

conditions for ready ignition of gas and prompt distillation of coal dust, and an equally prompt propagation of the induced explosions.

In this connection the following remarks on Explosions in Dynamite Factories, from Eissler's work on modern explosives, are of interest :—

“ EXPLOSIVES DUE TO EXTERNAL CAUSES.

“ Mr. L. J. LeConte holds that dynamite catastrophies are intimately associated with electric phenomena. He has for the past ten years noted the circumstances attending the accidental explosions which so frequently occur on the Pacific Coast of North America, and he has found that, with the exception of such as occur during thunderstorms, the explosions take place during the violent, desiccating, north wind storms peculiar to the winter and spring months in California, but occasionally happening in midsummer.

“ These winds, it must be remembered, have a velocity of 50 miles per hour, and a relative humidity of about 20 per cent., but frequently as low as 15 per cent., though seldom as low as 5 per cent. During the prevalence of the winds a prodigious amount of electricity is developed by the friction of clothing, especially when walking against the wind. One can thus easily generate a spark half an inch long. The phenomenon is also strongly marked in horses at work, the electricity causing their manes and tails to bristle to a remarkable extent. Mr. LeConte finds in the electricity the exciting cause of these explosions, and in the dust that prevails in the work, the medium through which explosion is propagated, a dust explosion always preceding the explosion of the mass of powder.

“ The explosions occur on the third or fourth day of the storm.

“ To test the theory, he made four predictions in 1882 and 1883, and in each case an explosion of considerable magnitude occurred. To guard against these accidents, he suggests the use of steam jets, such as have been so successfully applied in cotton and flour mills, and in coal mines.

“ As explosions during thunderstorms are caused by the return