

E. F. GENNERT.
KEROSENE BURNER.
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975,411.

Patented Nov. 15, 1910.

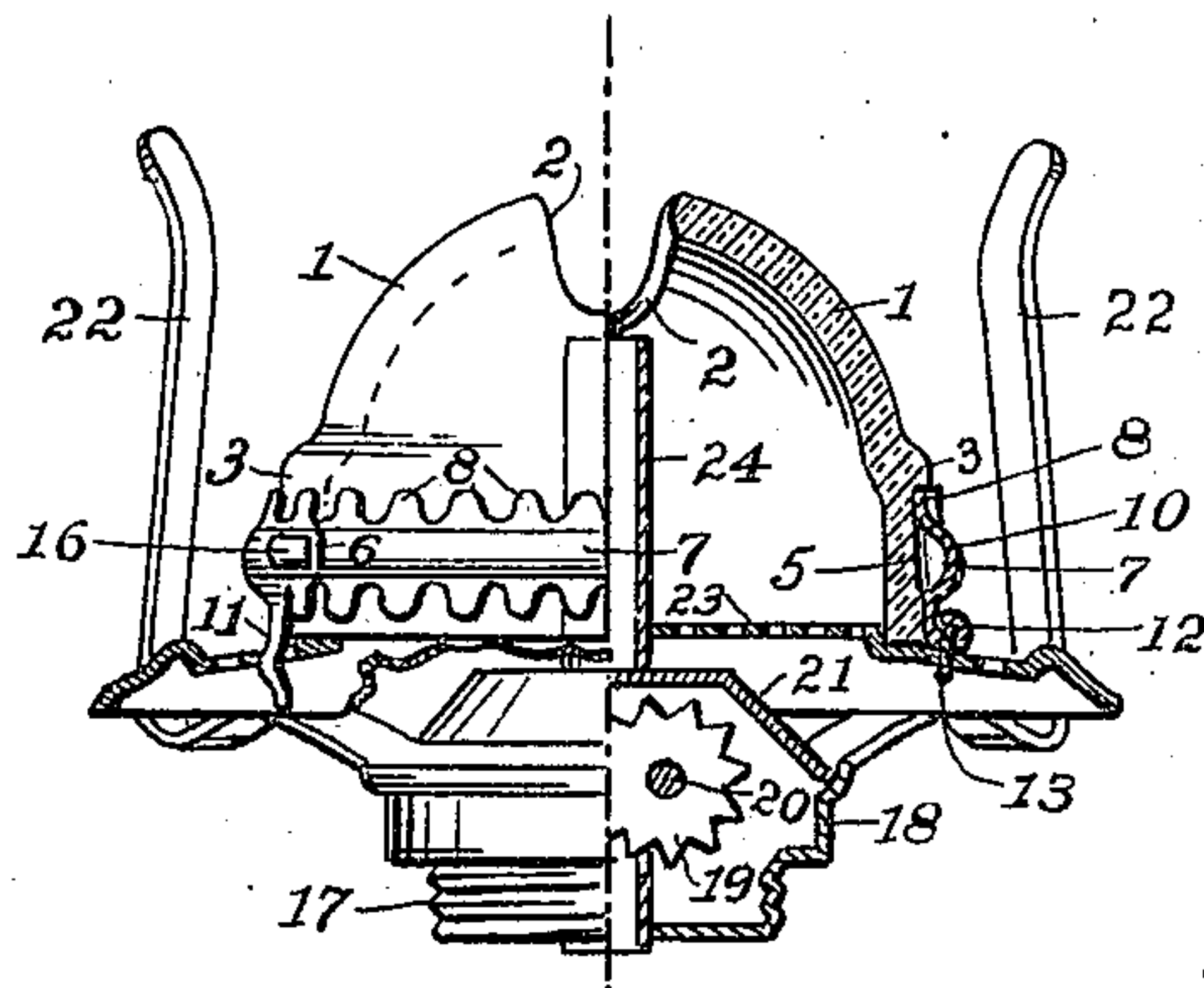


Fig. 1.

Fig. 6.

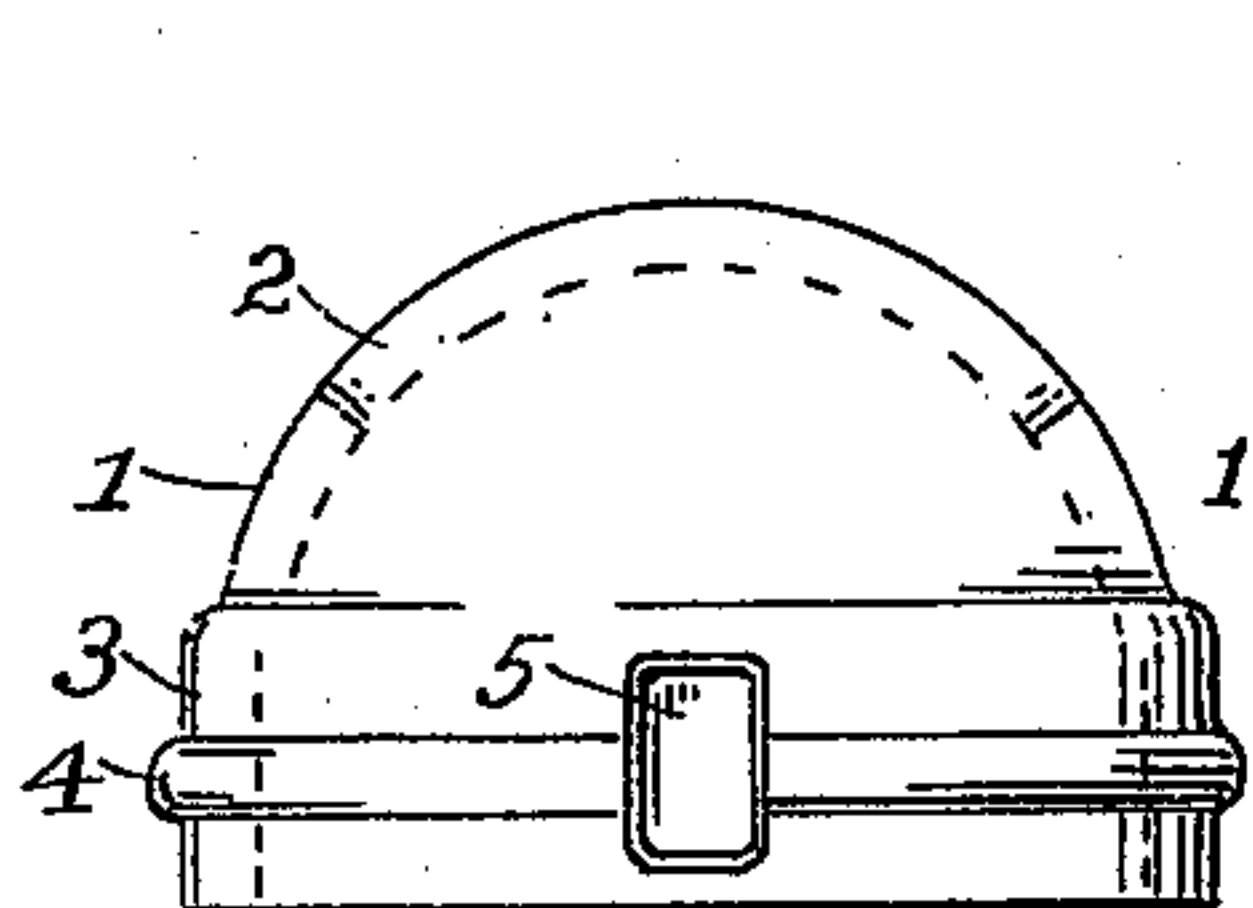
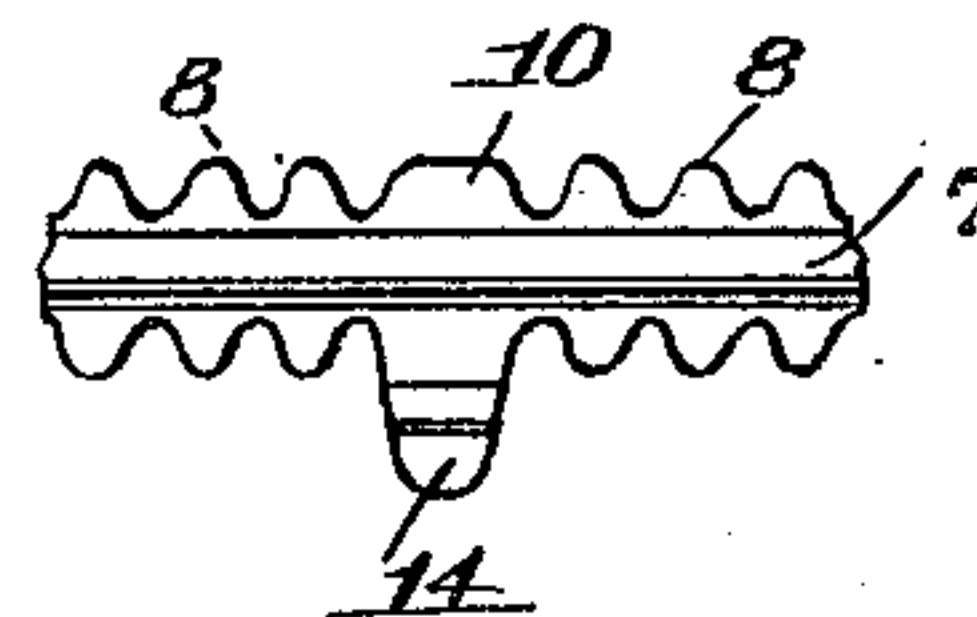


Fig. 3.

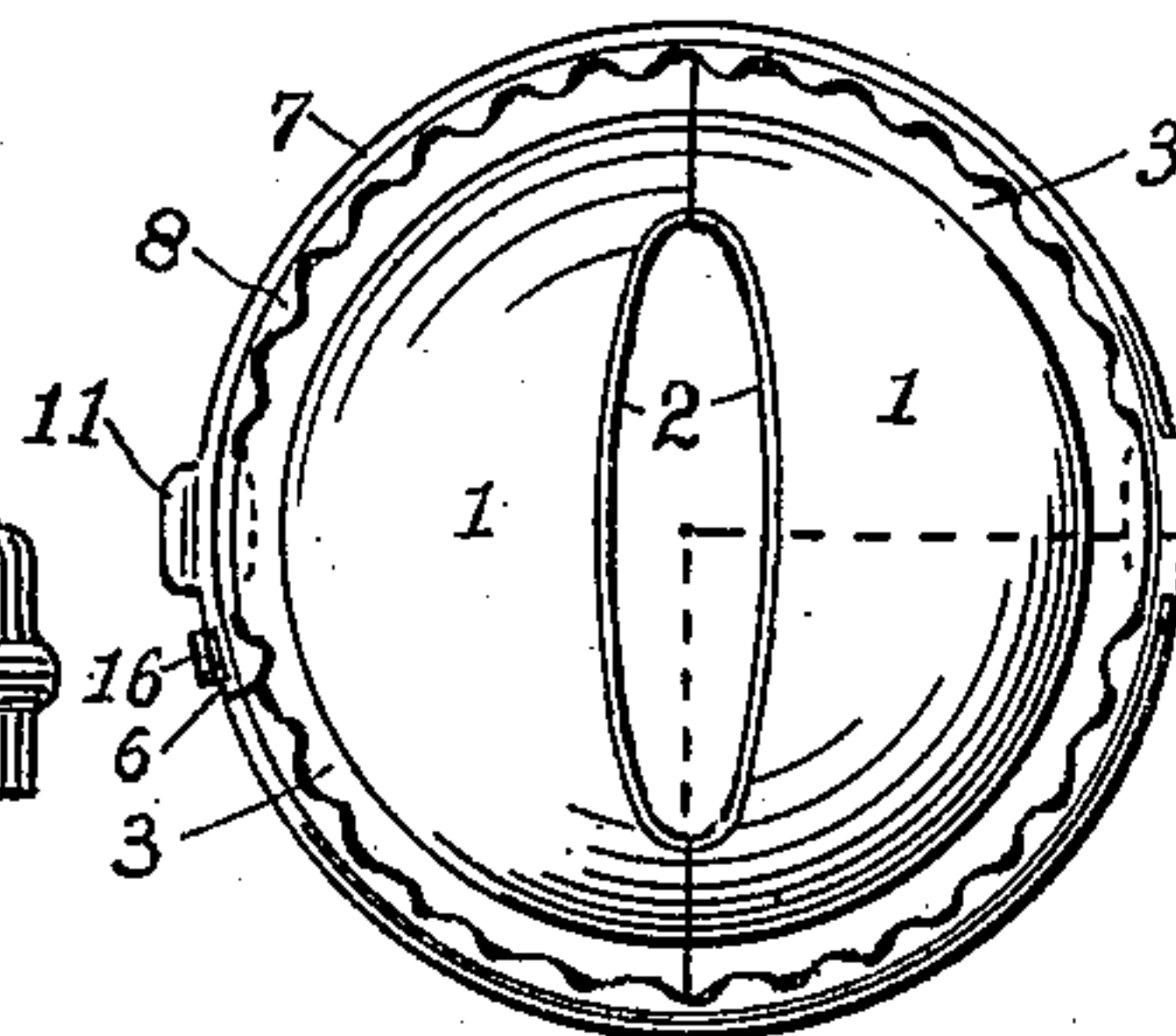


Fig. 2.

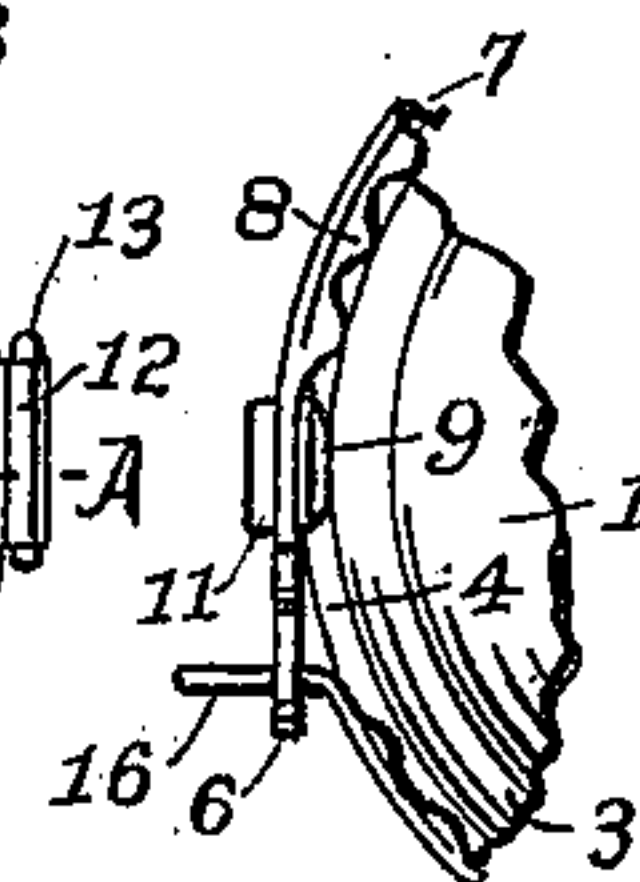


Fig. 4.

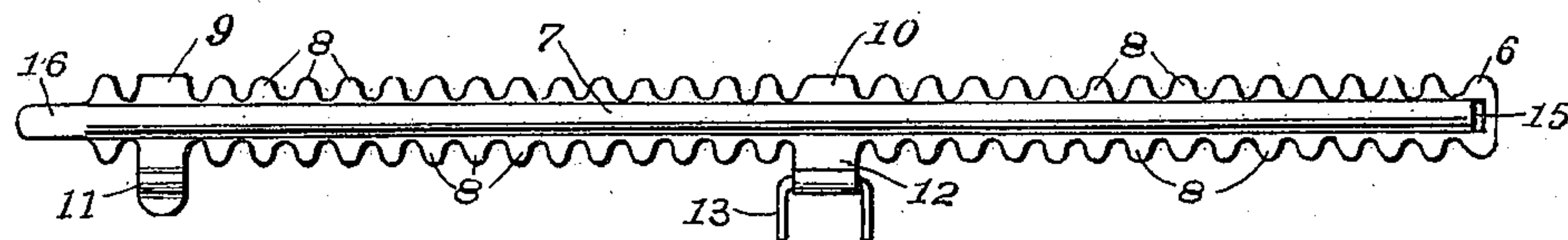


Fig. 5.

WITNESSES

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UNITED STATES PATENT OFFICE.

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KEROSENE-BURNER.

975,411.

Specification of Letters Patent.

Patented Nov. 15, 1910.

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To all whom it may concern:

Be it known that I, EMIL F. GENNERT, a citizen of the United States of America, residing at New York city, in the county and State of New York, have invented a new and useful Improvement in Kerosene-Burners, of which the following is a specification.

My invention relates to kerosene oil burners, of that class in which a glass cone—so called—is used instead of a metal one, and has for its objects, a simple and cheap construction of such a cone both in the manufacture of the glass parts as well as the metal which usually holds the two halves of the glass cone together and in position on the body of the burner.

To the end that the present invention may be more readily understood, I will state that it has been hitherto proposed to provide lamp-burners with glass cones, which are made in two sections with a flame opening between them. It is essential, in such constructions, that means be provided to hold the two sections in position, and also that means be provided for preventing rotative movement of the cone with relation to such holding means, and which will also serve to determine the position of the flame opening with respect to the wick tube so as to secure accurate alinement of the two. It is apparent that in order to bring the cost of such burners within the limits of a popular demand therefor, the holding means must be not only effective in use but must also be of such character that it may be inexpensively produced, and this also is true of the cone, which is molded. I have found that by making each cone section with a depression or pocket, located at diametrically opposite places and suitably above the base of the cone, all the advantages of bosses, lugs or shoulders of the previous proposals are obtained with an entire absence of the disadvantages thereof.

Another new feature of the invention is in the form of the means which holds the cone sections together and coöperates with the recesses in determining the position of the flame opening of the cone with reference to the wick tube and prevents rotation of the cone. As herein produced this element is of such construction that it may be produced in finished form with very little scrap, at one blow of a press, instead of requiring a series of operations and producing in its man-

ufacture a comparatively large quantity of waste metal. The holding strip referred to, is flexible so that it may be drawn around the cone sections,—upon the bead with which each cone section is provided,—and hold the two sections together against relative movement. It is formed at proper places with elements which are adapted to be pushed into said depressions or recesses and thereby coöperate with the latter in positioning the cone. It further is formed with spring fingers which extend from the edges thereof and have free ends which press upon the portion of the cone base above and below the bead, and thus assist in holding the cone sections together without however preventing expansion or contraction of the latter.

This constitutes what I at present regard as the best known form of the invention, but to the details of which my invention is not, in all respects, restricted, as many changes in the details and many apparently widely different variations thereof may be made without departing from the spirit of the invention or the scope of the subjoined claims.

In the accompanying drawings illustrating the present invention, Figure 1, is a side view of my improved burner, one half of cone being shown in elevation and one half in a center sectional view on line A—A of Fig. 2. Fig. 2 is a plan view of my improved cone and band. Fig. 3 is a side elevation of the cone as made by the mold. Fig. 4 is a plan view of a part of the cone and band, showing the tongue and eye section of the band as it appears when cone is being girdled, and Fig. 5 shows a strip of metal, ready for encircling the cones, and Fig. 6 shows a modification of the catch used when the cover is made removable from the burner, the ends of the strip being broken away.

Similar reference numbers indicate like parts.

The cone is composed of two halves, being duplicates of each other and produced by one mold, and a description of one half or section will describe the other section, the two parts when assembled being hemispherical or dome shaped as will be seen in Figs. 1 and 2. The upper part of the cone 1 is round, representing the section of an arc. 2 is the flame slot, 3 is an enlarged cylindrical base, having a small bead, 4, about midway; 5 is a recess. The cone is pressed

in a mold so constructed that when the cone is removed it will have the proper shape in and outside, and will be provided with the bead, recess, flame slot and cylindrical base.

5 This cone, therefore, is of such construction that it may be completely pressed in a mold, without danger of waste and embodies no projecting fragile elements liable to be readily broken.

10 To secure the two cone-sections together, I have devised, as already stated, a special form of holding means which is specially adapted thereto and which is of such form that it may be stamped at one operation,
15 with comparatively no waste or scrap. In fact by suitably modifying the punch and die shown in Patent Number 382,337 granted May 8, 1888, to myself and D. N. Gleason, the holding strip can be made with-
20 out any scrap, or waste of material. The two sections are secured together by a strip of metal—Fig. 5—having a central groove, 7, and a series of scallops 8 on both sides of the groove, the scallops when
25 formed, inclining inward, (as shown in Figs. 1 and 2,) acting as a plurality of springs for pressing the sections of the cone together, in such a manner as to permit said cone to freely expand or contract.

30 9—10 are locks, formed of scallops of a preferably greater width than the scallops 8; these locks 9—10 are pushed into the recess 5 which occurs in each of the cone sections, the two locks being diametrically op-
35 posite each other when the ring or girdle is coiled up. Below the lock 9 a catch 11 is provided which enters a slot in the body of the burner and below the lock 10 a compara-
40 tively wider piece of metal 12 is formed, which is folded or rolled up over a wire 13, which when the free ends of the wire are fastened to the body of a burner forms a
45 hinge, so that the cone can be thrown back for the purpose of trimming the wick or cleaning the cone. I show this construction for the reason that it is a very common one, being used on the "Eureka" and other well-
50 known types of burners, a metal cone similarly secured to the body of a kerosene burner being fully shown and described in Patents Nos. 283,108 and 480,404 issued to Thomas Hipwell respectively on August
14th, 1883 and August 9th, 1892.

55 When it is desired to have a removable cone, such as is used on the "Queen" and similar burners, then I provide a catch instead of a hinge, as shown in detail in Fig. 6.

60 Near one end 6 of the metal strip I provide a slot 15 into which a tongue 16 enters when the girdle is formed about the cone; this tongue is bent backward, as shown in Figs. 1 and 2.

65 It is obvious that my improved glass cone is adapted only for flat flame burners and as

I can apply my cone to many types of such burners, I do not claim the burner, *per se*, and will describe it only so as to show the operation of my cone on such a burner, which is usually constructed as follows: The burner has the usual screw 17, ratchet box 18, ratchet wheel 19, ratchet shaft 20—
(broken away)—ratchet box cover 21, chimney springs 22, air distributor plate 23, and wick tube 24.

Such being the construction, the operation is as follows—Two sections or halves of a cone are placed in a suitable temporary holder for assembling; the strip of metal, having been rolled up into an open circle, is then fitted about the cylindrical part of the cone, the bead on the cone entering the groove in the strip; the locks are set on a line with the recess in each cone and the tongue 16 is passed through the slot 15, the tongue being long enough to accommodate any varying diameters or circumferential measurement of the cone, which is well known to occur owing to the density of the glass and temperature at which it was pressed. When the tongue has been drawn tightly so that the scallops press against the cones, the tongue is bent over on itself, so to speak; the locks are pressed into the recesses and the cone is ready to be set or mounted on the air distributor plate of the burner. By reason of the depending catches (or catch and hinge) in combination with the recesses and locks, the flame slot in the cone will positively aline with the wick tube, and when the cone is removed for cleaning or other reasons, it will always be in its proper position when replaced on the burner. As there are no lugs or other projections on the glass cone it can easily be wiped off, there being nothing to catch or retard a rotary movement of the material which may be used for cleaning purposes, and as there is very little scrap metal removed from the strip, the cone and its retaining girdle are very cheaply made. If desired, the tongue 16 can be made comparatively short and permitted to project as shown in Fig. 4 for the purpose of removing the cones from the metal strip, without bending said tongue. When the cone expands by reason of the heat of the flame, the spring like scallops will yield and when the burner is cooled off, the scallops will press the halves together, the bead and groove keeping the two parts in a horizontal alinement. The cones do not set in or above a metal band, but rest directly on the air distributor plate, whereby the glass is kept cooler by the up going draft than when the cone is set up into or within a metal band as has been done heretofore.

What I claim as new and desire to secure by Letters Patent of the United States is:—

1. In a kerosene burner, a glass cone made

in sections each having a bead, and means for securing the sections together consisting of a flexible strip which encircles the cone and is engaged with the beads and is provided with a series of elastic projections to bear upon the latter.

2. In a kerosene burner, a glass cone made in sections each having a bead, and means for securing the sections together consisting of a flexible strip which encircles the cone and is engaged with the beads and has its edges provided with series of elastic projections which bear upon the cone above and below the bead.

3. In a kerosene oil burner, a metallic body or burner of the type described, a glass cone in two sections, each section being a counterpart of the other, said cone sections being each provided with a recess and a peripheral bead extending on each side of said recess, a metallic strip provided at each edge with scallops and with means for fastening said strip around said cone sections when assembled, and fastening means to removably position said cone on said burner, substantially as described.

4. In a kerosene burner, a glass cone comprising a plurality of sections, and means for holding the sections together and removably upon the burner, consisting of a flexible strip adapted to encircle the cone and having means for separably connecting its ends with each other and also having means to determine the position of the cone.

5. In a kerosene burner, a glass cone comprising a plurality of sections, and means for holding the sections together and removably upon the burner, consisting of a flexible strip adapted to encircle the cone and having means for separably connecting its

ends with each other and also having projecting yieldable fingers to engage the cone.

6. In a kerosene burner, a glass cone comprising a plurality of sections, and means for holding the sections together and removably upon the burner, consisting of a flexible metal strip adapted to encircle the cone and having means for separably connecting its ends with each other and also having projecting yieldable fingers to engage the cone and projections to determine the position of the cone.

7. In a kerosene burner, a glass cone made in sections and provided with a peripheral bead and with recesses, the lower edge of said bead being above the lower edge of the cone, and a holding means which embraces said bead and extends around the cone and has projections to enter said recesses and is free from engagement with the lower edge of the cone.

8. In a kerosene burner, a glass cone made in sections and provided with a peripheral bead and with recesses, the lower edge of said bead being above the lower edge of the cone, and a holding means which embraces said bead and extends around the cone, said holding means being free from engagement with the lower edge of the cone and having projections to enter said recesses and elastic fingers to engage the cone.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses, this fourth day of January 1907.

EMIL F. GENNERT.

Witnesses:

EDGAR M. GREENBAUM,
CHARLES V. DWYER.