the terminals of the coil to which they belong being cut off short and taped. There being two paths for the current, 1050 conductors are in series. The coils are held in place by a few turns of wire around the armature at each end and at the centre of the core.

Field Winding.—Two of the four poles of the motor are wound, each winding consisting of about 735 turns of No. 14, B. & S. gauge, single cotton copper wire. Each coil is form wound and covered with tape, is slipped over the pole, and held in place by the clamp bolts.

Plate 5 shows the general arrangement of the apparatus.

1. Electric motor-driven air compressor just described in detail.
2. Box to cover it from dust, etc.
3. Cage for supporting box and compressor under a car.
4. Insulating coupling to obviate any ground through the piping.
5. Seamless cold drawn steel reservoir for storage of the compressed air where its pressure is kept within the proper limits by means of an automatic governor regulating the supply. This for an ordinary car is of 392 cubic feet free air capacity, and the pressure is not allowed to rise above 90 lbs. per square inch nor fall below 80 lbs. It is fitted with a safety valve set to blow off at 90 lbs. or 100 lbs.
6. Automatic electric governor. (See Plate 6.)

   This governor, which stops and starts the motor, consists of an ordinary pressure gauge made of brass pipe of elliptical section bent into an arc of a circle. When the pressure comes on, the ellipse tends to elongate along the minor axis, thus increasing the radius of the circle of which the pipe is an arc and giving a sensible movement to the end of the pipe, which motion is magnified and transmitted to the dial hand by means of a lever, ratchet, and pinion mechanism.

   The operation of the governor is very simple. When a carbon block on the dial hand comes into contact with a carbon stud, marked "start," at the point of minimum pressure on the dial, it allows a current to flow through magnet coil No. 1 from the trolley to ground, attracting the plunger 3 and making contacts at 4, thus completing a circuit from trolley to motor to ground. (Plate 5.) When the pressure reaches the maximum the hand strikes the stud, marked "stop," connection coil No. 2 to ground, impelling the plunger in the opposite direction and breaking the circuit through the motor. To avoid arcing at the contacts 4, and thus corroding the copper of which they are made, a blow-out coil, consisting of about 200 turns of No. 15 wire, B. & S. gauge, is placed in series with the main circuit. This coil