Feb. 12, 1924. 1,483,186

E. MINGE

COMBINATION INLET VALVE AND PRIMING CUP

Filed Feb. 16, 1921

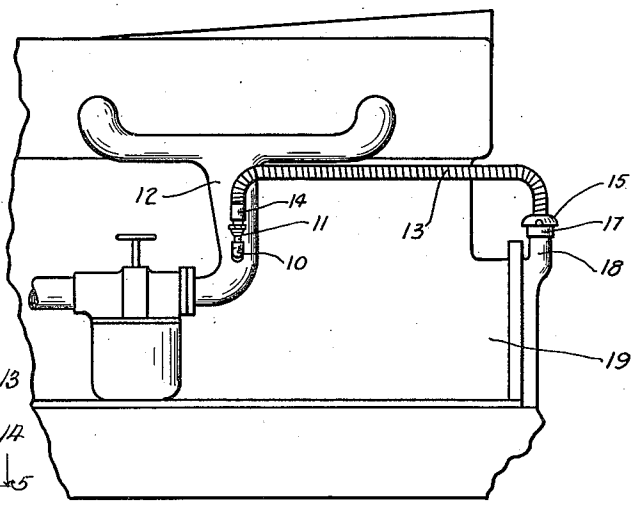
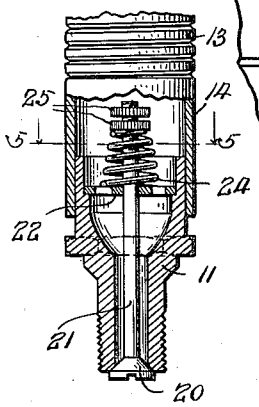



Fig. 1

Fig. 4.



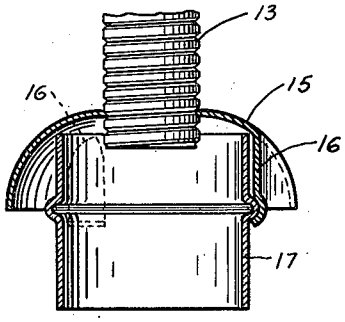




Fig. 2

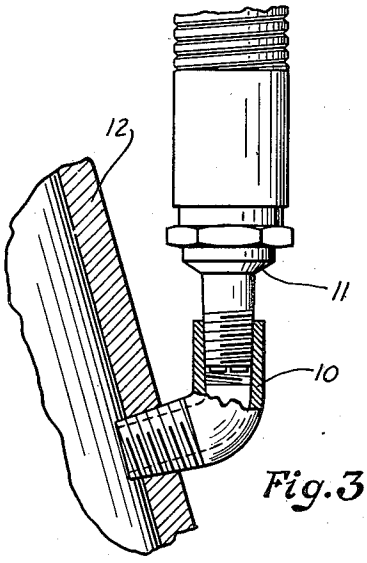
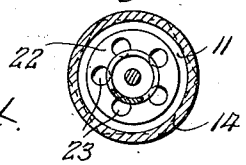



Fig. 3

Fig. 5.




Witnesses:
Wm Schmellhardt.
L. D. Stuwe

Inventor
Einar Minge
By Joshua R. H. Potts
His Attorney

Patented Feb. 12, 1924. 1,483,186

# UNITED STATES PATENT OFFICE.

EINAR MINGE, OF CHICAGO, ILLINOIS.

## COMBINATION INLET VALVE AND PRIMING CUP.

Application filed Februray 16, 1921. Serial No. 445,305.

*To all whom it may concern:*

Be it known that I, EINAR MINGE, a former subject of the King of Norway (who has forsworn his allegiance to said King of Norway and declared his intention of becoming a citizen of the United States), and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Combination Inlet Valves and Priming Cups, of which the following is a specification.

My invention relates to a new and useful improvement in a combination inlet valve and priming cup and has for its main object the provision of means by which the gas mixture in the cylinder of an automobile may be improved.

Another object is the provision of means whereby the vapor from the breather pipe may be utilized.

Other objects will appear hereinafter.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which,

Fig. 1 is a side view showing the priming cup mounted on the inlet manifold and connected to the breather pipe;

Fig. 2 is a sectional detail view of the cap which is adapted to be connected to the breather pipe;

Fig. 3 is an enlarged view of the connection between the priming cup and the inlet manifold, taken at right angles to the view in Fig. 1;

Fig. 4 is a vertical sectional view of the priming cup and the tube connection, and

Fig. 5 is a horizontal sectional view taken on line 5—5, Fig. 4.

In the form of invention illustrated, an elbow 10 connects a priming cup 11 with the lower portion of the inlet manifold 12 of an automobile, being threaded in an opening in the wall of said manifold. A flexible metallic tube 13 is provided with a sleeve 14 at one end, said sleeve being fastened on said tube by sweating it thereon, or in any similar manner. The sleeve has a fluid tight fit upon the upper end of the cup 11, and the other end of said tube is connected to a cap 15 provided with lips 16 embracing a sleeve 17 which engages the upper portion of the usual breather pipe 18 located adjacent the front of the automobile 19, as is well understood.

The lower end of the priming cup is provided with a valve 20 connected to a valve stem 21 which passes upward through the cup and through a disk 22 seated in the upper portion of said cup, said disk being provided with a plurality of openings 23. A spring 24 surrounds the stem 21, rests upon the disk 22 and engages beneath lock nuts 25 threaded on the upper end of said stem, as best shown in Fig. 4.

The priming cup may be used alone in which case the priming cup will take in air with each suction stroke of the cylinder piston, which air will improve the gas mixture by breaking up the gas particles, but better results are obtained by connecting the priming cup with the breather pipe by means of flexible metallic tubing, as shown in the drawings, since by this arrangement the gas which escapes through leaky piston rings, and oil vapor is drawn through the breather pipe into the priming cup and from these fed through the inlet manifold shown in Fig. 1.

The carbon in the engine may also be removed in a few minutes by pouring a suitable liquid into the priming cup while the engine is running permitting such liquid to be drawn into the cylinder.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of the construction set forth, but desire to avail my self of such variations and modifications as come within the scope of the appended claim.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

The combination with the inlet manifold and the breather pipe of an automobile engine, of a cup mounted in a wall of

said manifold, a valve in said cup, spring means to normally hold said valve closed, said valve opening automatically during intake of fluid through said manifold, a sleeve fitting the top of said breather pipe, in place of the usual breather pipe cap and a fluid conduit between said cup and said sleeve.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EINAR MINGE.

Witnesses:
JOSHUA R. H. POTTS,
FREDA C. APPLETON.