

## CHAPTER 11

# Classification of Burners

There is a great multiplicity of types of so-called oil burners. Of the numerous makes of house heating burners, there are basic features common to all, differing in minor details. It may be said that they are now pretty well standardized.

A classification to be comprehensive should be made from various points of view, as:

1. With respect to control, as:

- a. Manual (hand).
- b. Semi-automatic.
- c. Fully automatic.

2. With respect to service, as:

- a. Domestic.
- b. Commercial.
- c. Industrial.

3. With respect to fuel, as:

- a. Gasoline.
- b. Kerosene.

- c. Oil
- |                   |                    |
|-------------------|--------------------|
| {                 | light domestic.    |
|                   | medium domestic.   |
|                   | heavy domestic.    |
|                   | light industrial.  |
|                   | medium industrial. |
| heavy industrial. |                    |

4. With respect to the preparation process, as:

- a. Vaporizers.
- b. Sprayers (alleged "atomizers").
- c. Combined sprayers and vaporizers.

5. With respect to spraying agent, as:

- a. Air.
- b. Steam.

6. With respect to the method of projecting the fuel, as:

- a. Gravity.
- b. Pressure on oil.
- c. Induction.
- d. Centrifugal force.

7. With respect to the method of mixing and spraying, as:

- a. Outside mixing { drooling.  
alleged atomizer.  
projector.  
centrifugal.
- b. Inside mixing { chamber.  
injector.  
centrifugal.

8. With respect to the force used to project the fuel, as:

- a. High pressure.
- b. Low pressure.
- c. Centrifugal force.

9. With respect to draught, as:

- a. Natural.
- b. Forced.

10. With respect to ignition, as:

- a. Electric { intermittent.  
continuous.
- b. Gas.
- c. Gas-electric.
- d. Oil pilot.
- e. Manual.

11. With respect to location of the burner, as:

- a. Inside of boiler.
- b. Outside of boiler.

12. With respect to operation, as:

- a. Continuous.
- b. High and low.
- c. Intermittent.

13. With respect to burners introducing centrifugal force, as:

- a. Centrifugal vanes { inside.  
outside.
- b. Rotary { vertical shaft.  
horizontal shaft.  
motor driven.  
fan driven.

14. With respect to miscellaneous types, as:

- a. Pot.
- b. Gun.
- c. Multiple spray.
- d. Venturi { low pressure.  
high pressure.  
flat flame.

- e. Proportioning.
- f. Variable capacity.  
etc. etc.

**Ques.** Why isn't an alleged "oil burner" an oil burner?

**Ans.** Simply because it doesn't burn the oil but prepares the oil for burning, combustion taking place in a space not contained in the alleged burner.

**Ques.** How does it prepare the oil for burning?

**Ans.** By performing the following essential operations: 1. Spraying or breaking up the oil into minute globules; 2, mixing air with these globules in proper proportion; 3, giving turbulence to the mixture to thoroughly mix the air and oil.

**Ques.** What doesn't the burner do?

**Ans.** It doesn't *atomize* the oil.

The word "*atomizer*" as applied to burners is a ridiculous and misleading misnomer — simply hot air sales talk.