

No. 708,053.

Patented Sept. 2, 1902.

A. C. KREBS.

APPARATUS FOR DISTRIBUTING THE PRIMARY CURRENT FOR ELECTRIC IGNITION
BY COILS AND IGNITERS IN EXPLOSIVE ENGINES.

(Application filed Jan. 31, 1902.)

(No Model.)

2 Sheets—Sheet 1.

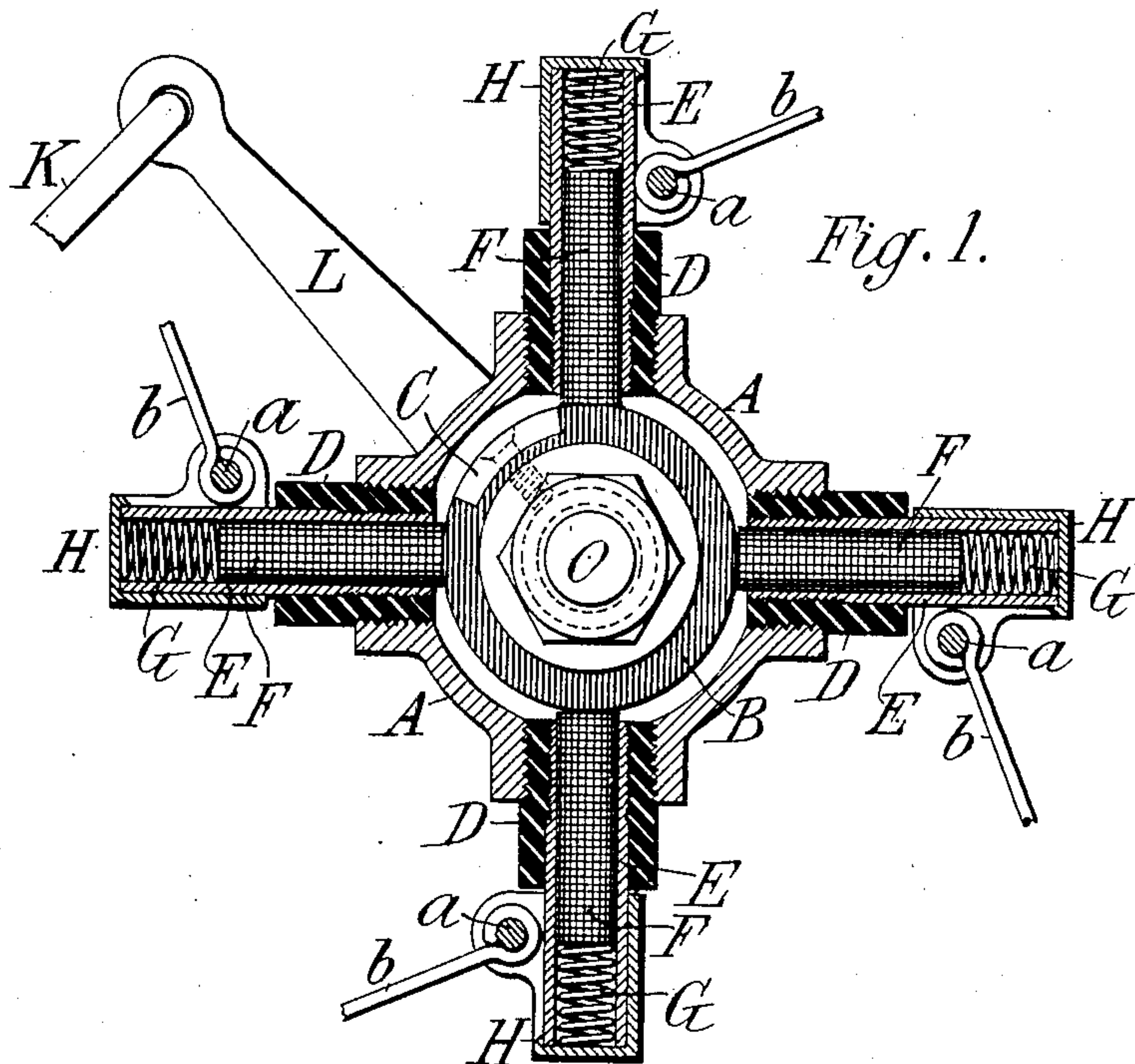


Fig. 1.

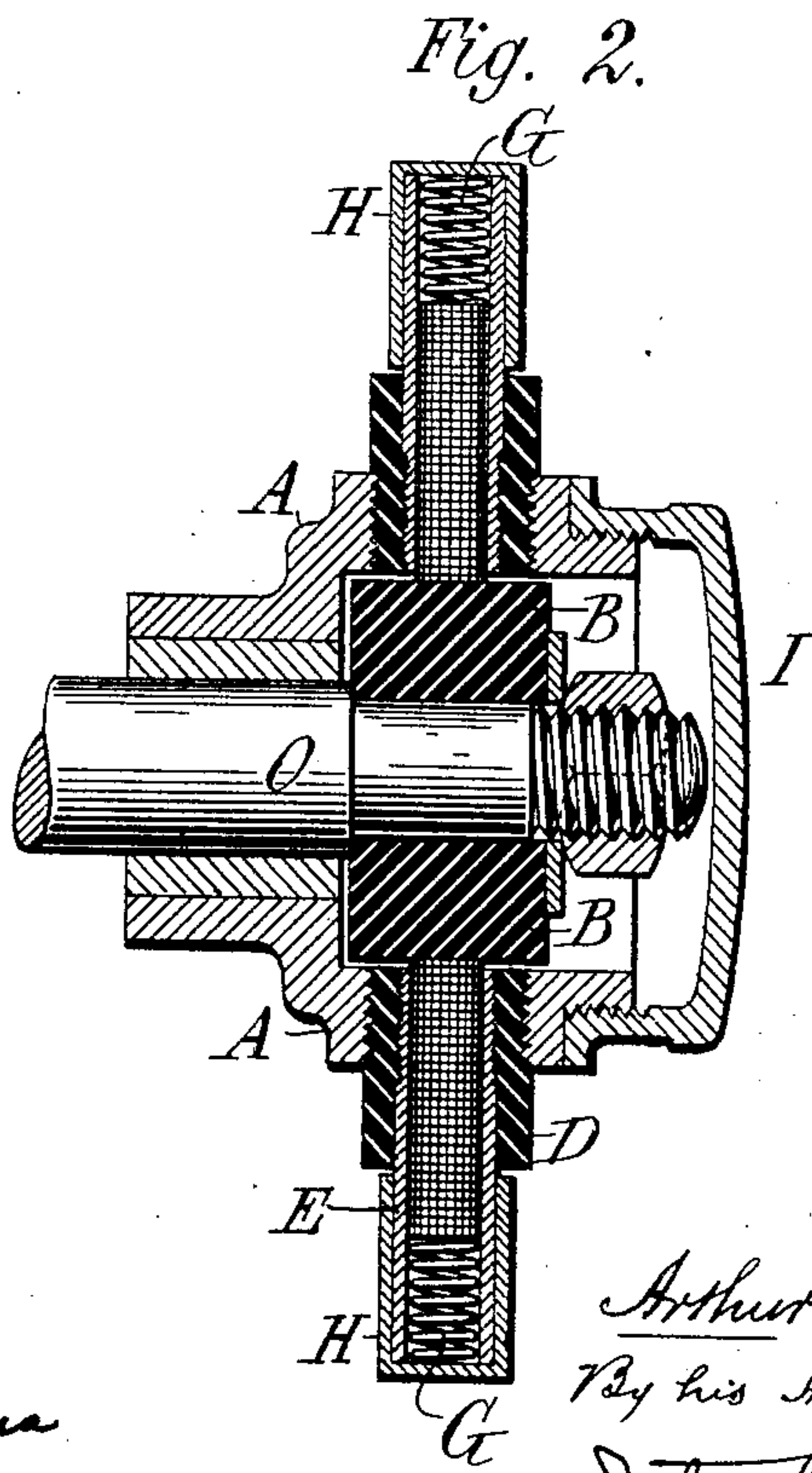


Fig. 2.

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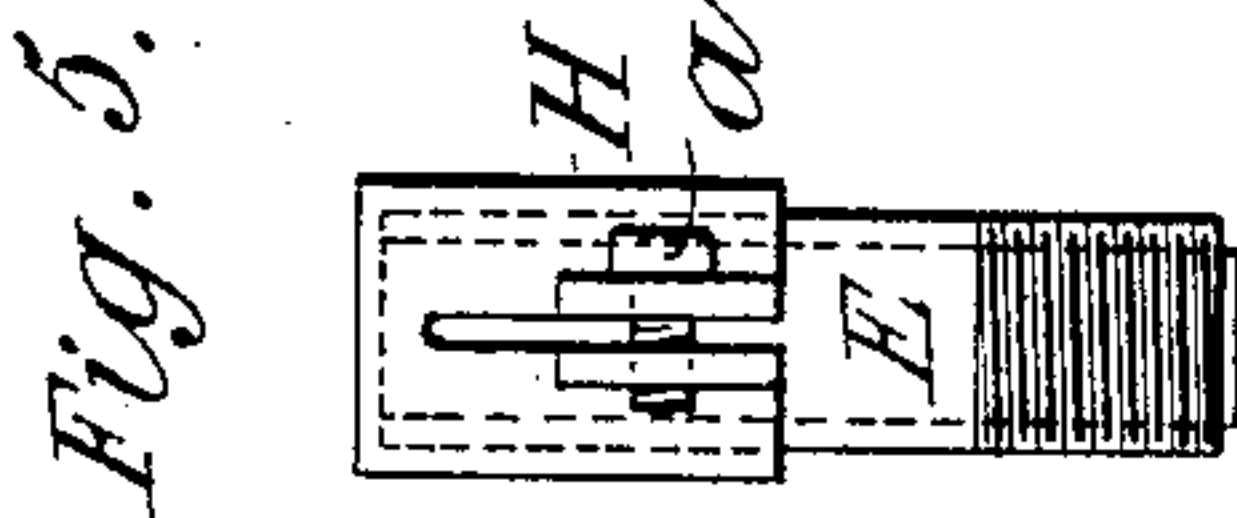
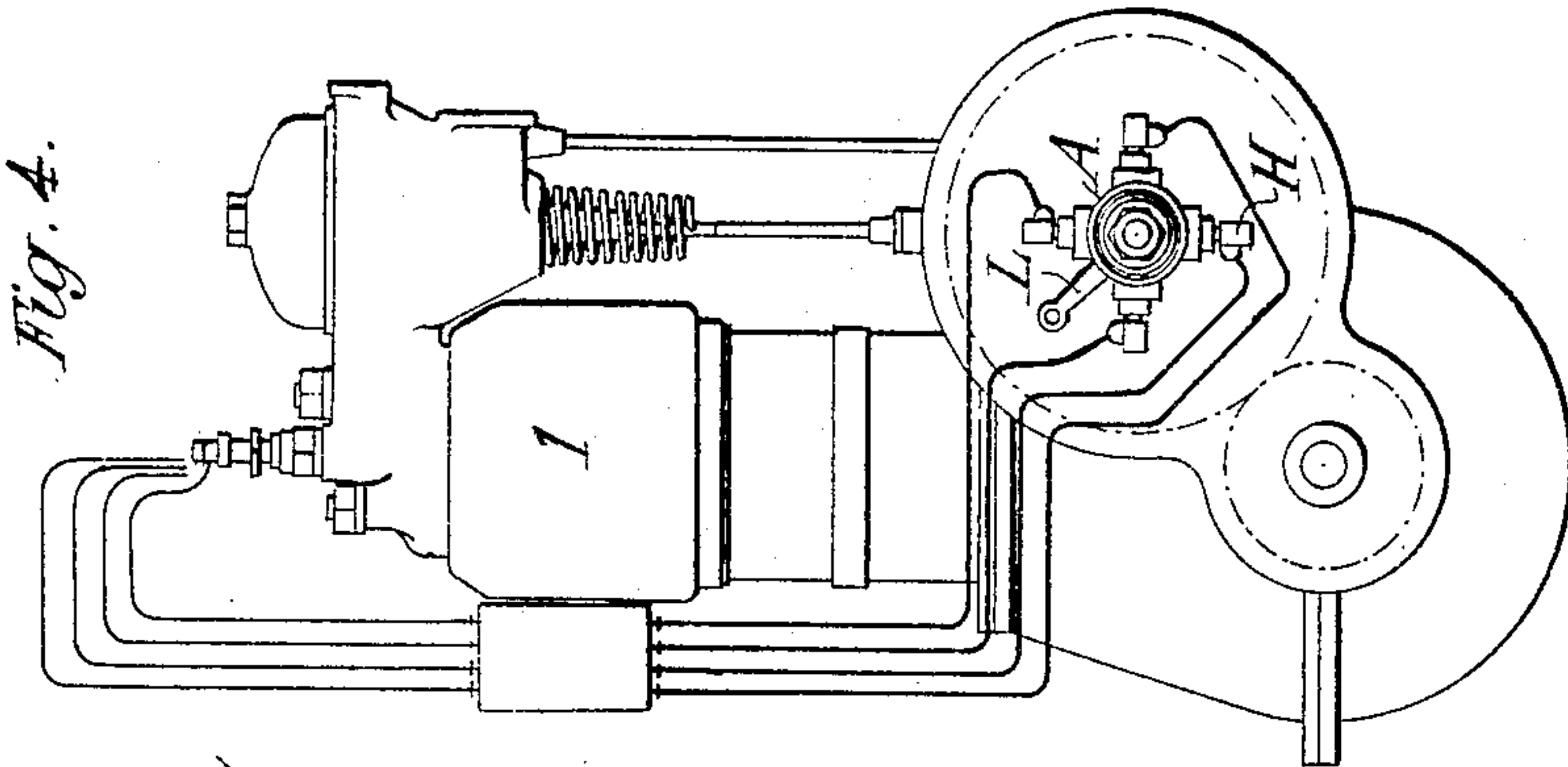
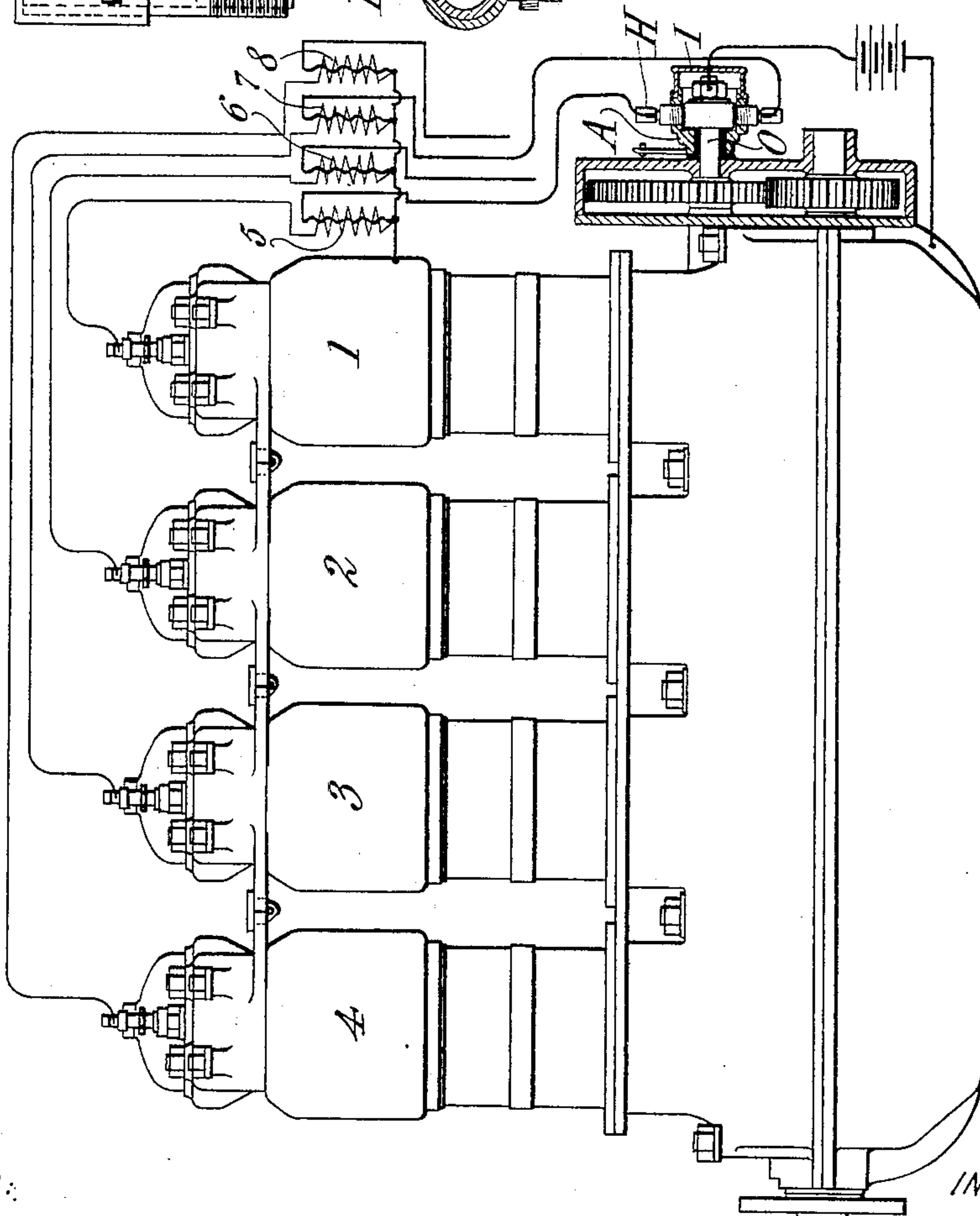


Fig. 3.



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UNITED STATES PATENT OFFICE.

ARTHUR CONSTANTIN KREBS, OF PARIS, FRANCE, ASSIGNOR TO SOCIÉTÉ ANONYME DES ANCIENS ETABLISSEMENTS PANHARD ET LEVASSOR, OF PARIS, FRANCE.

APPARATUS FOR DISTRIBUTING THE PRIMARY CURRENT FOR ELECTRIC IGNITION BY COILS AND IGNITERS IN EXPLOSIVE-ENGINES.

SPECIFICATION forming part of Letters Patent No. 708,053, dated September 2, 1902.

Application filed January 31, 1902. Serial No. 91,993. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR CONSTANTIN KREBS, a citizen of the Republic of France, residing in Paris, France, have invented certain new and useful Improvements in Apparatus for Distributing the Primary Current for Electric Ignition by Coils and Igniters in Explosive-Engines, of which the following is a specification.

10 The apparatus to which the present application for patent relates has for its object the distribution of the primary current coming from a source of electricity to the various induction-coils supplying the igniters of an explosion-engine having any number of cylinders.

The accompanying drawings illustrate an embodiment of my invention.

20 Figures 1 and 2 are sections of the apparatus at right angles to each other. Figs. 3 and 4 are side and end views, respectively, of an engine with my improved distributor applied thereto. Figs. 5 and 6 are a side elevation and a section of a detail.

25 The apparatus comprises a cylindrical body A, fitted with moderate friction on the shaft O, which has to distribute the current to each cylinder in succession during its revolution. The distributing-cylinder B, made of insulating material, is fixed on the shaft O and has a metal piece C, connected to the shaft by a screw. The body A has as many projecting bosses as there are cylinders of the engine, on which bosses are fixed brush-holders, each consisting of an insulating-cylinder D, screwed into the boss of a metal tube E, passing through the cylinder D of a cylindrical brush F, consisting of a roll of fine wire-gauze, of a helical spring G, pressing on the brush F, and of a cap H, Figs. 5 and 6, split on one side and clamped by a screw *a*, which at the same time fixes the conducting-wire *b*. The apparatus operates as follows: The shaft O as it revolves brings the piece C to each of the brushes in

succession, thus connecting the shaft O to the conductor *b*, leading from that brush to the coil. The position of the body A upon the shaft O can be varied by means of the handle K and lever L, which is attached to A, the period of ignition in the cylinders being thus regulated by adjusting the points of the revolution where the primary current is transmitted. The front of the body A is covered by a cap I as a protection of the brushes and cylinder from mud, rain, dust, &c. The brushes can be easily dismounted, and when they are worn fresh brushes can be readily substituted. The springs G are such as to cause practically constant pressure of the brushes, however much they are worn.

Suitable electrical connections are shown in Figs. 3 and 4 for an engine having four cylinders 1 2 3 4. The current passes from the wires *b* to the several primary windings of induction-coils 5, 6, 7, and 8, of which the secondary windings are connected to the igniter-terminals of the respective cylinders.

Having thus described the nature of this invention and the best means I know of carrying the same into practical effect, I claim—

In a gas-engine or the like, means for distributing a current to a plurality of igniters comprising brushes connected separately to said igniters, a terminal, means for revolving said terminal to contact with said brushes in succession, tubes carrying said brushes, springs in the outer ends of said tubes, pressing said brushes inward, clamp-caps closing the outer ends of said tubes, and conducting-wires attached to said clamp-caps.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ARTHUR CONSTANTIN KREBS.

Witnesses:

MARCEL ARMENGAUD, Jeune,
EDWARD P. MACLEAN.