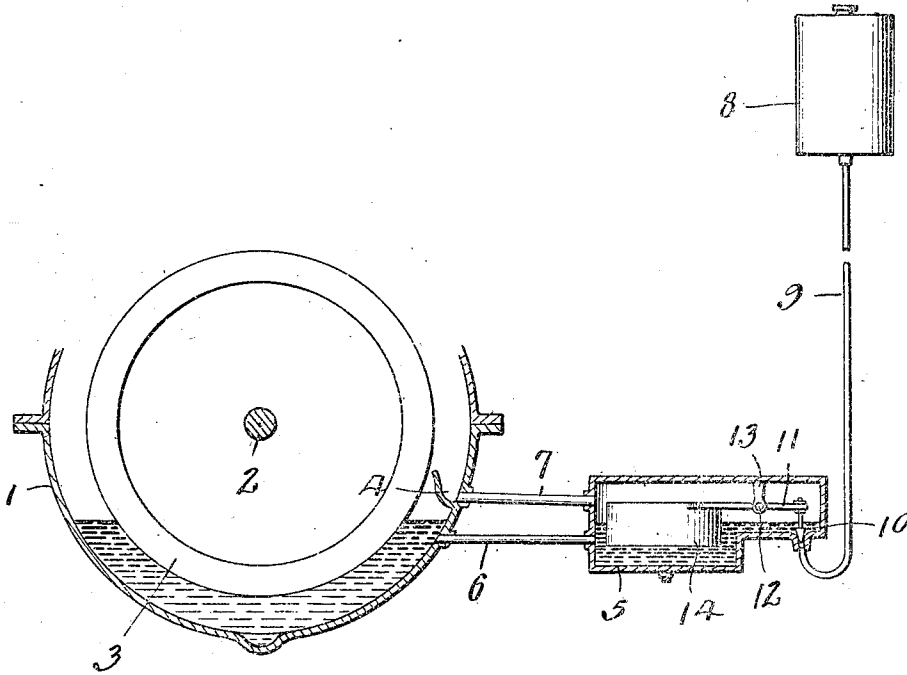


A. F. BRACE.
AUTOMATIC OILER.
APPLICATION FILED DEC. 29, 1916.

1,230,658.

Patented June 19, 1917.



Witnesses

Eddees Jr.
R. M. Smith.

Inventor

A. F. Brace,

By

Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

ARTHUR F. BRACE, OF WATERFORD, PENNSYLVANIA.

AUTOMATIC OILER.

1,230,658.

Specification of Letters Patent.

Patented June 19, 1917.

Application filed December 29, 1916. Serial No. 139,598.

To all whom it may concern:

Be it known that I, ARTHUR F. BRACE, a citizen of the United States, residing at Waterford, in the county of Erie and State of Pennsylvania, have invented new and useful Improvements in Automatic Oilers, of which the following is a specification.

This invention relates to automatic oilers for internal combustion engines, the object of the invention being to combine with the crank case of an engine, means whereby the level of oil in the crank case is maintained at the proper working point irrespective of whether the engine is operating or at rest, the invention being particularly designed with reference to internal combustion engines in which the fly wheel or magneto or both revolve in oil in the crank case or an extension or extensions of said case.

Under the oiling systems at present in use in engines of the character above referred to, the level of oil is higher when the engine is at rest than when the engine is in operation for the reason that the rapidly revolving fly wheel, for example, picks up a considerable quantity of oil and correspondingly reduces the level. The present invention aims to trap this surplus oil and store the same in such a manner, while the engine is in operation, that only the proper amount of oil will remain in the crank case thereby preventing the engine from smoking or emitting an excess amount of smoke which is contrary to the traffic regulations in many cities and other places and at the same time injurious to the engine in that it results in a rapid accumulation of carbon and a corresponding loss of power and efficiency in the engine.

With the above and other objects in view, the invention consists in the novel construction, combination and arrangement of parts, as herein described, illustrated and claimed.

The accompanying drawing represents a vertical sectional view of the automatic oiler of this invention, showing the crank case in cross section taken about in line with the fly wheel.

Referring to the drawings 1 designates the crank case of an internal combustion engine, 2 the crank shaft and 3 the fly wheel mounted on said shaft, said parts being of the usual construction and arrangement with the exception of the crank case in which I have arranged an oil catching pocket 4

which is located above the normal oil level of the crank case.

Exteriorly of the crank case but connected therewith is an oil well 5 from which an oil feed connection or conduit 6 extends into the crank case as shown thereby causing the same level of oil to be maintained in the crank case and the well when the engine is not in operation. 7 designates a return connection leading from the pocket 4 back to the well 5 the connection 7 having a larger bore than the connection 6 so that the oil picked up and thrown by the fly wheel 3 and caught in the pocket 4 will flow more rapidly into the well 5 than it can feed from said well to the crank case.

In order to maintain a maximum level of lubricating oil in the well 5, and preventing an excess flow of oil from the supply reservoir to said well, I provide in connection with an oil reservoir 8 and an oil supply pipe 9 leading from said reservoir to the well, an automatic oil inlet valve 10 which is carried by one arm of a float lever 11 fulcrumed at 12 on a bracket 13 in the well 5, 14 designating the float which is attached to the lever 11 and which by rising under the buoyant effect of the oil in the well, closes the inlet valve 10 and thereby cuts off further flow of oil from the reservoir 8 to the well 5.

The operation of the oiling mechanism hereinabove described is as follows. When an engine of the class referred to is idle or at a standstill, the level of oil in the crank case 1 and the well 5 is the same. As soon as the engine starts, however, the fly wheel picks up a considerable quantity of the oil which is caught or trapped in the pocket 4 and which flows freely through the connection 7 into the well 5, further increasing the level of oil in the well so that by means of the float 14, the inlet valve 10 is all the more tightly pressed against its seat so as to prevent any oil from passing through the supply pipe 9. In this way an excess amount of lubricating oil is removed temporarily from the crank case so as to prevent undue burning and consumption of oil by the engine and the carrying off of the same through the exhaust pipe and muffler. As oil is consumed by the engine, the supply is replenished by the opening of the inlet valve 10 when the oil falls below a certain predetermined level in the crank case 1 and therefore in the well 5.

Having thus described my invention, I claim:—

1. The combination of a crank case having an internal oil pocket above the normal oil level therein, an oil well located exteriorly of the crank case, a free oil conduit connecting said well and crank case below the oil level in said pocket and the crank case whereby a common oil level is maintained in said pocket and crank case when the engine is at rest, and a return connection leading from said oil pocket back to the well and having a larger bore than said oil feed connection.
2. The combination of a crank case having an internal oil pocket above the normal oil level therein, an oil well located exteriorly of the crank case, a free oil conduit

connecting said well and crank case below the oil level in said pocket and the crank case whereby a common oil level is maintained in said pocket and crank case when the engine is at rest, a return connection leading from said oil pocket back to the well and having a larger bore than said oil feed connection, an oil reservoir, an oil supply connection from the latter to said well, and means for automatically cutting off the oil supply when the oil reaches a predetermined level in the well.

In testimony whereof I affix my signature in presence of two witnesses.

ARTHUR F. BRACE.

Witnesses:

CHAS. SHAW,
JAS. HAYNES.