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HENRY S. DAGGETT.

Improvement in Electro-Magnetic Engines.

No. 122,572.

Patented Jan. 9, 1872.

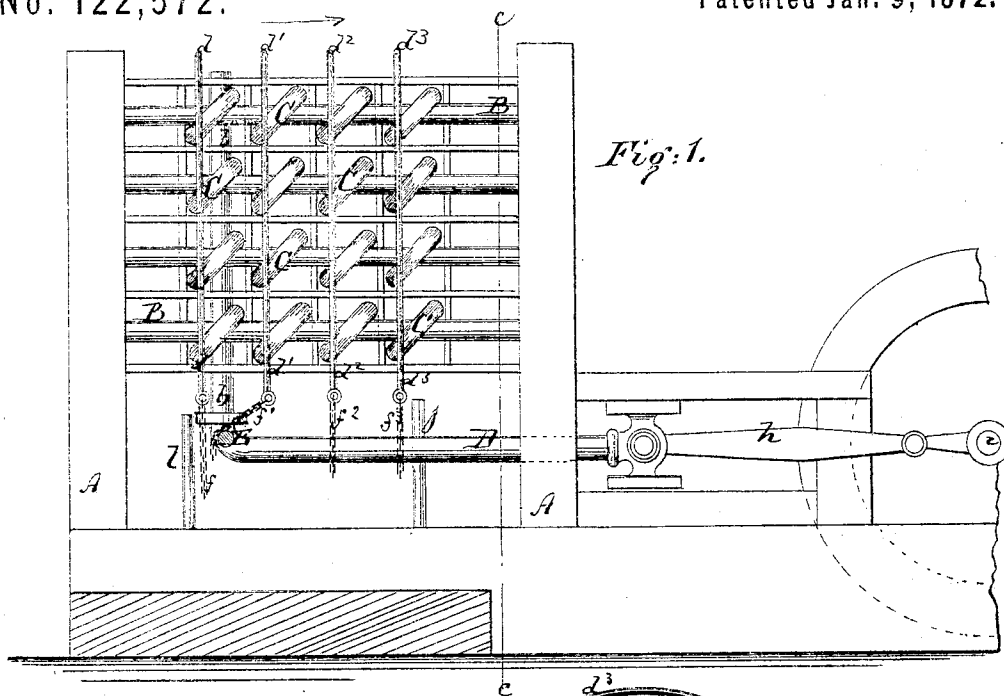


Fig: 1.

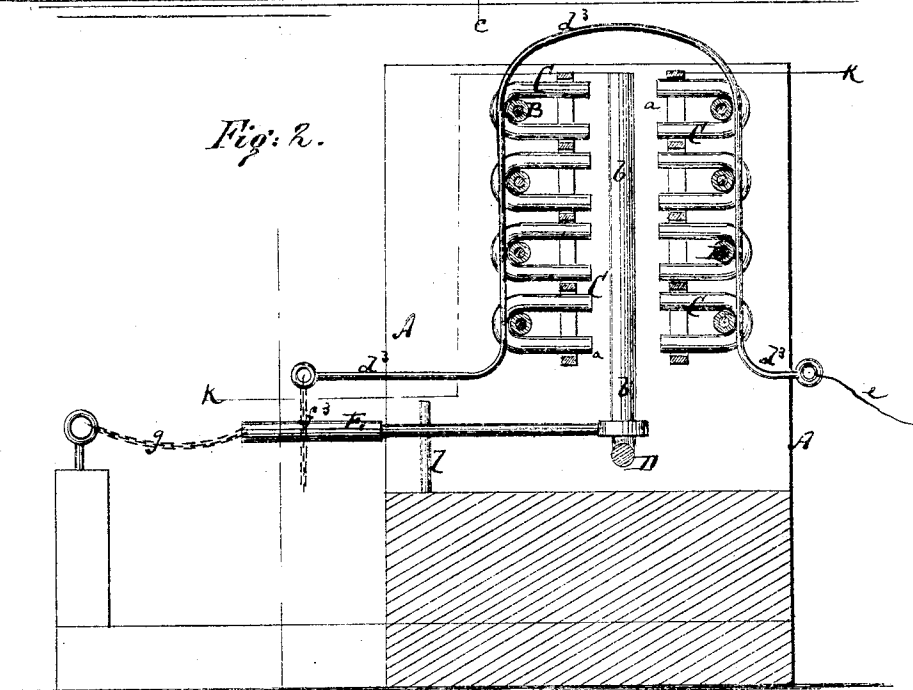


Fig: 2.

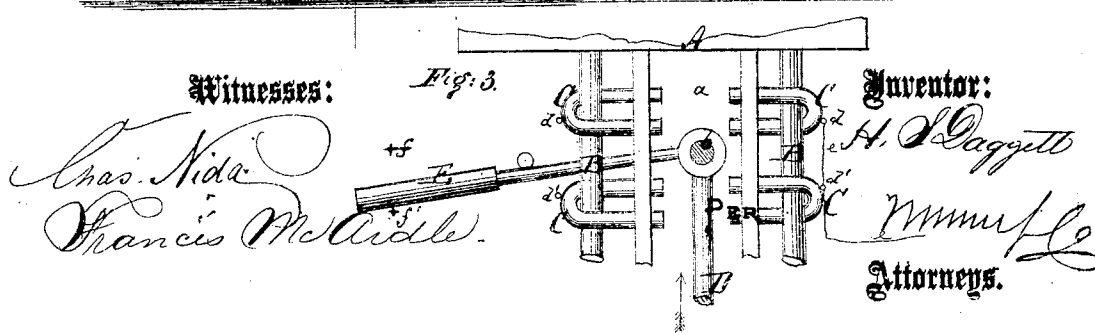


Fig: 3.

Witnesses:

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UNITED STATES PATENT OFFICE.

HENRY S. DAGGETT, OF LAFAYETTE, INDIANA.

IMPROVEMENT IN ELECTRO-MAGNETIC ENGINES.

Specification forming part of Letters Patent No. 122,572, dated January 9, 1872.

To all whom it may concern:

Be it known that I, HENRY S. DAGGETT, of Lafayette, in the county of Tippecanoe and State of Indiana, have invented a new and Improved Electric Engine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

Figure 1 represents a side elevation of my improved electric-engine. Fig. 2 is a vertical transverse section of the same, taken on the plane of the line *c c*, Fig. 1. Fig. 3 is a detail horizontal section of the same, taken on the line *k k*, Fig. 2.

Similar letters of reference indicate corresponding parts.

This invention relates to a new arrangement of stationary magnets and vibrating conductors, and to a new combination of the same with a sliding piston-rod and vibrating link movement, whereby a complete electric-engine is produced, imparting reciprocating motion to the piston and other suitable action to the mechanism connected therewith.

A, in the drawing, represents the frame of my electric-engine. B is a rack supported by the frame A for holding a series of magnets, C C, in rows. The magnets are horseshoes, and so placed on the rack that all their ends point toward a narrow passage, *a*, in which an arm, *b*, projecting from the piston-rod D travels. There are thus two sets of magnets, one on each side of the arm *b*, as shown in Figs. 2 and 3. The magnets, constituting a vertical row in each set, are connected with each other by a wire, there being thus as many wires, *d d¹ d² d³*, &c., as there are vertical rows of magnets. Every wire *d d¹* connects the two opposite rows of both sets of magnets, as shown in Fig. 2. At one end all these wires are connected with one of the conducting wires, *e*, from the battery. At the other end they all have pendent chains, *f f¹ f²*, &c. The arm *b* of the piston-rod carries a projecting lever, E, which is at one end swiveled to the arm *b*, while its other end is, by a chain, *g*, connected with the other conducting wire

from the battery. The piston-rod is, by pitman *h* or otherwise, connected with the shaft *i*, or machinery to be set in motion.

When the piston or arm *b* is, as seen in Fig. 1, between the first rows of magnets and the lever E, by the chain *f¹* resting on it, connected with the second wire *d¹*, the second row of magnets will be charged, causing the arm *b* to be drawn by them in the direction of the arrow, shown in Fig. 1. By such motion the chain *f¹* is detached from the lever E, and the chain *f²* brought in contact therewith, causing the third wire *d²* and the third set of magnets to be charged, and the piston to be moved ahead in the same direction. At the end of the stroke the lever E strikes a fixed projecting stop, *j*, which causes it to turn on the arm *b* in such manner as to resume contact with the chain last dropped, and thereby cause the charging of the magnets last passed and the reversal of motion. At the end of the opposite stroke the lever E strikes another stop, *l*, with equal effect, and causes the motion of the piston to be once more reversed.

The magnets, it is evident, are insulated from their supporting racks.

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

1. The magnets C C, arranged in rows and connected with the wires *d d¹ d² d³* and pendent-chains *f f¹ f²*, &c., substantially as herein set forth and described.

2. The piston *b* provided with the swivel lever E, which moves under the chains *f, f¹*, &c., and thereby produces successive connections with the several rows of magnets, as set forth.

3. The stops *j l*, affixed to the frame A, for swinging the lever E at the end of every stroke, and thereby reversing the motion of the engine, as specified.

4. The electric-engine, consisting of the frame A, rack B, magnets C C, wires *d d¹ d²*, &c., chains *f f¹ f²*, &c., piston *b*, lever E, and stops *j l*, all combined to operate substantially as herein shown and described.

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Witnesses:

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