Feb. 2, 1932. V. E. COREY 1,843,503

CHARGE FORMING DEVICE FOR INTERNAL COMBUSTION ENGINES

Filed Sept. 23, 1930

Fig 1

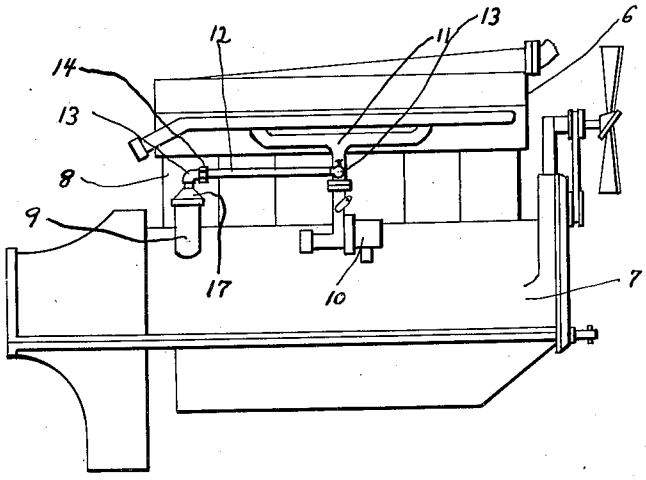
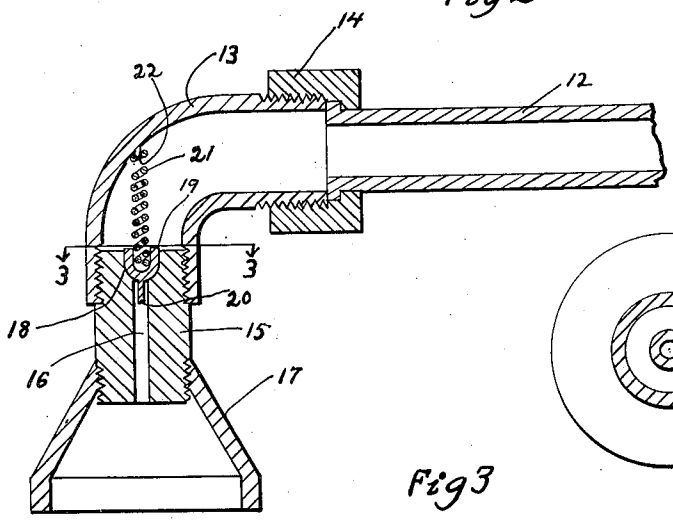


Fig 2



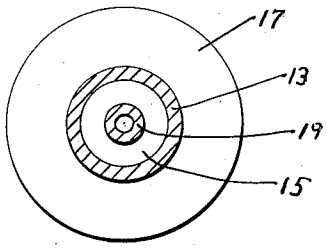


Fig 3

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UNITED STATES PATENT OFFICE

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CHARGE FORMING DEVICE FOR INTERNAL COMBUSTION ENGINES

Application filed September 23, 1930. Serial No. 483,876.

This invention appertains to new and useful improvements in charge forming devices for internal combustion engines.

The principal object of this invention is to provide a device for diverting the vapors from the crank case into the intake manifold.

Other objects and advantages of the invention will be found in the following specification.

In the drawings:

Figure 1 represents a side elevational view of an internal combustion engine equipped with the present invention.

Figure 2 represents an enlarged longitudinal sectional view through the invention.

Figure 3 represents a sectional view taken substantially on line 3—3 of Figure 2.

Referring to the drawings wherein like numerals designate like parts, it can be seen that numeral 5 generally refers to an internal combustion engine of conventional construction. Numeral 6 represents the usual cylinder head, while 7 represents the usual crank case. The cylinders 8 are located between the head 6 and the crank case 7. Numeral 9 represents the usual breather pipe, while numeral 10 represents the carburetor. Numeral 11 represents the usual intake manifold communicating with the carburetor the pipe 12 forming part of this invention is connected as at 13.

The pipe 12 is connected at its opposite ends to the elbow 13 by the coupling elements 14, the lower end of the elbow 13 being internally threaded to receive one threaded end of the plug 15, which is provided with a bore 16 extending longitudinally therethrough. The lower threaded end of the plug 15 engages into the downwardly flaring cap 17 which is engageable with the upper end of the breather pipe 9.

The upper end of the plug 15 is provided with a seat 18 within which the valve element 19 is engageable, the valve element 19 being provided with a joint pin 20 for joining the same into seated position. The valve element 18 is provided with a depression into which the lower end of the compressible coiled spring 21 is engageable, the upper end of the same bearing against the curved portion of the elbow as at 22.

It can now be seen that with the flaring cap 17 properly positioned over the breather pipe 9, the motor will lift the valve element 19 intermittently so as to permit the oil vapors to be conducted from the crank case 7, through the pipe 12 to the intake manifold and from there into the cylinders.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

Having described the invention what is claimed is:

The combination with the crank case chamber and its breather pipe and the inlet manifold of an internal combustion engine, of a flaring cap having a cylindrical lower end fitting over the mouth of the tube, a plug threaded in the small end of the cap and having a longitudinally extending bore therein having an enlarged upper end forming a valve seat, an elbow threaded on the upper end of the plug, a connection from the other end of the elbow to the manifold, a substantially cup-shaped valve engaging the seat, a spring having one end seated in the cup-shaped valve and its other end engaging a part of the elbow to normally hold the valve on its seat, and a guiding projection on the bottom of the valve extending into the bore of the plug.

In testimony whereof I affix my signature.

VAUGHN E. COREY.