This spring holds the pinion gear in the neutral position even during engine vibration and vehicle acceleration until the starter is again used.

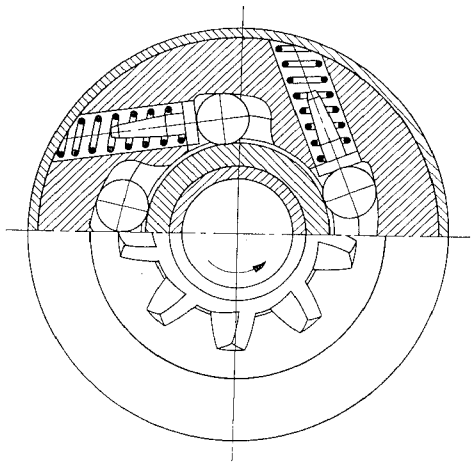

Fig. 19

5-Roller Overrunning Clutch

Maintenance

The armature bearing requires no lubrication during normal operation but should be serviced when the engine is overhauled. The starter bushing in the transmission housing should be inspected for wear when the starter is removed and lubricated with high temperature grease before installing the starter. The starter end cap should be removed every 6000 miles (10,000 km) to inspect the condition of the brushes. Replace worn brushes or weak springs (page L 85).

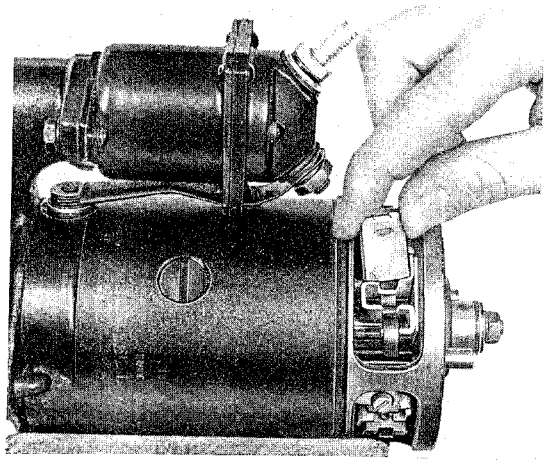

Fig. 20

Armature Brake

A brake is mounted at the commutator end of the starter in order to stop the armature as soon as possible after cutting off the current so that a fresh start may be made quickly if necessary. The brake consists of a spring washer, a holding washer, and a friction washer (Fig. 27). The braking torque is designed so that it does not impede the generator during operation yet is sufficient to arrest the armature quickly when it is switched off. The friction torque should be from 2.5 to 5 cm.kg. (2.2 to 4.4 in.lb.). The commutator must be clean and free of oil. A dirty commutator may be cleaned using a clean rag soaked in solvent or carbon tetrachloride. If the commutator is badly worn or shows signs of arcing, the starter should be overhauled. When replacing the end cap insure that the rubber seal ring is in good condition or is replaced if necessary.