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H. G. ALEXANDER.

COOLING ATTACHMENT FOR EXPLOSIVE ENGINES.

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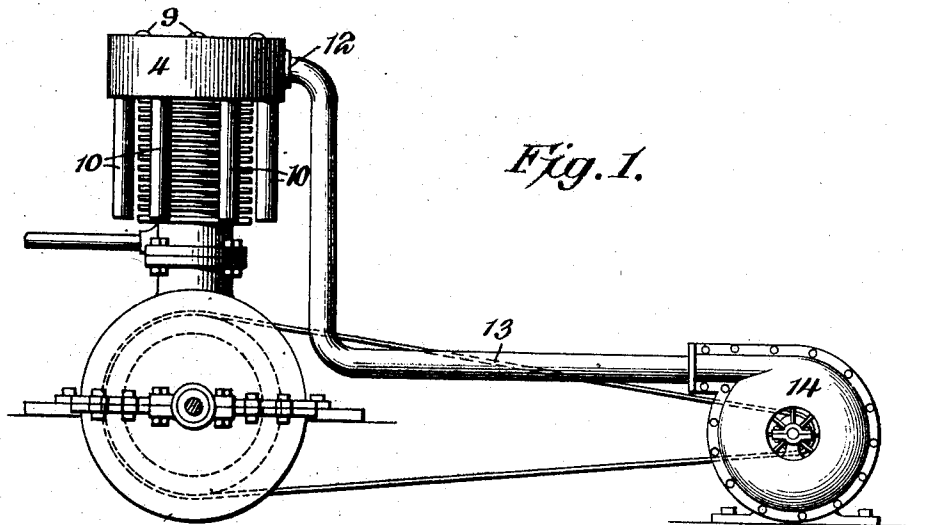


Fig. 1.

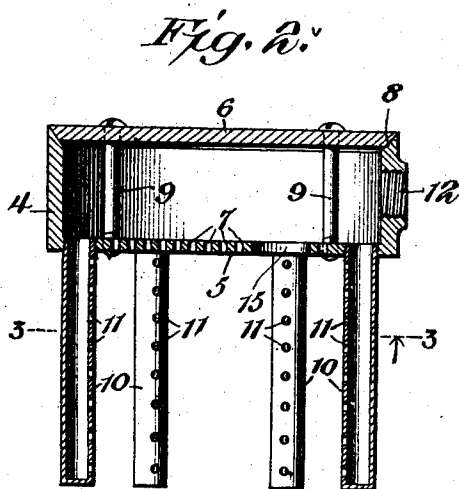


Fig. 2.

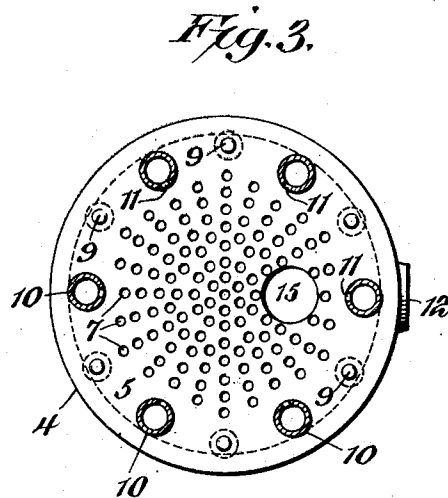


Fig. 3.

Witnesses

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COOLING ATTACHMENT FOR EXPLOSIVE-ENGINES.

No. 830,558.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HORACE G. ALEXANDER, a citizen of the United States, residing at Londonderry, in the county of Windham and State of Vermont, have invented a new and useful Cooling Attachment for Explosive-Engines, of which the following is a specification.

This invention relates to means for keeping the cylinders of explosive-engines at the proper temperature.

The principal object is to provide a simple structure in the form of an attachment that can be readily associated with any ordinary type of motor and when connected with a suitable supply of cooling medium—as, for instance, air under pressure—it will properly direct such medium against the walls of the motor, so as to effectively maintain the same at the desired temperature.

The preferred embodiment of the invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a side elevation of a motor, showing the cooling attachment applied thereto and connected with a fan or blower. Fig. 2 is a longitudinal sectional view through the attachment. Fig. 3 is a horizontal sectional view on the line 3 3 of Fig. 2.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

In the embodiment illustrated a hollow or tubular head is employed comprising a cylindrical side wall 4 and inner and outer walls 5 and 6. The inner wall 5 is perforated, as shown at 7. The outer wall 6 is detachable from the annular wall 4, the joint between these walls being preferably, though not necessarily, beveled, as shown at 8. The wall 6 is held in place by suitable tie-bolts 9, passing through and engaging the inner perforated wall 5. Projecting from the marginal portion of the inner wall 5 are spaced parallel pipes 10, communicating with the interior of the head and having openings 11 in their inner sides. The annular wall 4 is provided with a suitable opening 12, in which a supply-conduit may be fitted.

In using the device the head is associated with the head of the explosive-engine cylinder by being placed over the same as shown, for instance, in Fig. 1, the pipes 10 extending alongside the cylinder and being arranged around the same. Air or other suitable cooling medium is conducted to the head through

a suitable conduit 13 from any source—as, for instance, a blower 14. It will thus be apparent that the cooling medium supplied through the conduit 13 will enter the head and the pipes 10. Consequently it will be discharged through the orifices 7 and 11 against the cylinder-head and the side walls thereof, so as to cool the cylinder. At the same time the structure is entirely separate from the engine and can be removed at any time if it is found desirable or expedient to do so. Moreover, the attachment may be manufactured separately from the engines and applied to substantially any type, whether vertical or horizontal. In case the motors are provided with ignition-plugs in their rear ends the inner wall 5 is provided with an opening 15 to receive the projecting portion of said plug, and by this arrangement it is then only necessary to remove the outer wall 6 in order to gain access to the plug.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A cooling attachment for explosive-engines, comprising a hollow head arranged to be placed contiguous to the cylinder-head of an explosive-motor, and spaced pipes carried by the head and arranged to surround such cylinder, said pipes being separate from the cylinder and having perforations through their inner sides.

2. A cooling attachment for explosive-engines, comprising a hollow head arranged to be placed contiguous to the cylinder-head of an explosive-motor and having an inner perforated wall, and spaced pipes carried by the head and arranged to surround such cylinder, said pipes having perforations through their inner side walls.

3. A cooling attachment for explosive-engines, comprising a hollow head arranged to be placed contiguous to the cylinder-head of an explosive-motor and provided with an inlet for the cooling medium, said head having

an inner perforated wall and an outer removable wall, means for securing the outer wall in place, and spaced pipes projecting from the margins of the inner wall and arranged
5 to surround the cylinder, said pipes having perforations through their inner side walls.
In testimony that I claim the foregoing as

my own I have hereto affixed my signature in the presence of two witnesses.

HORACE G. ALEXANDER.

Witnesses:

ADDISON E. CUDWORTH,
LOREN R. PIERCE.