anemometer. One integrating wattmeter was used to measure the total power supplied to the motors, and the other one measured the power supplied to the air compressor motor. The recording ammeter and voltmeter were of the General Electric graphic recording type, and gave continuous records of the current supplied to the motors and the voltage across the motor terminals. The speed recorders were of two different types, the first one installed consisting of a recording ammeter of low range connected to a small generator, which was driven from the axle and separately excited from a storage battery carried on the car. The other speed recorder was the well-known Boyer recorder, which was installed for the purpose of checking the speed record obtained by means of the electric speed recorder. The air pressure recorder was connected with the brake cylinder, and was used in making braking tests, as well as serving to show whether or not the brakes were fully released during any tests. The portable anemometer and wind vane were mounted on a tripod and set up in the field adjacent to the track, and were used to determine the direction and velocity of the wind for each individual test. The record sheet or chart was forty inches wide, and was arranged to be operated on either a time base or a distance base. In operating on a time base the paper rolls were driven by a small electric motor, while for operation on a distance base the rolls were driven from the axle by means of a system of gears. A record of distance was obtained by means of a magnetically operated pin, which made an offset in the distance line every 50 feet. The magnet circuit was completed by a contact-maker driven from the axle. The location of the car at any instant was obtained by a pen operated by a magnet, the circuit of which was closed by means of a telegraph key operated manually as the car passed the poles. The time record (Fig. 5.) consisted of two lines operated by magnets, which had their circuits closed every five seconds by a time-marker clock, thus producing offsets in the time lines at five seconds' intervals. In addition to these recording instruments, indicating instruments were also connected in the circuits, and the records were frequently checked with the readings on the indicating instruments. Attempts have been made from time to time to develop an instrument for recording acceleration. The best results have been obtained by using a one-kilowatt transformer having the low tension winding connected in series with the ammeter used for recording speed and the high tension winding connected to a millivoltmeter. The jump spark method of recording was used with partial success, but, owing to the pressure of more important work, this accelerometer was never fully developed.