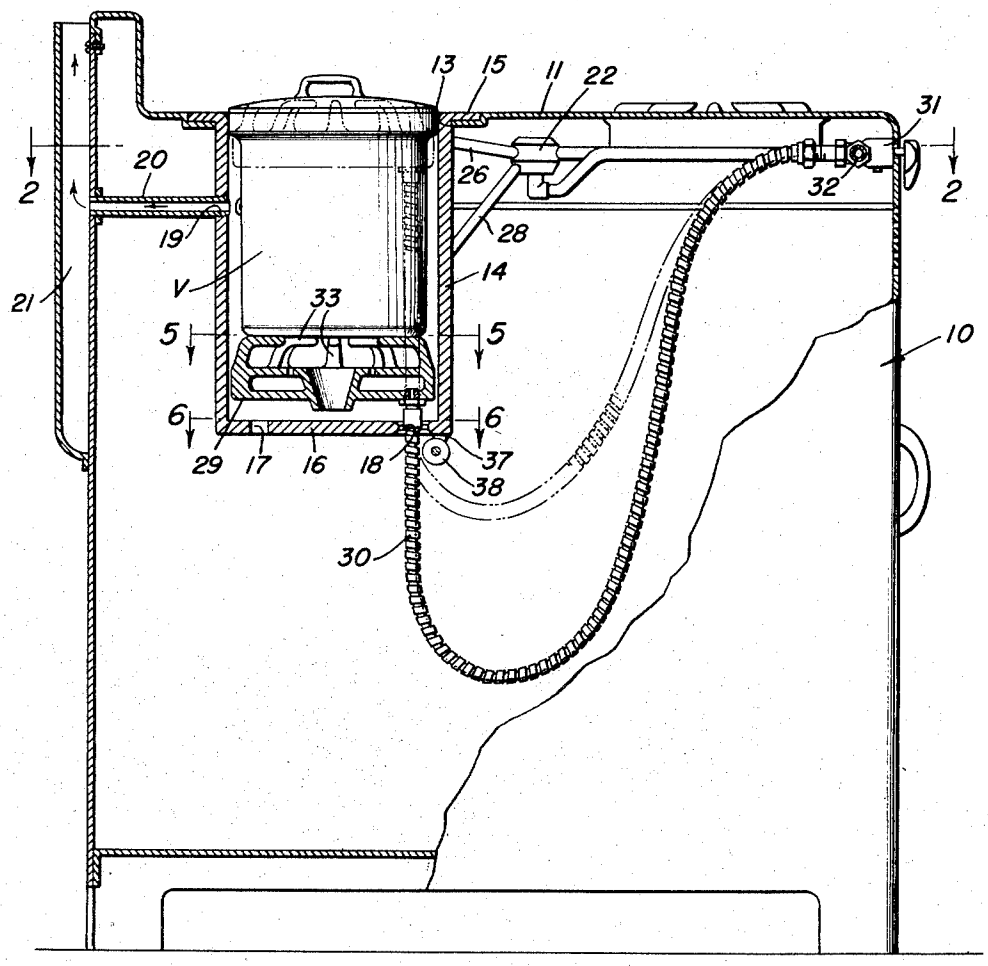
Sept. 4, 1951 J. K. BEYNON 2,566,440

COMBINATION DEEP WELL AND TOP COOKING UNIT FOR COOK STOVES

Filed Sept. 22, 1947 3 Sheets-Sheet 1

Fig. 1.



Inventor

John K. Beynon

By Clarence A. O'Brien and Harvey B. Jacobson

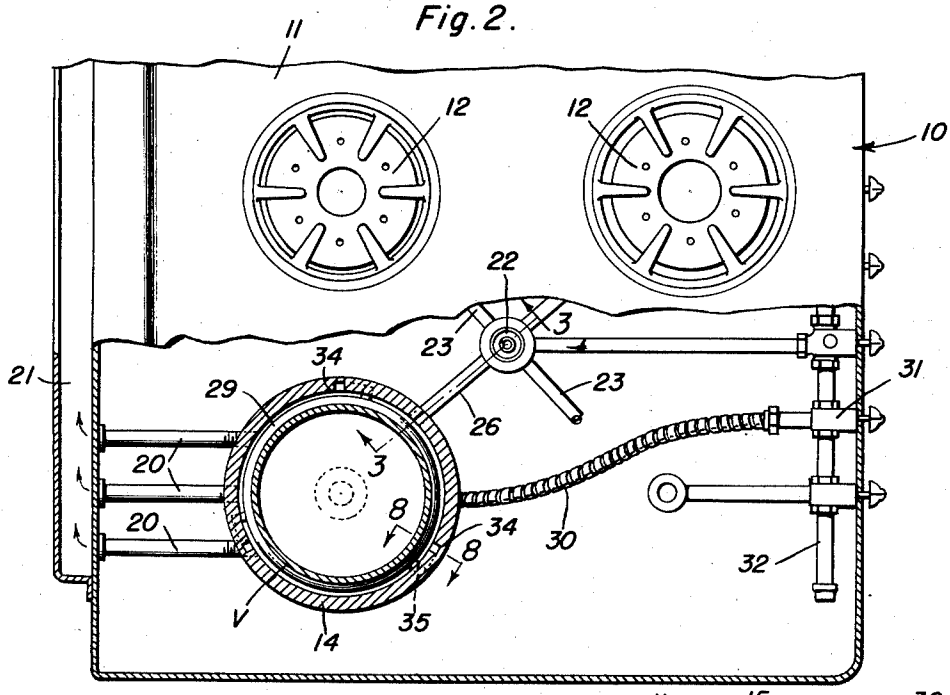
Attorneys

Sept. 4, 1951 J. K. BEYNON 2,566,440

COMBINATION DEEP WELL AND TOP COOKING UNIT FOR COOK STOVES

Filed Sept. 22, 1947 3 Sheets-Sheet 2

Fig. 2.



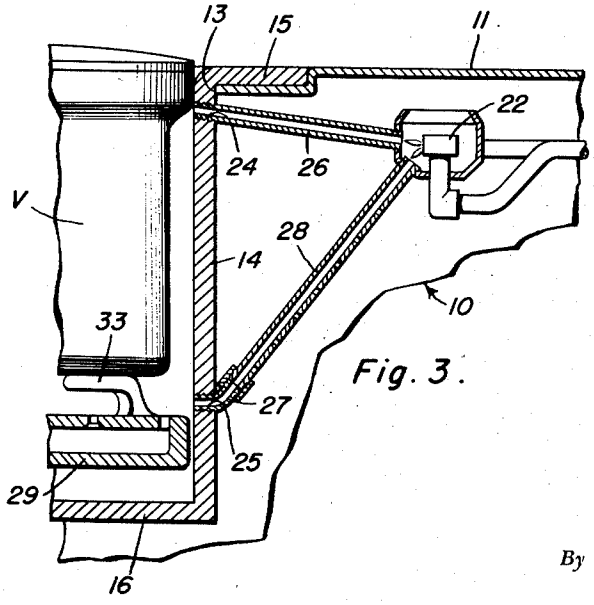


Fig. 3.

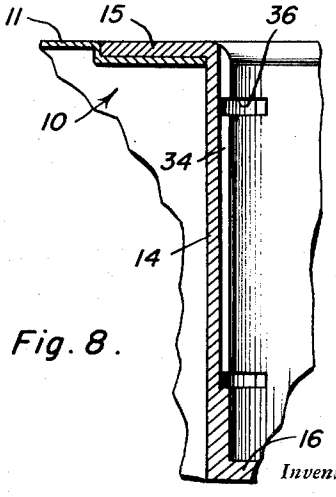


Fig. 8.

Inventor

John K. Beynon

By Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

Sept. 4, 1951 J. K. BEYNON 2,566,440

COMBINATION DEEP WELL AND TOP COOKING UNIT FOR COOK STOVES

Filed Sept. 22, 1947 3 Sheets-Sheet 3

Fig. 5.

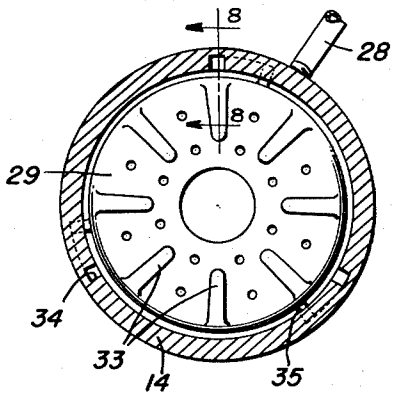


Fig. 6.

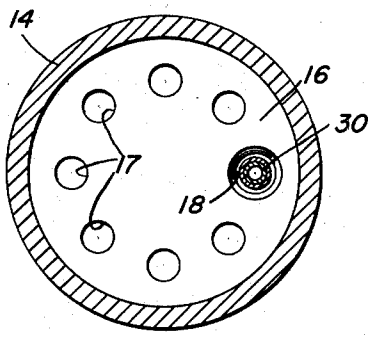


Fig. 4.

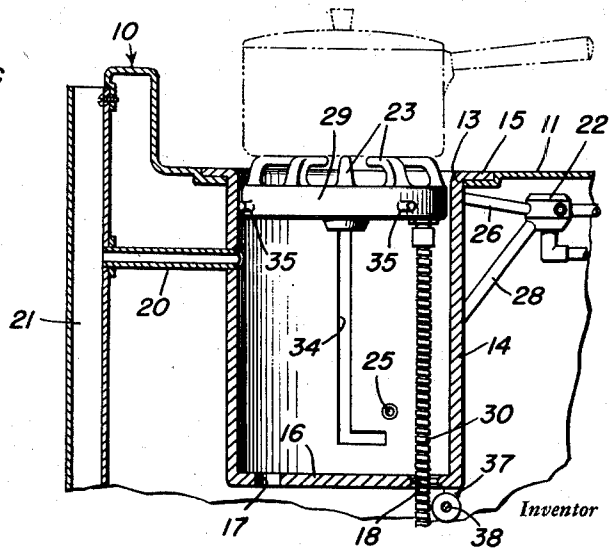
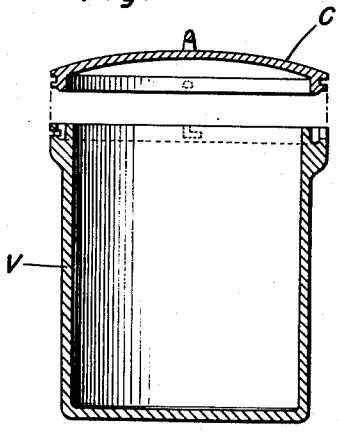


Fig. 7.



Inventor

John K. Beynon

By Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

Patented Sept. 4, 1951

2,566,440

UNITED STATES PATENT OFFICE

2,566,440

COMBINATION DEEP WELL AND TOP COOKING UNIT FOR COOKSTOVES

John K. Beynon, Chicago, Ill.

Application September 22, 1947, Serial No. 775,450

2 Claims. (Cl. 126—39)

1

This invention relates to a combination deep well and top cooking unit for a cook stove, and has for its primary object to increase the utility of the cooking unit.

With the ordinary type of cook stove equipped with a deep well, the heating burner for the well is fixed in the bottom thereof, with the result that the deep well which is used only infrequently occupies space in the top of the cook stove which could normally be employed for top-of-stove cooking, but inasmuch as the burner is fixed in the bottom of the deep well, the space occupied by the deep well is sacrificed for a unit that is only infrequently used.

The primary object of this invention is to provide the advantages of deep well cooking and at the same time avoid the sacrifice of the space required therefor in a stove top.

Another object is to enable the deep well burner to be used for top-of-stove cooking, without sacrificing the deep well and the advantages to be gained through the use thereof.

The above and other objects may be attained by employing this invention, which embodies, among its features, a tubular jacket entering the cooking top of a conventional cook stove and depending therefrom, a burner mounted in the jacket to move longitudinally therein from a deep well cooking position to a top cooking position and flexible means entering the jacket through its bottom to supply the burner with heating energy.

Other features include means releasably to support the burner in its top cooking position, flues coupled to the jacket intermediate its ends for conducting air and gases in the jacket to atmosphere, and vessel-supporting fingers on the top of the movable burner for holding a vessel in spaced relation to the top of the burner to provide a space in which combustion may take place.

In the drawings,

Figure 1 is a side view of a cook stove equipped with this improved deep well and top cooking unit, certain portions of the side wall of the stove being broken away more clearly to illustrate the details of construction,

Figure 2 is a fragmentary horizontal sectional view taken substantially along the line 2—2 of Figure 1,

Figure 3 is a fragmentary enlarged vertical sectional view through the deep well illustrating the means by which a gaseous fuel burner may be ignited from the common pilot light of the stove,

2

Figure 4 is a view similar to Figure 1 showing the burner in its elevated position,

Figure 5 is a horizontal sectional view taken substantially along the line 5—5 of Figure 1,

Figure 6 is a horizontal sectional view taken substantially along the line 6—6 of Figure 1,

Figure 7 is a sectional view through a deep well cooking vessel suitable for use in connection with this invention, and

Figure 8 is a fragmentary sectional view taken substantially along the line 8—8 of Figure 5.

Referring to the drawings in detail, a stove designated generally 10 is equipped with a cooking top 11 having, at spaced intervals therein, burners 12 of conventional form constituting the top cooking burners of the stove. Formed in the cooking top 11 is an opening 13 through which a tubular jacket 14 extends into the interior of the stove, as will be readily understood upon reference to Figure 1. The jacket 14 is provided at its upper end with an outstanding annular flange 15 forming a stop which engages the stove top 11, and the lower end of the jacket 14 is closed by a bottom 16 having formed therein an annular row of vents 17 through which air is admitted into the jacket. Formed in the bottom 16 to one side of the longitudinal axis of the tubular jacket 14 is a passage 18, the purpose of which will be more fully hereinafter explained. Formed in the side wall of the jacket 14 at a point intermediate its upper and lower ends is a horizontal row of spaced, internally screw-threaded openings 19, into which are fitted the ends of flue pipes 20. The ends of the flue pipes 20 opposite those communicating with the interior of the jacket 14 open into a conventional flue 21 formed at the back of the stove which communicates with atmosphere.

The stove above referred to is equipped with a conventional pilot burner 22 from which tubes 23 radiate to the various burners 12 so that when gaseous fuel is admitted to the burners 12, they will automatically light in a conventional manner.

Formed in the jacket 14 near its upper end is an opening 24 and a similar opening 25 is formed near the lower end of the jacket. An ignition tube 26 is threaded into the opening 24 and leads to the pilot burner 22, and threaded into the opening 25 is a coupling unit 27 to which an ignition tube 28 is coupled. The end of the ignition tube 28 opposite that which is connected to the coupling 27 is connected to the pilot burner 22, and it will thus be seen that the pilot

burner will be effective to light a burner in the top or the bottom of the jacket 14.

Mounted for vertical sliding movement in the jacket 14 is a gaseous fuel burner 29 to which one end of a flexible tube 30 is coupled. This tube 30 extends through the opening 18 as illustrated in the drawings and the end opposite that which is coupled to the burner 29 is coupled through a control valve 31 to the fuel distributing pipe 32 of the stove. It will thus be seen that when the valve 31 is opened, the gaseous fuel will be conducted through the flexible pipe 30 to the burner 29 and flowing through either the pipe 26 or the pipe 28 to the pilot burner 22, it will become ignited, thus igniting the gaseous fuel emitted through the ports of the burner 29 and causing it to burn in the conventional manner. In order to provide space for the combustion of the gas flowing through the burner, the burner is provided on its upper side with an annular row of upwardly and inwardly extending vessel-supporting fingers 33 upon which the bottom of a vessel V rests.

As illustrated in Figure 5, the jacket 14 is formed at radially spaced intervals with longitudinal grooves 34, and formed at radially spaced points on the burner 29 are radially extending lugs 35. Formed in the wall 14 adjacent the upper ends of the grooves 34 and opening into said grooves are horizontal grooves 36 which, when the burner is in elevated position, receive the lugs 35 and serve to sustain it against downward movement. It will thus be seen that by lifting the burner 29 manually and then partially turning it when it reaches the upper end of the jacket 14, the lugs 35 will be moved into the grooves 36 to sustain the burner in elevated position. When in such elevated position, the burner serves admirably as a top cooking unit to augment the burners 12 of the stove.

In its preferred form, the vessel V is equipped with a cover C which is adapted to be sealed in place in order that the juices and volatile matter contained in the food being cooked in the vessel cannot escape.

In order to avoid wear on the tube 30 during its movements into and out of the jacket 14, I attach to the lower end of the jacket adjacent the opening 18 a bracket 37 in which is mounted a guide roller 38 against which the tube 30 runs during the raising or lowering of the burner 29.

In use, the burner may be lowered as illustrated in Figure 1 into the jacket 14 and upon opening the valve 31, the gaseous fuel will flow from the pipe 32 through the flexible tube 30 to the burner, thus supplying it with fuel. Air to support combustion of the gas issuing from the burner is introduced through the tube 30 in the conventional manner and also enters the jacket 14 through the openings 17. By reason of the fingers 33, the vessel V entering the upper open end of the jacket 14 will be held in spaced relation to the burner, thus providing combustion space within the jacket, and the products of combustion rising through the jacket may escape through the flues 20 to be discharged through the flue 21 to atmosphere. The gas flowing to the burner 29 will pass upwardly through the tube 30 to the pilot light within the igniter 22, to convey the flame downwardly to the burner and cause the gas issuing therefrom to become ignited.

When the burner is to be used as a top burner unit, it is elevated by entering a hooked rod into the upper end of the jacket 14 and engaging

one of the fingers 33 to enable the burner to be lifted by pulling the rod upwardly. When the burner has been moved to its uppermost position within the jacket 14, the burner is given a partial turn so as to cause the lugs 35 to move from the grooves 34 into the horizontal grooves 36 and thus the burner will be sustained in elevated position to serve as a top cooking unit. Ignition of the burner is established automatically through the gas flowing therefrom through the pipe 26 to the pilot 22 in a conventional manner.

By the use of this device, it is obvious that the space normally occupied by a deep well cooker in the ordinary range may be utilized not only for the purpose of deep well cooking, but also by elevating the burner the burner may be used for top cooking on the top of the range. Thus, its service may be greatly increased and the advantages of having top burners in all burner openings of the range may be readily realized without sacrificing the advantages of deep well cooking.

While in the foregoing there has been shown and described the preferred embodiment of this invention, it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

Having described the invention, what is claimed as new is:

1. In a cook stove using gaseous fuel and having a cooking top equipped with gas burners arranged to be ignited from a common pilot burner, a combination deep well and top cooking unit comprising a tubular jacket entering the cooking top and depending therefrom, a burner mounted in the jacket to move longitudinally therein from a deep well cooking position to a top cooking position, a flexible tube movable through the bottom of the jacket and connected to the burner to supply the burner with gaseous fuel, igniter tubes establishing communication with the upper and lower ends of the jacket and extending to the common pilot burner to light the burner when either at the top or at the bottom of the jacket, a vessel supporting spider on the top of the movable burner to support a vessel thereon in spaced relation thereto to provide space between the burner and the vessel for the combustion of the gases passing through the burner, flues coupled to the jacket intermediate its ends to discharge to atmosphere products of combustion resulting from operating the burner in its lowered position within the jacket, said jacket having circumferentially spaced vertical grooves extending from a plane near its bottom through the top of said jacket, said grooves opening into the interior of the jacket, said jacket also having relatively short horizontal grooves opening into the longitudinal grooves near the upper ends thereof and radial lugs on the burner and extending into the grooves selectively to support the burner near the bottom or top of the jacket.

2. In a cook stove using a gaseous fuel and having a pilot burner and a cooking top, a combination deep well and top cooking unit comprising a tubular jacket entering the cooking top and depending therefrom, a burner mounted in the jacket to move longitudinally therein from a deep well cooking position to a top cooking position, a flexible tube movable through the

bottom of the jacket and connected to the burner to supply the burner with gaseous fuel, and igniter tubes establishing communication with the upper and lower ends of the jacket and with the pilot burner to selectively light the movable burner at the top or at the bottom of the jacket.

JOHN K. BEYNON.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
698,010	Graves	Apr. 22, 1902
1,371,191	Arundel	Mar. 8, 1921
1,730,042	Pendleton	Oct. 1, 1929
2,088,505	Brumbaugh	July 27, 1937
2,220,532	Lombardi	Nov. 5, 1940
2,286,766	Sherman	June 16, 1942
2,415,519	North	Feb. 11, 1947
2,447,364	Renshaw	Aug. 17, 1948