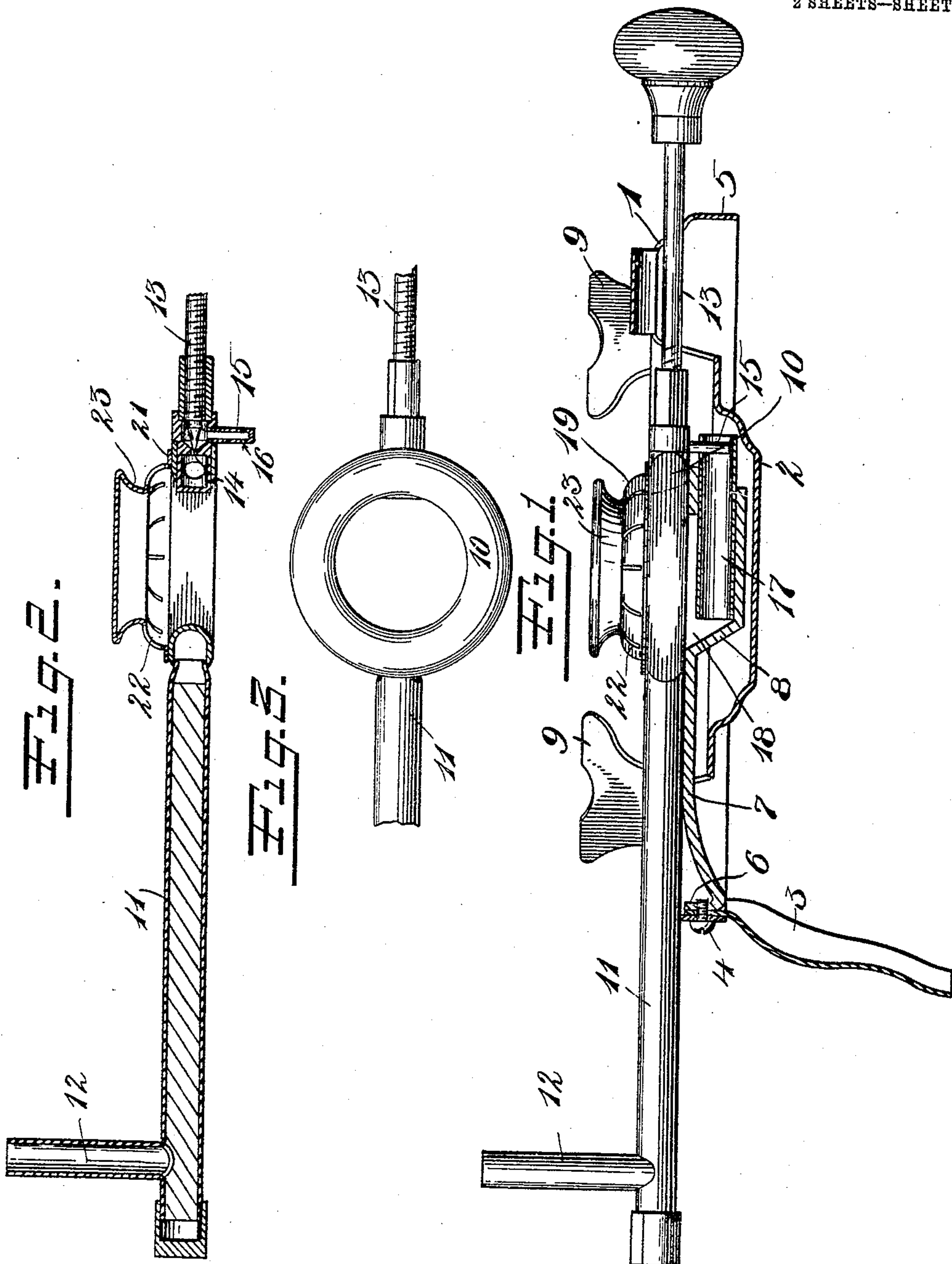


E. A. GUTERMANN.
VAPOR STOVE.
APPLICATION FILED OCT. 23, 1908.

948,393.

Patented Feb. 8, 1910.

2 SHEETS—SHEET 1.



Witnesses:
Chas. A. Reed
Fred M. Dammeyer.

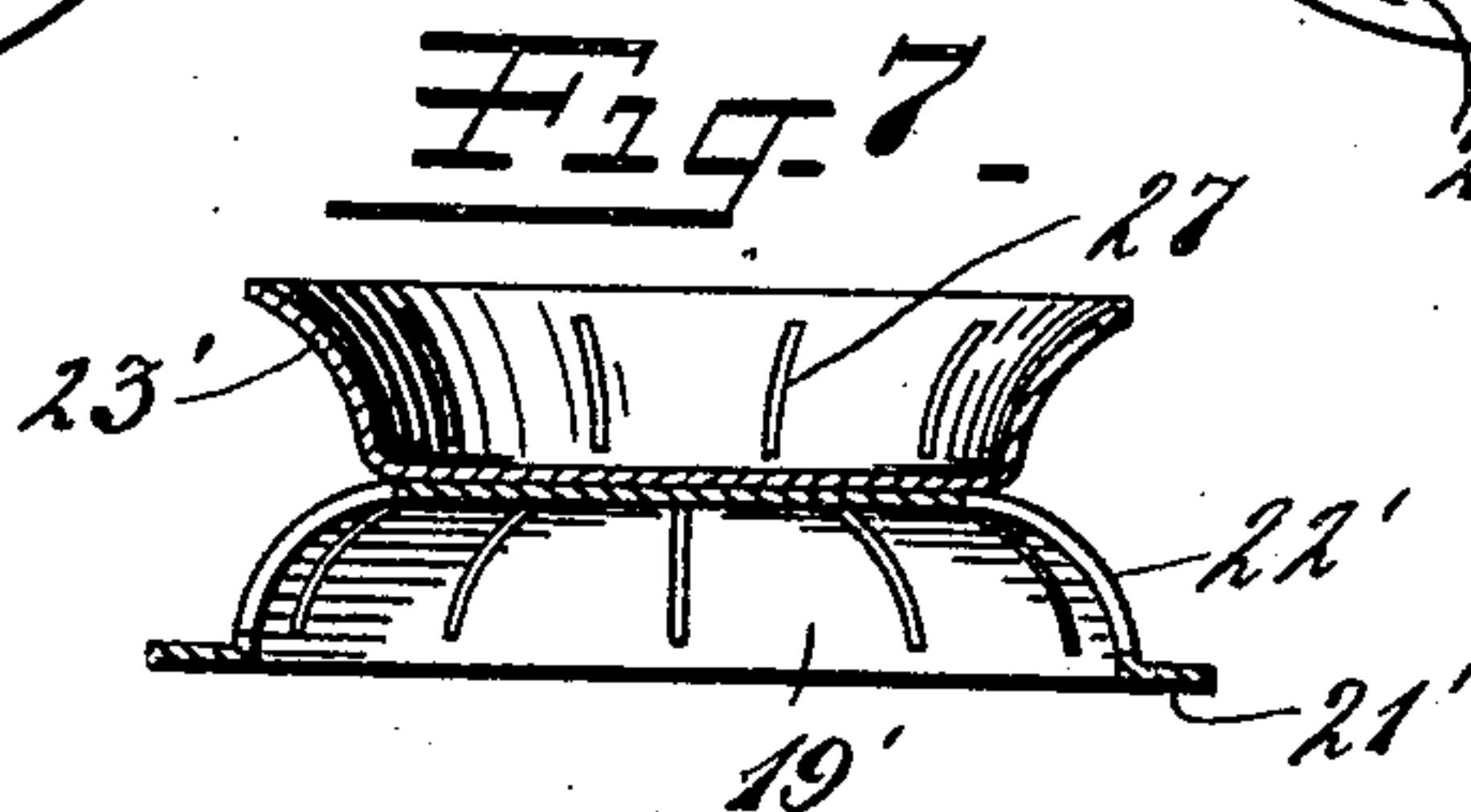
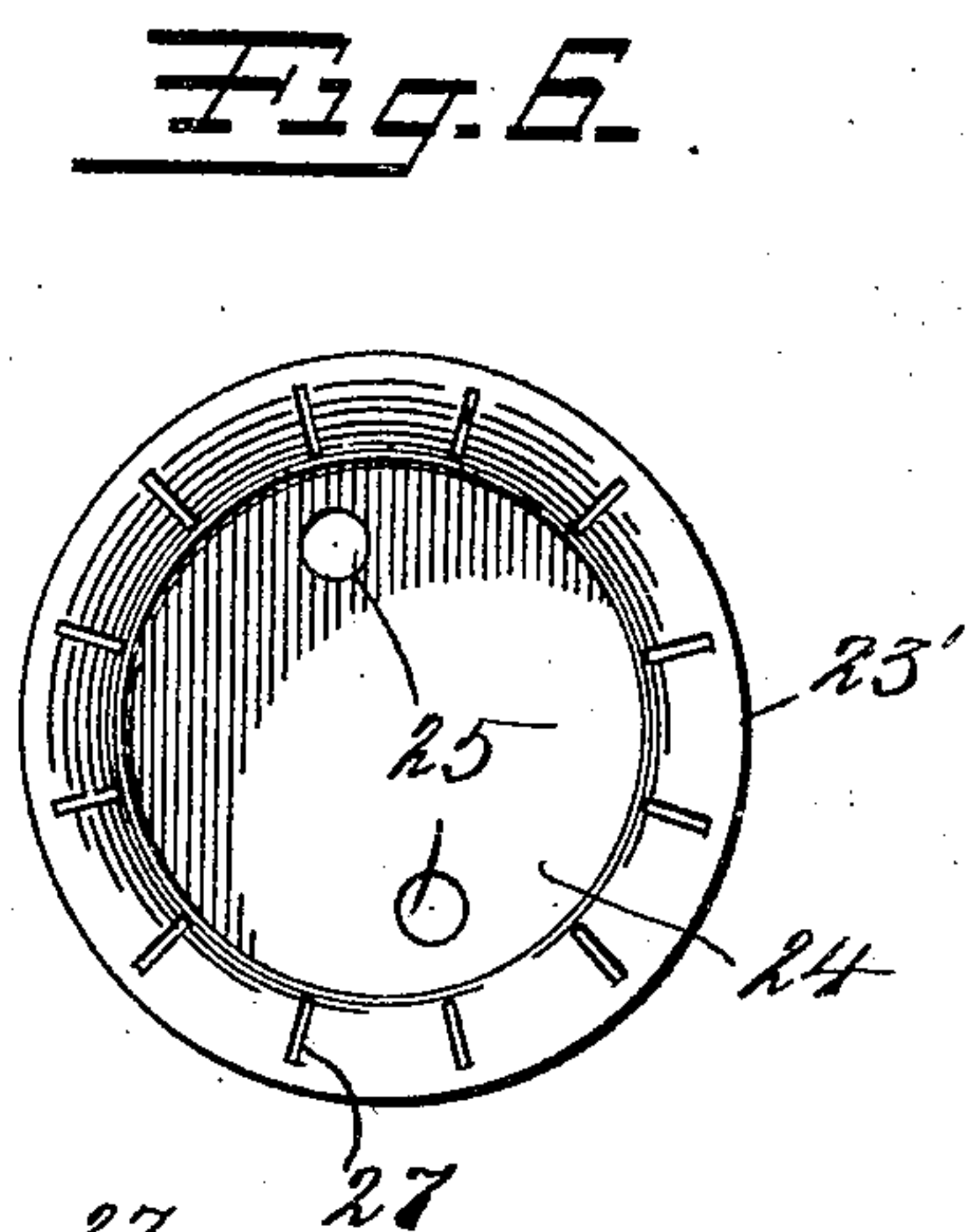
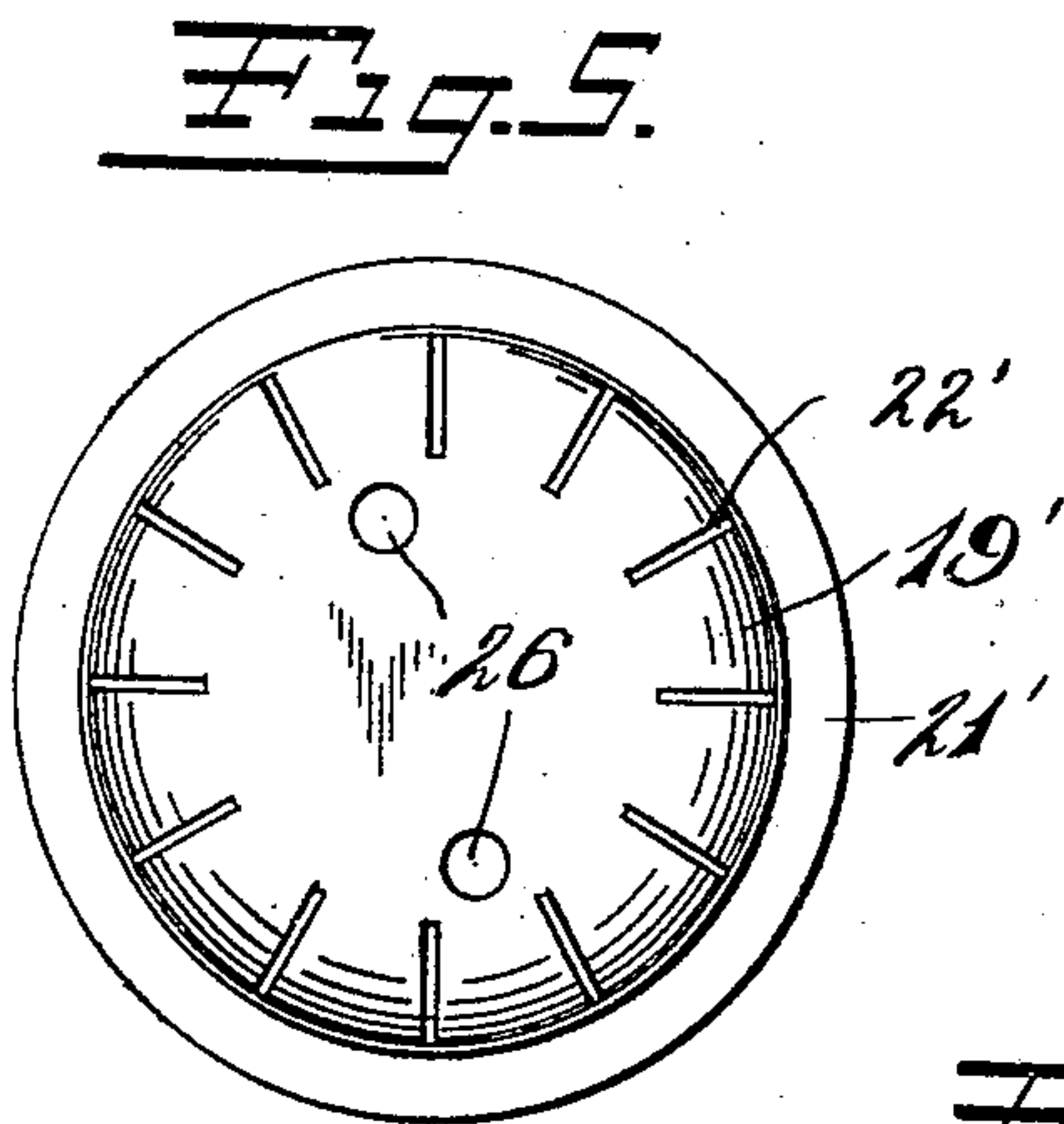
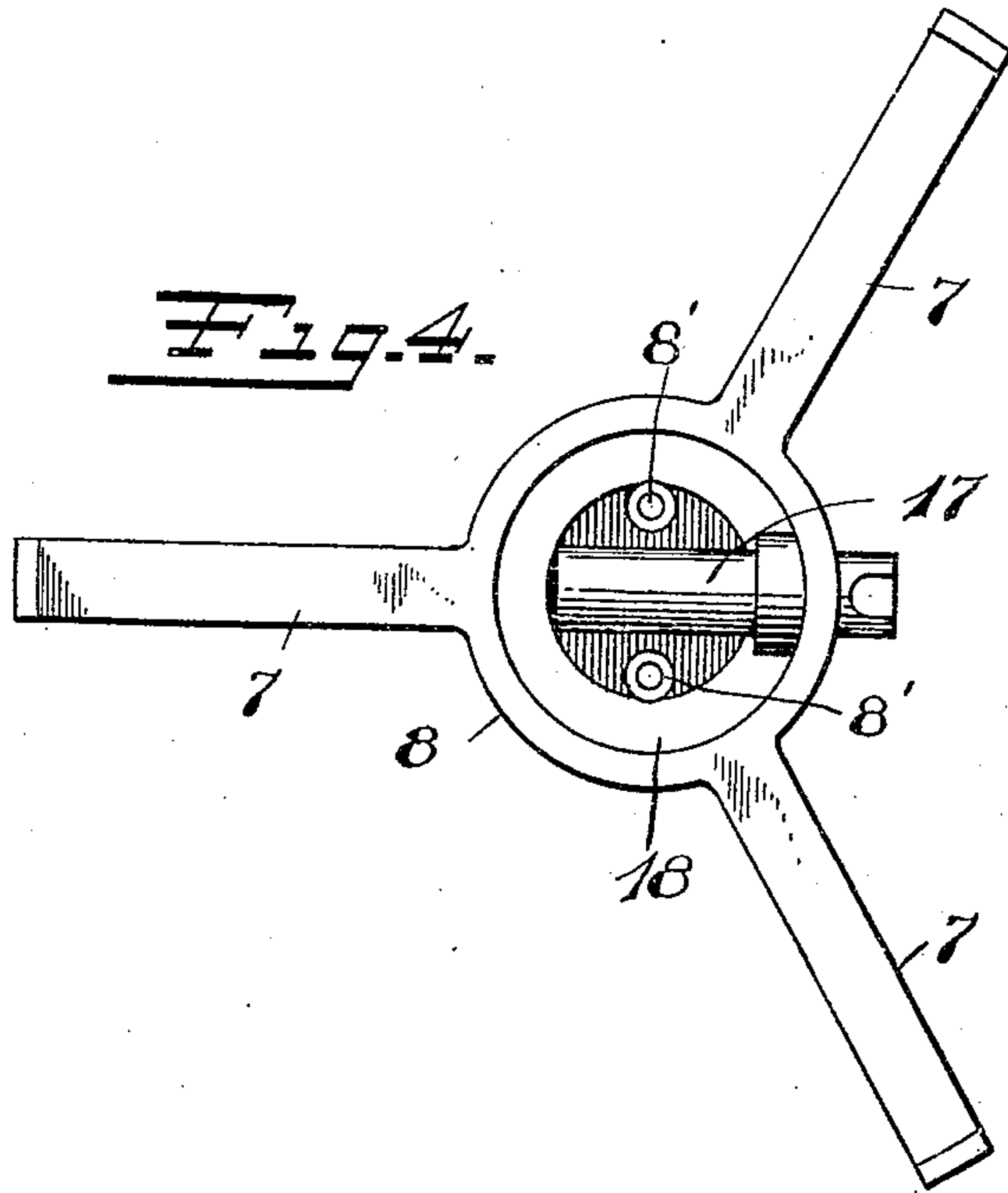
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

EDWARD A. GUTERMANN, OF MERIDEN, CONNECTICUT, ASSIGNOR TO MANNING, BOWMAN & COMPANY, OF MERIDEN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

VAPOR-STOVE.

948,393.

Specification of Letters Patent.

Patented Feb. 8, 1910.

Application filed October 23, 1908. Serial No. 459,132.

To all whom it may concern:

Be it known that I, EDWARD A. GUTERMANN, a citizen of the United States, residing at Meriden, county of New Haven, State of Connecticut, have invented certain new and useful Improvements in Vapor-Stoves, of which the following is a full, clear, and exact description.

My invention relates to improvements in vapor stoves and is particularly concerned with improvements in the burners thereof.

The object of the invention is to so construct the burner ring that the heat of the flame will be communicated effectually to the vaporizing chamber and increase the speed of vaporizing process.

A further object is to so construct the burner that the flame exits will be fully protected from liquid or dirt which may drop from the vessel to be heated or otherwise.

A further object is to provide means for catching such dirt or liquid so that the same may be readily removed from the burner and before it can reach other parts of the stove.

With these and other objects in view, the invention consists in the construction and arrangement of parts, a preferred embodiment of which is illustrated in the accompanying drawings, in which—

Figure 1 is a side view partly in section of a vapor stove provided with the invention, Fig. 2 is a vertical section of the burner proper, Fig. 3 is a plan view of parts shown in Fig. 2, Fig. 4 is a detail view of burner support, Fig. 5 is a view of the base of a modified form of burner ring, Fig. 6 is a view of the top of said modified form. Fig. 7 is a vertical section of the parts shown in Figs. 5 and 6 assembled.

In the embodiment of my invention herein selected for illustration, the stove consists of a body portion 1 which may be formed of sheet metal which has spun down therefrom or attached thereto a drip pan or primer 2. The legs 3 of the stove may be secured thereto in any desirable manner as by fastening screws 4, which screws pass through a depending flange 5 of the body portion, and also through upturned feet 6 of struts 7 carried by the burner support 8. The body portion is also provided with the usual vessel supports 9. Upon the burner support 8 is mounted a vaporizing chamber 10 which consists of a circular tube to one side of

which is attached the liquid fuel supply tube 11 having a tube 12 which connects with the liquid fuel font (not shown). Upon the opposite side of the vaporizing chamber is a suitable needle valve 13 which controls the valve opening 14, which in turn affords communication between the vaporizing chamber and a vapor jet tube 15 having a jet opening 16. The jet tube 15 (Fig. 1) discharges into a tube 17 which communicates with the mixing chamber 18 formed in the burner support 8.

Suitably secured upon the vaporizing chamber 10 is the burner ring 19 which is preferably of dome shape and has a supporting flange 21 which flange affords considerable contact area with the vaporizing chamber whereby the heat of the flame will be effectually transmitted to the vaporizing chamber. The burner ring is provided with vapor exits 22. Above the burner ring proper and preferably formed integral therewith is a deflecting plate 23 which curves outwardly and over the vapor exits 22 and against which the flame impinges, whereby the flame is deflected outwardly and somewhat downwardly to more effectually heat the vaporizing chamber 10 while at the same time the heat of the deflecting ring 23 is transmitted through the burner ring to the vaporizing chamber. By the overhang of the deflecting ring 23 over the vapor exits 22, the latter are effectually protected against the entrance of liquid or dirt from the vessel to be heated or otherwise.

In the modification illustrated in Figs. 5, 6 and 7, the burner ring and deflecting plate are formed in separate parts comprising the burner ring proper 19' having the flange 21' and vapor exits 22' while the deflecting plate consists of deflecting ring or cup 23' having a base plate 24 provided with screw apertures 25 which are adapted to register with corresponding screw apertures 26 in the burner ring proper by which the two parts may be secured together and to the burner support 8 by screws which engage screw holes 8' in the bottom of the latter. It will be noted in this construction that the deflecting plate is open at the top and forms a cup like member which more effectually serves to catch and retain liquid or dirt, and to protect the burner ring therefrom. The deflecting plate 23' may if desired be pro-

vided with slits or apertures 27 which are staggered with relation to the vapor exits 22' of the burner ring. These apertures 27 serve to prevent the deflecting plate from being overheated particularly when the flame is turned low and the exceedingly hot tip thereof impinges directly against the deflecting plate. At the same time, since the apertures 27 are staggered with relation to the vapor exits 22' the deflecting plate of this construction still serves effectually to protect the vapor exits from the entrance of liquid or dirt. It is to be understood that apertures corresponding to 27 may be formed in the deflecting plate 23 illustrated in Figs. 1 and 2.

The operation of the stove is as follows: When the needle valve 13 is opened slightly, liquid fuel passes from the font through tube 12 and supply tube 11 to the vaporizing chamber 10 and thence through valve opening 14 and jet tube 15 to the tube 17. A small quantity of the liquid fluid may be allowed to drip into the drip pan or primer. Upon ignition of the fuel in the primer, the vaporizing chamber and adjacent parts are heated, and generation of the vapor begun. The vapor issuing at the vapor exits 22 will then be ignited and generation of the vapor will be continued by the heating of the vaporizing chamber 10 from the burner flame.

While I have herein described a particular embodiment of my invention, it is to be understood the same may be modified in de-

tails and arrangement of parts without departing from the spirit or scope thereof.

What I claim is:

1. A vapor burner comprising a burner ring having a plurality of vapor exits and a flame deflector extending upwardly from within the area of said exits in said ring outward and over said exits, said deflector being so constructed and arranged relatively to said vapor exits that the flame will impinge directly against said deflector and be spread thereby.

2. A vapor burner comprising a substantially dome shape burner ring having vapor exits formed therein and having a supporting flange at its base, and a deflecting plate extending from within the area of said exits and outwardly over the latter.

3. A vapor burner comprising a burner ring having a plurality of vapor exits and a cup like deflecting plate extending upwardly from within the area of said exits outwardly and over the same, whereby the flame will impinge directly against said deflecting plate and be spread thereby.

4. A vapor burner comprising a burner ring having a plurality of vapor exits and a deflecting plate extending outward and over said exits, said plate having apertures staggered relatively to said vapor exits.

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Witnesses:

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