

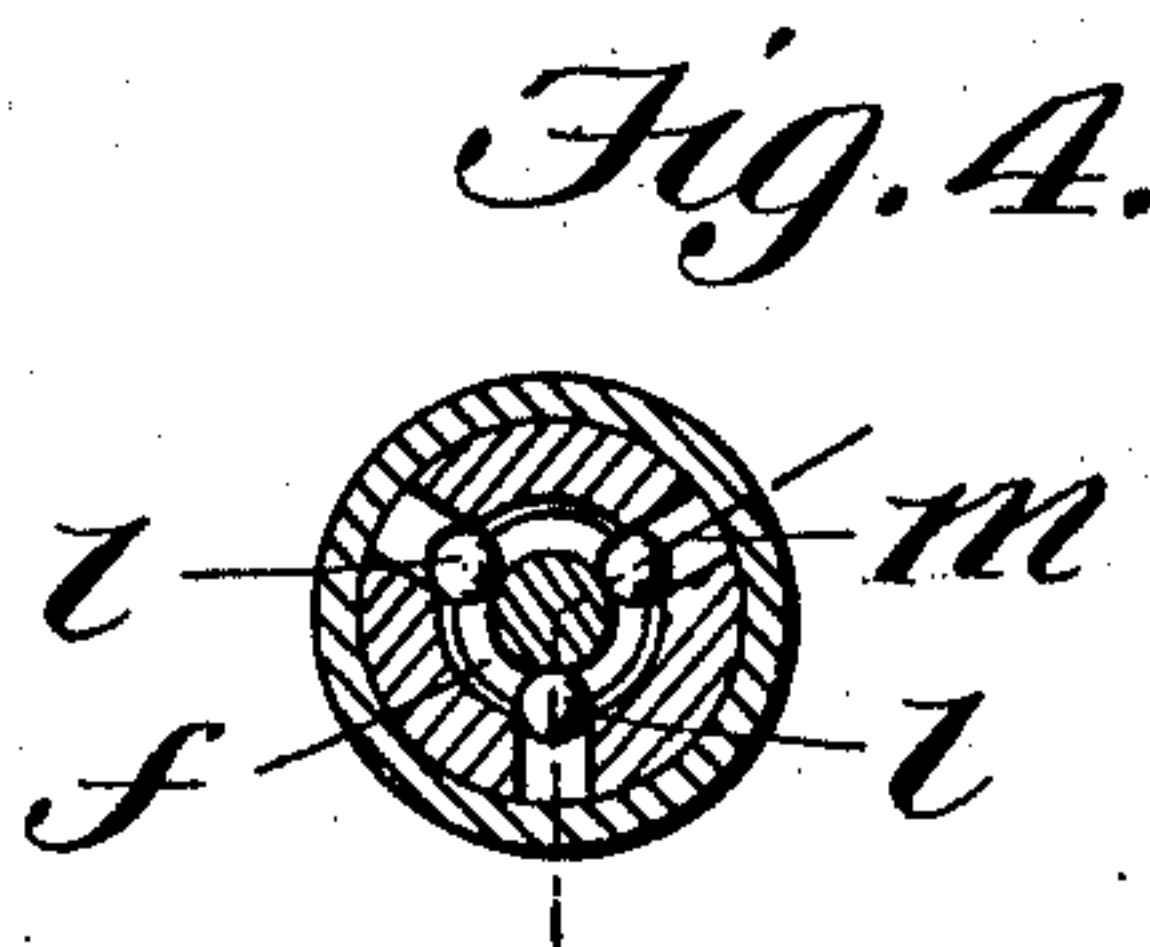
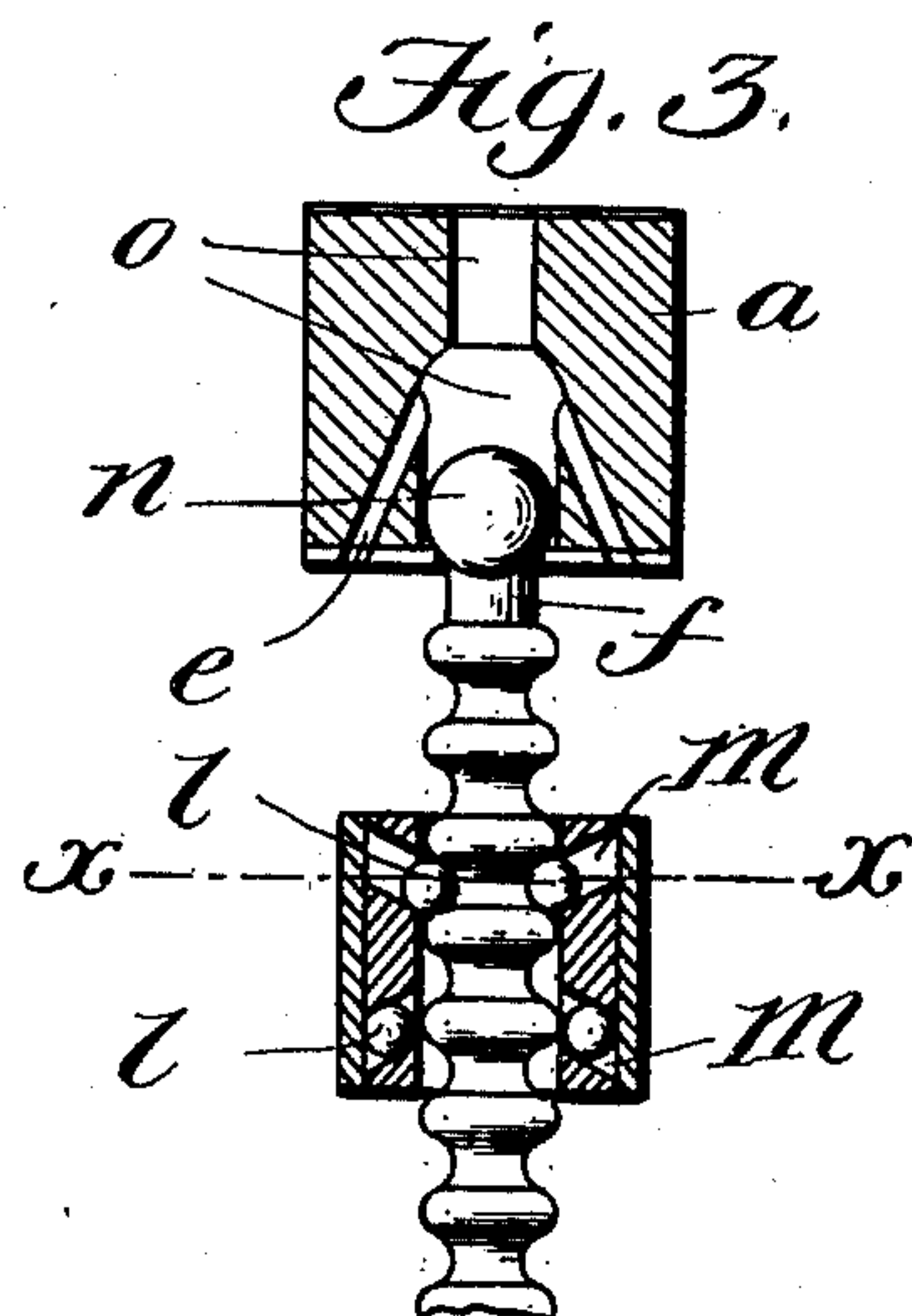
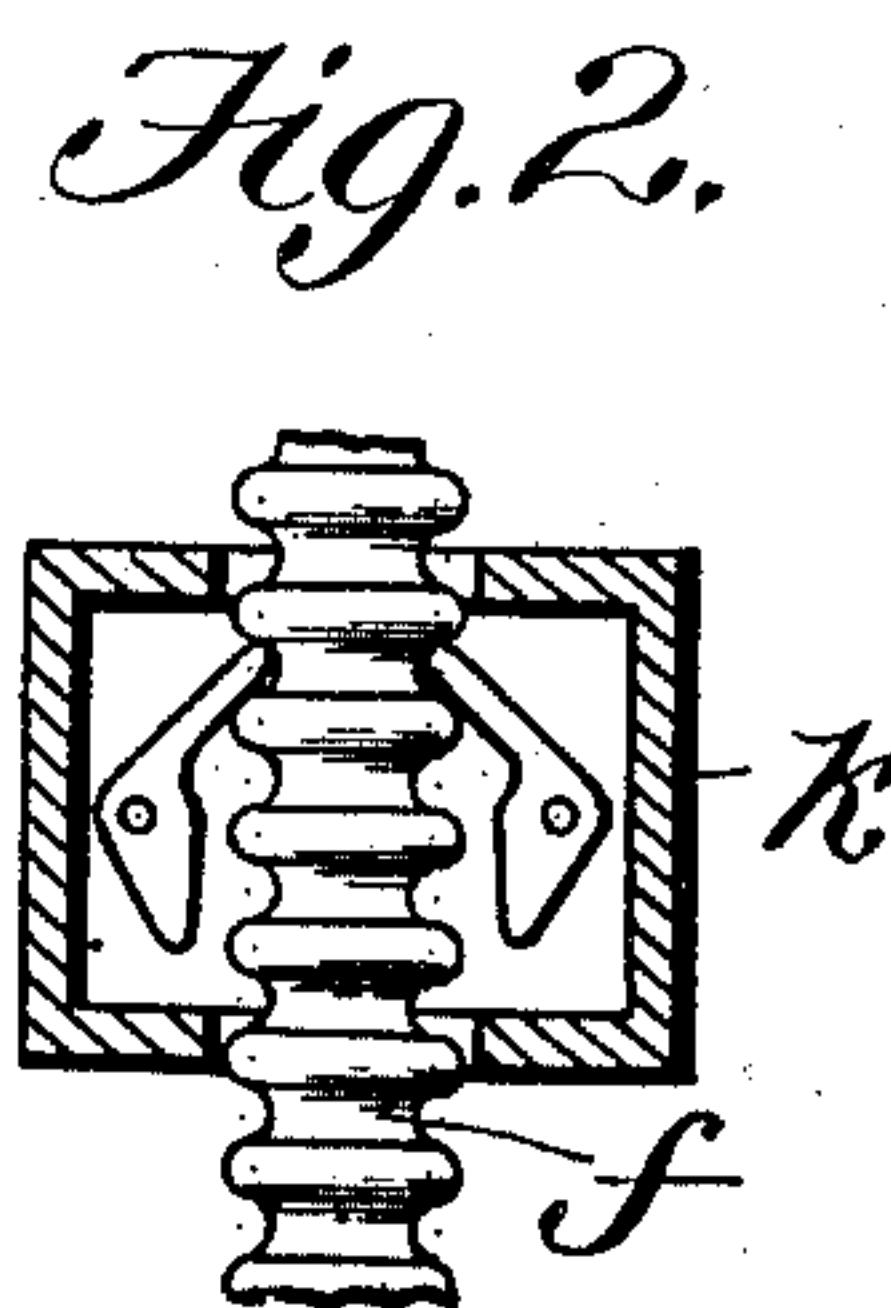
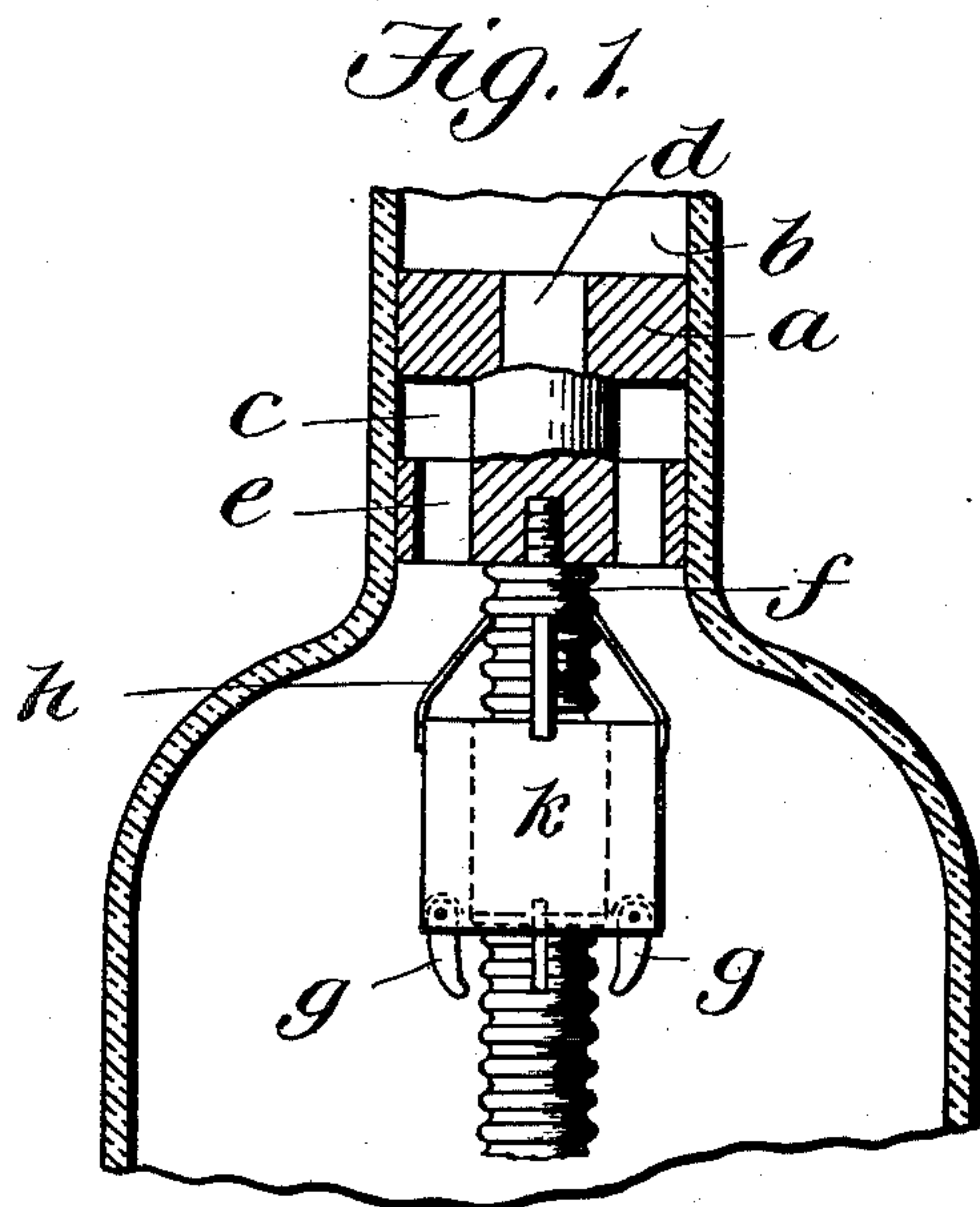
No. 703,291.

Patented June 24, 1902.

S. MYER & G. NAYLER.  
STOPPER AND FITTING FOR BOTTLES.

(Application filed Dec. 9, 1901.)

(No Model.)



Witnesses:  
C. D. Kesler  
J. B. Keefe

Inventor's  
Sydney Myer  
George Nayler  
By James L. Norwig  
Attu



# UNITED STATES PATENT OFFICE.

SYDNEY MYER AND GEORGE NAYLER, OF HEREFORD, ENGLAND.

## STOPPER AND FITTING FOR BOTTLES.

SPECIFICATION forming part of Letters Patent No. 703,291, dated June 24, 1902.

Application filed December 9, 1901. Serial No. 85,267. (No model.)

*To all whom it may concern:*

Be it known that we, SYDNEY MYER, residing at Barroll House, Hereford, and GEORGE NAYLER, residing at 2 Cleveland Villas, Breinton road, Hereford, England, subjects of the King of Great Britain and Ireland, have invented certain new and useful Improvements in Connection with Stoppers and Fittings for Bottles and the Like, (for which we have made application for Letters Patent in Great Britain, No. 9,767, dated the 10th day of May, 1901,) of which the following is a specification.

This invention relates to improvements in connection with stoppers and fittings for the same for use upon bottles and vessels which are intended to receive proprietary liquids or preparations, the object being to provide a form of stopper that will automatically indicate if foreign or unauthorized liquid has been introduced into the bottle after a portion of the whole of the original contents have been poured from the bottle or vessel.

In the accompanying sheet of explanatory drawings, Figure 1 is a sectional elevation of one form of our stopper attachment. Fig. 2 is a sectional elevation of a modified form of float for the same. Fig. 3 is a sectional elevation of an alternative method of construction of our stopper attachment. Fig. 4 is a sectional plan on the line X X of Fig. 3.

In carrying our invention into effect we provide within the neck of the bottle a stopper *a*, over which we place a seal *b*, such seal being of any suitable material for covering the orifice *c* in the upper end of the stopper. We provide within the stopper grooves *d*, through which the liquid can escape after having passed the lower openings *e*, such lower openings *e* not being opposite to the outlet openings or grooves *d*. To the lower end of the stopper we secure a stem *f*, which stem we make, preferably, in the form of a rack-like suspended rod having a series of rib-like serrations or teeth thereon for the purpose of receiving the catches or pawls *g* or *h*, provided upon our float or indicator *k*. We make the float *k* of such a material that it is free to sink with the falling of the liquid within the vessel, but is not capable of rising again should the level of the liquid be raised by the introduction of additional liquid into the bottle or the bottle be refilled after it has been

once emptied. This condition of automatic indication by the position assumed by the float *k* we secure by means of clip-like springing arms of wood or other suitable material, provided upon the float at its upper end. We also arrange supplementary hanging or inverted clips or pawls *g* near the base or within the interior of the float, as in Fig. 2, so that should the bottle be filled and inverted the hanging clips would engage with the serrations on the notched bar or stem *f*, and thus prevent the float rising.

When constructing our float and pendant in the manner illustrated in Figs. 3 and 4, we dispense with the clipping members *g* *h* and employ instead ball or roller-like locking members *l*, these balls being arranged, preferably, in upper and lower series of three within inclined pockets *m*, as shown in Fig. 3. The bottom balls fall away from the notched bar when the bottle is placed in a vertical position, while the upper ones fall into the locking position upon the bar, causing the float to remain stationary. The float being buoyant, we prevent its ascending when the bottle is inverted by means of the bottom series of balls, which then become engaged with the notched bar and prevent the float rising. By this arrangement the float will only descend as the liquid is withdrawn.

We sometimes provide upon the head of the pendent bar *f* a valve-like extremity *n*, which engages with the interior of the plug *a*, placed in an inverted position, and thus closes the aperture *o*, through which the liquid flows. When arranging our plug or stopper as shown in Fig. 3, we prefer to make the ports or passages *e* in an inclined direction, as illustrated, for communicating with the central outlet-chamber.

We modify the form of our stopper and plug and the method of attaching the notched or serrated bar or stem thereto, also the method of constructing our float and locking members for the same, to suit the size and form of bottle or vessel and the purposes for which such bottle or vessel is required.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a stopper for bottles and the like, the combination of a pendent bar provided with

serrations, a float movable on said bar, springs mounted on the upper part of said float for engaging the serrations in the bar to prevent upward movement of the float, and pivoted  
5 pawls on the lower portion of the float adapted to engage the serrations in the bar for preventing movement of the float when the bottle is inverted, substantially as described.

2. A stopper for bottles and the like having  
10 ing openings at right angles to each other, a pendent bar having serrations, and a float

having locking members to engage said serrations for preventing upward movement of the float when the bottle is inverted, substantially as described.

15

In witness whereof we have hereunto set our hands in presence of two witnesses.

SYDNEY MYER.

GEORGE NAYLER.

Witnesses:

JOSEPH THOMAS,

WM. A. W. PRICE.