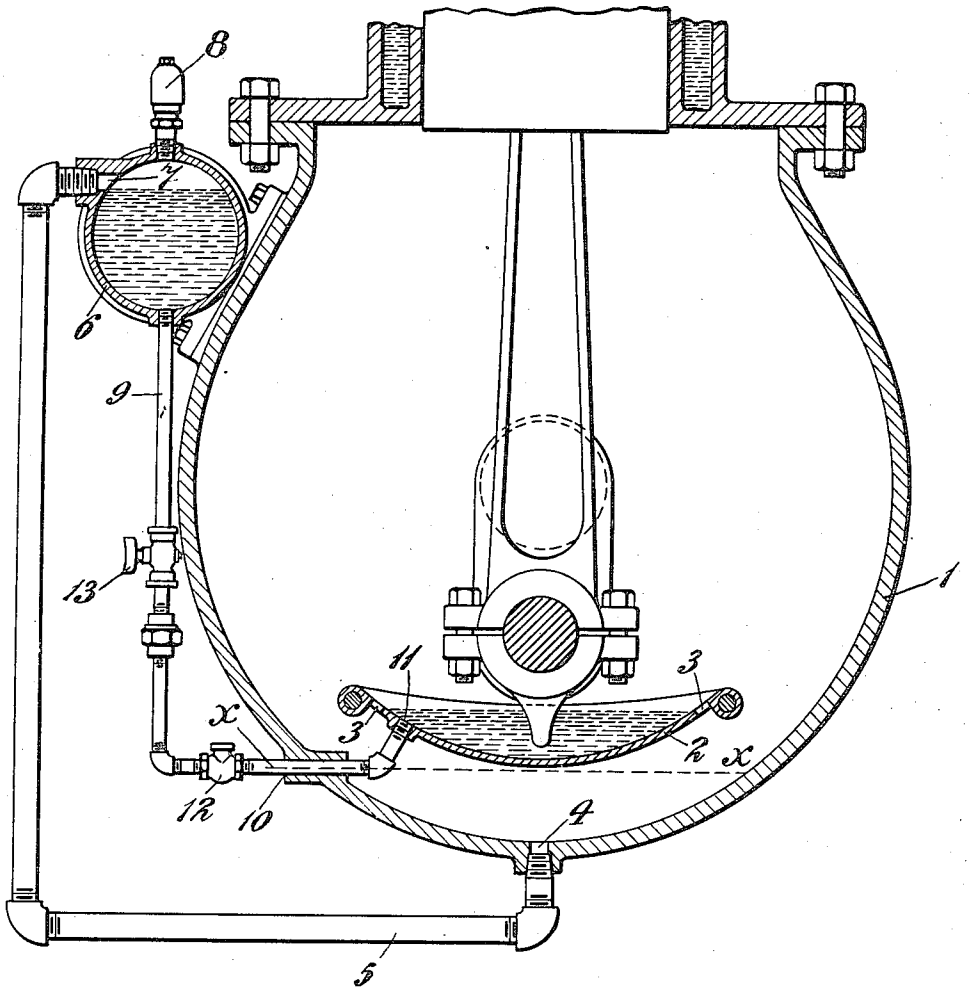
E. P. HOLLIDAY.

OILING MECHANISM FOR EXPLOSIVE MOTORS.

APPLICATION FILED MAY 27, 1918.

1,278,655. Patented Sept. 10, 1918.



Edgar Percy Holliday Inventor

By his Attorney

Henry M. Dunham

UNITED STATES PATENT OFFICE.

EDGAR PERCY HOLLIDAY, OF BROOKLYN, NEW YORK.

OILING MECHANISM FOR EXPLOSIVE-MOTORS.

1,278,655. Specification of Letters Patent. Patented Sept. 10, 1918.

Application filed May 27, 1918. Serial No. 236,725.

To all whom it may concern:

Be it known that I, EDGAR PERCY HOLLIDAY, a citizen of the United States, and residing at 47 Brevoort Place, in the borough of Brooklyn, city of New York, county of Kings, and State of New York, have invented certain new and useful Improvements in Oiling Mechanism for Explosive-Motors, of which the following is a specification.

This invention relates to oiling mechanism for explosive motors and has for its objects to produce a system which shall be simple in construction, efficient, durable, and without a pump or other driven parts, to utilize the pressure in the crank case produced by escape of gas past the pistons to force the oil from the bottom of the crank case into an elevated tank, then relieve the pressure and permit the oil to flow from the elevated tank to the splash pan. The other objects of my invention will more fully appear in the following specification and claims.

I attain these objects by the mechanism illustrated in the accompanying drawing which is a vertical section of the crank case of an explosive motor to which my invention has been applied. The crank case 1 is provided with a splash pan 2 of the usual type, provided with an overflow port 3. In open communication with the bottom of the crank case 1, at 4 is a pipe 5, the other end of which is in open communication with the elevated oil tank 6 at 7, near the top thereof. The tank 6 is provided with a breather 8 of the usual type. In open communication with the bottom of the tank 6 is a pipe 9, which passes through the crank case 1 at 10 and discharges into the splash pan 2 at 11. A check valve 12 of the usual type is inserted in the pipe 9 to prevent the flow of oil from the splash pan 2 through the pipe 9 to the tank 6, but permits the oil in tank 6 to flow freely through the pipe 9 to the splash pan 2.

The construction is such that the gas which passes past the pistons into the crank case can only escape through the pipe 5 tank 6 and breather 8.

The operation of my mechanism is as follows:—

Oil is introduced into the tank 6 through the breather 8 and flows through pipe 9 past the check valve 12 into the tank 2, the surplus overflowing through the port 3 into the crank case 1, where it will rise to approximately the dotted line X—X, oil to the level of the overflow port 3 remaining in the splash pan 2. When the engine is started, gas escapes past the pistons until the pressure is sufficient to force the oil in the bottom of the crank case 1 through the pipe 5 into the oil tank 6, when the pressure is reduced to normal or atmospheric pressure by the escape of gas through the pipe 5 tank 6 and breather 8. Then the oil continues to flow slowly from the tank 6 through the pipe 9 back to the pan 2, whence it overflows through the port 3 or is splashed from the pan 2 and collected in the bottom of the crank case until it covers the discharge outlet at 4, which seals the outlet of the crank case and causes the pressure to rise until it is sufficient to force the oil collected in the bottom of the crank case through the pipe 5 into the oil tank 6, when as before described the pressure in the crank case is reduced to atmospheric pressure.

The check valve 12 prevents the escape of oil or gas through the pipe 9. The pipe 9 is of such capacity that the oil will flow in the desired quantity from the tank 6 to the splash pan 2. The flow may be regulated by the cock 13 and the mechanism should be so constructed and regulated that all the oil will not have been discharged from the tank 6 before oil will again be forced from the crank case to the tank 6. It is apparent that oil will flow from the tank 6 to the splash pan until the pressure is almost sufficient to force the oil from the crank case to the tank 6. The preferred mechanism shown and described may be modified in many respects without departing from the spirit of my invention.

I claim:

1. Oiling mechanism for explosive engines comprising in combination a crank case, a splash pan mounted therein, an oil tank, elevated about the splash pan, means for utilizing the pressure in the crank case to drive the oil collected in the bottom of the crank case into the elevated oil tank, means for relieving the pressure in the crank case when the oil has been driven therefrom and means for permitting the oil in the oil tank to flow by gravity into the splash pan.

2. Oiling mechanism for explosive engines comprising in combination a crank case, a splash pan mounted therein, an oil tank elevated above the splash pan, means

for utilizing the pressure in the crank case to drive the oil collected in the bottom of the crank case into the elevated oil tank, means for relieving the pressure in the crank case when the oil has been driven therefrom, means for permitting the oil in the oil tank to flow by gravity into the splash pan, and a check valve adapted to prevent the flow of gas or oil from the splash pan to the elevated oil tank.

3. Oiling mechanism for explosive engines comprising in combination a crank case, a splash pan mounted therein, an elevated oil tank with a pipe in open communication with the bottom of the crank case and with the upper portion of the elevated oil tank, a breather in the oil tank, a pipe provided with a check valve leading from the bottom of the elevated oil tank to the splash pan, said check valve being constructed to prevent the flow of gas or oil from the splash pan to the oil tank.

Signed at New York city, in the county of New York, and State of New York, this 9th day of May, 1918.

EDGAR PERCY HOLLIDAY.

Witnesses:
MARGARET A. HECK.
PAUL R. JAMES.