

the minimum number when it is in the position shown in Fig. 264.

As the coil is rotated the number of lines of force is constantly changing. Hence an induced current will flow from the ring *A* through the coil *abcd* and the internal circuit to the ring *B* at one instant followed by an induced current in opposite direction from *B* to *A* at the next instant, the changes in direction taking place in accordance with the changes in direction and number of the lines of force passing through the coil. Thus a current which changes direction at regular intervals is produced in the external conductor. Such is known as an *alternating current*.

260. The Armature of the Dynamo. We have, for simplicity, considered in the preceding section the case of the revolution of a single coil within the magnetic field. In ordinary practice a number of coils are connected to the same collecting rings or plates. These coils are wound



FIG. 265.—Shuttle armature.

about a soft-iron core, which serves to hold them in place and to increase the number of lines of force passing through the space inclosed by them. The coils and core with the attached connections constitute the *armature* of the dynamo.

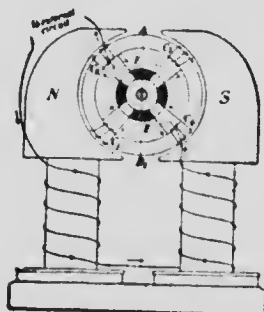


FIG. 266.—Bipolar field.

The armatures vary in type with the form of the core and the winding of the coils.

A single coil wound in a groove about a soft-iron cylinder (Fig. 265) forms a *shuttle armature*.

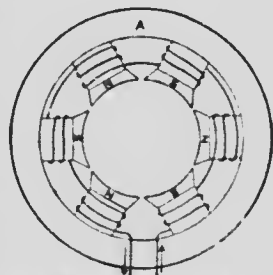


FIG. 267.—Multipolar field.