B. H. SMITH.

MOTOR.

APPLICATION FILED SEPT. 5, 1916.

1,258,368. Patented Mar. 5, 1918.

Fig. 1.

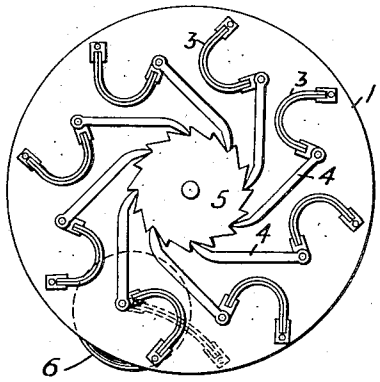
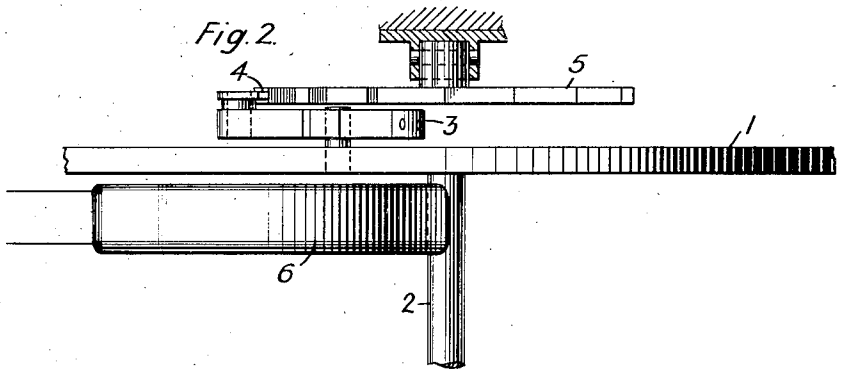


Fig. 2.



WITNESSES:

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MOTOR.

1,258,368. Specification of Letters Patent. Patented Mar. 5, 1918.

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To all whom it may concern:

Be it known that I, BENJAMIN H. SMITH, a citizen of the United States, and a resident of Turtle Creek, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Motors, of which the following is a specification.

My invention relates to motors and particularly to thermo-electric motors.

The object of my invention is to provide a motor of the above indicated character that shall be simple to construct and efficient in its operation.

In the carrying out of my invention, I provide a rotatable member, a plurality of bi-metallic, heat-responsive members one end of each of which is connected to the rotatable member. A pawl is operatively connected to the other end of each of the bimetallic members and adapted to engage a stationary ratchet member. A stationary heating coil is disposed adjacent the bimetallic members for the purpose of successively heating the same. When one of the bi-metallic members is heated, it expands and its pawl acts against the ratchet member to cause the rotatable member to move a predetermined distance. After the movable member has turned a predetermined distance, the next bi-metallic member is moved to a position adjacent the heating coil. Thus, the bi-metallic members are successively subjected to the influence of the heating coil, and the rotatable member will be turned in accordance with the amount of heat or the current traversing the heating coil.

In the accompanying drawings, Figure 1 is a plan view of a thermo-electric motor embodying my invention, and Fig. 2 is a side elevational view of the motor shown in Fig. 1.

A rotatable member 1 is mounted on a shaft 2 and has attached thereto a plurality of bi-metallic members 3. Each of the bimetallic members is connected to the rotatable member 1 at one of its ends and is provided with a pawl 4 at its other end. The pawls 4 are adapted to engage a stationary ratchet member 5 for the purpose of turning the member 1 when the bi-metallic members 3 expand or move under the influence of heat. A stationary heating coil 6 is mounted below the rotatable member 1 in such position as to be adjacent the bi-metallic members 3.

When the bi-metallic members 3 are subjected to the heat of the coil 6 they assume a position substantially as shown in the broken lines of Fig. 1. This causes the pawl 4 to press against the teeth of the ratchet member 5, and, in so doing, causes the rotatable member 1 to turn in a counter-clockwise direction. When the rotatable member 1 has turned a predetermined distance, the next bi-metallic member 3 is advanced to a position adjacent the heating coil 6 and similarly expands to cause the rotatable member 1 to turn to such position that the next bi-metallic member is influenced by the heating coil 6. Thus, the bimetallic members 3 are successively subjected to the influence of the coil 6, and the rotatable member 1 will turn in accordance with the current traversing the coil 6.

I do not limit my invention to the particular structure illustrated, as it may be variously modified without departing from the spirit and scope of the invention as set forth in the appended claims.

I claim as my invention:

1. A motor comprising a movable member, a plurality of bimetallic members mounted at one of their ends on the movable member, pawls operatively connected to the other ends of the bimetallic members, a stationary ratchet member adapted to be engaged by the pawls and means for successively heating the bimetallic members.

2. A motor comprising a movable member, a plurality of heat-responsive means mounted at one of their ends on the movable member, pawls operatively connected to the other ends of the heat-responsive means, a stationary ratchet wheel adapted to be engaged by the pawls and means for heating the heat-responsive means.

3. A motor comprising a movable member, a plurality of bimetallic members mounted on the movable member, pawl and ratchet means for transmitting the movements of the bimetallic members to the movable member and means for heating the bimetallic members.

4. A motor comprising a rotatable member, a plurality of bi-metallic members mounted at one of their ends on the rotatable member,

pawls operatively connected to the other ends of the bi-metallic members, a stationary ratchet wheel adapted to be engaged by the pawls and means for heating the bi-metallic members.

5. A motor comprising a rotatable member, a plurality of bi-metallic members each of which is mounted at one of its ends on the rotatable member, pawls operatively connected to the other ends of the bi-metallic members, a stationary ratchet wheel adapted to be engaged by the pawls and electrical means for heating the bi-metallic members.

In testimony whereof, I have hereunto subscribed my name this 26th day of August, 1916.

BENJAMIN H. SMITH.