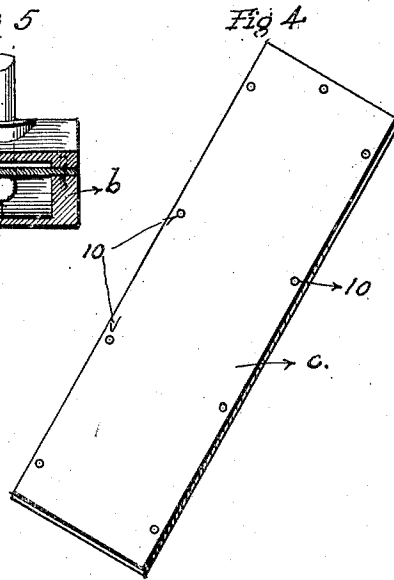
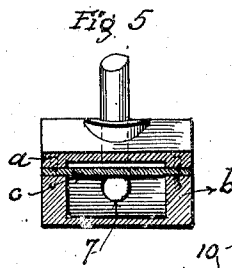
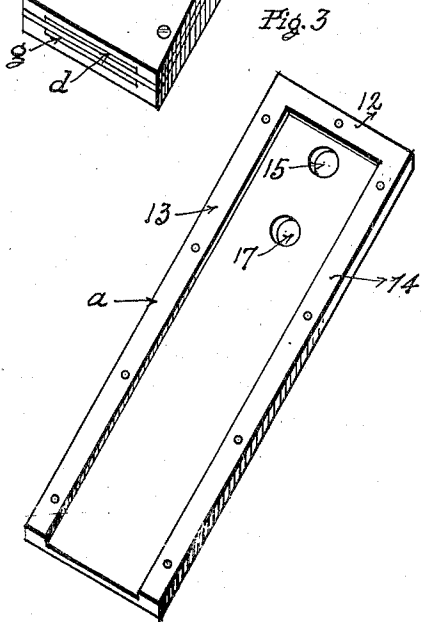
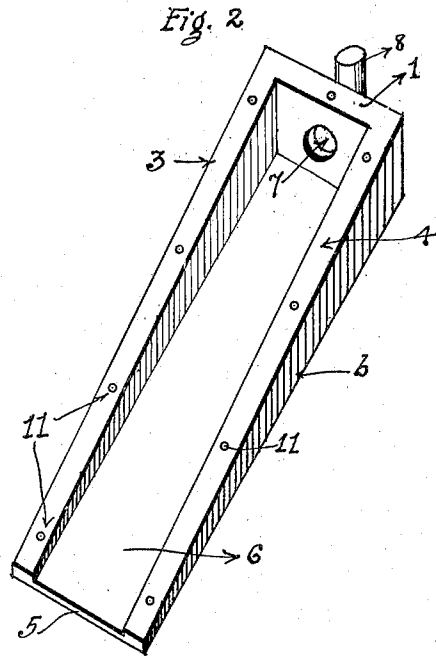
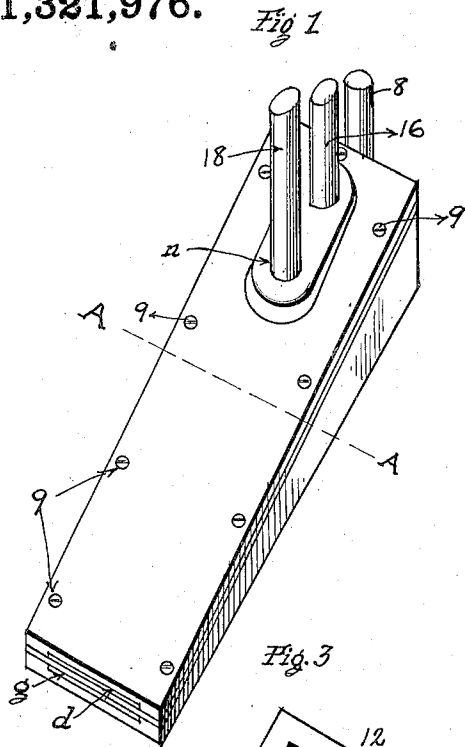


E. L. BROWN.
 OIL BURNER.
 APPLICATION FILED JULY 16, 1918.

1,321,976.

Patented Nov. 18, 1919.



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EDWARD L. BROWN, OF ALEXANDRIA, VIRGINIA.

OIL-BURNER.

1,321,976.

Specification of Letters Patent. Patented Nov. 18, 1919.

Application filed July 16, 1918. Serial No. 245,232.

To all whom it may concern:

Be it known that I, EDWARD L. BROWN, a citizen of the United States, residing in the city of Alexandria, State of Virginia, have invented a new and useful Improvement in Oil-Burners, of which the following is a specification.

My invention relates to oil burners more especially adapted for use in furnaces and the objects of my invention are to provide an oil burner that provides a heated surface over which the oil fuel flows in a thin sheet to facilitate its vaporization; to furnish a steam chamber for heating the oil plate, and to furnish a current of air that will aid to spread the fuel oil on the plate and force the vaporized fuel into the fire-box of the furnace.

With these and other objects in view, the invention consists of certain novel details of construction and combination of parts hereinafter fully described and illustrated in the accompanying drawings, and set forth in the claim.

Similar characters of reference refer to similar parts throughout the several views of the drawings.

Figure 1 is a perspective view of my invention showing the air, fuel and steam connecting pipes; Fig. 2 is a perspective view of the base member; Fig. 3 is a perspective view of the underside of the cover; Fig. 4 is a perspective top view of the fuel oil distributor plate, and Fig. 5 is a sectional view through A—A in Fig. 1.

The principal parts of my invention are the cover *a*, base *b*, and distributor plate *c*.

The base *b* is provided with an end wall portion 1 and two inclined side wall portions 3 and 4. The side wall portions 3 and 4 taper from the end wall portion 1 to the end 5 of the base member *b* where they are slightly higher than the surface of the floor 6 of said base member *b*. The end wall portion 1 is provided with an opening 7 adapted to receive a steam pipe 8.

The distributing plate *c* is adapted to be placed on the top of the end wall 1 and side walls 3 and 4 and be securely attached thereto by studs 9 which pass through the holes

10 and are screwed into the threaded holes 11 in the end wall 1 and side walls 2 and 3.

The cover *a* is provided on its under side with an end wall portion 12 and horizontal side wall portions 13 and 14 and in said wall 55 portions are holes conforming to the holes 10 in the distributor plate *c* and base *b*, through which the studs 9 are inserted, thereby securely fastening together the cover *a*, distributor plate *c* and base *b*. The cover 60 *a* is provided with an opening 15 which is adapted to receive an air pipe 16 and a similar opening 17 which is adapted to receive an oil fuel pipe 18. It is also provided with a reinforcing member *n* which supports the 65 steam pipe 16 and the fuel oil pipe 18.

In operating my device, the oil fuel pipe 18 is connected in the usual manner with an oil supply,—not shown in the drawings; the air pipe 16 is connected in the usual manner with an air supply—not shown in the drawings—and the steam pipe 8 is connected in the usual manner with a steam supply—not shown in the drawings. The oil passes 75 from the pipe 18 on to the surface of the inclined distributor plate *c* and runs down over said distributor plate *c* to the opening *d*, where it is ignited. The air from air pipe 16 breaks the stream of oil as it leaves the oil pipe 18 into small particles and forces 80 the particles of oil through the opening *d* thus aiding the combustion. The steam from the steam pipe 8 heats the distributor plate *c* thereby causing the oil that falls on said distributor plate *c* to be vaporized and 85 in that form to be carried by the air from the air pipe 16 through the opening *d* into the flame. The steam from the steam pipe 8 passes out at the opening *g* and aids in the combustion in the fire-box in which the 90 oil burner is placed.

Having thus described my invention, what I claim is:

An oil burner, comprising a base member provided with an end wall portion and horizontal inclined side wall portions, an inclined fuel distributor plate mounted on the wall portions of said base, a cover member provided on its under side with an end wall portion and horizontal wall portions, con- 100

forming respectively with the end wall portion and side wall portions of said base member, and a reinforcing member on the top side mounted on said fuel distributor plate, means for holding securely together said base member, fuel distributor plate and cover member, a steam supply means connected with the chamber in said base member, an oil supply means and an air supply means mounted in said reinforcing member on said cover and connected with the chamber between said cover and said distributor plate.

In testimony whereof I have hereunto subscribed my name.

EDWARD L. BROWN.