

01-106

BOX-13

W. C. COLEMAN.

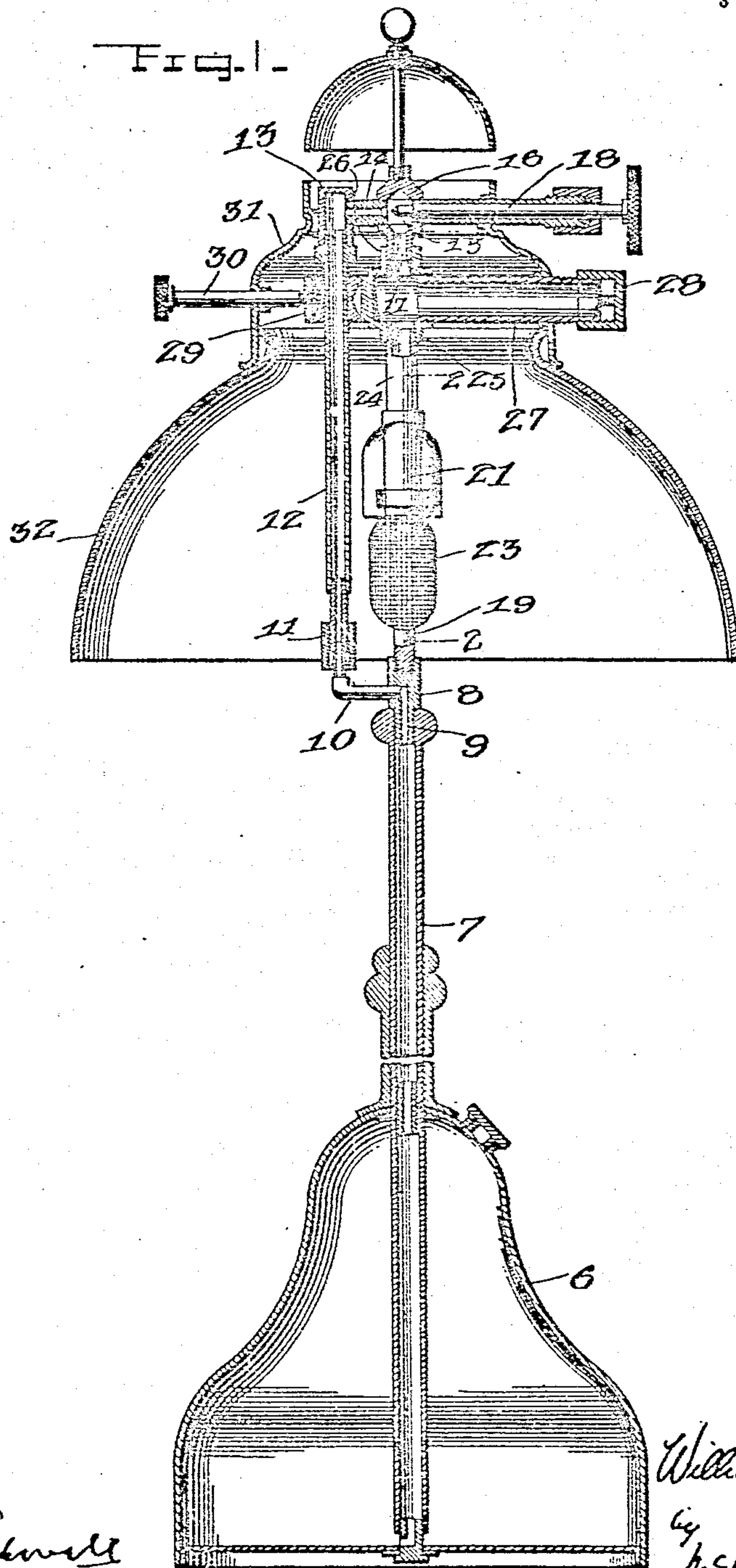
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APPLICATION FILED MAR 25, 1910.

976,723.

Patented Nov. 22, 1910.

3 SHEETS-SHEET 1.



Witnesses

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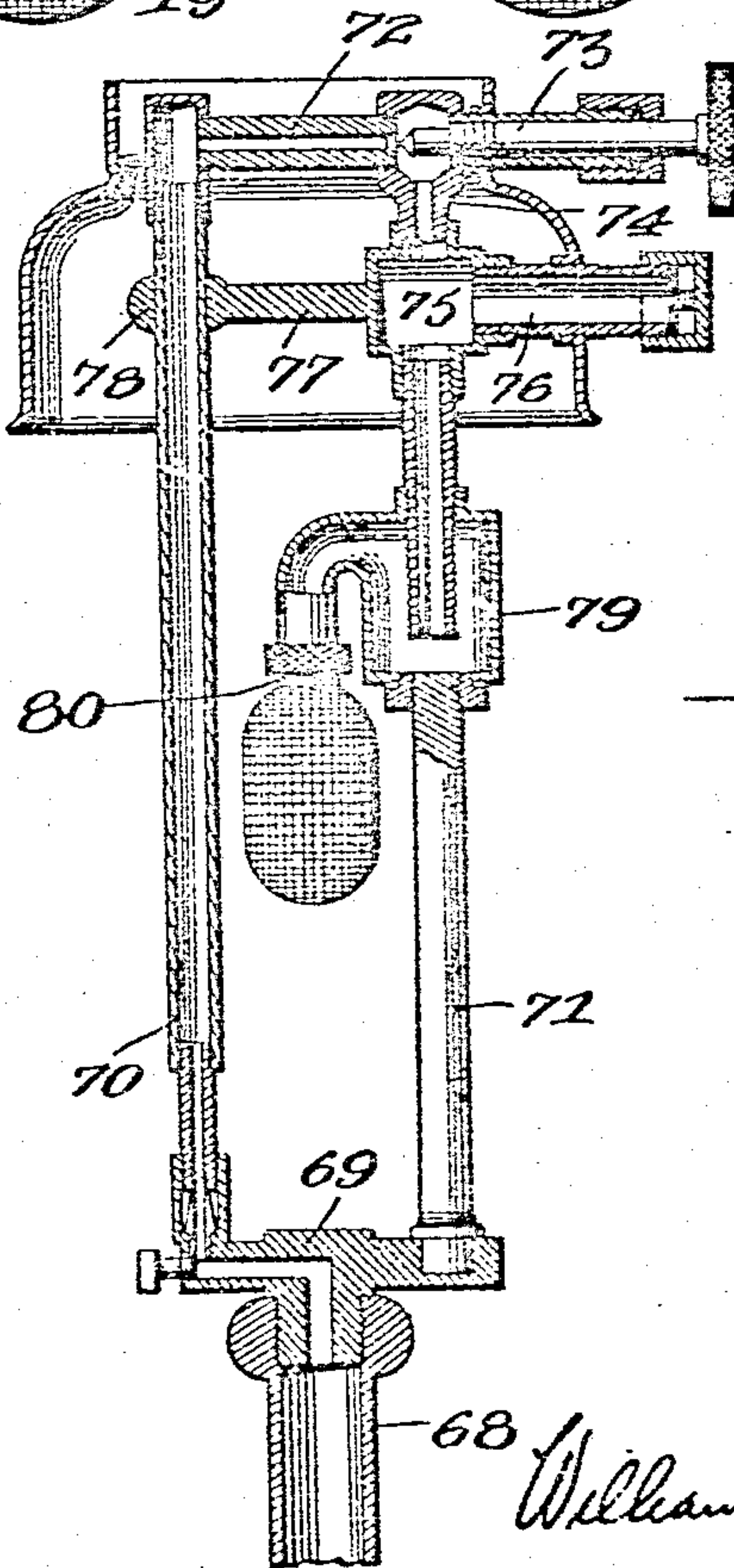
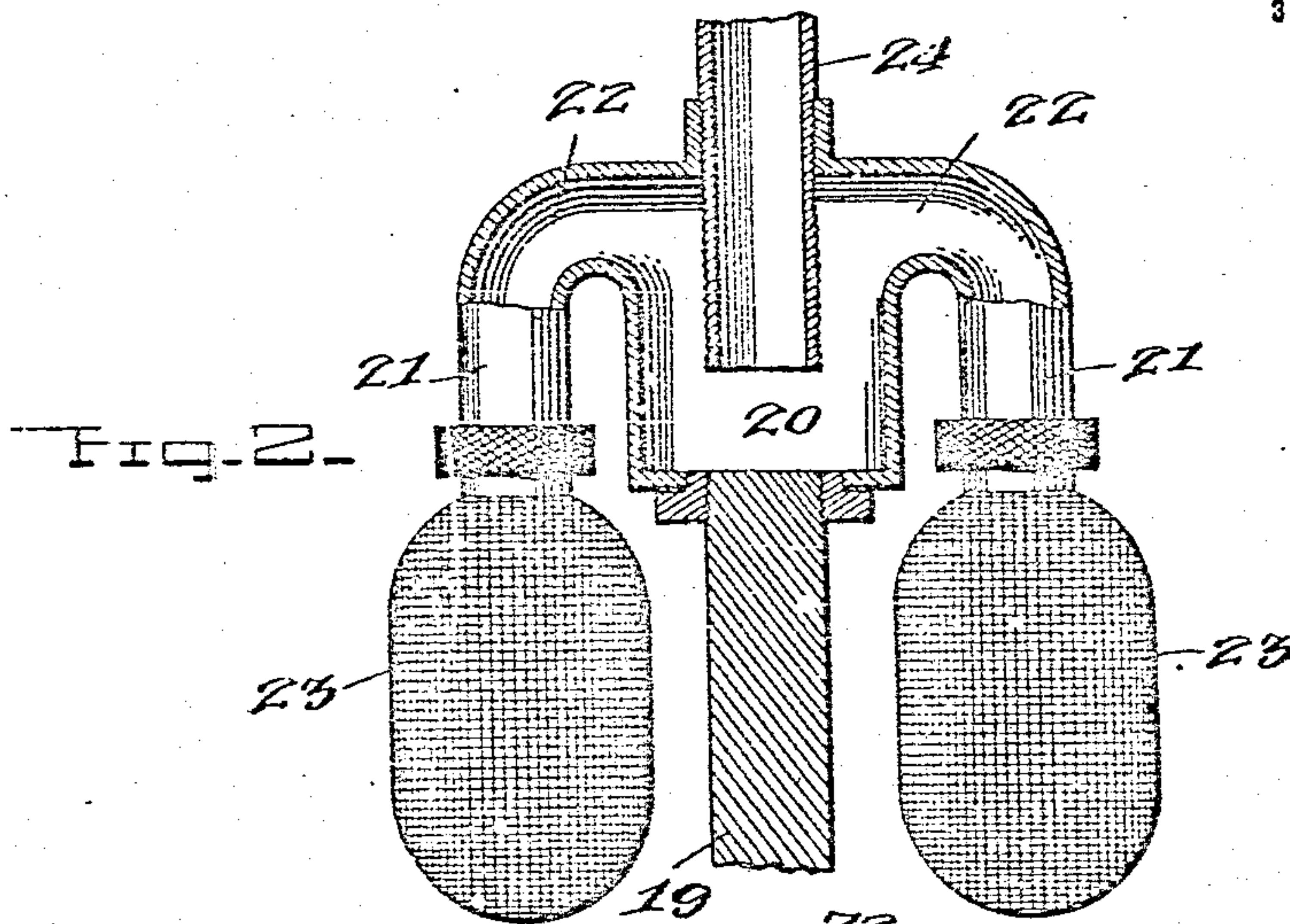
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3 SHEETS-SHEET 2.



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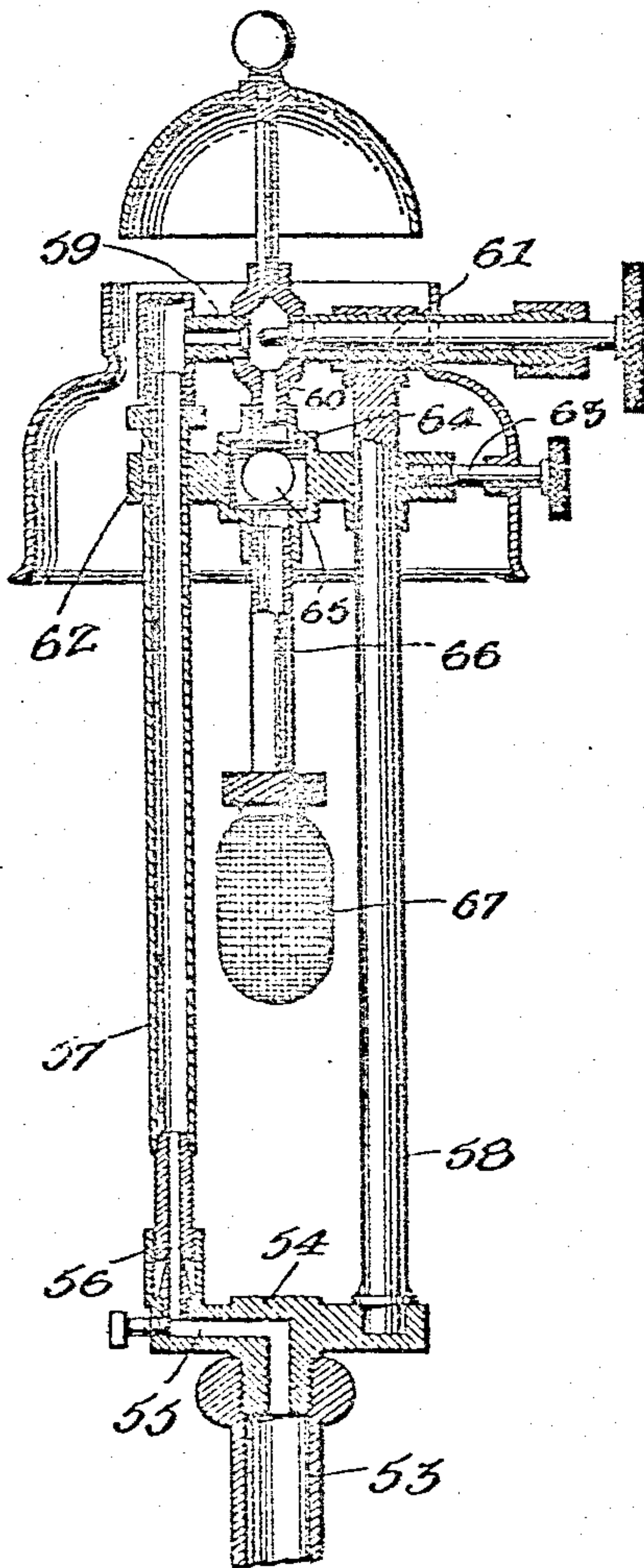
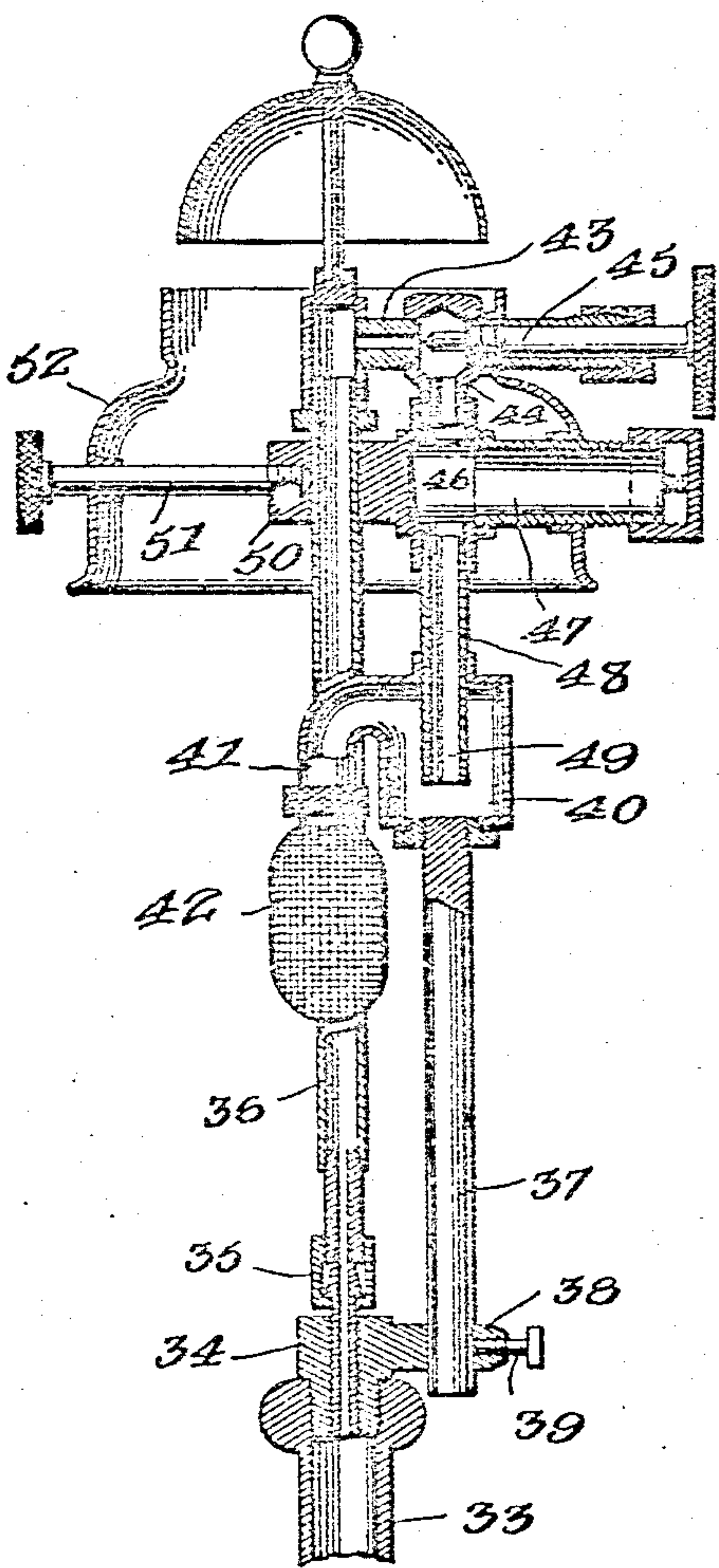
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3 SHEETS-SHEET 3.

Fig. 3.

Fig. 4.



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# UNITED STATES PATENT OFFICE.

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LAMP.

976,723.

Specification of Letters Patent.

Patented Nov. 22, 1910.

Application filed March 25, 1910. Serial No. 551,557.

*To all whom it may concern:*

Be it known that I, WILLIAM C. COLEMAN, a citizen of the United States, residing at Wichita, in the county of Sedgwick and State of Kansas, have invented new and useful Improvements in Lamps, of which the following is a specification.

The present invention relates to lamps of the type in which the liquid hydrocarbon is first vaporized and is afterward mixed with air before burning, the flame being employed for making a mantle or like structure incandescent. In this type of lamp, it is advantageous, if not absolutely necessary, to have the vaporizing tube comparatively thin, and it is preferably constructed of brass or similar metal. As a result, it becomes brittle when heated, and if the upper lamp structure is supported thereby, there is some danger of the tube breaking if the lamp should fall.

It is therefore one of the primary objects of the present invention to provide supporting means for the upper elements of the lamp that will remove the weight of the same from the vaporizing tube. At the same time, a very compact structure is secured, by means of which the tube can be kept thoroughly heated.

In the drawings:—Figure 1 is a vertical sectional view through a lamp, showing one embodiment of the invention. Fig. 2 is a detail sectional view on an enlarged scale and substantially on the line 2—2 of Fig. 1, and Figs. 3, 4 and 5 are detail sectional views through other forms of structure.

Similar reference numerals designate corresponding parts in all the figures of the drawings.

Referring first to the embodiment disclosed in Figs. 1 and 2, a base font 6 is employed, from which extends a vertical central support 7 constituting means for conducting the liquid fuel from the font 6 to the vaporizer. Threaded into, or otherwise secured to the upper end of the pipe 7, is a head 8, having a passageway 9 for the fuel, which passageway leads to an offset elbow 10 that is connected by a union 11 to the lower end of a vertical vaporizing tube 12. This vaporizing tube has a cap 13 on its upper end that carries an offset coupling 14 terminating in an internal valve seat 15, and connected to this coupling 14 is a head 16 terminating in a depending vapor discharge nozzle 17. A controlling valve 18 is also

mounted on the head 16, and coöperates with the valve seat 15 in a manner well understood, to regulate and cut off the passage of vapor from the tube 12 to the nozzle. Mounted on the head 8 is a standard 19, the upper end of which carries an air and vapor mixing chamber 20, shown in section in Fig. 2. Said chamber has depending burners 21 that communicate with the upper portion thereof, as shown at 22, and said burners also constitute supports for inverted mantles 23, as is well understood to those skilled in the art. Extending downwardly through the top of the mixing chamber, and well toward the lower portion thereof, is a Bunsen tube 24, the upper end of which engages in a coupling 25 having a nipple 26 at its upper end that detachably receives the nozzle 17. This coupling also has an outstanding tubular extension 27 constituting an air inlet that is controlled by an adjustable cap 28. A guide sleeve 29 is preferably carried by the coupling, and surrounds the vaporizing tube, said sleeve having threaded therein, a set screw 30, which, with the extension 27, constitutes a support for the metal ring 31, to which the shade 32 is connected in the well known manner. With this construction, it will be obvious that the comparatively heavy superstructure of the lamp is supported by the standard 19, and the vaporizing tube is thus relieved of the weight. At the same time, the tube is maintained in proper relation, particularly at its upper end, by means of the collar 29. Furthermore, it will be evident that the mechanism is exceedingly compact, and with the exception of the projecting parts to be manually operated, is entirely hidden by the shade and its hanger. It will also be seen that the operating means for the valve is located outside the heat from the burners, as is also the packing for said valve.

In Fig. 3, a slightly modified form of construction is shown. In this embodiment, the fuel conducting pipe is designated 33, and carries a head 34 connected by a union 35 with the lower end of the vaporizing tube 36. This tube is disposed axially of the pipe 33. In this instance, the standard 37 is offset and is slidably mounted in an extension 38 of the head, being normally held against its sliding movement by a set screw 39. The upper end of the standard carries a mixing chamber 40, from one side of which are suspended depending burners 41 carry-



ing mantles 42, these burners being disposed on opposite sides of the vaporizing tube in a manner well understood. The upper end of the vaporizing tube 36 has an offset portion 5 43 carrying a depending nozzle 44, and the flow of the vapor to the nozzle is regulated by the usual valve 45. A coupling head 46 has a nipple that detachably receives the nozzle 44, and has an air inlet 47. It also 10 has a depending Bunsen or air and vapor conducting tube 48 that extends through the top of the mixing chamber 40, and depends within the same, as shown at 49. Said coupling furthermore has a bracing collar 50 15 that is slidable upon the vaporizing tube, and a pin or set screw 51, threaded into the collar, serves, with the air inlet extension 47, as a support for the shade hanger 52.

The modification illustrated in Fig. 4 is 20 peculiarly adaptable for use with a single mantle, but it is not necessarily limited thereto. In this type of burner, the support or fuel conducting pipe is designated 53, and carries a head 54 having a passageway 25 55 for the hydrocarbon. This passageway is connected, through a union 56, to the lower end of the vaporizing tube 57. A standard 58 also carried by the head, is disposed alongside the tube 57 in parallel relation 30 thereto. Connecting the upper ends of the tube 57 and standard 58, is a coupling 59 having a vapor discharge nozzle 60, arranged between the tube and standard, and a controlling valve 61 is located in this 35 coupling. Slidably mounted on the standard and vaporizing tube, is another coupling 62 held in place by a set screw 63 threaded therinto and engaging the standard. This coupling has an upper nipple 64 that detach- 40 ably receives the nozzle 60, and is also provided with an air inlet 65. An air and vapor mixing or Bunsen tube 66 depends from the coupling, and carries at its lower end a burner over which the mantle 67 is 45 mounted.

Referring now to Fig. 5, still another embodiment of the invention is disclosed. In this form, the upper end of the support or fuel-conducting pipe is designated 68, and 50 carries a head 69, from which extends the vaporizing tube 70 and a standard 71. The upper end of this vaporizing tube is provided with an offset coupling 72 containing a controlling valve 73 and having a depending discharge nozzle 74 that detachably 55 communicates with the upper end of a coupling 75 having an air inlet 76 and an arm 77 provided with a guide collar 78 that is slidable on the vaporizing tube. This coupling furthermore carries a depending Bunsen or air and mixing conducting tube 79 60 that delivers into the lower portion of a mixing chamber 80 mounted on the upper end of the standard 71. The mixing chamber 65 is provided with one or more burners 81,

from which are suspended the usual mantles.

It will be clear that all of these structures involve the same general principle of construction, and have the same advantageous features, in that the parts are supported separately from the vaporizing tube, so that said tube can be made smaller and of light gage. They are all compact and the parts are entirely accessible for the purpose of cleansing and repair. 75

From the foregoing, it is thought that the construction, operation and many advantages of the herein described invention will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion and minor details of construction, may be resorted to without departing from the spirit or sacrificing any of the 85 advantages of the invention.

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

1. In a lamp, the combination with a support, of a vaporizing tube and a standard, both mounted on the support, air mixing means mounted on and supported by the standard, said means being associated with the vaporizing tube, and an inverted burner 95 suspended from the air mixing means and associated with the vaporizing tube and with the mixing means for heating both.

2. In a lamp, the combination with a support, of a vaporizing tube and a standard, both mounted on the support, air mixing means mounted on and supported by the standard, said means being associated with the vaporizing tube, and an inverted burner 100 suspended from the air mixing means and associated with the vaporizing tube, said burner being disposed adjacent to the lower portion of the air mixing means for heating the same. 105

3. In a lamp, the combination with an upright support, of a vaporizer mounted thereon and having a depending discharge nozzle, air mixing and burning means adjustably mounted on the support independently of the vaporizer and movable downwardly 115 out of associated relation with the discharge nozzle, and means for securing the said mixing and burning means against movement.

4. In a lamp, the combination with a support, of a vaporizing tube mounted thereon, a standard located alongside the tube and carried by the support, a depending discharge nozzle connected to the tube, air mixing and burning means slidably mounted on the standard and detachably associated with 120 the nozzle, said means being movable downwardly to expose the nozzle, and means for securing the air mixing and burning means against its sliding movement on the standard and in associated relation with the nozzle. 130



4.7  
5. In a lamp, the combination with a substantially upright fuel conducting pipe, of a head carried by the upper end thereof, a vaporizing tube mounted on the head and communicating with the pipe, a standard also mounted on the head, a depending nozzle connected to the upper end of the vaporizing tube, a controlling valve interposed between the nozzle and tube, air mixing and burning means having collars slidably

mounted on the standard and tube, and a set screw threaded into one of the collars and engaging the standard.

In testimony whereof, I have hereunto set my hand in the presence of two subscribing witnesses.

WILLIAM C. COLEMAN.

Witnesses:

D. S. COLEMAN,  
GEO. D. SHIELDS.