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CARBURETORS

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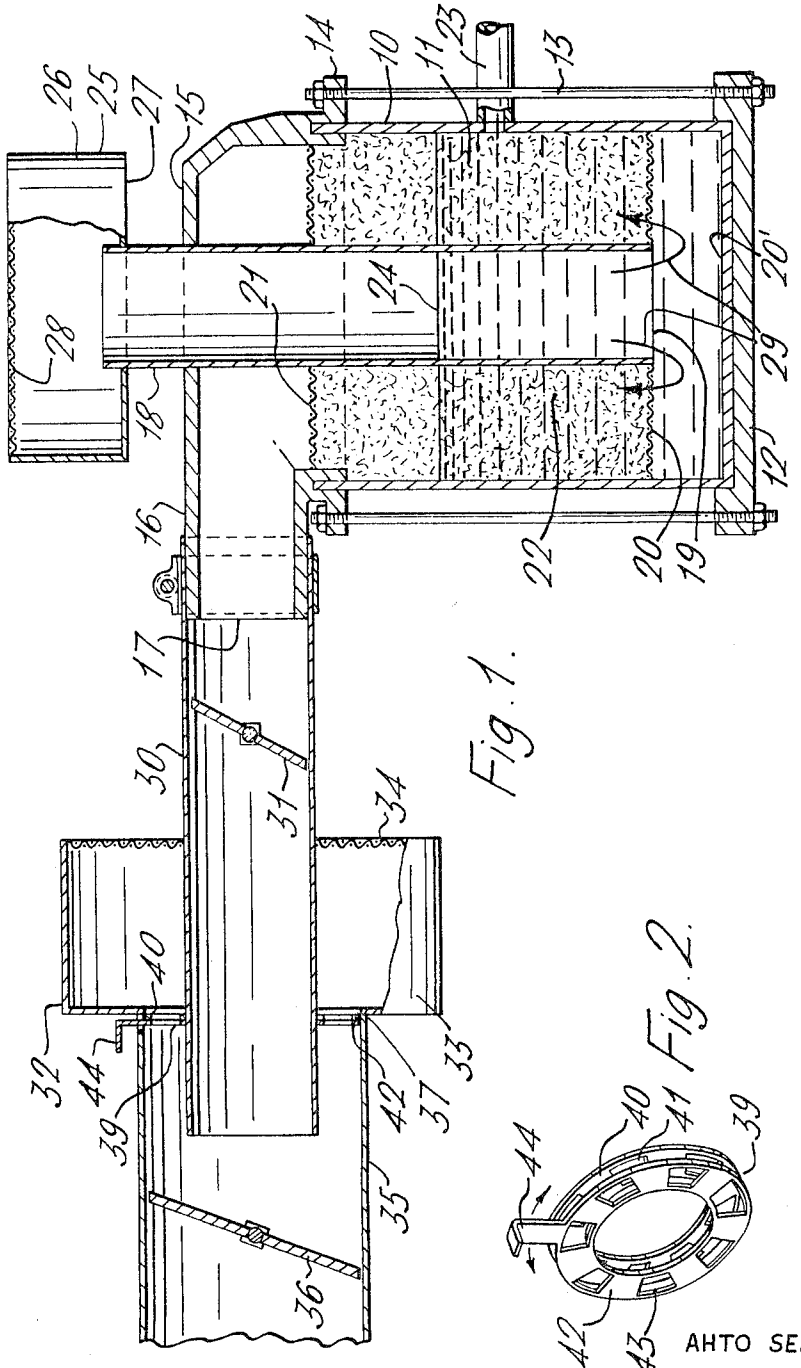

Fig. 1.

Fig. 2.

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CARBURETORS

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The present invention relates to a novel carburetor, a particular object and advantage thereof being to provide a device of the character herein described which is suitable to all internal combustion engines such as, besides and in addition to automobile engines, engines such as those employed to operate mowers, chain saws, snow plows and the like, and which can process such fuels as kerosene, turpentine, rubbing alcohol and the like, to give satisfactory performance of the associated engine.

A further object of the present invention is to provide a carburetor of extremely simplified and inexpensive construction both from a fabrication and from an assembly point of view so that it may retail at a conspicuously reasonable price, and which, in virtue of its particular ability to clean and remove impurities from a wide varity of inferior fuels, has the added virtue of reducing air pollution.

A further object of the present invention flowing from the last foregoing, is that the same may be employed to advantage in association with oil burners, in which function it operates to reduce and burn up all the smoke customarily liberated, and generate a highly flammable mixture.

With the foregoing objects in view, and all those objects, purposes or advantages which may become apparent from consideration of this disclosure and specification, the present invention consists of the inventive concept embodied in the method, process, construction, arrangement of parts, or new use of the same, as herein particularly exemplified in one or more specific embodiments of such concept, reference being had to the accompanying figures in which:

FIGURE 1 is a predominantly central vertical cross-section of the presently invented carburetor.

FIGURE 2 is a perspective representation of the variable air intake valve associated with the secondary air filter and secondary conduit to be described.

In the drawings, like characters of reference designate similar parts in the several figures.

The present carburetor comprises a main casing generally designated **10** and preferably of vertically cylindrical configuration enclosing a chamber **11**. This chamber may if desired have a removable base plate **12** secured sealably in place by means of the several screw-threaded rods **13** the upper ends of which pass through projecting lugs **14**. These lugs are formed as part of the upper casting **15** which is also separate from the body **10** as clearly depicted.

The upper casting **15** is of course also of generally annular configuration, and includes the horizontally disposed elbow portion **16** which terminates in a substantially vertically discharge aperture **17**. At this point is should be explained that the body **10** and casting **15** together with elbow **16** and aperture **17** may all generally be considered to comprise the chamber **11**.

Extending vertically and centrally through the chamber **11** is a stand pipe **18** the lower end **19** of which is spaced from the floor **20'** of chamber **11**.

A lower horizontal supporting screen **20** of annular configuration spans chamber **11** between the lower the lower end **19** of stand pipe **18** and the surrounding body **10**. A substantially similar upper horizontal screen **21** is located within chamber **11** slightly below aperture **17**.

Occupying the space between the two screens and surrounding stand pipe **18** is a mass fiberglass **22** or like material.

A fuel intake **23** may be located upon the wall of the body **10** at any convenient location such as where indicated, fuel in general being adapted to fill the chamber **11** and the stand pipe **18** to approximately the level **24** indicated.

At the upper end of stand pipe **18** externally of body **10** is a primary air filter **25** preferably of horizontally disposed, shallow cylindrical configuration provided with a solid surrounding wall **26** and a similar underwall **27**, but a foraminous upper wall **28** through which air may enter and pass down the stand pipe **18** to mix with the fuel within chamber **11** and pass upwardly as indicated by arrows **29** through the fuel in the fiberglass mass and upwardly through annular screen **21**.

Communicating with chamber **11** and connected to aperture **17** is a primary conduit **30** containing a mixture control valve **31**. Surrounding this primary conduit and upon the engine side of the valve **31** is a secondary air filter **32** which is in the form of a vertically disposed, shallow cylindrical vessel the surrounding wall **33** of which is imperforate while one end wall (or one of the pairs of opposite walls) **34**, is foraminous.

Co-axial with primary conduit **30** is a secondary conduit **35** containing the throttle valve **36**. One end **37** of secondary conduit **35** abuts the end wall **38** of secondary filter **32**. The annular space between the primary conduit **30** and the secondary conduit **35** is occupied by a variable air intake valve **39** illustrated in the accompanying FIGURE 2 from which the same will be seen to comprise a stationary plate **40** fixed to the wall **38** and provided with a plurality of sectorial apertures **41**, and a similar but rotatable plate **42** in interfacial relationship with plate **40** and provided with the sectorial apertures **43** capable of registration and mis-registration with apertures **41**. A lever **44** is provided for conveniently rotating plate **42**.

By suitable manipulation of the gas and air mixture control valve **31**, the valve **39**, and the valve **36**, according to the characteristics of the fuel and those of the associated engine, efficient and economical operation may be achieved. The primary and secondary filters **26** and **32** contain conventional filtering material therein.

Since various modifications can be made to the invention herein described within the scope of the inventive concept disclosed, it is not intended that protection of the said invention should be interpreted as restriced to the modification or modifications or known parts of such concept as particularly described, defined or exemplified, since this disclosure is intended to explain the construction and operation of such concept and is not for the purpose of limiting protection to any specific embodiment or details thereof.

What I claim as my invention is:

1. A carburetor comprising in combination a primary fuel receiving chamber connected to a supply source, a stand pipe extending vertically through said chamber to project beyond the upper end thereof, the lower end of said stand pipe opening into said chamber and occupying a horizontal plane spaced from the floor of said chamber, a lower horizontal supporting screen surrounding said lower stand pipe end and spanning said chamber, said chamber having a substantially vertically disposed discharge aperture in the vicinity of the upper end thereof, a substantially horizontal, primary conduit commuicating with said aperture, a mixture control valve in said conduit, a primary air filter communicating with said stand pipe externally of said chamber, a secondary conduit communicating with said primary conduit, a secondary

air filter communicating with said secondary conduit, a variable air intake valve at the locus of communication between said primary and secondary conduits, a throttle valve in said secondary conduit, an upper horizontal screen surrounding said stand pipe slightly below said discharge aperture, the space within said chamber surrounding said stand pipe and between said upper and lower screens being occupied by fibreglass or the like substance.

2. The carburetor according to claim 1 in which said chamber is vertically cylindrical, and in which said stand pipe is cylindrical and disposed centrally with respect to the chamber.

3. The carburetor according to claim 2 in which said primary air filter is secured centrally to the upper end of said stand pipe, said primary air filter being of shallow cyclindrical configuration having closed surrounding and lower end walls, and a forminous upper wall.

4. The carburetor according to claim 1 in which said secondary air filter surrounds said primary conduit, said primary conduit, said secondary filter being of shallow cylindrical configuration, said secondary conduit being of greater diameter than said primary conduit and co-axial therewith, said secondary conduit communicating with said secondary air filter.

5. The carburetor according to claim 4 in which said control valve is situated between said aperture and said secondary air filter, and said throttle valve is on the engine side of said secondary filter.

6. The carburetor according to claim 4 in which said primary conduit extends through said secondary air filter and into said secondary conduit, one end of said secondary conduit abutting one of the two opposite end walls of said secondary filter, said variable air intake valve being in the form of a pair of multi-apertured, interfacial, annular plates, one of which is fixed and the other rotatable, occupying the annular space between the wall of said primary conduit which extends as aforesaid, and the perimeter of said secondary conduit.

7. The secondary filter according to claim 6 in which the said end wall against which said secondary conduit abuts, is of greater diameter than said secondary conduit, the annular portion thereof external to said secondary conduit being imperforate, the wall of said secondary filter opposite thereto being forminous.

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