(No Model.)

S. D. MOTT.

ELECTRIC GOVERNOR FOR DRIVING ENGINES FOR DYNAMO ELECTRIC MACHINES.

No. 267,446. Patented Nov. 14, 1882.

Fig. 1.

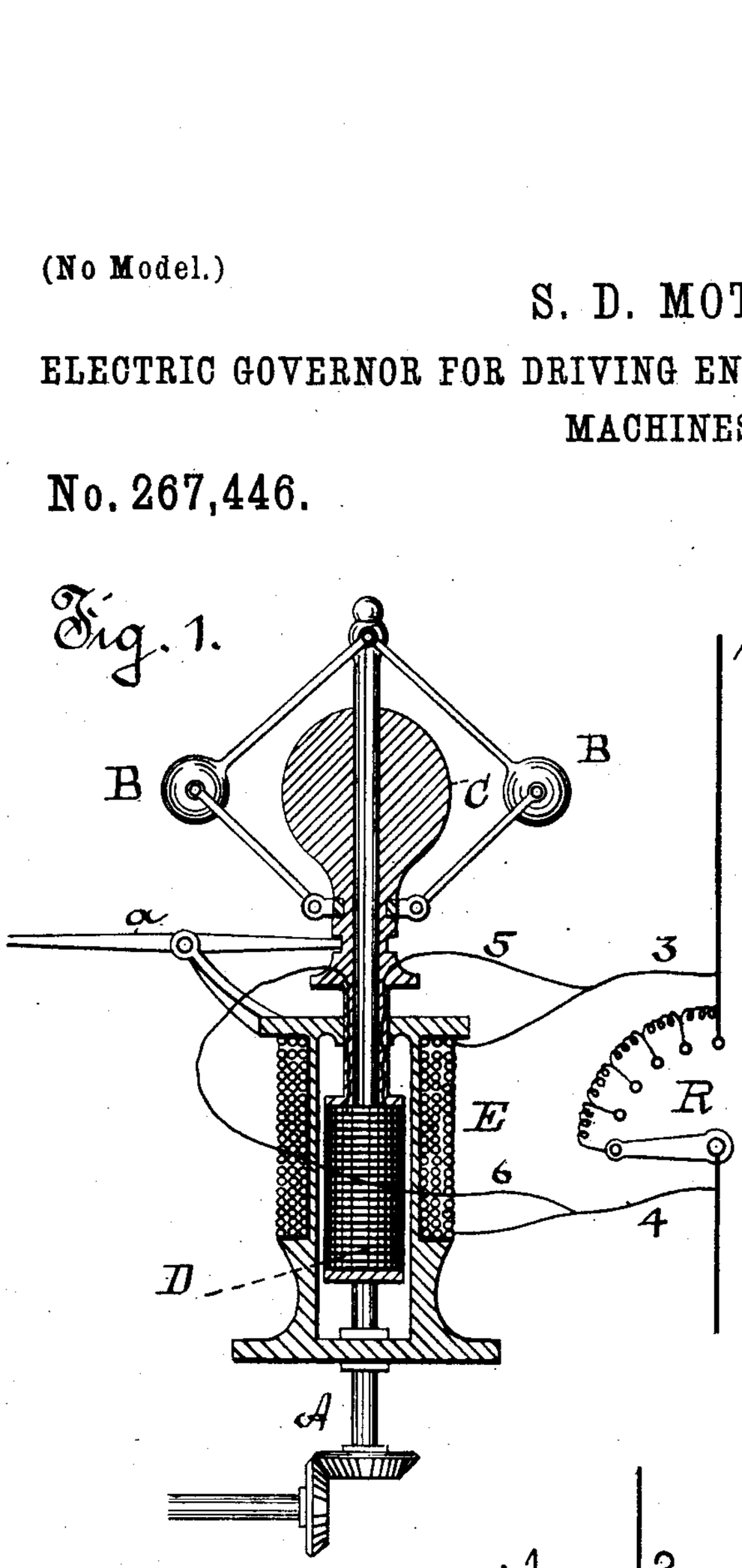
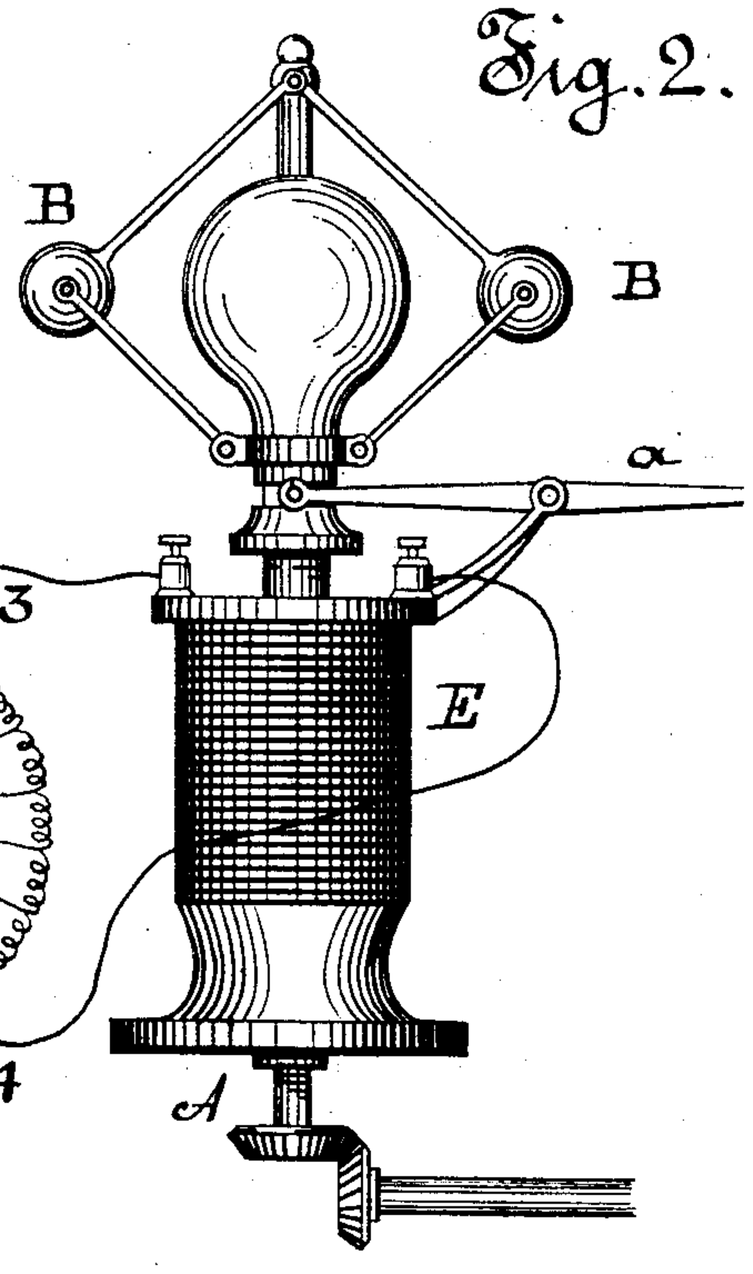


Fig. 2.



WITNESSES:

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SAMUEL D. MOTT, OF MENLO PARK, NEW JERSEY.

ELECTRIC GOVERNOR FOR DRIVING-ENGINES FOR DYNAMO-ELECTRIC MACHINES.

SPECIFICATION forming part of Letters Patent No. 267,446, dated November 14, 1882.

Application filed October 1, 1881. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL D. MOTT, of Menlo Park, in the county of Middlesex and State of New Jersey, have invented a new and useful Improvement in Regulating the Generative Force of Dynamo or Magneto Electric Machines; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object I have in view is to regulate the generative force of one or a battery of dynamo or magneto electric machines by controlling directly the steam-supply to the engine that drives the electrical generator, or, in case of a battery of generators, preferably the engine that drives the field-exciting generator.

By my present invention I vary automatically the adjustment of the governor, which is driven by the engine and operates the throttle or cut-off of the same, by means of an electro-magnet in a shunt or derived circuit from the main or consumption circuit or from the field-circuit, which magnet automatically changes the point at which the governor will act, and varies its adjustment as the electro-motive force of the current varies.

My improvement I prefer to apply to a high-speed governor which actuates the cut-off. Such a governor may be constructed with a central stem, revolved by connection with the engine, and carrying ball-arms. Links from the centrifugal balls connect with a collar on a central weight or ball, which slides on the stem but does not revolve therewith. This central ball is connected with the cut-off mechanism, and has a sleeve extending downwardly from the same, which sleeve carries the core of an axial magnet. This core is surrounded by a hollow magnet, the coils of which and of the core are in shunt or derived circuits from the main or consumption circuit or the field-circuit. The weights of the governor are so adjusted that the steam will be cut off at the desired point of the stroke when the current in the main circuit has the normal or desired electro-motive force; but any increase or decrease in the electro-motive force will make the central weight of the governor lighter or heavier, and thereby change the adjustment of the governor and the point at which the steam will be cut off. The governor in this way can be made to respond to every variation in the electro-motive force of the current. The circuit in which the magnet is located can be controlled by an adjustable resistance, making the governor operative at any desired point, or cut out altogether.

In the drawings, Figure 1 is a vertical section of the governor and a diagram of circuit-connections, and Fig. 2 an elevation of the governor.

A is the stem of governor, revolved from the engine and carrying centrifugal balls B.

C is the central weight or ball, connected by lever *a* with the cut-off mechanism.

D is the core of the magnet, carried by sleeve from C, and E is the hollow shell of the magnet. The coils of shell and core are connected with main conductors 1 2 by shunts 3 4 and 5 6, and R is the adjustable resistance, the lever of which can be shifted to throw more or less resistance into the shunts or cut them out altogether.

What I claim is—

1. In combination with governor-balls, means for rotating them by steam-power, and connections for the steam-valve, a solenoid-core connected to the sliding portion of the governor and a helix surrounding such core and circuit-connections, substantially as set forth, whereby the core is caused to act upon the revolving governor-balls in proportion to the electric current in the helix, substantially as set forth.

2. In combination with a variable resistance in an electric circuit, a shunt-circuit, a helix in that shunt, a solenoid-core within the helix, governor-balls, means for rotating the same by a steam-engine, connections for the steam-valve, and a connection between the solenoid-core and the moving portion of the governor, whereby the solenoid-magnet is caused to act on the governor, substantially as set forth.

This specification signed and witnessed this 28th day of June, 1881.

SAMUEL D. MOTT.

Witnesses:
RICHD. N. DYER,
H. W. SEELY.