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CARBURETOR HAVING A PROTECTIVE COVER

Filed Jan. 20, 1964

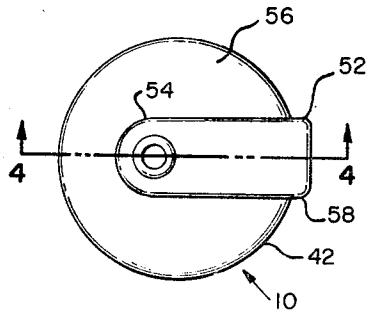


FIG. 3

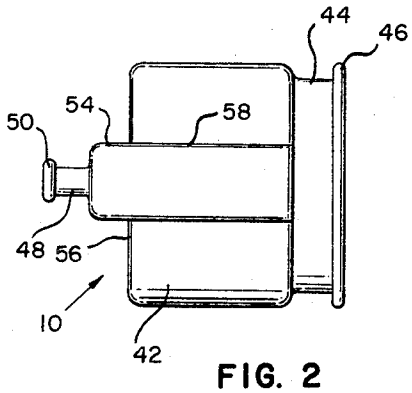


FIG. 2

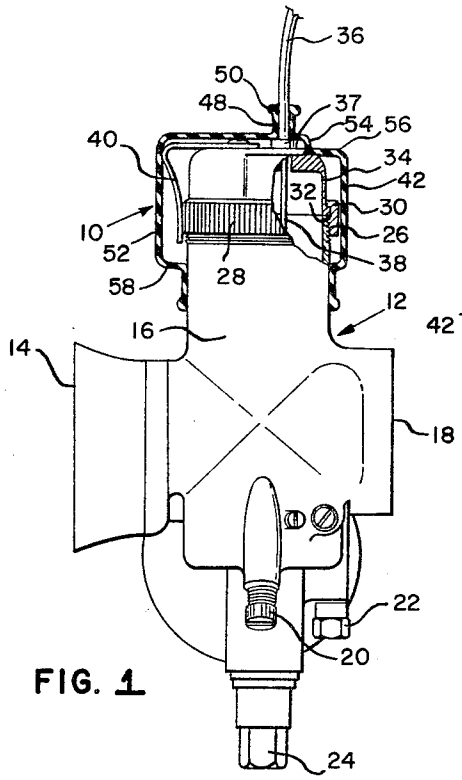


FIG. 1

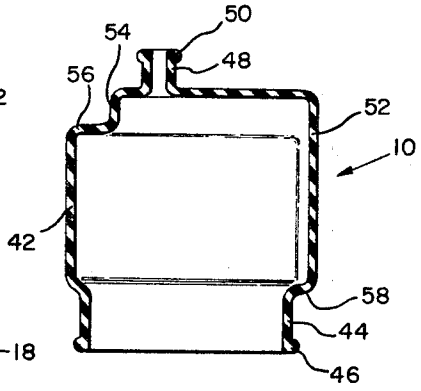


FIG. 4

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CARBURETOR HAVING A PROTECTIVE COVER

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This invention relates to a protective cover for a carburetor and, more particularly, to a protective cover adapted for use in a motorcycle carburetor to prevent entry of dust, moisture and other foreign matter.

In common use in motorcycles is a small carburetor having an upstanding cylindrical main body portion with an open upper end which is covered by a cap member attached thereon by a threaded connection, either directly or by means of a threaded coupling. Such carburetors give extremely satisfactory performance in normal use, but under severe use as in racing, and particularly racing over turf, considerable difficulty is widely experienced by reason of dirt particles, moisture and the like being drawn into the carburetor body through the threaded connection. Such dirt particles or moisture may impede the proper operation of carburetor components. For example, they may cause the throttle valve to stick and, if it sticks in open position, the result may be a runaway engine. Others have attempted to solve this problem by wrapping electrician's tape or the like, around the body and cap to cover the threaded connection. However, this practice causes considerable expense and inconvenience in removing and replacing the tape in order to service or repair the carburetor.

It is therefore, an object of this invention to provide a protective cover for a carburetor that may be used repeatedly for an extensive period of time.

It is a further object of this invention to provide a protective cover for a carburetor that may be applied and removed easily but which will protect the carburetor against entry of foreign matter.

It is a further object object of this invention to provide a protective cover for a carburetor that is simple to manufacture and convenient to apply.

In carrying out this invention, I provide an inverted, cup-like cylindrical member of rubber, plastic or similar resilient material that is normally of a diameter at the bottom open end which is slightly smaller than the diameter of the carburetor body so that it may be stretched over the body to embrace it snugly. The protective cover is of sufficient length to extend from the top of the carburetor down below the threaded connection of the carburetor cap, and the top of the cover has molded therein one or more tubular protrusions which are adapted snugly to embrace conduits leading into the top of the carburetor cap such as for the throttle adjustment cable. Since certain carburetors in wide use include a spring clip which extends laterally from the cap and down to engage the threaded coupling frictionally, the protective cover also has molded integral therewith a lateral extension to accommodate the spring clip. Thus, the cap may be placed over the top of the carburetor with the cable adjuster connection extending through the tubular extension of the protective cover, and the cover then pulled snugly over the body until the bottom band portion snugly embraces the cylindrical body.

Other objects and advantages of this invention will become apparent from the description following when read in conjunction with the accompanying drawings, wherein:

FIG. 1 is a view in elevation and partially in section of a carburetor with a protective cover embodying features of this invention shown in place;

FIG. 2 is a view in elevation viewed from one side of the protective cover;

FIG. 3 is a top view of the protective cover; and

FIG. 4 is a section view taken along line 4—4 of FIG. 3.

Referring to the drawings in greater detail, the protective cover **10** is particularly adapted for use in a motorcycle carburetor **12** including an air intake **14**, a main body portion **16** and an outlet passage **18**.

Certain other features such as a throttle adjusting screw **20** and the main and pilot jet covers **22** and **24** are shown in FIG. 1 but they have no bearing on the present invention and will not be described in detail.

The upper end of the cylindrical main body portion **16** is threaded at **26** to accommodate a complementary threaded coupling member **28** having an internal flange **30** at the upper end thereof which engages an external flange **32** at the lower end of the carburetor cap **34**. One or more conduits **36** open into the carburetor cap to conduct suitable members such as a throttle adjustment cable **38** into the main mixing chamber. Preferably, a spring clip **40** extends out and down from the top of the cap to engage the coupling member under slight pressure to prevent inadvertent loosening thereof.

Carburetors of the type just described are in wide use in small internal combustion engines, particularly those installed in motorcycles. Such carburetors have proved extremely effective, but the major difficulty experienced has been in the tendency for vacuum within the carburetor body to draw ambient air in through the minute clearance between the coupling flange **30** and the cap flange **32** and into the interior of the body **16**. A further entry clearance for ambient air may exist at recoupling **37** of the cable conduit **36** connected into the carburetor mixing chamber cap **34**. Such entry clearances often permit entry of not only ambient air, but any dirt, moisture or the like carried thereby.

In association with the above-described carburetor, my protective cover **10** comprises a cup-like member of rubber, plastic or like material that is stretchable. The main body portion of the cover is generally cylindrical in horizontal cross section and is of an internal diameter larger than that of the threaded coupling **26** for the carburetor cap **34**, as clearly seen in FIG. 1. The central cover portion is of sufficient axial length to extend from above the top of the carburetor cap to a point on the main body portion **16** of the carburetor below the threaded coupling **26** so that the threaded connection is completely covered but preferably not frictionally engaged by the protective cover.

Below the cylindrical central cover portion **42** the protective cover reduces in diameter to a relatively narrow band **44**, at the lower end of which is a beaded rim **46**. The narrow band is of a diameter slightly less than the diameter of the cylindrical main body portion of the carburetor so that it must be stretched over the carburetor body to embrace it tightly under some tension when in place in order to effect a seal.

Integral with and extending upwardly from the top of the cup-like protective cover is a tubular extension **48** which is also surrounded at its open upper end by a beaded rim **50**. The beaded rim is of an internal diameter slightly less than that of the conduit **36** over which it engages so that again, the conduit is engaged tightly with the bead under slight tension to form a tight seal against entry of foreign matter. While only one tubular protuberance **48** is shown, it is to be understood that the number thereof is dependent upon the number of conduits **36** to be sealed off. Thus, in certain carburetors **12** of the type described the air valve (not shown) is also cable controlled and provision should be made to seal around it as well.

In order to accommodate the threaded coupling retainer clip **40**, I provide a lateral extension **52** which is formed integral with the central cover portion **42** to ex-

tend upward at 54 from the top surface 56 and laterally at 58 from one side in a generally rectangular horizontal cross section as shown in FIG. 3 to provide ample room for accommodation of the spring clip without subjecting it to compressive forces that might tend to disturb the setting.

It is apparent that with the protective cover 10 described, it may be placed over a carburetor 12 after directing the cable adjustment conduit 36 through the upstanding tubular extension 48. The cover is stretched slightly to pull it over the spring clip 40 and coupling member 26 then released so that it engages the main body portion 16 snugly while under slight tension. With the protective cover 10 so placed, the carburetor wiring chamber cap 34, the coupling 26 and the cable connection 37 are completely enclosed and sealed from the ambient air. As such, the cover 10 constitutes a sealed vessel encasing the carburetor cap against entry of moisture, dirt and other foreign particles.

While this invention has been described in connection with a preferred embodiment thereof, it is apparent that modifications and changes therein may be made by those skilled in the art without departing from the spirit and scope of this invention as defined by the claims appended hereto.

Having described my invention, I claim:

1. A carburetor having a body portion, a top cap portion threadedly attached on said body portion, at least one conduit opening into said cap portion, and a protective covering comprising:
- a cup-like member of resilient material having a closed upper end and a depending skirt portion terminating in an open bottom,
- the peripheral length of said open bottom being normally no larger than the girth of the body portion of said carburetor,
- the length of said skirt portion being greater than the distance from the top of the cap portion of said carburetor to its threaded connection with said body portion, and
- at least one tubular extension being positioned on said upper end in accordance with the position of said conduit on the cap portion of said carburetor,
- the circumference of said tubular extension being normally no larger than the circumference of said conduit.

2. The carburetor defined by claim 1 including:
- a first beaded lip around and integral with said open bottom, and
- a second beaded lip around and integral with the open upper end of said tubular extension.

3. The carburetor defined by claim 2 wherein:
- said first and second beaded lips are normally of a peripheral length less than the girths of said carburetor body portion and said conduit, respectively.

4. The carbuertor defined by claim 1 wherein:
- the cross section of said skirt portion is enlarged above said open bottom to a cross section larger than the cross section of the threaded connection between the cap portion and body portion of said carburetor.

5. The carburetor defined by claim 1 having a spring clip depending from one side of said cap portion to engage the threaded connection between said cap portion and said body portion, said cover including:
- an integral hollow extension extending laterally from said upper end and skirt portion and opening into the internal surfaces thereof to accommodate said spring clip.

6. A carburetor having a cylindrical body portion, a top cap portion threadedly attached on said body portion, a conduit opening into said cap portion, and a protective covering comprising:
- an open bottom, generally cylindrical cup-like member of resilient material having a closed upper end and a depending skirt portion terminating in an annular band of reduced diameter around the open bottom,
- the diameter of said annular band being normally no larger than the diameter of the body portion of said carburetor,
- the length of said skirt portion to said annular band being greater than the distance from the top of the cap portion of said carburetor to its threaded connection with said body portion, and
- a tubular extension integral with said closed upper end and extending upwardly therefrom,
- said tubular extension being positioned on said upper end in accordance with the position of the conduit on the cap portion of said carburetor,
- the circumference of said tubular extension being normally no larger than the circumference of said conduit.

7. The carburetor defined by claim 6 including:
- a first beaded lip around and integral with said open bottom, and
- a second beaded lip around and integral with the open upper end of said tubular extension,
- said first and second beaded lips being normally of diameters less than the diameters of said carburetor body portion and conduit, respectively.

8. The carburetor defined by claim 6 having a spring clip depending from one side of said cap portion to engage the threaded connection between said cap portion and said body portion, said cover including:
- an integral hollow extension of generally rectangular horizontal cross section extending laterally from said upper end and skirt portion and opening into the internal surfaces thereof to accommodate said spring clip.

References Cited by the Examiner

UNITED STATES PATENTS

2,756,033	7/1956	Smith et al.	261—44
2,786,658	3/1957	Duriez	261—44 X

FOREIGN PATENTS

742,352	12/1932	France.
732,377	3/1943	Germany.

OTHER REFERENCES

Ser. No. 369,721, Fiedler (A.P.C.), published June 15, 1943.

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