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E. HERRMANN ET AL

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DRIVING DEVICE

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Fig. 1.

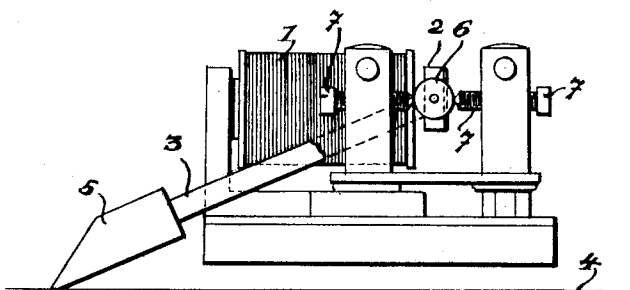


Fig. 2.

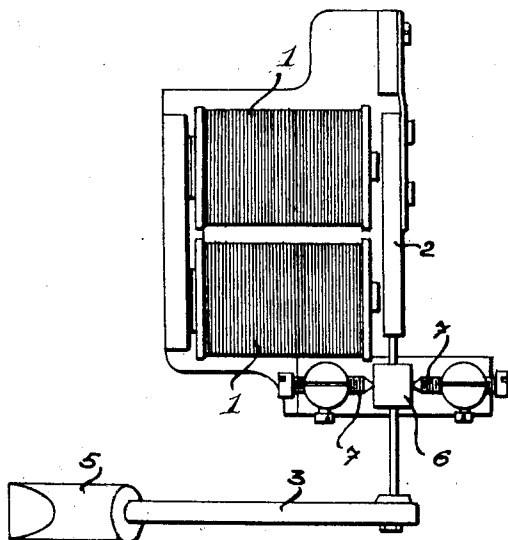
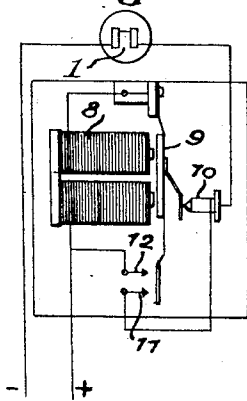


Fig. 3.



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DRIVING DEVICE.

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Our invention relates to driving devices in which the oscillations of a body, say the armature of an electromagnet is utilized for producing unilateral motion in such manner that the oscillations are made effective in the one direction and substantially ineffective in the other direction.

According to the invention this will be effected by that an arm is pivotally connected to the armature of the electromagnet, which arm is obliquely directed towards a plane of the moving body and contacts the same with friction say by means of a resilient member, so that such arm in its movement in the one direction tends to put firmly against the said plane, whereas in the other direction said arm slides back nearly without resistance on such plane, whereby owing to the rapid oscillations a continuous movement of said body in the first mentioned direction is effected.

If alternating current is present the entire driving device comprises an electromagnet and armature, which supports the obliquely arranged driving arm. With direct current an automatic interrupter should be provided, which opens and closes the current for the purpose of producing the oscillations of the armature.

In the drawings:

Figs. 1 and 2 show by way of example a form of the improved driving device in a side and top view respectively. Fig. 3 shows the interrupting device used for direct current and the connection of the latter in the circuit of the driving device.

The driving device comprises an electromagnet 1, which causes its armature to oscillate rapidly. To the armature an arm 3 is pivotally connected which when in an oblique position contacts with a plane 4 of the body to be moved. On the end of such arm a resilient member, preferably a rubber socket 5 or any other rubbing means, is fixed, which bears on the said plane for example by its own gravity. In order to render the oscillations of the armature more efficient and in some extent regulable a rubber collar 6 is arranged on the armature, which collar

is held between the ends of two adjustable abutments for example screw bolts 7.

With alternating current the before described simple electromagnetic device with the oblique arm being oscillated by the armature is sufficient for moving the body continuously in the same direction by the arm acting on the said plane of the body. This follows from the fact that the oblique arm in its movement toward the side from which said arm projects tends to grip firmly against the said plane 4 but will be dragged back toward the other side without substantial obstacle, so that the body (plane 4) moves continuously toward the first mentioned side.

If the body is for example rotatably suspended a practical continuous movement in the one direction takes place because of the rapid oscillations.

If only direct current is available an automatic interrupter, say for example a magnetic hammer break is to be inserted, which produces the current interruptions necessary for effecting the oscillations of the armature.

A form of the current interrupter is illustrated diagrammatically in Fig. 3. It comprises an electromagnet 8 and an armature 9 coacting with the contacts 10 and 11, 12, one of which is connected over the driving apparatus (Figs. 1 and 2) to the second pole of the direct current source.

The described driving apparatus may be utilized, where a body is to be moved continuously in one direction rectilinearly or revolved, for example for moving advertising bodies.

What we claim is:—

A device of the class described including a base structure, an electromagnet comprising a pair of solenoids mounted on said base structure, an armature extending across one end of said electromagnet and resiliently supported on said base structure, said armature carrying a resilient member on its free end, a pair of posts, one on each side of said resilient member, extending upwardly from said base structure and secured thereto, each of said posts carrying adjusting means en-

gaging said resilient member, and a downwardly and obliquely extending arm attached to the free end of said armature said arm being capable of turning in a plane being substantially perpendicular to the longitudinal axis of the armature and carrying a wedge-shaped rubber shoe whereby the reciprocating motion of the armature may be converted into rectilinear or rotary motion. In witness whereof we affix our signatures. 10

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