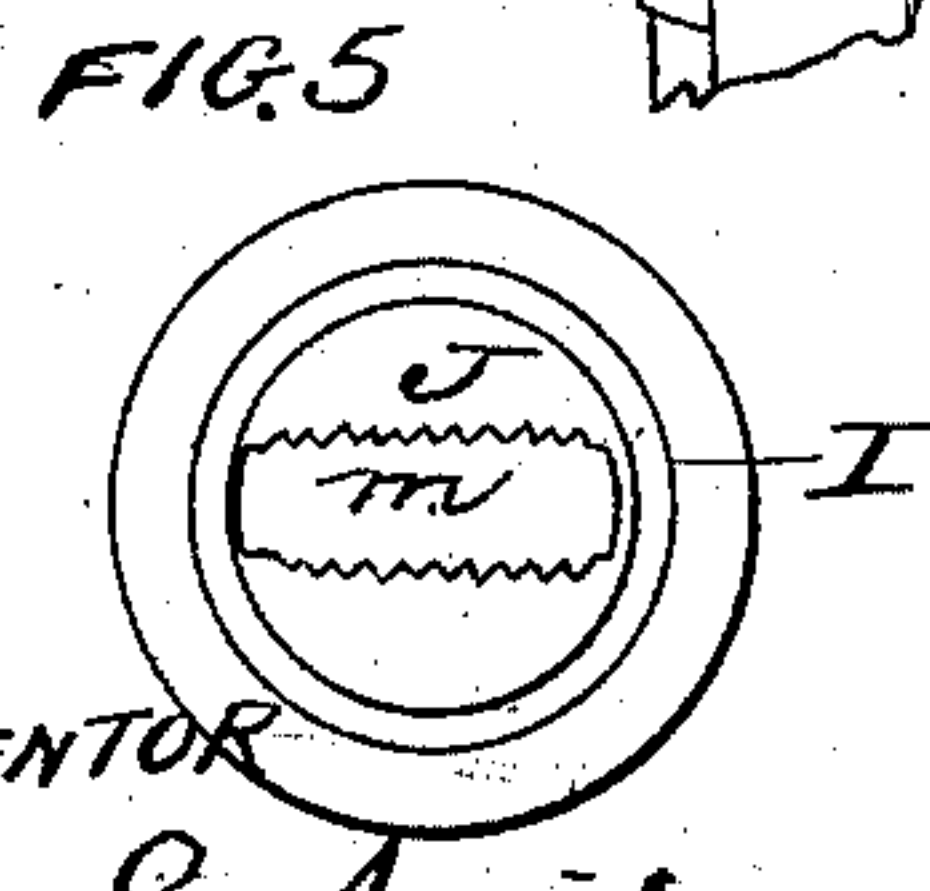
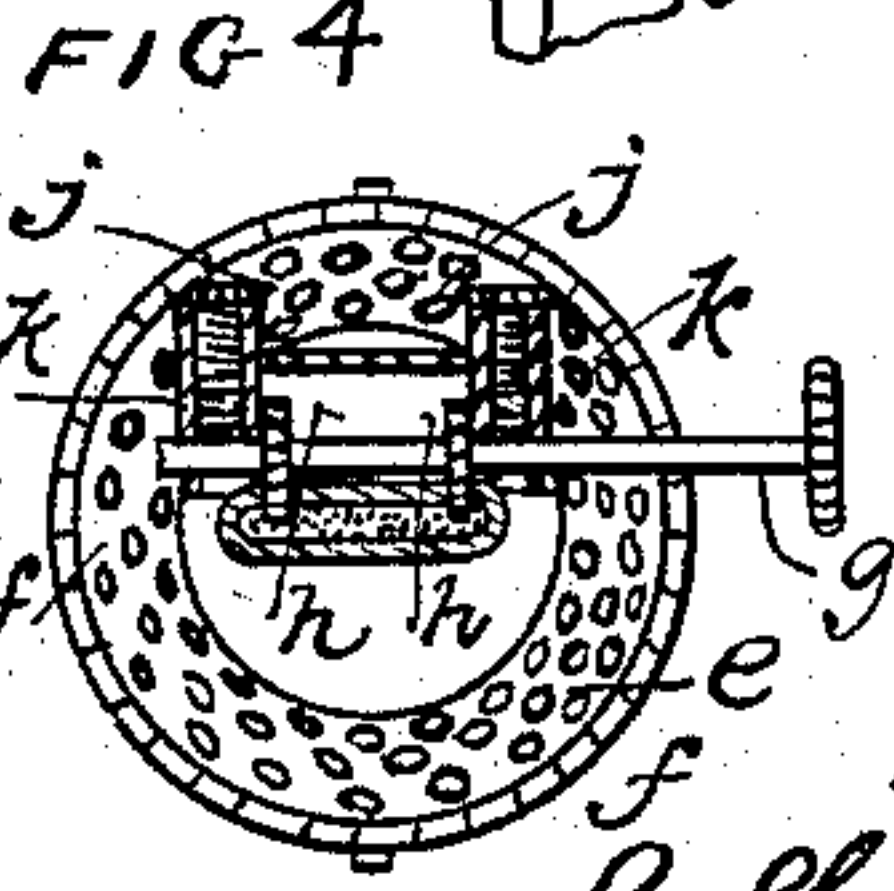
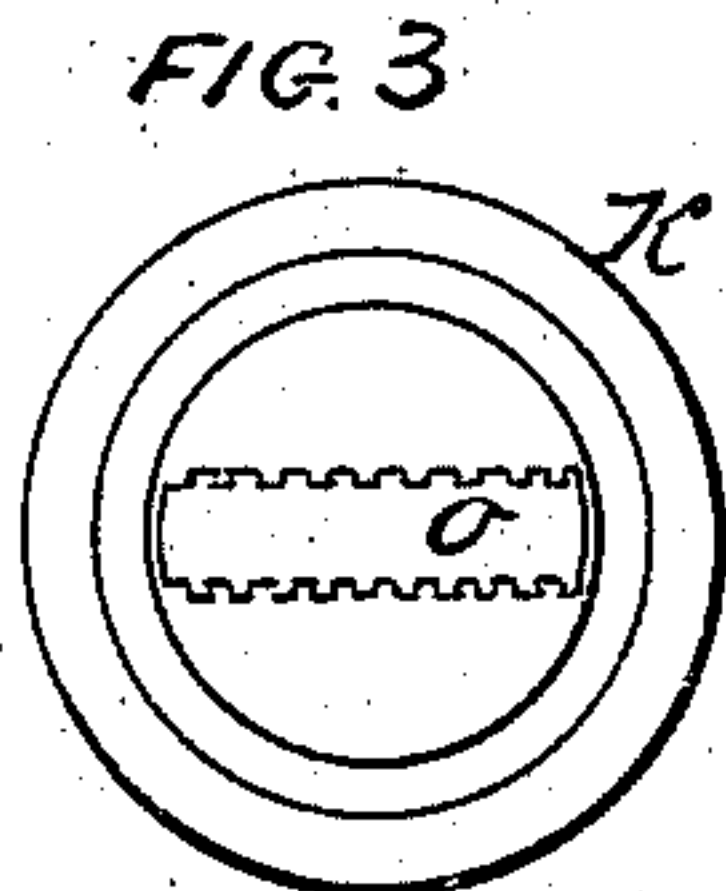
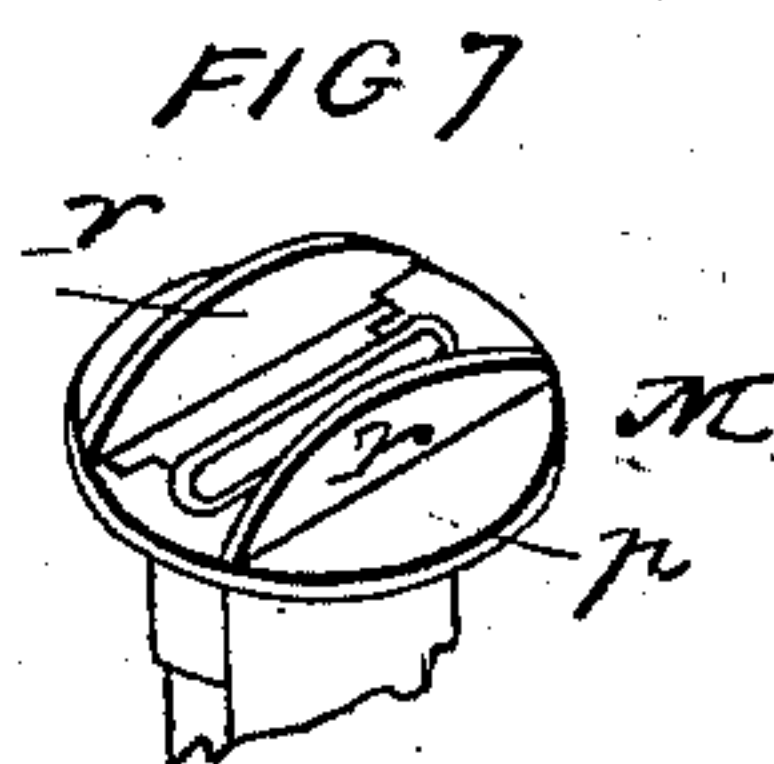
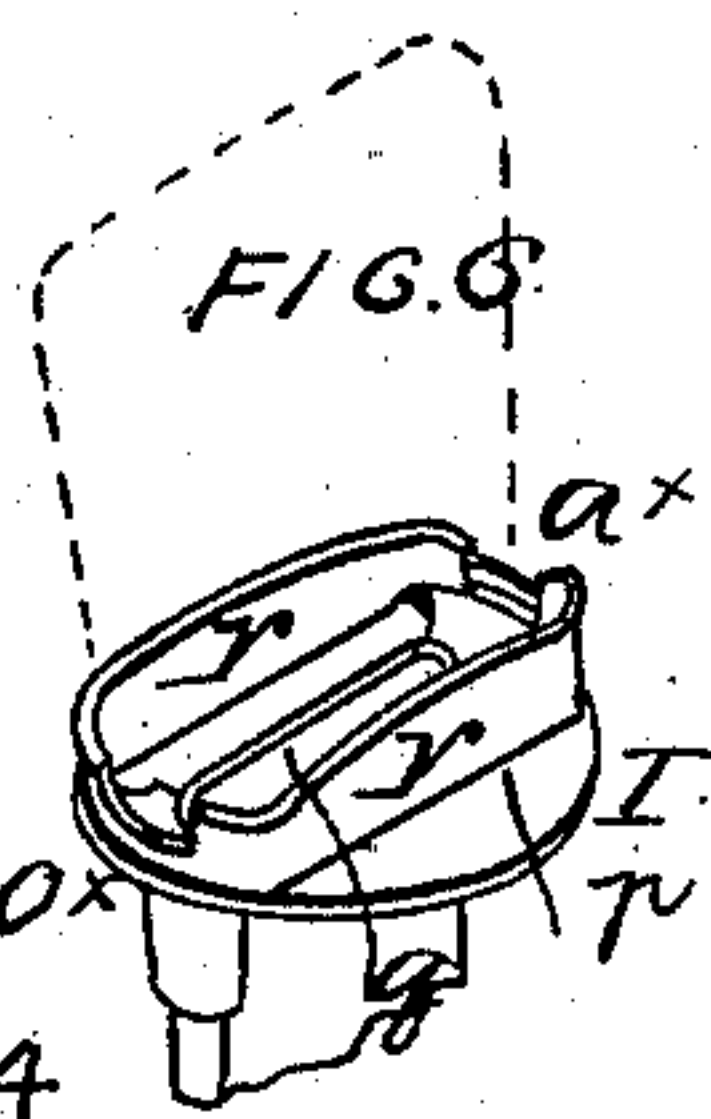
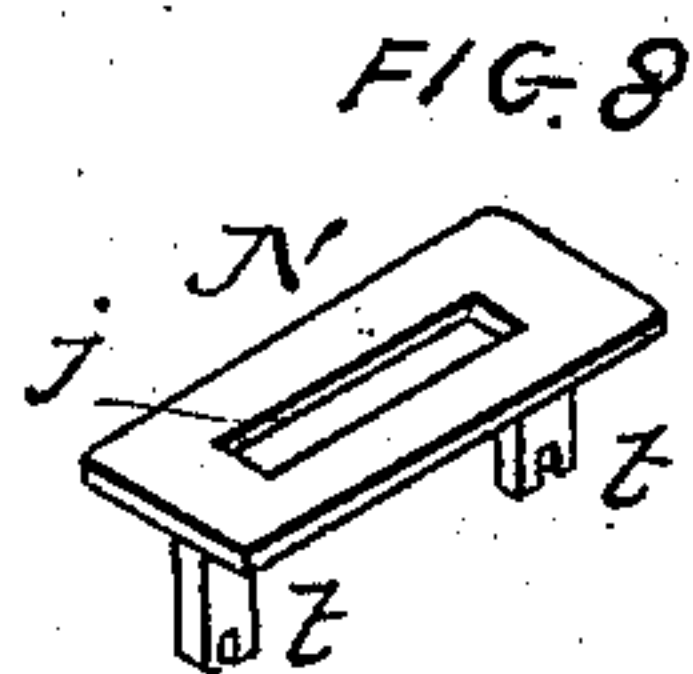
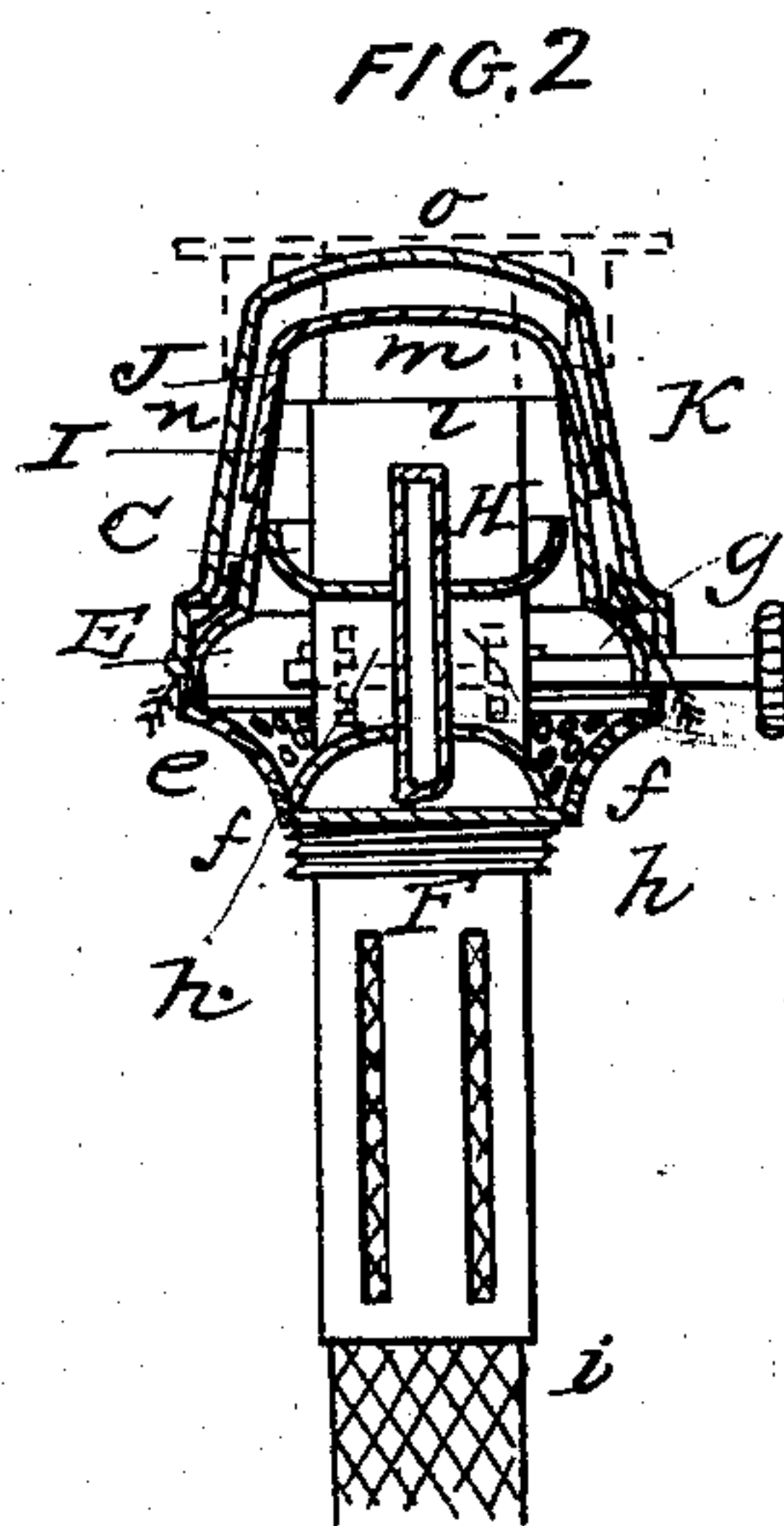
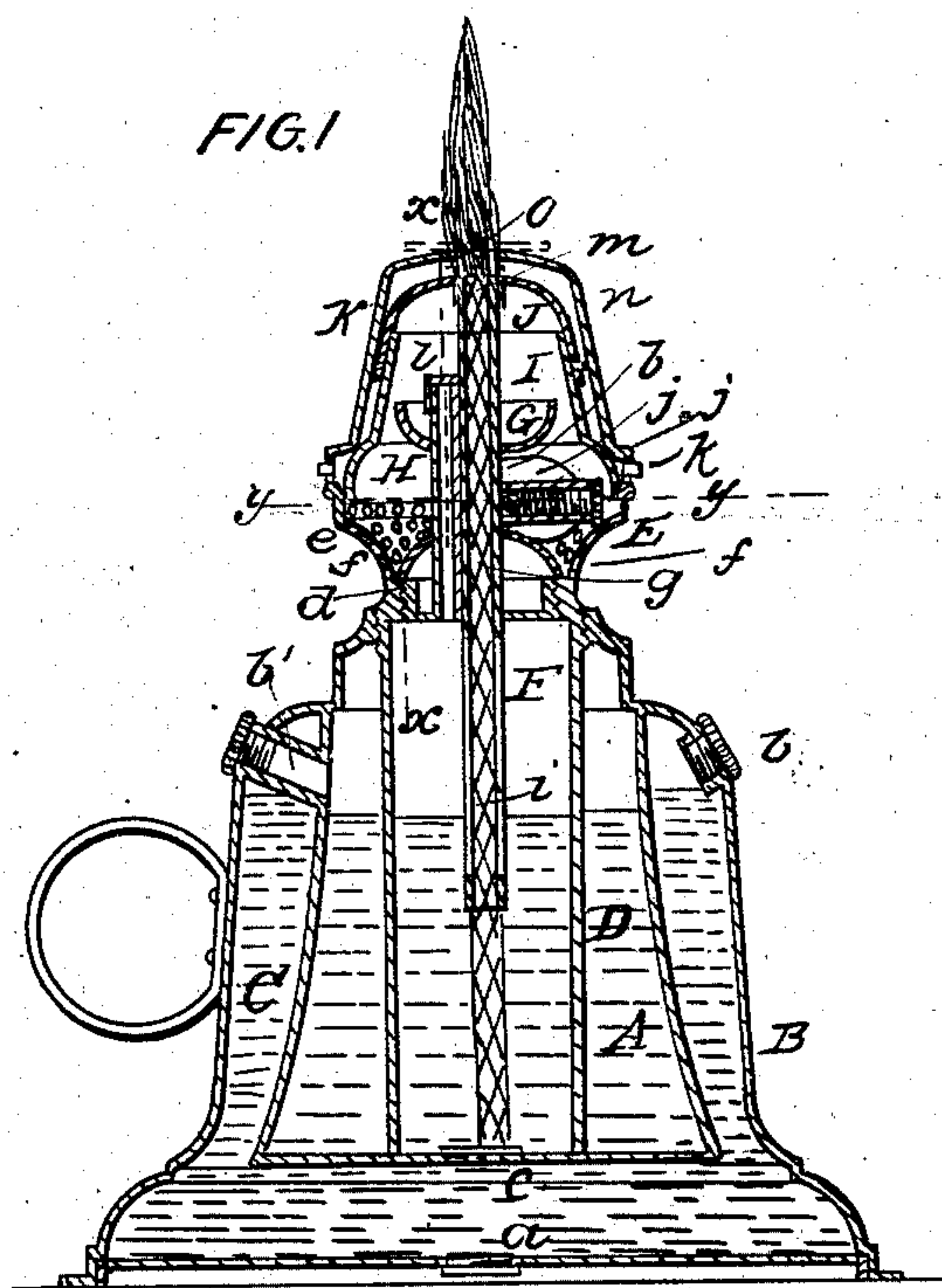


J. E. AMBROSE.

Lamp.

No. 32,110.

Patented April 23, 1861.



INVENTOR

Joseph E. Ambrose

UNITED STATES PATENT OFFICE.

JOSHUA E. AMBROSE, OF LENA, ILLINOIS.

LAMP.

Specification forming part of Letters Patent No. 32,110, dated April 23, 1861; Reissued March 14, 1865, No. 1,900.

To all whom it may concern:

Be it known that I, J. E. AMBROSE, of Lena, in the county of Stephenson and State of Illinois, have invented a new and Improved Lamp; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a vertical central section of my invention; Fig. 2, a vertical section of the burner of the same, taken in the line *x, x*, Fig. 1; Fig. 3, a plan or top view of the inner cone or deflector; Fig. 4, a horizontal section of the burner, taken in the line *y, y*, Fig. 1; Fig. 5, a plan or top view of the inner cone; Figs. 6 and 7, views of deflecting plates; Fig. 8, a detached perspective view of the snuffing attachment.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a new and improved lamp for burning paraffin and the various coal oils in use.

The object of the invention is to obtain a lamp which will burn the materials above specified without a chimney, and one which is portable or may be used as a hand lamp, and carried while burning, from place to place without smoking or emitting a disagreeable odor.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A, represents the body or fountain of the lamp, which may be of metal or other suitable material and encompassed by a jacket B, which forms a water chamber C, all around the sides and bottom of the body A, in which the paraffin or oil to be burned is placed. The chamber C, is provided with an escape or discharge plug *a*, at its bottom, and provided with a supply plug *b*, at its upper part, see Fig. 1. The bottom of the body A, of the lamp is also provided with a plug *c*, the use of which will be hereinafter described. The body A, is also provided with a supply plug *b*.

The orifice of the body A, of the lamp has the upper end of a tube D, secured into it, that is to say, when a small burner is used. This tube extends down to the bottom of the body A, and is perforated at its lower end to afford a communication between the body A, and the interior of the tube D, as shown

clearly in Fig. 1. The upper end of the tube D, has a screw thread *d*, cut in its inner side to receive the screw of the burner E, the shell *e*, of which is perforated as shown at *f*, to admit the external air.

F, is the wick tube of the usual flat form and which is fitted centrally in the shell *e*, extending some distance above and below it. In the shell *e*, there is fitted horizontally a shaft *g*, having spur wheels *h*, on it which engage with the wick *i*, in the tube F, the wheels *h*, passing through slots in the wick tube. The shaft *g*, is fitted in tubular bearings *j, j*, which have spiral springs *k*, in them said springs acting against the shaft *g*, and keeping the wheels *h, h*, engaged with the wick, and at the same time allowing the wheels to yield to the inequalities of the wick. This arrangement prevents the wheels *h*, from becoming loose on their shaft, and also prevents any undue pressure of the wheels against the wick at the same time insuring a sufficient pressure to cause the wick to be raised and lowered.

On the wick tube F, there is placed a basin or cup G, and to the side of the wick tube there is attached a small cylindrical tube H, which extends down through the bottom of the burner and communicates with the interior of the body or fountain A, of the lamp, and extends upward nearly to the top of the wick tube, and has its upper end covered with wire cloth *e*.

I, is a conical tube which is fitted on the shell *e*, and extends upward to a level with the top of the wick tube. The upper perforations of the shell *e*, are above the base of the tube I, as shown clearly in Fig. 1. On the top of the conical tube I, there is placed a dome-shaped cap or deflector J, having a slot *m* in its upper end with serrated edges shown clearly in Fig. 5, and around the tube I, and concentric with it, there is placed a cone or deflector K, the base of which is attached to the shell *e*, and a space *n*, allowed between the cone and the tube I. The top of the cone or deflector K, is provided with a slot *o*, which is notched at its edges as shown clearly in Fig. 3.

L, M, Figs. 6 and 7, represent two deflectors which are placed on the top of the wick tube F, when necessary to be used. These deflectors are simply horizontal circular plates *p*, slotted as shown at *q*, and having flanges *r*, around their slots or open-

ings. The deflector M, in Fig. 7, has open ends, but the deflector L, Fig. 6, has partially closed ends with flaring jaws a^x .

N, Fig. 8, is a flat metal plate which has an oblong slot s , through its center corresponding in size to a transverse section of the wick tube, so that the top of the wick tube may fit in the slot s . The plate N, is provided with pendants t , t , one near each end as clearly shown in Fig. 8.

When paraffin or heavy oils are to be burned the chamber C, is supplied with warm water which keeps the paraffin or oil in a proper fluid state, and in burning oils of light grade when warm water is not required the plug c , in the body A, of the lamp may be withdrawn and the water will keep the oil in the body A, pressed up toward the burner, the oil in consequence of being specifically lighter than the water, floating on the top of the latter in the body or fountain A, and which in consequence of having a tendency to find its own level will produce the effect described. The tube H, admits the vapor which may be produced at the surface of the oil to ascend up and come in contact with the flame, and be burned. The lamp will thereby be prevented from exploding by the pressure of gas within, a contingency of not unfrequent occurrence in burning volatile hydrocarbons.

In burning paraffin or heavy oils which require to be warmed in order to be sufficiently fluid to burn readily, I place a small quantity of paraffin in the cup G, which in consequence of being near the flame soon melts, and drops through openings b^x , and saturates the wick i , so that the lamp will burn at once or before the material in the body or fountain A, is warmed.

By having the cone or deflector K, and tube I, with its cap J, arranged as shown, the air is brought in direct contact with the base of the flame, and air is allowed to pass up through the serrated or notched edges of their slots m , o , and come in contact with the flame and a series of quick currents are produced the notches dividing the general upward current and causing the air to impinge against the whole surface or area of the flame. This arrangement effectually prevents the flame being affected by an upward movement of the lamp, as the strong upward draft prevents the flame being affected by the resistance of the air as the lamp is moved upward a steady flame is therefore obtained. The top of the wick i , projects through the slot m , of the cap J, so that the base of the flame will be between the cap J, and cone K.

The deflectors L, M, allow a flame of greater or less intensity as may be desired. When a very broad flame is required, the deflector L, is employed, which by being provided with the flaring jaws a^x , a^x , prevents the air coming in contact with the edges of the flame and consequently a broad flame is produced. By using the deflector M, which has open ends a narrow flame is produced, because the air is allowed to impinge against the edges of the flame, the flanches r , having open ends. The deflectors when used are placed on the top of the wick tube F, and the cap J, removed, the plates p , resting on the top of tube I. They constitute attachments which are very necessary at certain times when a flame of a certain width or intensity is desirable.

The tube D, serves as a chamber to retain the oil around the wick tube and prevent it from being unduly agitated around the wick tube when the lamp is moved. It also admits by its removal of a larger burner being inserted in the lamp.

When it is necessary to snuff the lamp or to trim the wick the metal plate is adjusted to the cone K, the top of the wick passed through the slot s , and the wick trimmed off or cut flush with plate N. In Figs. 1 and 2 the plate N, is shown adjusted to the burner in red, the pendants t , t , resting on the ends of the slot o , of the cone K. This device insures an even trimming of the wick an important feature in burning coal oils.

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

1. The employment or use of the water chamber C communicating through a stoppered opening with the body or fountain A, of the lamp, and arranged to operate substantially as and for the purpose set forth.

2. The arrangement of the springs k , k , shaft g , and wheels h , h , substantially as shown for elevating and lowering the wick as described.

3. The combination with the cone K of the short tube I, adapted and employed in the manner set forth for the attachment of movable inner deflectors of various forms.

4. The plate N, provided with the slot s , and pendants t , operating in connection with the outer cone on deflector K, in the manner and for the purposes set forth.

JOSHUA E. AMBROSE.

Witnesses:

M. M. LIVINGSTON,
LEWIS A. TUCKER.