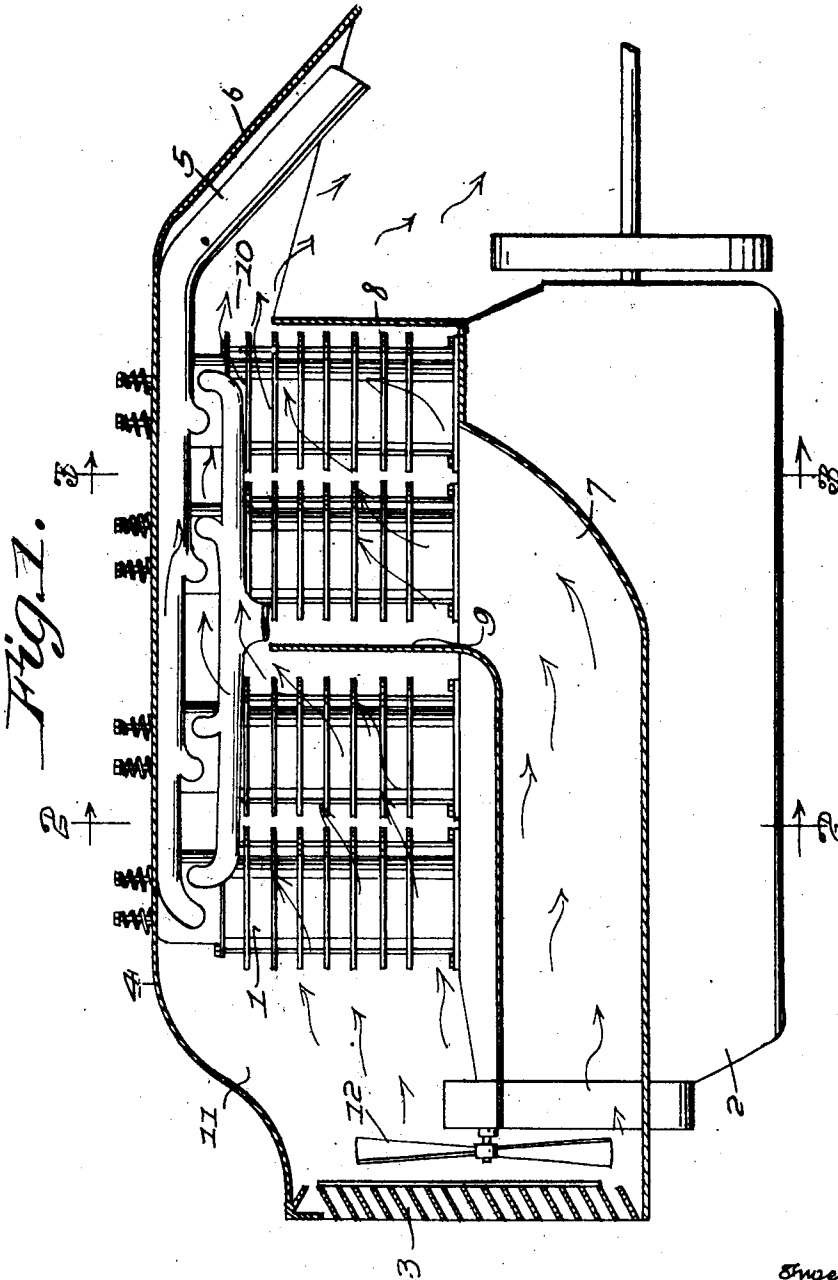


L. C. BROCK.
AIR COOLED MOTOR.
APPLICATION, FILED JAN. 7, 1921.

1,409,822.

Patented Mar. 14, 1922.
2 SHEETS—SHEET 1.



Inventor
Lester C. Brock,
by **Elmer Talbot**
attorney

L. C. BROCK.
AIR COOLED MOTOR.
APPLICATION FILED JAN. 7, 1921.

1,409,822.

Patented Mar. 14, 1922.
2 SHEETS—SHEET 2.

Fig. 3

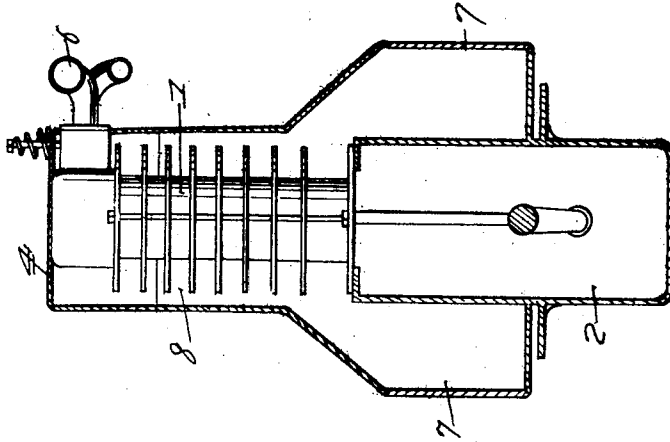
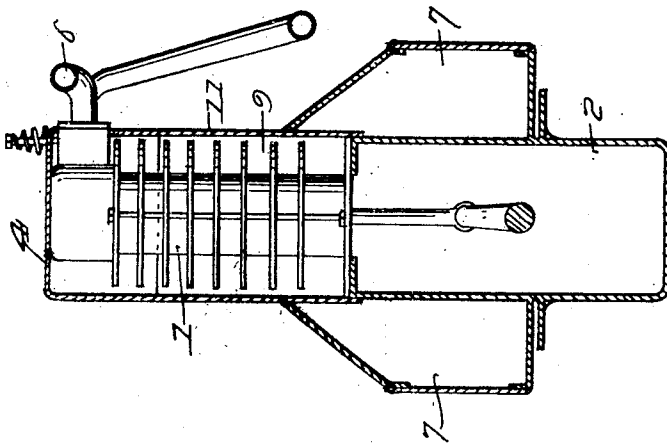


Fig. 2



Inventor
Lester C. Brock,
by *Edmund Talbot*
Attorney

UNITED STATES PATENT OFFICE.

LESTER C. BROCK, OF XENIA, OHIO.

AIR-COOLED MOTOR.

1,409,822.

Specification of Letters Patent.

Patented Mar. 14, 1922.

Application filed January 7, 1921. Serial No. 435,642.

To all whom it may concern:

Be it known that I, LESTER C. BROCK, a citizen of the United States of America, residing at Xenia, in the county of Greene and State of Ohio, have invented new and useful Improvements in Air-Cooled Motors, of which the following is a specification.

The object of the invention is to provide, for internal combustion engines of the automobile type, equipment by means of which the cylinders may be kept cool through the instrumentality of an air blast. To this end the invention comprises a housing for the motor provided with air ducts through which air is transmitted to the cylinders in batteries—that is, air is conducted to certain of the forward cylinders, another blast to a certain number of intermediate cylinders and so on,—so that the forward cylinders are not subjected to any cooler blast than are the rear cylinders.

The invention is illustrated and described in a specific embodiment to which, however, it is not to be restricted. The right is reserved to make such changes or alterations as the actual reduction to practice may suggest, insofar as such changes or alterations are compatible in spirit with the annexed claim.

In the accompanying drawings:

Figure 1 is a view in side elevation of an internal combustion motor embodying the features of the invention, the air duct or housing being shown in section in this figure.

Figure 2 is a section on the line 2—2 of Figure 1.

Figure 3 is a section on the line 3—3 of Figure 1.

In carrying out the invention, there is provided a housing in which the cylinders 1 and the greater portion of the crank case 2 are completely enclosed. This casing extends from the radiator 3 to the rear end of the engine and its top 4 lies on top of the cylinders 1 but is extended rearwardly of the engine and follows the plane of the exhaust 5, as indicated at 6. The casing is formed to provide two air ducts 7 disposed one on either side of the crank case 2 and extending to the two rear cylinders 1 where they discharge into a housing or air shield

defined by the rear wall 8 of the housing and an intermediate wall 9 disposed transversely in the main cylinders but terminating short of the upper ends of the cylinders. The space between the upper end of the rear wall 8 and the top 4 provides a discharge opening for the air as indicated at 10. The two forward cylinders are enclosed within a jacket 11 and the fan 12, operated in the usual way from the engine, discharges into the jacket 11 and into the air ducts 7 and the discharge from the fan is thus divided into three blasts of which one is directed against the two forward cylinders 1 and the other two led through the duct 7 and directed against the two rear cylinders 1. The discharge into the jacket 11 leaves the latter through the space between the upper edge of the wall 9 and the top 4 and leaves the housing through the outlet 10 just as does the discharge from the air ducts 7.

The motor is, of course, provided with the usual peripheral flanges on the cylinder for the purpose of radiating the heat therefrom and the air blasts passing through the air ducts surrounding the cylinders makes for the ready reduction in the temperature, with the consequent cooling of the cylinder. The results obtained are practically as effective as where water is used for cooling purposes and the engine is not subjected to the hazard of water freezing in the water jacket.

Having described the invention, what is claimed as new and useful is:—

The combination with an internal combustion engine, of a housing in surrounding relation to the same and comprising an air jacket enclosing certain of the cylinders, air ducts disposed on opposite sides of the crank case and discharging into a compartment enclosing certain other of the cylinders, the casing having a discharge opening at its rear and an opening effecting communication between said jacket and said compartment, and a fan discharging into said jacket and into the air ducts in the manner and for the purpose specified.

In testimony whereof he affixes his signature.

LESTER C. BROCK.