

New Devices

FLASH-LIGHT CROSSING SIGNAL

There has been placed on the market during the past month an inexpensive grade-crossing signal adapted from the system under which the United States Government is now operating its lighthouses and buoys at sea by means of flashing acetylene lights. It consists of a specially-designed lantern that will withstand any kind of weather and is so arranged as to throw a brilliant white light in intermittent flashes on the face of existing crossing signs or warnings. Simultaneously, through a red lens in the opposite side of the lantern is flashed a light as a distant danger warning.

The light is operated by acetylene gas compressed into a non-explosive steel cylinder filled with a porous mass. It may be controlled by track circuit and only flash its warning upon the approach of a train; or it may be made to flash continuously. Therefore, it is possible to locate it at any distance desired from the railroad crossing proper. If connected with the track circuit, wire or battery trouble will cause the light to flash until the disarrangement is repaired—hence a failure is on the side of safety. The steel cylinder contains sufficient gas to operate the signal continuously day and night for about 90 days, but if operated only upon the approach of trains it will last from a year to a year and a half, according to the frequency of train service. It takes about five minutes to

New A. G. A. Flashlight Crossing Signal

replace the empty cylinders with fully charged ones, and the cost of the gas consumed per signal is less than \$4.00 per year.

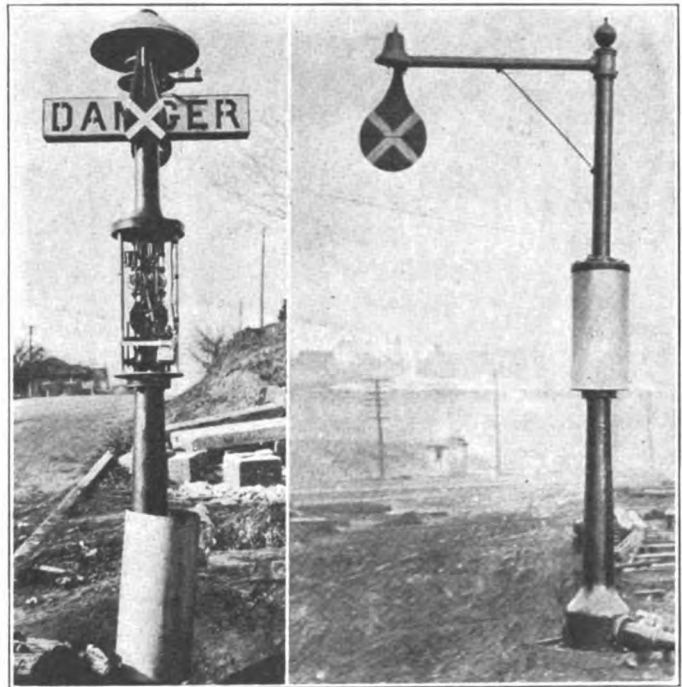
The feature of this signal is that it indicates "clear" only when the control of its power is active, and will indicate "stop" and "caution" when the control of the power is inactive. It is a closed-circuit proposition. It gives the driver of an automobile, through its red, flashing light, a distant signal which may be seen for a distance of about 300 ft. in the day-time and much farther at night, and also a home signal of brilliant white light thrown upon the warning letters of the crossing sign, which may also be read at night at a distance of at least 300 ft.

The acetylene gas used as an illuminant has been proved to have unusual fog-penetrating power. Several hundred of these lights have been in service in signals on the Boston & Maine for several years. Thorough tests of the signal have proved satisfactory. This signal is manufactured by the A. G. A. Railway Light & Signal Company, Elizabeth, N. J.

NEW HOESCHEN CROSSING SIGNAL

The Hoeschen Manufacturing Company, Omaha, Neb., has recently developed a motor-winding, spring-operated crossing signal, primarily for service in yards where considerable switching is done, the mechanism having the advantage that it uses the company's standard time element cut-out feature so that the bell cannot ring continuously while an engine or car is standing in the ringing section. The operating mechanism consists of the clock-work characteristic of older models of the Hoeschen signals. A flat coiled spring drives the escapement wheel and operates the walking beam rocker, to one end of which is attached the connecting rod to bell and blade. The motor is used solely to wind the spring, and does not operate continuously while the bell is ringing. The tension of the spring controls a make and break contact switch which automatically cuts in or cuts out the motor, depending on whether the spring is wound up to the maximum or run down to the minimum limit.

The winding is accomplished through a suitable gear reduction apparatus, including a worm and gear. Even



New Hoeschen Motor-Winding Mechanism Applied to Two Signals

while the bell is ringing, the motor winds the spring up faster than it is unwound by the operation of the bell, and consequently is cut out when the spring reaches the maximum tension possible. After each winding there is energy enough stored up in the spring to operate for a minute and a half. With the bell operating it takes the motor two and one-half minutes to wind the spring from the minimum to the maximum tension. The worm gear is mounted on the main shaft to which one end of the motor spring is fastened, and the movement of this gear winds the spring. Mounted on the main shaft in such a manner that it moves with the movement of the spring is a small pinion which meshes with a spur gear mounted on the back of the worm gear. When the spring unwinds through the ringing of the bell the spur gear is caused to move around until a projecting stud engages the make and break contact switch, causing it to close the motor circuit and start the motor. As previously explained, the motor winds the spring more rapidly