

F. E. DUNN.
ATTACHMENT FOR ENGINES.
APPLICATION FILED JAN. 31, 1920.

1,383,087.

Patented June 28, 1921.

2 SHEETS—SHEET 1.

Fig. 1.

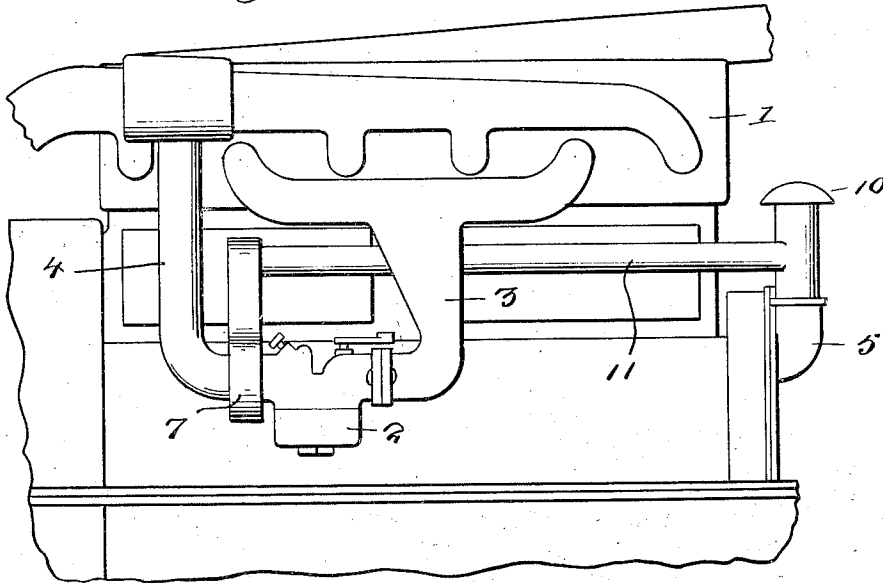
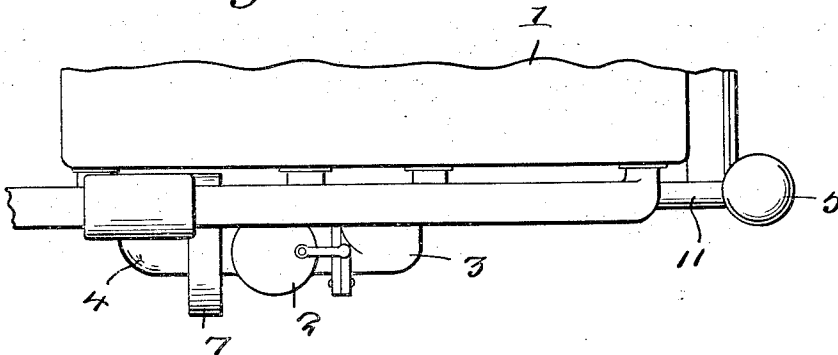


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

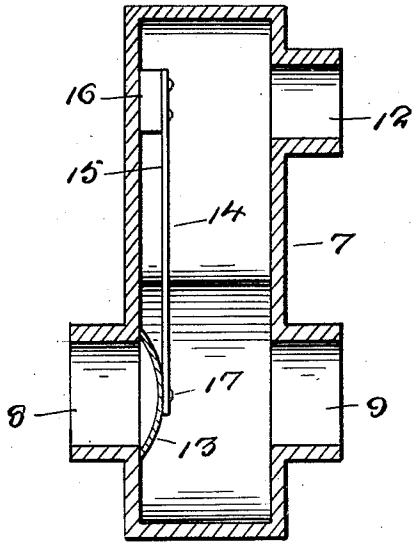


Fig. 4.

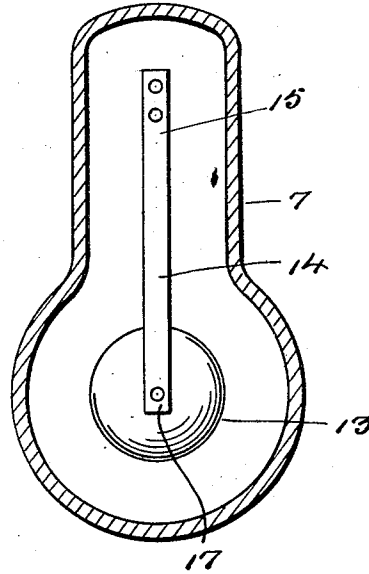
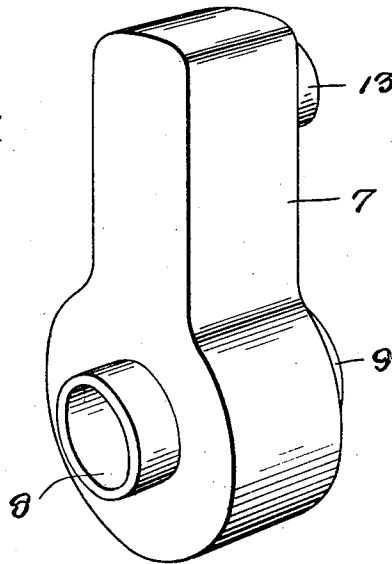


Fig. 5.



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UNITED STATES PATENT OFFICE.

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TO STEPHEN BURTON MITCHELL, OF NANTON, ALBERTA, CANADA.

ATTACHMENT FOR ENGINES.

1,383,087.

Specification of Letters Patent.

Patented June 28, 1921.

Application filed January 31, 1920. Serial No. 355,381.

To all whom it may concern:

Be it known that I, FELIX E. DUNN, a citizen of the United States of America, residing at Nanton, in the Province of Alberta and Dominion of Canada, have invented new and useful Improvements in Attachments for Engines, of which the following is a specification.

This invention relates generally to vacuum devices for retaining oil in the crank case of automobiles and other internal combustion engines, and is particularly directed to a novel form of vacuum producing means combined with means for efficiently controlling the vacuum formed.

The improvement is further directed to a novel construction of valve carrying casings having means whereby the same may be attached to the carbureter and the hot air intake therefor as well as to a pipe connected with the breather or oil supplying nozzle a vacuum will be formed in the crank case by the suction of the carbureter through the pipe attachment with the breather.

The foregoing objects and others which will appear as the nature of the invention is better understood may be accomplished by a construction, combination and operative arrangement of parts such as is disclosed by the drawings.

In the drawings:—

Figure 1 is a side elevation of the well-known type of internal combustion engine illustrating the application of the improvement thereon.

Fig. 2 is a top plan view thereof.

Fig. 3 is an approximately central vertical transverse sectional view through the improvement, *per se*, on an enlarged scale.

Fig. 4 is a sectional view taken at an angle to that illustrated in Fig. 3.

Fig. 5 is a perspective view of the valve carrying casing.

Referring now to the drawings in detail the numeral 1 designates an internal combustion engine of any well-known type being preferably of that class used for propelling automobiles. The carbureter for the engine is indicated by the numeral 2, and the fuel intake pipe connected to the carbureter by the numeral 3. The hot air pipe leading from the engine to one end of the carbureter is indicated by the numeral 4, while the breather pipe, which may also provide the oil inlet for the engine is indicated by the numeral 5.

My improvement essentially includes a casing which is broadly indicated by the numeral 7. The casing preferably has its lower portion widened and its sides provided with openings which are surrounded with inwardly formed outwardly extending nipples 8 and 9 respectively. The nipple 8 is of a size to be snugly received in the end of the hot air pipe 4, while the nipple 9 is also of a size to be snugly received in one end of the carbureter 2. The casing is of a length whereby the upper end thereof is disposed in a line with the breather pipe 5, or rather with the cap member 10 thereof. The cap 10 may have its pipe or flange portion connected to a longitudinally disposed pipe 11 in any desired or preferred manner, and the said pipe 11 may be integrally formed with the cap. It should also be stated in this connection that if desired the pipe 11 may be connected directly to the breather pipe 5 instead of to the cap therefor. The pipe 11 is of a length so that the outer end thereof will receive therein a nipple 12 formed on the upper and inner face of the casing 7.

The opening surrounded by the nipple 8 is normally closed by a saucer shaped valve 13. To this valve is centrally secured a leaf spring 14. This leaf spring has its free end connected, as at 15, to a block 16 secured upon the outer face of the casing 7 and arranged opposite the opening surrounded by the nipple 12. By reference to 90 the drawings it will be noted that the valve 13 is disposed opposite the nipple 9 so that access to the securing element 17 between the spring 14 and the valve 13 may be obtained. In a like manner, the block 16 being disposed opposite the opening in the nipple 12 permits of the removal of the securing element 15 for the spring 14, and likewise the removal of the block, which it should be stated is removably secured in the casing 7. Thus it will be noted that the valve, the spring therefor, and the supporting block for the spring may be either secured in or removed from the casing as desired, it being understood that the valve 13 is of a size to pass through the nipple 9.

It will be apparent that when the engine is in motion a vacuum will be created

in the crank casing by the suction of the carbureter through the pipe 11 and the casing 7. The valve spring 14 is comparatively weak so that the vacuum created is only partial or intermittent and is not sufficient to interfere with the free working of the engine. By creating the vacuum within the crank casing and transmitting to the carbureter products from the crank casing mixed with air through the air inlet of the breather tube or pipe 5 I not only prevent leakage of oil while the engine is in motion but also save considerable fuel.

Having thus described the invention, what I claim is:—

In an attachment for engines, as herein described, a substantially rectangular casing

having registering openings through the side walls adjacent to the bottom thereof, and outstanding flanges, surrounding the openings, a saucer shaped valve in the casing surrounding and normally closing one of the openings, a flat spring secured to the valve and to the inner wall of the casing above the opening closed by the valve, and said casing having its opposite wall provided with an additional opening disposed directly opposite the secured end of the valve, and an outstanding flange surrounding said last mentioned opening, all as and for the purpose set forth.

In testimony whereof I affix my signature.

FELIX EWING DUNN.