Aug. 25, 1925. 1,551,519

F. STREICH ET AL

OIL BURNER SYSTEM

Filed June 28, 1924 7 Sheets-Sheet 1

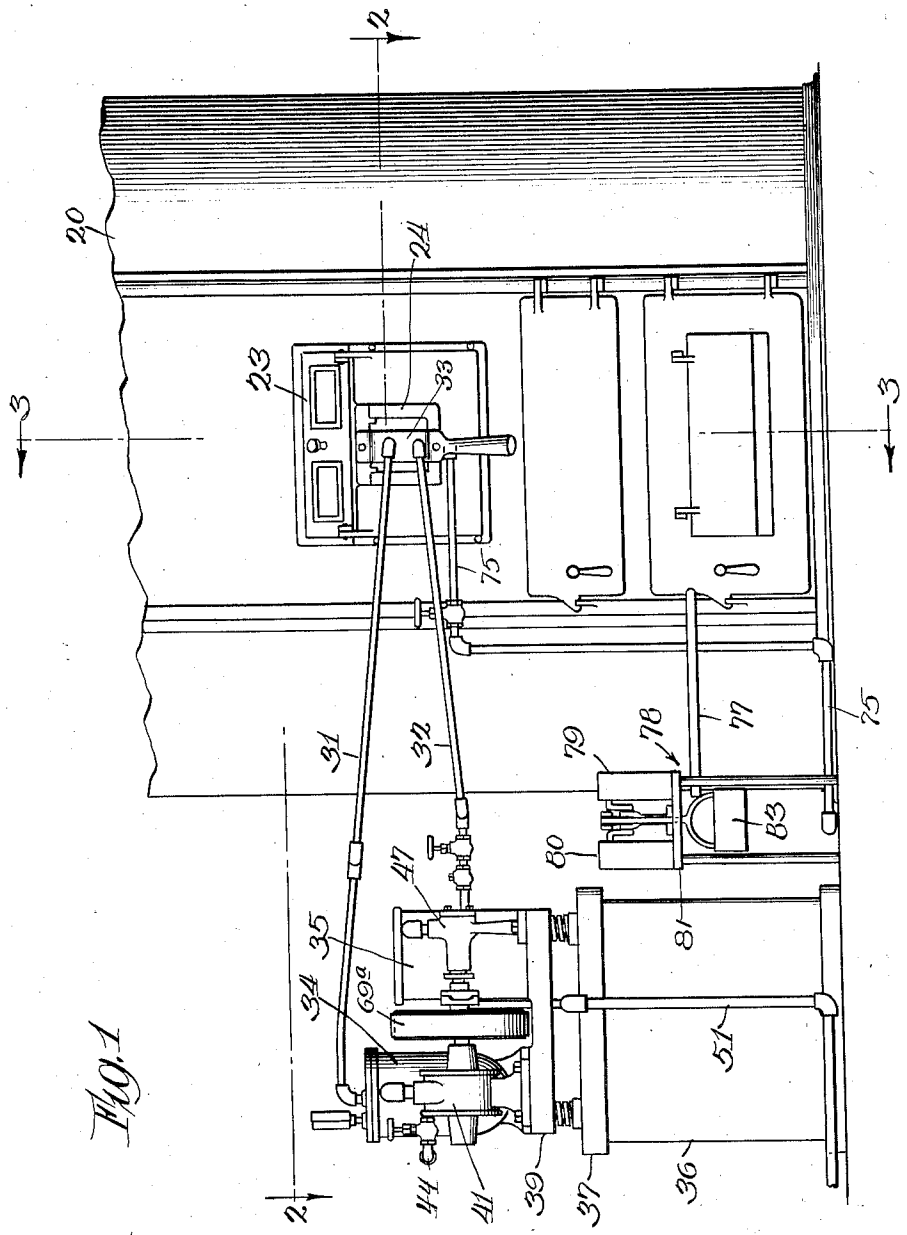


Fig. 1

Inventors:
Frank Streich and
Paul B. Streich,
By Charles O. Sherwell
their Atty.

Aug. 25, 1925. 1,551,519

F. STREICH ET AL

OIL BURNER SYSTEM

Filed June 28, 1924 7 Sheets-Sheet 2

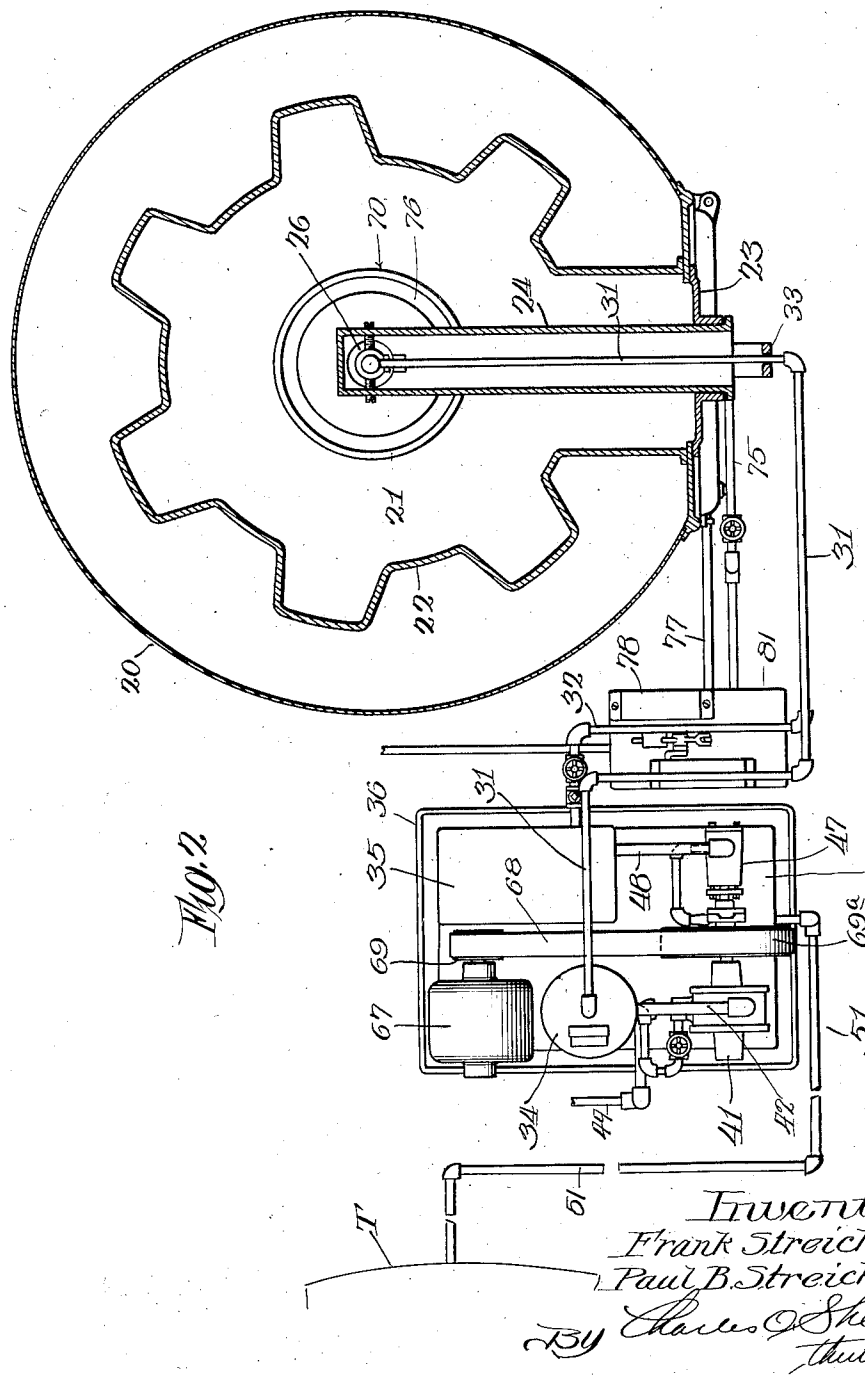


Fig. 2.

Inventors
Frank Streich and
Paul B. Streich
By Charles J. Sherrey
Their Atty.

Aug. 25, 1925. 1,551,519

F. STREICH ET AL

OIL BURNER SYSTEM

Filed June 28, 1924 7 Sheets-Sheet 3

Fig. 3

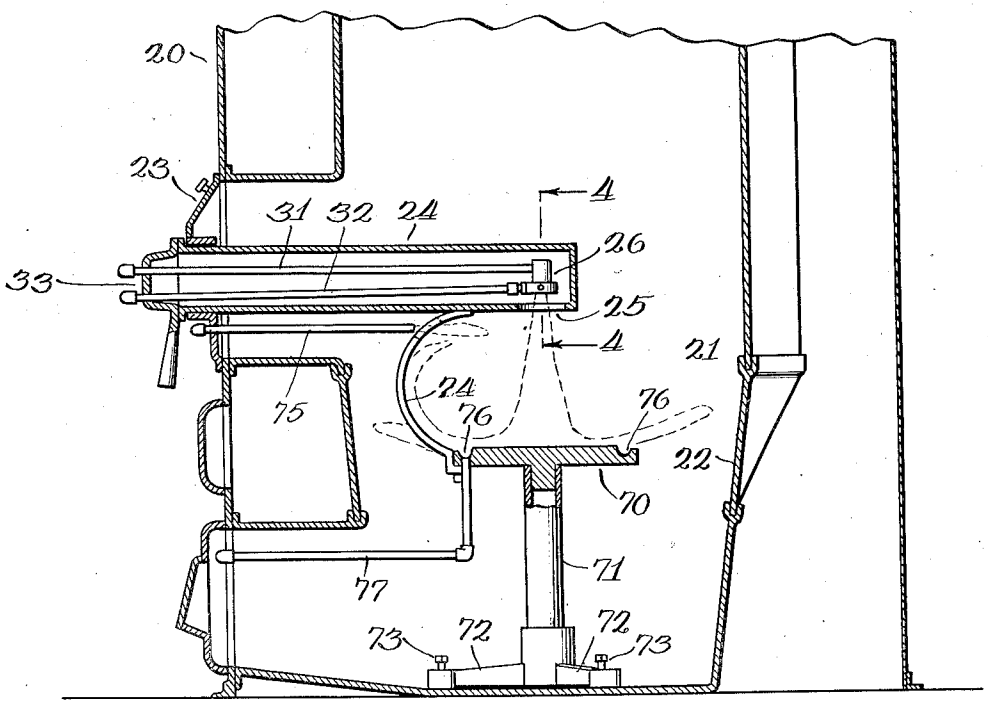


Fig. 4

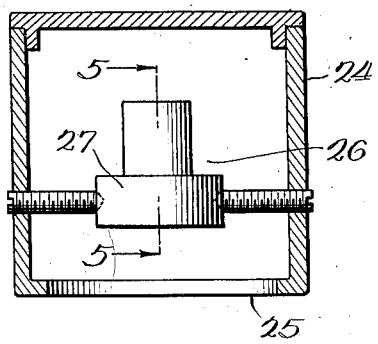
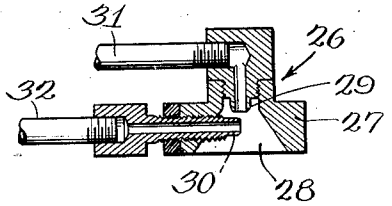


Fig. 5



Inventors:
Frank Streich and
Paul B. Streich,
By Charles O. Shervey
their Atty.

Aug. 25, 1925. 1,551,519

F. STREICH ET AL

OIL BURNER SYSTEM

Filed June 28, 1924 7 Sheets-Sheet 4

Fig. 6

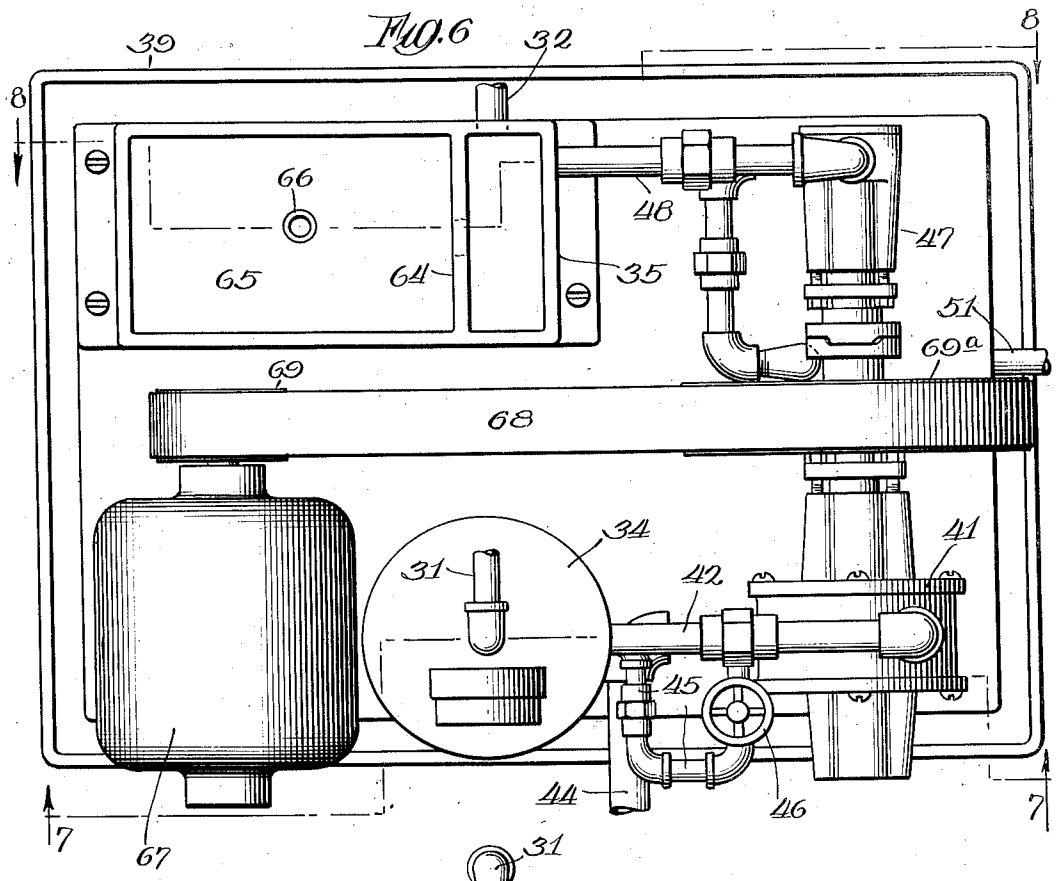
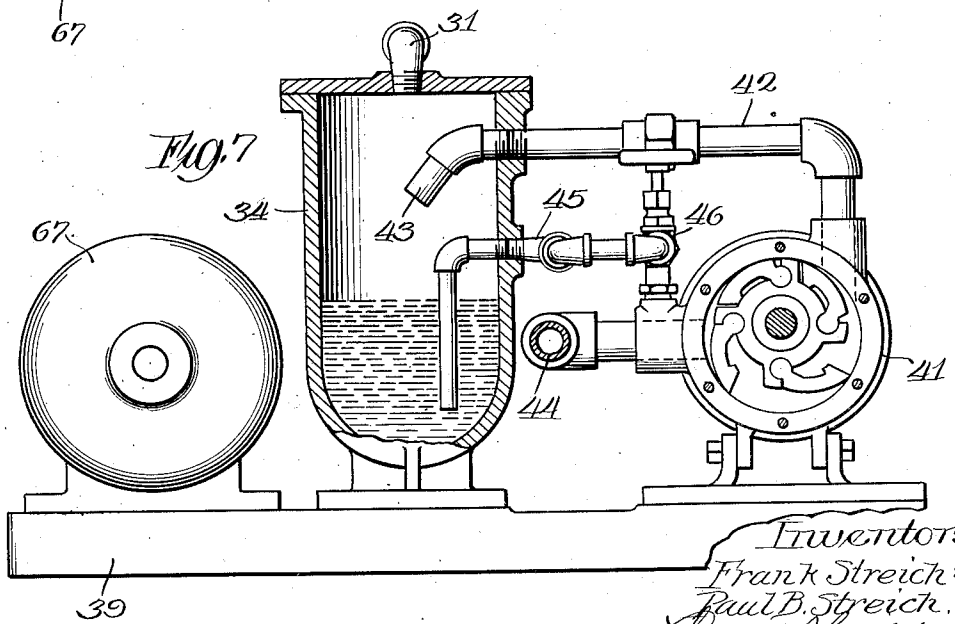


Fig. 7



Inventors:
Frank Streich &
Paul B. Streich.
By Charles O. Harvey their Atty.

Aug. 25, 1925. 1,551,519

F. STREICH ET AL

OIL BURNER SYSTEM

Filed June 28, 1924 7 Sheets-Sheet 5

Fig. 8

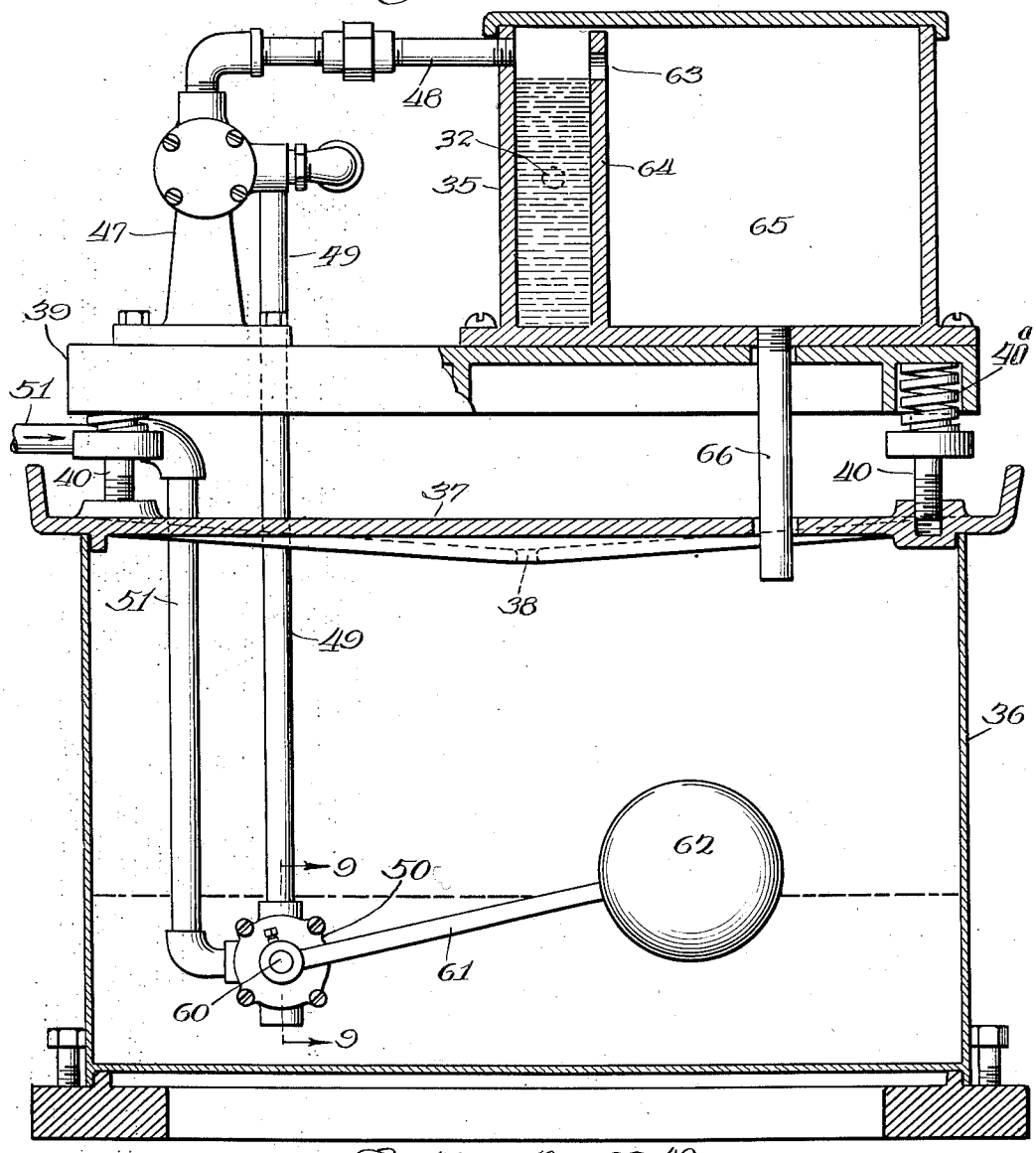


Fig. 10

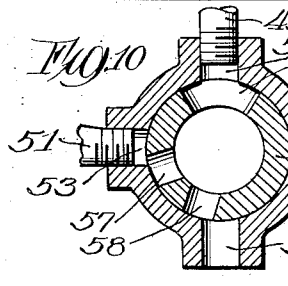
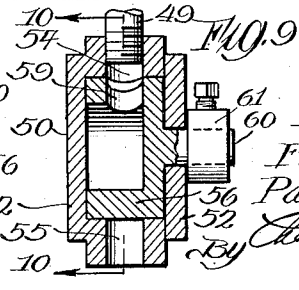


Fig. 9



Inventors:
Frank Streich and
Paul B. Streich,
By Charles O. Murray
their Atty.

Aug. 25, 1925. 1,551,519

F. STREICH ET AL

OIL BURNER SYSTEM

Filed June 28, 1924 7 Sheets-Sheet 6

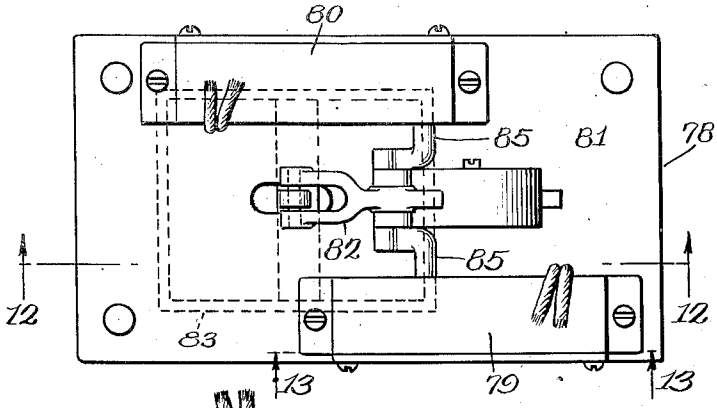


Fig. 11

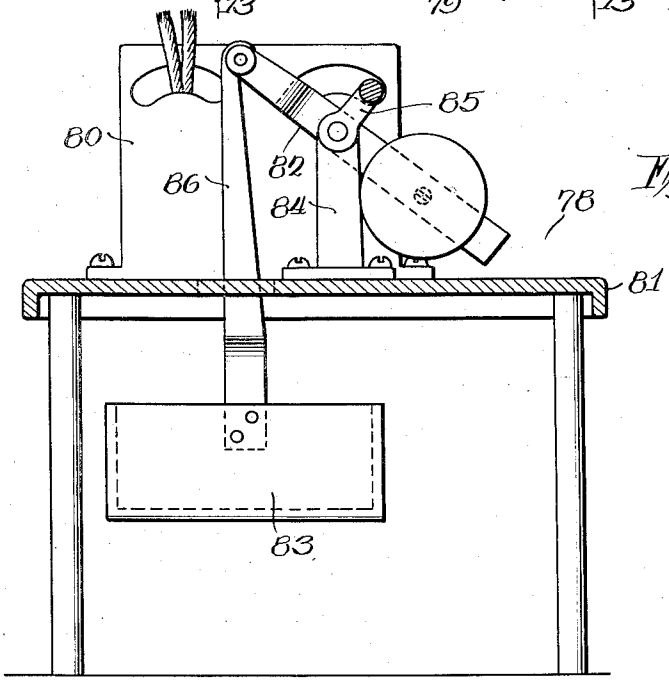


Fig. 12

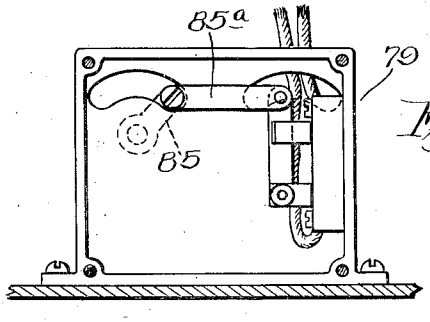
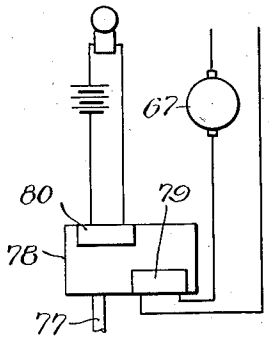


Fig. 13

Fig. 14



Inventors:
Frank Streich and
Paul B. Streich,
By Adams & Sherman
their Atty.

Aug. 25, 1925. 1,551,519

F. STREICH ET AL

OIL BURNER SYSTEM

Filed June 28, 1924 7 Sheets-Sheet 7

Fig. 15

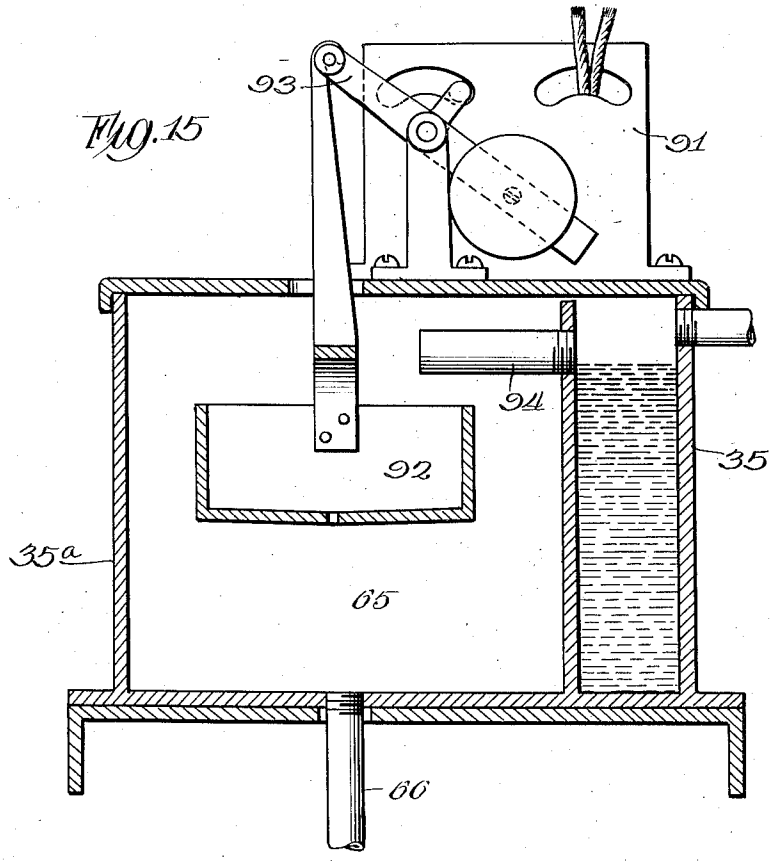


Fig. 16.

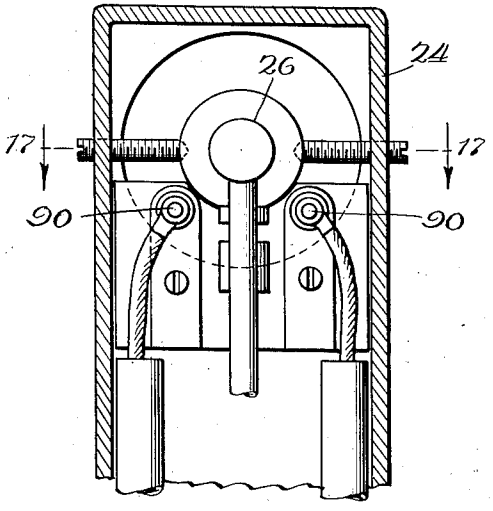
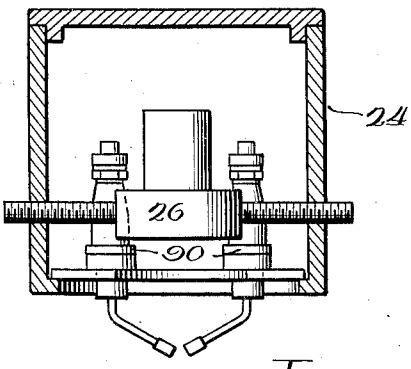


Fig. 17



Inventors:
Frank Streich and
Paul B. Streich,
By Charles J. Shervey
their Atty.

Patented Aug. 25, 1925. 1,551,519

UNITED STATES PATENT OFFICE.

FRANK STREICH AND PAUL B. STREICH, OF JOLIET, ILLINOIS, ASSIGNORS TO GENERAL OIL BURNER CORPORATION, OF JOLIET, ILLINOIS, A CORPORATION OF ILLINOIS.

OIL-BURNER SYSTEM.

Application filed June 28, 1924. Serial No. 722,897.

To all whom it may concern:

Be it known that we, FRANK STREICH and PAUL B. STREICH, both citizens of the United States, and residents of Joliet, Will County, and State of Illinois, have invented certain new and useful Improvements in Oil-Burner Systems, of which the following is declared to be a full, clear, and exact description.

This invention relates to oil burner systems and among its objects are to increase the efficiency of oil burners and to eliminate almost all, if not all, of the objectionable features now common in oil burner systems. Another object is to eliminate the collection of carbon deposits on the burner; another object is to prevent the oil from flooding the basement of other enclosure in which the burner of the system is contained, such flooding usually being occasioned by the escape of unlit oil from the burner. Another object is to provide an air blast for atomizing the liquid fuel and for creating suction for feeding the liquid fuel to the burner. Another object is to provide a system in which a small quantity of the liquid fuel is constantly kept at a predetermined level and fed to the burner by vacuum created in the burner by a blast of air supplied from a compressed air tank. Another object is to eliminate the use of compressed air on the liquid fuel whereby the fuel may be fed only when under the influence of the air blast issuing from the atomizing tip or nozzle. Another object is to economize the oil or other liquid fuel and to provide a burner which shall consume all of the combustible elements of the fuel. Another object is to provide means for stopping the compressor in case the fuel escapes from the burner without being lit. Another object is to provide an automatic alarm which sounds in case the fuel escapes from the burner without being lit. Another object is to provide an auxiliary tank for storing a quantity of liquid fuel and a fuel reservoir for containing a constant but small quantity of oil and from which the oil is fed directly to the burner, in combination with an oil pump, having a float actuated, three way inlet valve mechanism located in the auxiliary tank and connected with a main fuel tank and with the pump and arranged to establish communication between the pump and main fuel tank when the fuel in the auxiliary tank falls below a predetermined level and to shut off communication between the main fuel tank and pump and establish communication between the supply of fuel in the auxiliary supply tank and the pump when the level in said auxiliary supply tank reaches a predetermined level, whereby one pump only may be used for supplying fuel to the auxiliary supply tank and to the reservoir. Another object is to obtain an even distribution of the flame from the centre of the fire pot. Another object is to prevent the escape of oil or other liquid fuel except when atomized and ignited.

Other objects and advantages will occur in the course of the following specification and with all of the said objects and advantages in view this invention consists in the several novel features of construction, arrangement and combination of parts, hereinafter fully described and claimed.

The invention is clearly illustrated in the accompanying drawings, in which:—

Fig. 1 is a front elevation of an oil burner system embodying the preferred form of the present invention and showing its application to a furnace; Fig. 2 is a view partly in plan and partly in horizontal section, of the parts seen in Fig. 1, the line of section being indicated at 2—2 in Fig. 1; Fig. 3 is a vertical cross section taken on the line 3—3 of Fig. 1; Fig. 4 is a detail, vertical cross section of the burner and burner tube taken on the line 4—4 of Fig. 3; Fig. 5 is a detail, vertical, longitudinal section of the burner taken on the line 5—5 of Fig. 4; Fig. 6 is a detail plan of a unit comprising the liquid fuel and air pumping apparatus which forms part of the invention; Fig. 7 is a detail, vertical section taken on the line 7—7 of Fig. 6; Fig. 8 is a detail, vertical section taken on the line 8—8 of Fig. 6; Fig. 9 is a detail, vertical section of the float controlled, three way inlet valve shown in Fig. 8, the line of section being indicated at 9—9 in Fig. 8; Fig. 10 is a detail, vertical section taken on the line 10—10 of Fig. 9; Fig. 11 is a plan of a certain switch mechanism for stopping the motor which drives the air compressor and oil pump; Fig. 12 is a detail, vertical section taken on the line 12—12 of Fig. 11; Fig. 13 is a detail, vertical section taken on the line 13—13 of Fig. 11; Fig 14 is a diagrammatic view of the motor control circuit and a certain bell ringing circuit; Fig. 15 is a detail, vertical

section showing an alterative form of automatic means for igniting the atomized oil in case spark plug mechanism is used in place of a pilot light; Fig. 16 is a detail, horizontal section through the burner tube and showing the use of spark plugs for igniting the atomized oil and Fig. 17 is a detail, vertical section taken on the line 17—17 of Fig. 16.

Referring to said drawings and first to Figs. 1 to 13 inclusive, which illustrate the preferred embodiment of the invention, the reference character 20, (see Figs. 1, 2 and 3) designates a furnace of ordinary and well known construction containing a combustion chamber 21 and having the usual fire pot 22. Any form of furnace or heating plant may be employed in connection with the present oil burner system. Located in the combustion chamber of the furnace and extending out through the fire door 23 of the furnace is a burner tube 24 which has an opening 25 in its bottom wall at a point adjacent its inner end and preferably located axially or centrally of the combustion chamber. Above said opening 25 is an oil burner 26, of the atomizer type, which, in its preferred form, comprises a burner body 27 (see Figs. 5 and 6) formed with a downwardly and outwardly flaring mouth 28 and having a downwardly directed compressed air discharge tip 29, and a horizontal oil discharge tip 30. The air discharge tip is centrally disposed over the mouth 28 and the terminal end of the oil discharge tip 30 is preferably located in line with the axis of said air discharge tip. The tips are disposed at right angles to each other as shown, and in the operation of the system act to atomize the oil and direct the spray in a downward direction. The tips may be made separate from the body 27 and secured therein by threaded connections. Connected with the compressed air tip 29 is a compressed air pipe 31 and connected with the oil discharge tip 30 is an oil supply pipe 32, both of which lead through the hollow of the burner tube 24 and out through a plate 33 which is secured upon the open outer end of the burner tube. The compressed air pipe 31 leads from a compressed air tank 34 (see Figs. 1, 2, 6, 7 and 8) and the oil supply pipe 32 leads from an oil reservoir 35, which tank and reservoir comprise parts of the operating unit which controls the supply of compressed air and oil to the burner.

A pilot light is used for igniting the fire and in accordance with one form of the invention, the pilot light is supplied by a gas pipe 75 which leads as usual from one of the gas pipes of the building. The gas pipe 75 leads into the furnace below the burner tube 24 and terminates below and at one side of the burner 26.

The operating unit, in its preferred form, comprises a base 36 which is in the form of an auxiliary oil tank covered by the drip pan 37 having a bottom that slopes downward towards the middle of the top of the tank, where it is formed with an aperture 38 through which any oil drippings may reenter the auxiliary oil tank 36. Above the auxiliary oil tank 36 is a base plate 39 which is mounted upon posts 40, (see Fig. 8) that are threadedly secured in the cover 37 for the purposes of adjustment, and coiled compression springs 40^a are interposed between the base plate 39 and posts 40 to take up vibration and eliminate objectionable noise. The compressed air tank 34 and oil reservoir 35 are mounted upon the base plate 39 and are bolted or secured thereto or in any other suitable manner.

Mounted on the base plate 39 adjacent the compressed air tank 34 is an air compressor 41 (see Figs. 6 and 7) which has a discharge pipe 42 that leads into the compressed air tank 34, and, as a preference, has a downwardly inclined discharge end 43. The air intake for the compressor is seen at 44. For the purpose of lubricating the air compressor 41, the compressed air tank 34 contains a quantity of lubricating oil and an oil fed pipe 45 is submerged in the lubricating oil and leads from said tank to the inlet side of the air compressor, where it is provided with a valve 46. The arrangement is such that when the valve 46 is opened, the air compressor draws in lubricating oil which lubricates the parts of the air compressor and is discharged back into the compressed air tank 34. The compressed air pipe 31 is shown as entering the top of the compressed air tank in Figs. 6 and 7.

Mounted on the base plate 39 adjacent the oil reservoir 35 is an oil pump 47 (see Figs. 6 and 8) which has a discharge pipe 48 that discharges into the upper end of the oil reservoir 35. The inlet or oil supply pipe 49 of the oil pump 47 leads down into the auxiliary oil tank 36 and its lower end is connected to a float controlled, three way inlet valve 50; said valve 50 is also connected to an oil supply pipe 51 which leads from a main oil supply tank shown at T which may be located outside of the building in which the furnace is contained. The purpose of the float controlled, three way inlet valve 50 is to enable only one pump 47 to be used for the purpose of replenishing the supply of oil in the auxiliary oil tank 36 and for supplying the oil reservoir 35 with oil. The construction of the valve 50 will now be described.

Referring now to Figs. 8, 9 and 10 the valve casing 52 of the valve 50 is preferably cylindrical in form and has an inlet port 53 in which the end of the oil supply pipe 51 is secured, an outlet port 54, in which the

oil supply pipe 49 is secured and an inlet port 55 through which oil may enter the valve from the tank 36. Rotatively mounted in the valve casing 52 is a hollow valve body 56 which is formed with inlet ports 57, 58 and an outlet port 59. The arrangement of the ports is such that at a certain position of the valve body 56 the ports 57, 53 may register, while the ports 58, 55 are out of register and vice versa, while the ports 59, 54 are always in register. In a certain position of the valve body the ports 57, 53 and 58, 55 may partly register (see Fig. 10). The valve body 56 has a stem 60 which projects out through the valve casing and is secured to an arm 61 of a float 62. In the operation of this float controlled, three way inlet valve, when the level of the liquid in the auxiliary oil tank falls below a predetermined level, the float 62 is lowered and moves the valve body 56 to a position where the port 58 thereof is out of register with the inlet port 55 and the port 57 is in register with the port 53. The result is that the pump 47 is in direct communication with the main oil supply tank and pumps oil therefrom directly into the oil reservoir 35. When the level of the oil in the tank 36 rises to a high point, the float is raised, thereby moving the valve body 56 to a position where the ports 57, 53 are out of register and the ports 58, 55 are in register, the result being that communication between the main supply and the pump 47 is shut off and the pump 47 pumps oil directly from the auxiliary oil supply tank 36 and into the oil reservoir 35.

In order to obtain the beneficial results that we have with this system, a predetermined, comparatively small quantity of oil is constantly maintained in the oil reservoir 35. The capacity of the oil pump 47 is sufficient to maintain the desired quantity of oil in the oil reservoir 35, irrespective of the amount that is used in the burner, and in order to maintain the desired level or head of oil in said oil reservoir, an overflow opening 63 is provided in one wall of the reservoir 35 which overflow opening 63 opens into a chamber 65 of the oil reservoir structure, from the bottom of which leads an overflow pipe 66 that enters the auxiliary oil tank 36 through its cover or lid 37. It is obvious that in case more oil enters the oil reservoir 35 than is used by the burner, the surplus overflows through the overflow opening 63 into the chamber 65 and discharges into the auxiliary oil tank 36 by way of the overflow pipe 66. The oil supply apparatus just described provides simple and efficient means whereby a supply of oil is always maintained in the auxiliary oil tank, and a constant, relatively small quantity of oil is maintained in the oil reservoir, irrespective of the quantity of the oil used by the burner. Furthermore, only one oil pump is necessary for the tank 36 and reservoir 35.

For the purpose of distributing the flame evenly towards the sides of the fire pot, a horizontal baffle plate 70 (see Fig. 3) is provided below the burner. Said plate is mounted on a stand 71 having feet 72 in which are adjustment screws 73 that rest on the bottom of the furnace. By properly setting up the screws 73 the baffle plate may be brought to a proper height with respect to the burner.

Extending up from the baffle plate 70 is a curved shield 74, which forms a support for the inner end of the burner tube 24, and also directs a portion of the gaseous mixture upwards and across the pilot light jet thereby insuring the immediate ignition of the fuel when it issues from the burner.

Conveniently, an electric motor 67 is employed for driving the air compressor and oil pump. The motor is mounted on the base plate 39 and connected to the air compressor and oil pump by a belt 68 trained around pulleys 69, 69ª on the motor shaft and air compressor shaft, the latter shaft being conveniently connected to the oil pump shaft by a shaft coupling. Usually the circuit to the motor is controlled by a thermostat, whereby the operating unit operates when the temperature in the place heated, falls below a predetermined temperature and ceases to operate when the temperature rises above the predetermined point. As soon as the electric current is shut off, the motor stops, and therewith the air compressor and oil pump stops, the air pressure in the compressed air tank and compressed air pipe drops to atmospheric pressure, and the flow of oil to the burner ceases. When the motor is again started the pressure in the compressed air tank and compressed air pipe is restored and the oil is again drawn to the burner and ignited by the pilot light. If for any reason fuel is discharged from the burner without being lit, as for instance in case the pilot light has become extinguished, the operating unit would continue to function with a consequent loss of fuel and power and with the danger of flooding the place in which the furnace is contained, except for the provision of the automatic motor circuit switch mechanism that has been provided, and which is operated by oil discharge by the burner and not consumed. The means for automatically stopping the motor in such cases, and for simultaneously sounding an alarm will now be described.

At the edge of the baffle plate 70 is a gutter 76 (see Fig. 3) into which unburned oil flows, and leading away from said gutter is an overflow pipe 77 which runs to a switch mechanism 78 (see Figs 1, 11, 12, 13 and 14)

which has a switch 79 interposed in the electric circuit to the motor, and a switch 80 which is interposed in a bell ringing circuit.

The swiches 79, 80 are mounted on a stand 81, and both are operated by a counterbalanced lever 82, and an overflow cup 83 carried thereby. The lever 82 is fulcrumed on a post 84, mounted on the stand 81 between the two switches 79, 80 and it has two arms 85, one of which is connected to the motor circuit switch 79 and one to the bell circuit switch 80. Each arm 85 is connected to the blade of a switch 79 or 80 (which switches are knife switches) by a link 85ª. The cup 83 is connected to the lever 82 by a link 86. The arrangement of the automatic switch mechanism is such that, normally, the motor circuit is closed and the bell circuit is open. When unlit oil escapes from the burner, under the influence of the atomizing action of the air jet, the oil flows out through the overflow pipe 77 and discharges into the cup 83. As soon as the weight of the oil therein overbalances the counterbalance of the lever 82, the lever is swung down by the filled or partly filled cup, the motor circuit switch 79 is opened, thereby shutting off the current to the motor and the switch 80 of bell ringing circuit is closed, thereby warning the occupants of the building that the pilot light has become extinguished and that the operating unit has ceased to function. After the pilot light has been lit the cup 83 is emptied and the counterweighted lever 82 is thereby restored to normal position, the motor circuit closed and bell ringing circuit is broken.

In the alternate form of igniting means, shown in Figs. 15, 16, 17 a spark plug device 90 is provided at the end of the burner tube 24 and the wires therefor are enclosed in heat insulating conduits and lead out through the front end of the burner tube.

A current of electricity is passed through the terminals of the spark plugs for a short interval of time whenever the motor is started and the current is automatically shut off at the end of such interval of time. A simple means for accomplishing this result, comprises an electric switch mechanism 91 mounted on the top of the oil reservoir case 35ª, and an overflow oil cup 92 carried by a counterbalanced lever 93 which operates the switch mechanism 91 by means substantially similar to that already described in connection with the automatic motor stopping switch mechanism. Leading from the reservoir 35 is an overflow pipe 94 which discharges oil from the reservoir into the cup 92, whenever the oil pump is in operation. In the bottom of the oil cup is an escape orifice of less area than the area of the passage through the overflow pipe 94.

In the operation of this alternate form of ignition means, the counterbalanced lever holds the cup in elevated position,—with the switch 91 closed. The spark plug circuit is operated only when the motor circuit is closed. When the motor circuit is closed, the motor is started, and therewith the air compressor and oil pump. Oil overflows from the oil reservoir, through the overflow pipe 94 and into the cup 92, gradually filling the same or partially filling the same until its weight overbalances the counterbalanced lever and swings the same down thereby throwing the switch and breaking the spark plug circuit. Only a very short interval of time is required to fill the cup, and operate the lever 93. The cup remains down during the entire time that oil overflows through the pipe 94; when the flow of oil ceases the oil in the cup drains out through the escape orifice in the bottom of the cup, and the counterweight restores the lever and cup to normal position and thereby closing the spark plug circuit, which circuit, however, remains inactive until the motor circuit is closed.

The operation of the system is readily apparent. When the motor is at rest, the air compressor and oil pump are at rest. As soon as the motor circuit is closed the motor is started and therewith the air compressor and oil pump. Air is compressed in the compressed air tank and a blast or jet of air is discharged across the oil discharge tip of the burner, and oil is drawn out of the oil supply burner pipe, atomized and discharged downward in a spray, which is ignited by the pilot light. Air is drawn through the burner tube, which tends to keep the tube, and the air and oil supply pipes cool, besides supplying air to the burner at the point of combustion, this air supply also tends to prevent carbonization of the burner tips. The flame is deflected radially by the baffle plate, causing an even distribution of the heat. As the oil is withdrawn from the oil reservoir, the head of oil is maintained therein by the pump, and the surplus oil overflows from the oil reservoir and reenters the auxiliary oil tank.

When the current is shut off from the motor, the latter and therewith the air compressor and oil pump stop, the air pressure falls, the oil ceases to flow to the burner and the flame becomes extinguished until the motor is again started. In case the motor is started with the pilot light out, the oil, discharged by the burner, flows into the cup of the automatic switch mechanism, the motor is stopped and an alarm sounded.

It will be understood that liquid fuel other than oil may be successfully burned with the system described. For this reason we desire it to be understood that in the claims where the term "oil" is used it is intended to cover any other liquid fuel capable of being used in the burner.

More or less variation of the exact details of construction is possible without departing from the spirit of this invention; we desire, therefore, not to limit ourselves to the exact form of the construction shown and described, but intend, in the following claims, to point out all of the invention disclosed herein.

We claim as new, and desire to secure by Letters Patent:

1. In oil burner systems, the combination of an auxiliary oil tank, a main supply pipe therefor, an oil reservoir thereabove, having an overflow leading to said tank, an oil pump for pumping oil into said tank and into said reservoir and having a suction pipe leading from said tank and a discharge pipe leading to said reservoir, and a float controlled three way inlet valve interposed between the main supply pipe and suction pipe of the oil pump, and having an inlet submerged in the oil in said tank, said valve being controlled by variation of the level of oil in the auxiliary supply tank.

2. In oil burner systems, the combination of a main tank, an auxiliary oil supply tank, an oil pump for pumping oil from said main tank into said auxiliary supply tank, and for pumping oil from said auxiliary supply tank, a pipe leading from said main tank to said auxiliary supply tank and from said auxiliary supply tank to said pump, and a float controlled, three way inlet valve interposed in said pipe and having an inlet submerged in the oil in said auxiliary supply tank, substantially as and for the purpose set forth.

3. In oil burner systems, a suction pump, a main tank, an auxiliary supply tank, a float controlled, three way inlet valve, having a casing containing an inlet port connected to said main supply tank, a second inlet port opening in a body of liquid contained in said auxiliary supply tank and a discharge port connected to said suction pump, and a movable float actuated valve member having inlet ports arranged to control the inlet ports of the valve casing, and a discharge port constantly uncovering the discharge port of the casing.

4. In oil burner systems, the combination of a compressed air pipe, an oil supply pipe, a burner tube through which said pipes extend, and arranged to extend horizontally into a furnace, said burner tube having a discharge opening in its lower wall at its inner end, and an aspirating oil atomizing burner in said tube and connected to said pipes above said opening, said burner having discharge tips for the compressed air and the oil arranged at right angles to each other, the compressed air tip being directed downwards.

5. In oil burner systems, the combination of a compressed air tank, a compressed air pipe leading therefrom, an oil reservoir containing oil at atmospheric pressure, an oil supply pipe leading therefrom, an aspirating oil atomizing burner connected to the discharge ends of said pipes, said burner having a downwardly and outwardly flaring open mouth, an air discharge tip extending downwardly into said mouth, and an oil discharge tip extending into said mouth, at right angles to said air discharge tip, the discharge orifice of said oil discharge tip being located slightly above the oil level in said oil reservoir and in line with the axis of the air discharge tip, and a circular baffle plate arranged at right angles to the air discharge tip and axially disposed with respect thereto.

6. In oil burner systems, an oil pump, a main oil tank, an auxiliary oil tank, an oil supply pipe leading from said main oil tank, through said auxiliary oil tank and to the intake side of said oil pump, an oil reservoir into which said oil pump discharges oil, an overflow from said oil reservoir leading to said auxiliary oil tank and a float controlled three way inlet valve in said auxiliary oil tank interposed in said oil supply pipe, and having an inlet submerged in the oil in said auxiliary oil tank.

7. In oil burner systems, the combination of an oil reservoir having an overflow pipe, electric motor operated means for feeding liquid fuel to said reservoir, a burner, means for feeding liquid fuel from said reservoir to said burner, a spark plug device adjacent said burner for igniting the fuel, an electric switch for closing a circuit to the spark plug, and switch actuating mechanism for controlling said spark plug circuit having an overflow oil cup into which said overflow pipe discharges the overflow liquid fuel, said cup having a restricted outlet.

8. In oil burner systems, the combination of an oil reservoir having an overflow pipe, electric motor operated means for feeding liquid fuel to said reservoir, a burner, means for feeding liquid fuel from said reservoir to said burner, a spark plug device adjacent said burner for igniting the fuel, an electric switch for closing a circuit to the spark plug, a counterbalanced switch actuating lever, and an overflow oil cup into which said overflow pipe discharges the overflow liquid fuel, said cup having a restricted outlet for the fuel.

9. In an oil burner system, the combination of an oil reservoir having a vertical partition therein dividing the same into two compartments, there being an oil inlet opening and an oil discharge opening for one of said compartments, and an overflow opening in said partition connecting said compartments, and there being an overflow oil discharge pipe leading from said second named compartment, and an electric switch operat-

ing cup in said second named compartment into which overflow oil is discharged from said overflow opening, substantially as and for the purpose set forth.

10. In an oil burner system, the combination of an auxiliary oil supply tank, a platform mounted thereon, an oil reservoir supported upon said platform and having a vertical partition dividing said reservoir into two compartments, an oil pump mounted on said platform and having an inlet pipe leading from said auxiliary oil supply tank and a discharge pipe discharging into one of said compartments, there being an oil discharge opening leading from said compartment and an overflow opening in said partition opening into the other compartment, an overflow pipe leading from said last mentioned compartment to said auxiliary oil supply tank and a switch operating cup in said last mentioned compartment, into which overflow oil is discharged from said overflow opening in the partition.

FRANK STREICH.
PAUL B. STREICH.