may be provided in said disks for projections which may be formed on the disk contained in the circular end of the rest to enter.

15 We claim as our invention—

1. In photographic cameras having two chambers one for the reception of a spool with the film on which the pictures are intended to be taken, and one for the spool on which the
 20 film is wound after the picture has been taken the mechanism by which the spools can be placed in said chambers, retained therein, operated and removed therefrom, consisting of semicircular rests d , c and j in combination
 25 with spools with disks at their ends which have one or more projections on or near their edges, substantially as and for the purpose hereinbefore described.

2. A film-carrying spool for a camera hav-

ing flat disks on its ends and a projection at
 30 the outer edge of the disks, in combination with a rotatable disk, adapted to bear against said flat end to rotate it, substantially as described.

3. A photographic camera having a spool 35 with disks at its ends and semicircular rests in which the disks are adapted to be placed and means for rotating the spool, substantially as described.

4. A photographic camera having a spool 40 with disks at its ends, semicircular rests in which the disks are adapted to be placed and registers in the rests, substantially as described.

5. A photographic camera having a spool 45 with disks, semicircular rests, rotatable disks in the rests, means to rotate them, and a spring means for holding said rotatable disks against the spool ends, substantially as described.

In testimony whereof we have signed our
 50 names to this specification in the presence of two subscribing witnesses.

JOHN WILKINSON.
 ALFRED WILKINSON.

Witnesses:

JNO. HUGHES,
 J. ERNEST HUGHES.