

RAILWAY WONDERS OF THE WORLD

tion for every signal is of a very simple character, and in the majority of cases can be fitted to the existing type of lamp. The acetylene gas in the dissolved form

its working period, may be varied according to the situation of the signal, but in the majority of cases an accumulator sufficient for two months' service is used.

Owing to the simple design of the flasher, the few integral parts, and their strong construction, the danger of breakdown is eliminated, while the possibility of the signal failing to act is inconceivable. Once the accumulator is coupled up to the flasher, and the pilot flame is lighted, the apparatus continues its work regularly until the supply of acetylene is exhausted. The reliability of the invention may be realised when it is stated that some of the first flashers installed upon the Swedish railways have produced over 100,000,000 flashes and have never once failed or shown the slightest sign of irregularity in working. Bearing in mind the rigorous character of the Swedish climate, with its extreme fluctuations in temperature, and the severity of the winter, blizzards and rain-storms, it will be admitted that the apparatus has been submitted to as severe a test as could be conceived. Completely satisfactory working under these conditions should be sufficient to prove that the apparatus is adaptable to any railway on the globe.

At first sight it might be thought, as the light flashes both day and night, that it may be somewhat costly to run. This is a fallacious impression. The average cost comes out at about 100,000 flashes, or 70 hours, for one penny. This is far cheaper than any other system in vogue, and its economy is augmented by the fact that the item of wages is reduced, because the lamp only requires attention once in two months or so to renew the accumulator charge. All that is necessary is to disconnect and withdraw the empty reservoir, and to introduce and connect up the charged vessel, examine the burner, and light the pilot flame. The whole operation can be completed in a few minutes, and the signal can then be left safely for



THE AGA SEMAPHORE LAMP WITH FLASHER MOUNTED.

is stored in a small portable accumulator, resembling the cylinder in which oxygen and other gases are compressed, placed in a small box at the base of the signal post, and connected to the lamp through a supply pipe. Being in the dissolved form the acetylene is perfectly safe to handle, while there is no danger of explosion whatever. The size of the accumulator, its capacity, and, consequently,