

R. E. BASS.
CRUDE OIL BURNER.
APPLICATION FILED JAN. 7, 1910.

959,288.

Patented May 24, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

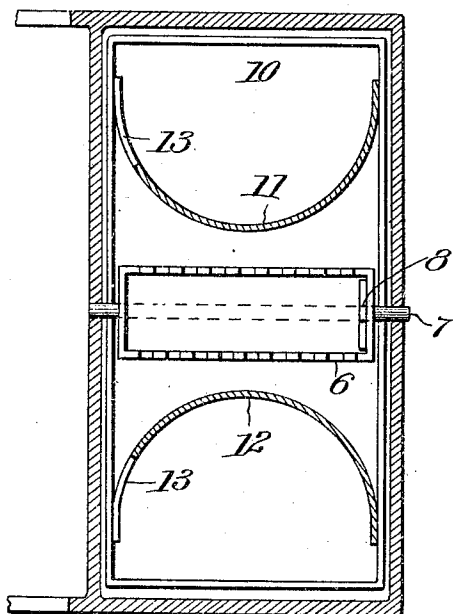


Fig. 2.

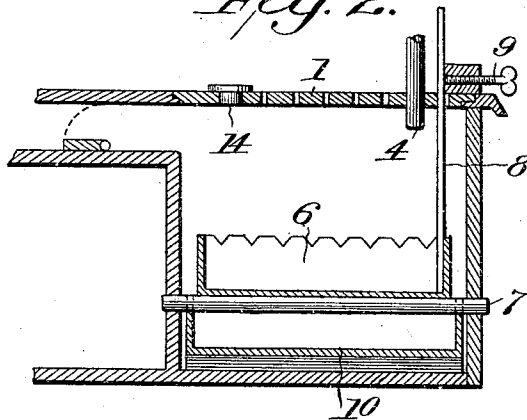


Fig. 5.

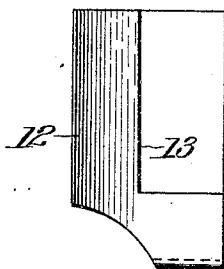


Fig. 6.

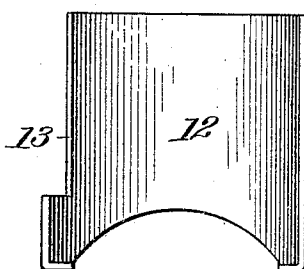


Fig. 3.

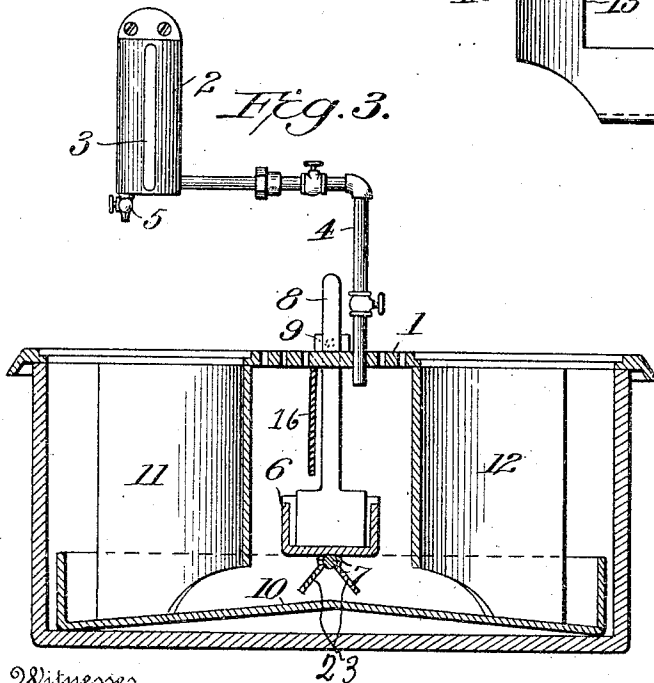
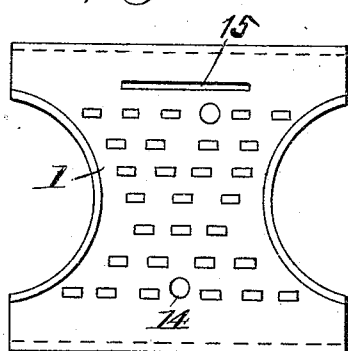


Fig. 4.



Inventor,

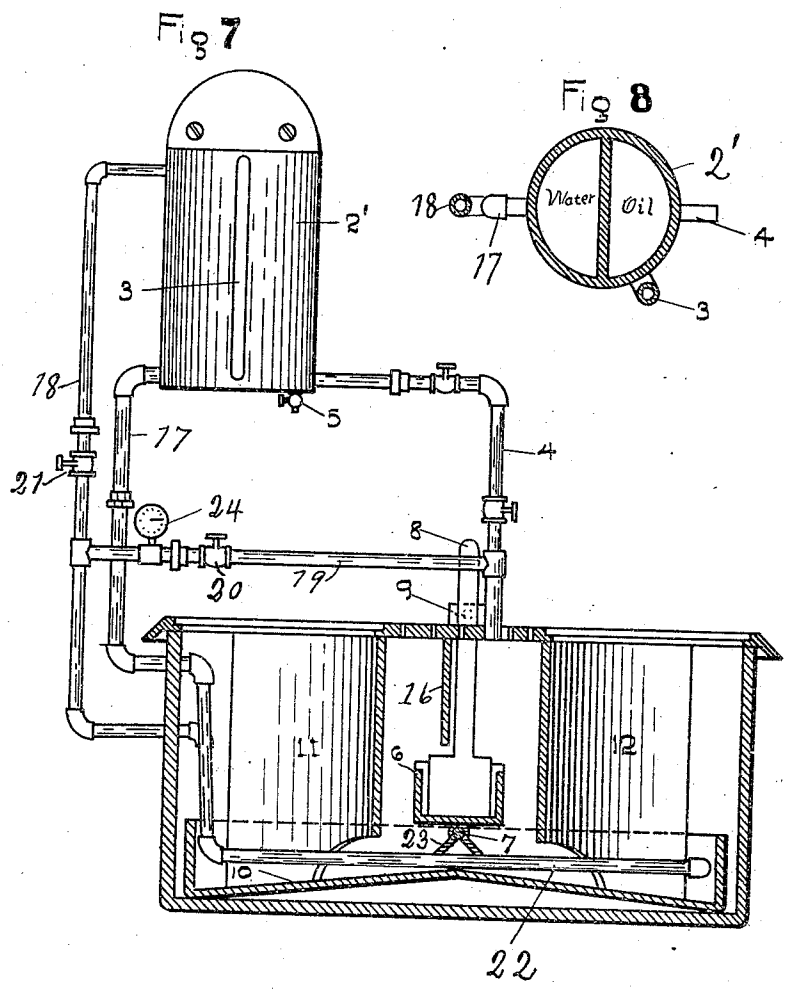
Witnesses
C. M. Baker,
J. W. Stitt,

R. E. Bass,
By A. L. Jackson,
Attorney

R. E. BASS.
 CRUDE OIL BURNER.
 APPLICATION FILED JAN. 7, 1910.

959,288.

Patented May 24, 1910.
 2 SHEETS—SHEET 2.



Witnesses
J. W. Stitt
W. H. Houghlass

Inventor,
R. E. Bass
 By *A. D. Jackson*,
 Attorney

UNITED STATES PATENT OFFICE.

ROBERT E. BASS, OF FORT WORTH, TEXAS.

CRUDE-OIL BURNER.

959,288.

Specification of Letters Patent.

Patented May 24, 1910.

Application filed January 7, 1910. Serial No. 536,928.

To all whom it may concern:

Be it known that I, ROBERT E. BASS, a citizen of the United States, residing at Fort Worth, in the county of Tarrant and State of Texas, have invented certain new and useful Improvements in Crude-Oil Burners, of which the following is a specification.

My invention relates to burners which may be used in stoves and heaters and the object is to provide practical burners for using crude oil for fuel and which will convert practically all the crude oil into gas before the principal combustion takes place and to equip the burners with devices by which the heat may be used to the greatest advantage so that the stoves and heaters will be highly efficient in cooking and heating.

Other objects and advantages will be fully explained in the following description and the invention will be more particularly pointed out in the claims.

Reference is had to the accompanying drawings which form a part of this application and specification.

Figure 1 is a horizontal section of a stove box, showing the tilting igniter pan and the gas generating pan thereunder, and also showing the lateral deflectors. Fig. 2 is a vertical cross-section, but without the deflectors. Fig. 3 is a vertical section, looking toward the front of the stove. Fig. 4 is a plan view of the draft-plate, which plate is also the central supporting plate. Fig. 5 is a rear view of one of the deflectors. Fig. 6 is a side view of the deflector. Fig. 7 is a similar view to Fig. 1, showing means for supplying steam with the oil. Fig. 8 is a horizontal section of the divided tank.

Similar characters of reference are used to indicate the same parts throughout the several views.

The drawings show an ordinary fire box of a cook stove. The central plate 1 is perforated and constitutes the medium for admission of air to create a draft. The supply of oil is carried in a tank 2 which may be attached to a suitable support and the tank is provided with a glass gage 3 for determining how much oil is in the tank and also how much water is settled at the bottom and the oil is fed through a pipe 4 to the igniter 6. The tank 2 is provided with a drain cock 5 for drawing off any water that may be settled at the bottom of the tank. Oil is fed to the igniter 6 which is

pivotaly mounted on a rod 7 which has bearings in the walls of the stove. The igniter 6 is provided with a handle or lever 8 by which the igniter may be tilted toward one side or the other, the draft plate 1 having a slot 15 for permitting the tilting of the igniter. The igniter may be held at different positions by a thumb-bolt or set screw bolt 9. Provision is made for spreading the oil toward the sides of the stove. A pan 10 is placed under the igniter 6 and the central portion of the pan is raised and there is an incline toward each side of the pan so that oil will run toward the sides of the pan which extends to the sides of the stove. During the passage of the oil toward the sides of the stove the oil is converted into gas which is burned and great heat is produced by the burning of the gas. All the oil may be turned toward one side of the stove if it is necessary or desirable. Deflectors 11 and 12 are provided to direct the heat toward the sides of the stove and thus prevent the heat from interfering with the draft which is coming through the plate 1. The deflectors 11 and 12 are cut away at the rear parts at 13 to permit the heat to be directed also toward the back of the stove or toward the oven. An opening 14 is provided in the plate 1 and the oil in the igniter 6 is set on fire by means of some device inserted through the opening 14.

Steam may be mixed with the oil before the oil is delivered to the burner. The tank 2' may be divided by a partition and oil placed in one side and water in the other side. The connection for feeding oil is the same as that previously described. A pipe 17 is connected to the lower part of the water side of the tank and run into the fire box and through the burner box or pan, the part 22 of the pipe extending the whole length of the pan and back out of the stove or fire box. The pipe 18 is connected to the upper part of the water side of the tank and connected to the part 22 of the pipe. The pipe 18 is provided with a cock 21 and a pipe 19 is connected with the pipe 18 and with the oil feed pipe 4 and provided with a cock 20. Water is let into the pipe 22 and when the burner is in operation, steam will be generated in the pipe 22. The cock 21 can be closed and the cock 20 opened so that the steam will escape into the oil feed pipe to be mixed with the oil and thus save oil and get equally as much heat. The operation will

be the same as with the oil, but as the steam will tend to atomize the oil, the atomized oil will be spread to all parts of the fire box and converted into gas. In order to cause all the heat to be used on one side of the fire box, additional deflectors will be necessary where the steam is used. A deflector 16 is attached to the upper plate 1 so that when the igniter 6 is tilted the side of the igniter will come against the deflector 16 and thus close one side of the fire box to burning material so that all heat will go to one side. A deflector 23 attached to the bottom of the igniter will also close the space below the igniter when the igniter is closed. A steam gage 24 may be connected with the pipe 19.

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

1. A crude oil burner having a converting pan, the central portion of the bottom thereof being raised and the bottom being inclined from said central portion toward the sides for spreading oil, an igniter pivotally mounted above said central portion, deflectors mounted in said pan and extending up on each side of said igniter, and means for feeding oil to said igniter.

2. A crude oil burner having a converting pan for spreading oil, an igniter pivotally mounted above said pan, a handle attached to said igniter for tilting said igniter to one side or the other, means for holding said handle in different positions, and means for feeding oil to said igniter.

3. A crude oil burner having a converting

pan for spreading the oil, deflectors mounted in and resting on the bottom of said pan and having portions thereof cut away adjacent to said pan, an igniter pivotally mounted above said pan between said deflectors, means for holding said igniter at different adjustments, and means for feeding oil to said igniter.

4. A crude oil burner having a converting pan for spreading oil, deflectors mounted in and resting on the bottom of said pan and having the rear sides cut away, an igniter pivotally mounted centrally over said pan between said deflectors, and means for feeding oil to said igniter.

5. In a crude oil burner having a converting pan for spreading oil, deflectors mounted in said pan, an igniter pivotally mounted above said pan between said deflectors, a divided tank for holding oil and water, a pipe connected to said tank and terminating above said igniter for feeding oil to said igniter, water pipes connected to said tank and supported in said pan, a connecting pipe connected with one of said water pipes and with said oil feeding pipe, and cocks controlling the flow of water and steam and oil through said pipes.

In testimony whereof, I set my hand in the presence of two witnesses, this 17th day of December, 1909.

ROBERT E. BASS.

Witnesses:

J. J. GILLIN,

A. L. JACKSON.