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Snakes That Do Not Exist

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ciple. When the coil continues to rotate from its horizontal position to a perpendicular position, the number of lines of magnetic force threading its area is rapidly increased from zero to maximum. Thus there is a continuous change in the number of lines of magnetic force threading the area of the coil during the half turn, causing the induction of a continuous, but varying current during that time. As the coil rotates through the other half turn a further current is induced but in this case the direction of the current will be the opposite of that induced during the first half. By means of a device called a commutator, shown in the figure between the ends of the brushes e and g, these two currents for each complete rotation are made to flow in the same direction in the external circuit f, giving rise to a direct current. If these opposite currents for each rotation were not made to flow in the same direction, the simple device represented in figure 2 would be called an alternating dynamo. The dynamo rule for determining the direction of a current in the revolving coils of a dynamo is given in every high school text. The revolving coil in our illustration is called the armature and the magnets are called the field-magnets. They constitute the two principal and essential parts of every dynamo or electric motor.

In figure 3 we have an illustration of a small commercial dynamo. Its

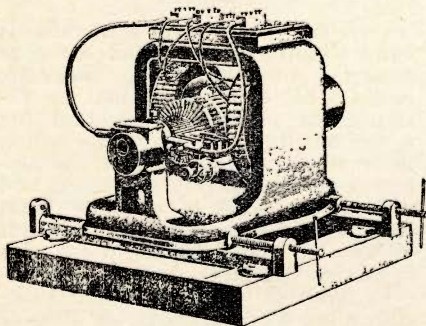


Figure 3

field magnet is a bi-polar electro magnet. The field-magnets of large commercial dynamos are usually multi-polar electro magnets. It is evident that in operating a dynamo the armature must be rotated by

some source of mechanical power such as a steam engine or a turbine water wheel.

It is interesting to note briefly that a dynamo is also an electric motor. When a current from some outside source is run through the field-magnet wires and the armature of a dynamo, the armature rotates and delivers mechanical power to any machine geared or belted to its armature shaft. The writer will continue the discussion of current induction in the next issue of the Bulletin by taking up first the invention which illustrates Faraday's other historic experiment. L. Begeman

SNAKES THAT DO NOT EXIST

As a boy I was always on the lookout for two kinds of snakes which I never found. These were the so-called hoop snake, and joint snake. According to popular tradition—and the tradition is still with us—the hoop snake was supposed to take his tail into his mouth and go rolling about the country much to the amazement and horror of his human observers. The joint snake's pet trick was to break instantly into a variable number of pieces when hit with a club, and then to reassemble the pieces into the original snake when the danger had passed. One man told me that he once caused a joint snake no end of trouble by throwing one of the pieces into a bonfire.

How the hoop snake idea originated, I cannot say, but it is possible that the joint snake may mean only the glass snake, which does have the habit of voluntarily breaking off its tail when disturbed. This practice of autotomy or self-surgery, so to speak, occurs in a number of different animals, and is probably only a device for saving their lives. The glass snake when seized by an enemy, the king snake, for example, may simply leave his tail in the king snake's mouth and so escape, later growing a new tail.

But alas for this explanation: the glass snake is not really a snake at all, but a limbless lizard, as can easily be seen from his eyelids and external ear openings, things which no self-respecting snake ever possesses. Neither does he ever break into any parts other than tail and body. Hence the explanation is futile, which is as it should be, since the joint snake does not exist,—and neither does the hoop snake.

Roy L. Abbott