L. L. A. SEGUIN.

ROTARY ENGINE.

APPLICATION FILED JUNE 12, 1909.

959,172. **Patented May 24, 1910.**

FIG_1_

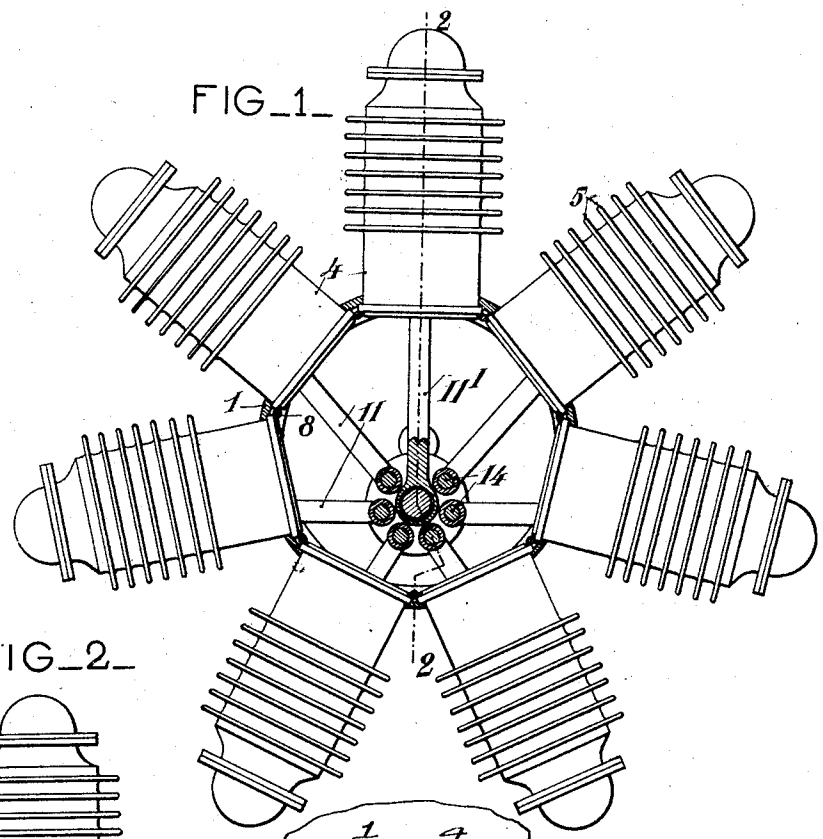
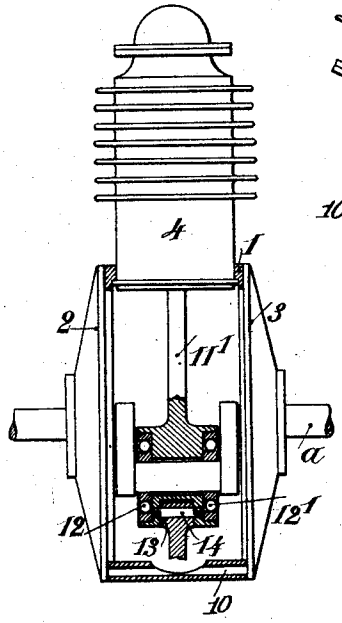


FIG_2_



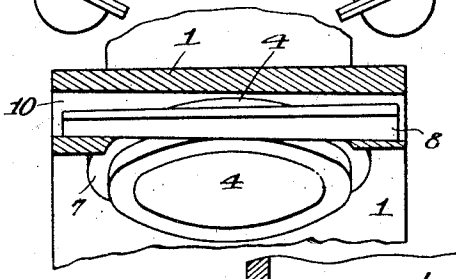


FIG_4_

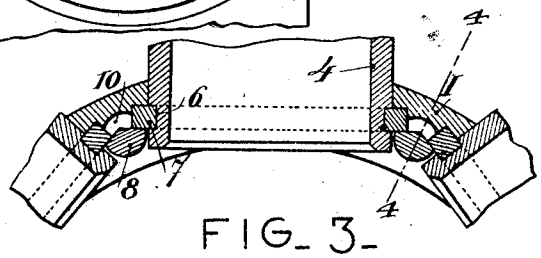


FIG_3_

WITNESSES

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UNITED STATES PATENT OFFICE.

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ROTARY ENGINE.

959,172. Specification of Letters Patent. **Patented May 24, 1910.**

Application filed June 12, 1909. Serial No. 501,763.

To all whom it may concern:

Be it known that I, LOUIS LAZARE AUGUSTE SEGUIN, a citizen of France, residing at 49 Rue Laffitte, Paris, in the Republic of France, have invented new and useful Improvements in Rotary Engines, of which the following is a specification.

This invention relates to an improved construction of a motor of the kind having radial cylinders turning around a fixed axle. In this improved motor, the casing is constituted by an annular steel ring provided with holes in which are fitted cylinders with cooling flanges and supported on the casing by means of an elastic ring placed in an annular groove on the cylinder and bearing on an adjusted corresponding seat of the internal surface of the casing. The cylinders are secured on said casing by means of keys with two flat surfaces, each maintaining two cylinders.

The annexed drawing represents a form of the improved motor having seven cylinders.

Figure 1 is a front elevation of the motor, partly in section. Fig. 2 is a section along the line 2—2 of Fig. 1 the cylinder being shown in elevation and the key being omitted. Fig. 3 is an enlarged detail view showing the connection of the casing and cylinders. Fig. 4 is an enlarged detail view in section along the line 4—4 of Fig. 3.

The casing of the motor is constituted by a ring of steel 1 closed by two cheeks 2, 3, carrying the stuffing boxes through which the fixed shaft or crank *a* passes. The ring 1 is provided with holes spaced uniformly on its circumference, in which are fitted the cylinders 4, 4, carrying the cooling flanges 5. The inner end of each cylinder is provided with an annular groove 6 so that for mounting each cylinder on the casing it may be fitted from the outside of the casing into the corresponding hole. A divided or elastic ring 7 may then be fitted within the casing on the end of the cylinder, said elastic ring contracting when in front of the annular slot 6 and engaging in the same while extending outwardly from the outer surface of the cylinder. The cylinder 4 carrying the ring 7 may then be drawn outwardly until the ring bears on the corresponding adjusted seat on the inner wall of the steel ring 1.

For maintaining the cylinders in place, keys 8 are used, which are obtained by forming in a cylindrical body, two flat faces comprising between them an angle equal to that made by the under faces of the adjacent elastic rings 7 as shown in section in Fig. 3. The flat faces of the keys are inclined on the axis of the cylindrical body so that the key has a section decreasing from end to end as shown in Fig. 4. Cylindrical bores 10 are formed in the ring 1 (Figs. 2 and 4) for receiving the keys 8, each bore being so located in the ring 1 between two adjacent cylinders that the elastic rings 7 of said cylinders project into said bores as shown in Fig. 3. The axis of the bores 10 is so inclined on the axis of the ring 1 that when two adjacent cylinders 4 are fitted radially into the holes in the ring 1, if a key 8 is forced into the corresponding bore 10 between the two cylinders the flat faces of the key will bear against the under faces of the elastic rings 7, respectively, the decreasing section of the key permitting the same to be forced tightly against the rings so as to secure the cylinders firmly in position. Each key serves for fixing two adjacent cylinders.

It can easily be understood that under the action of centrifugal force the rings 7 are forcibly applied on the corresponding seats of the casing and in proportion to the speed of rotation of the motor. The prevention of play is obtained by further sinking the keys.

The mounting and dismounting of the parts is extremely simple and rapid and the whole is perfectly rigid and the central chamber is both gas and oil tight.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:

In a rotary engine with radial cylinders the combination with a ring 1 having a plurality of radial holes, annular seats formed inwardly about said holes and transverse bores 10 intermediate the radial holes, of cylinders 4 fitted in the radial holes and provided at one end with an annular groove 6, elastic rings 7 engaging said grooves,

bearing against the annular seats of the ring 1, and projecting into the transverse bores of the ring 1, and keys forced into said bores against the elastic rings, substantially as described and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS LAZARE AUGUSTE SEGUIN.

Witnesses:
DEAN B. MASON,
ANTOINE LAVOIS.