F. W. LAPHAM.

CARBURETING SCREEN.

APPLICATION FILED SEPT. 18, 1919.

1,353,248.

Patented Sept. 21, 1920.

2 SHEETS—SHEET 1.

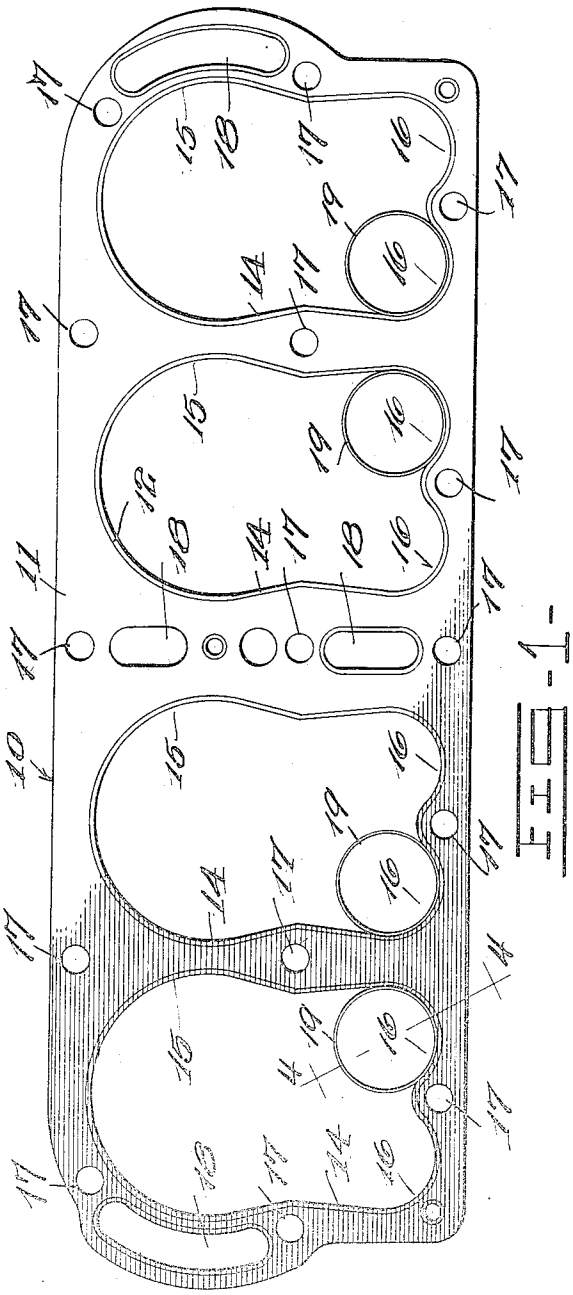


FIG. 1.

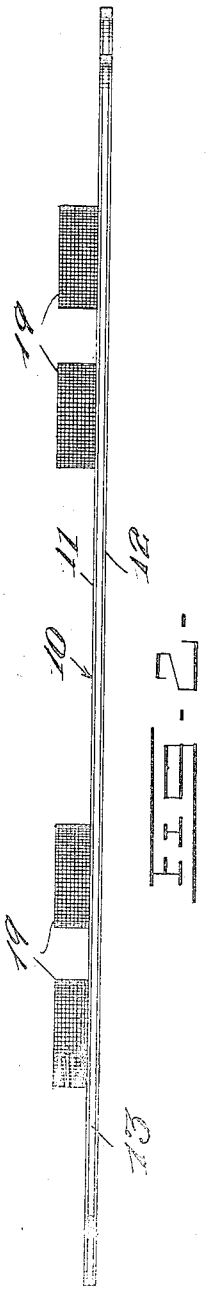


FIG. 2.

WITNESSES

INVENTOR

ATTORNEYS

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2 SHEETS—SHEET 2.

FIG. 3.

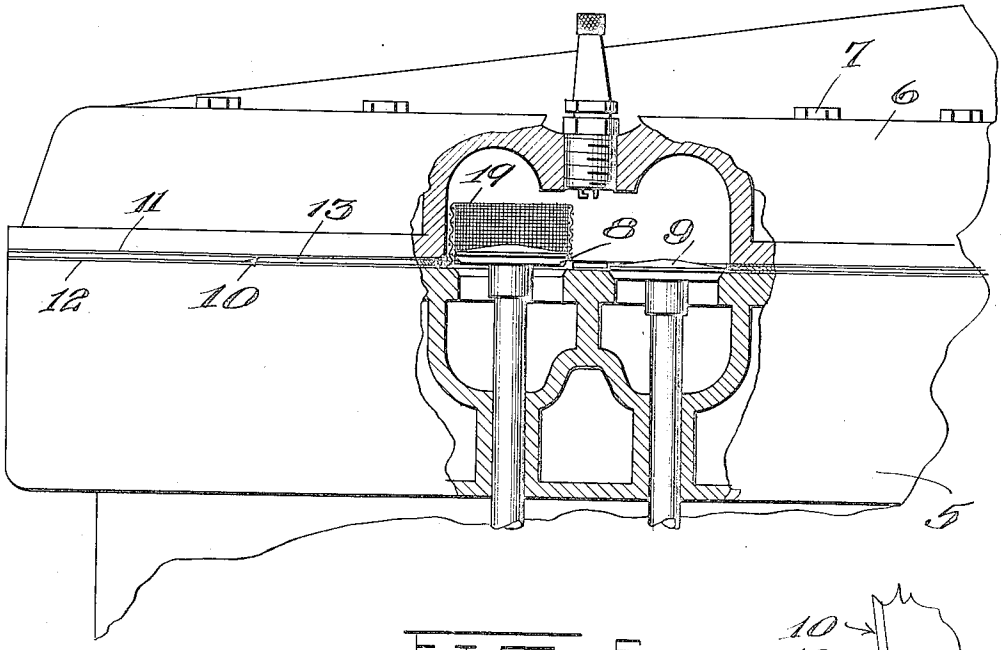
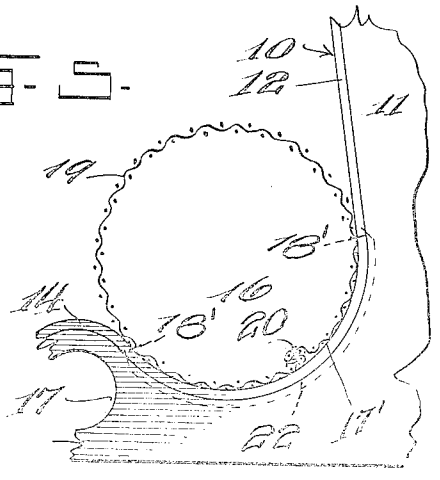


FIG. 5.



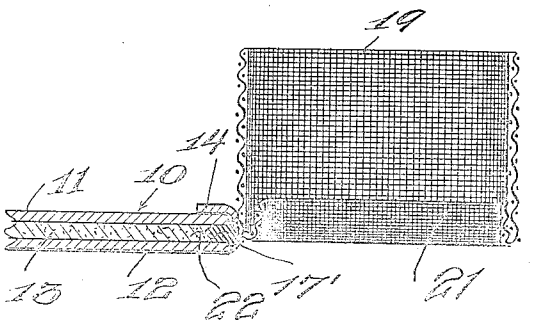


FIG. 4.

WITNESSES

INVENTOR

ATTORNEYS

UNITED STATES PATENT OFFICE.

FRANK W. LAPHAM, OF CICERO, ILLINOIS.

CARBURETING-SCREEN.

1,353,248. Specification of Letters Patent. Patented Sept. 21, 1920.

Application filed September 13, 1919. Serial No. 324,674.

To all whom it may concern:

Be it known that I, FRANK W. LAPHAM, a citizen of the United States, and a resident of Cicero, in the county of Cook and State of Illinois, have made new and useful Improvements in Carbureting-Screens, of which the following is a specification.

My invention relates to a combined cylinder gasket and screen or screens for use in connection with internal combustion engines.

An important object of the invention is to provide a screen arranged at or near the intake valve, and which is adapted to thoroughly atomize and vaporize the charge prior to its passage into the cylinder.

A further object of the invention is to provide screens of the above mentioned character, which are secured to and carried by the cylinder head gasket, thereby rendering the installation of the screens simple and easy.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a plan view of a device embodying my invention,

Fig. 2 is an edge elevation of the same,

Fig. 3 is a side elevation of an engine, parts being broken away, with my device applied thereto,

Fig. 4 is a detail section taken on line 4—4 of Fig. 1, and

Fig. 5 is a plan view of one screen.

In the drawings, the numeral 5 designates the cylinder block or casting, having the cylinders formed therein, and 6 is the cylinder head, secured to the block by bolts 7 or the like.

In connection with each cylinder, there are intake and exhaust valves 8 and 9, the engine shown being of the Ford type, while the invention is in no sense restricted for use in connection with this character of engine.

The numeral 10 designates a cylinder head gasket, of any well known or preferred type, the same being arranged between the block 5 and head 6, as shown. This gasket comprises upper and lower metallic plates 11 and 12, with a lining 13 therebetween, which may be formed of asbestos or the like. The plates 11 and 12 are held together by metallic strips 14, formed from the material of the lower plate 12, folded over the edges of the top plate 11, at the cylinder openings 15. The cylinder openings 15 have enlargements 16, for the valves, as shown. The gasket 10 has holes 17 for the bolts, and openings 18 for the water circulation.

At each inlet valve opening 16, the folded strip 14 is split at 17′, Fig. 4, and this split may extend between points 18′, Fig. 5.

A cylindrical tubular screen 19 is arranged within each intake valve opening 16, and surrounds the intake valve 8, as shown. Each screen 19 has both ends open, as shown.

Each screen is formed of a strip of wire gauze, having both edges finished, and the ends of the strip may overlap at 20, and be secured together by wire staples, solder or the like. The lower edge of the gauze strip is bent inwardly and upwardly, forming a reinforcing and attaching flange 21, a portion 22 of which is bent outwardly and horizontally to be inserted within the slit 17′. This attaching portion 22 is thereby arranged between the plates 11 and 12, and is soldered or otherwise secured thereto.

If screening with an unfinished edge is used, the top edge of the screen is bent inwardly and downwardly, forming a reinforcing and attaching flange approximately one-eighth of an inch high.

I have found that suitable results are obtainable by having the gauze of #30 mesh, but any other suitable size may be employed. The gauze may be formed of an alloy embodying 68 to 70 per cent. of nickel, 1½ per cent. of iron, and the remainder of copper. The composition of the alloy may be widely varied, and the gauze may be formed of other suitable material, if desired. The mesh is also preferably woven from wire of .012 inch in diameter.

With the screen arranged around the inlet valve, such screen will serve to atomize the incoming charge and also to vaporize the same.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred embodiment of the same and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of my invention or the scope of the subjoined claims.

I claim:

1. A gasket for the cylinder head of an internal combustion engine, and a screen se-

cured to the gasket and adapted to be arranged near the intake valve of the engine.

2. A gasket for the cylinder head of an internal combustion engine, and a screen secured to and carried by the gasket and surrounding the intake valve of the engine.

3. A gasket for the cylinder head of a multi-cylinder internal combustion engine, and a plurality of tubular wire gauze screens secured to and carried by the gasket and adapted to surround the intake valves of the engine, said screens having both ends open.

4. A gasket for the cylinder head of an internal combustion engine, said gasket having upper and lower plates, and a wire gauze screen to surround the intake valve of the engine, said screen being provided near its lower end with a flange having a portion adapted to be inserted between the plates of the gasket, and means to secure such portion in place between the plates.

5. A gasket for the cylinder head of an internal combustion engine, and a carbureting screen centered by the gasket around the intake valve of the engine.

FRANK W. LAPHAM.