### PHANTOM CURVE.-DENVER AND RIO GRANDE RAILWAY.

ersed by this line of railway, which runs southward from it that we have just given.-Leon Dumuys, in La Nature. Denver, along the base of the Rocky Mountains, finding a Pass over these to the foot of the Sierra de San Juan, thence descending from Taos to Santa Fe and the Rio Grande, has been celebrated by travelers. In the neighborbood of Denver, or a few hours' journey from that city to the south, is being conducted on very close margins for profits, as is the enough to do harm in the application of his apparatus to the

some of the finest mountain scenery. At the "Garden of the Gods," visitors are astonished to find themselves in the midst of a hundred towering piles of white and red sandstone, moulded into a variety of fantastic shapes, but mostly rising to spires higher than any cathedral that ever was built. The president of the railway company, General Palmer, has a villa in Glen Eyrie, a secluded recess walled in by cliffs of imposing height.

Monument Park, at no great distance, is a place of the same natural character, where the multitude of rock pillars and rock pyramids resemble the crowded monuments of a vast cemetery, and have a very curious effect. The San Juan section of this line, on the other side of the mountain range, presents terrific gorges and singular rock formations.

#### AN EXTRAORDINARY BOILER EXPLOSION AT ORLEANS, FRANCE.

On Monday, April 28, the city of Orleans was set in a flurry by a serious accident that occurred under curious circumstances, and the consequences of which might have been appalling.

Toward seven o clock in the morning, a steam engine, mounted on a cart and belonging to Mr. G. Colas, a manure farmer, had stopped in Illiers Street in front of the house of Mr. Lebordais-Grenet, a grocer who lives in Porte-Saint-Jean Street, but whose front entrance is in the former street. The gang of workmen who were employed to operate the apparatus were just getting ready to go to work, when suddenly a fear-ful explosion was heard. The generator, which stood vertically at the rear of the cart, breaking the bolts that held it firmly fixed to the iron frame of the vehicle, shot up all in one piece, like a sky rocket, parallel with the front of the house before which the vehicle was standing. Reaching the roof (a distance of a bout ten meters from the ground), the enormous and heavy mass came in contact with the cornice, and, although it but slightly grazed it, the shock was sufficient to cause it to deviate from its course, describe a curve over the block of houses between Illiers

latter, at thirty-five meters to the south of its starting point.

In its fall, the immense projectile caught the gutter and cornice of a house numbered 45, inhabited by Commander had left it standing in the alley in order to lead his horse to a farrier's in the neighborhood. It makes one shudder to think of the massacre this explosion might have occasioned, without speaking of the material havoc that it might have caused. It will suffice to say that if Mr. Lebordais's store had been struck, a fire might have at once broken out in his petroleum reservoirs. In fact, at the moment of the acci- shire, Cheshire, and Yorkshire. This is a larger number substances with difficulty; others, like olefiant gas, acetylene,

dent, a regular storm of fiery cinders, bolts, and various debris swept Illiers Street and the ground floors of the neighboring houses. Breaking the window panes, these fragments entered a fruit store in which there were three persons, and also started a fire in the house of Mr. Coudiere, former Municipal Counselor of the city of Orleans.

Two young children who were seated at the window of the first story of house No. 126 Illiers Street merely received a fright, as the projectiles did not rise as far as to them. As for the five workmen in Mr. Colas's employ, four of them were slightly harmed or burned, and one was severely wounded. The cart, which was violently overturned upon the ground, carried along in its fall the horse that was harnessed to it, and, strange to say, neither was harmed.

graphy to preserve a souvenir thereof, in order that we The romantic scenery of Colorado and New Mexico, trav- might back up with material proofs the faithful account of

# Extension of Cotton Spinning in England.

Undoubtedly the manufacture of cotton goods is now



PHANTOM CURVE.-DENVER AND RIO GRANDE R.R.

Those who think, however, that England is losing any of do well to look at the facts before making rash conclusions. Coutant, and fell upon the shafts of a dust cart whose driver | The spinners there plan new mills and extensions from September to April, as the general rule, that the building operations may be conducted in the more favorable summer months. Figuring on the extensions of the cotton manufacturing plant for the present season, after this plan, the Textile Manufacturer places the increase, with the new companies formed, at one and a half million spindles in Lanca-



Professor Dewar, in a recent lecture at the Royal Institution on "Flame and Oxidation," exhibited apparatus for producing colored flames. Hydrogen burns with an almost non-luminous and colorless flame, its tinge of yellow being chiefly due to impurities in itself and in the air, in the shape of floating particles of soda salts; but this tinge is not deep

> purposes just suggested. The apparatus consists of a kind of "spray producer," by which the gas is first charged with particles of any desired salt in solution, and then conducted to the burner.

> To obtain a steady flame a steady blast of gas is necessary. At the Royal Institution hydrogen, compressed in an iron receptacle, is used; but any other arrangement which gives pressure enough will answer the same purpose.

Professor Dewar charged the hydrogen gas with solution of chlorochromic acid. This gave a brilliant white flame, rich in rays which act on photographic films. It also gave off a white smoke, which, on being collected on a white plate, was seen to really consist of green particles of oxide of chromium; indeed, the plate was colored a bright green. By means of a salt of sodium he gave a yellow color to the flame, and to himself a gbastly appearance. In short, the apparatus affords a ready means of keeping up a steady and large colored flame when the operator has a steady supply of hydrogen at sufficient pressure. It is better than the old-fashioned plan of coloring a spirit flame by salts dissolved in the alcohol, because many salts will scarcely dissolve therein at all; and when they do, and are not volatile, they often clog the wick, and do not find their way in any great quantity into the flame. The construction of the spray-producing part of Professor Dewar's apparatus is a very simple matter of glass blowing.

In the course of some experiments on increasing the luminosity of flames, Professor Dewar proved that increasing the quantity of air would, under certain conditions, increase instead of decrease the light of a Bunsen's flame. He directed a jet of air into a Bunsen's flame, and, when a particular steadiness and pressure of air blast had been reached, the air colored the flame green where it passed through it. He also exhibited Frankland's experiment of burning an oxyhydrogen flame under pressure, and its luminosity increased with the pressure. From this Frankland argued that the luminosity of flame does not necessarily depend upon particles of solid matter liberated in the flame, for in this experiment no

and Porte-Saint-Jean Streets, and fall in a blind alley off the case with most other staple products at the present time. solid matter is present. Professor Dewar said that there is some truth in Frankland's hypothesis that the luminosity of flames is due to highly condensed gases, and a great deal of truth in Davy's original hypothesis that the luminosity is due to liberated particles of carbon or other solid matter in the majority of cases. He next proved that the luminosity of the electric spark increases under extra pressure of air, but said that the result might be explained by a variety of hypotheses, so that its real cause is difficult to unravel.

The lecturer further stated that some hydrocarbon compounds enter, like paraffine, into combination with other

and naphthaline, are easily decomposed, or easily enter into new combinations. In illustration of this he experimentally proved that a small quantity of bromine will quickly absorb a large volume of olefiant gas, and also that bromine readily unites with naphthaline, giving off vapor of hydrobromic acid in the act.

Professor Dewar remarked that in scientific research it is sometimes necessary to use a flame free from superheated steam. Such a flame can be most readily obtained by burning a jet of chlorine and hydrogen, mixed near the nozzle of the burner, for safety, and care being taken to carry off the hydrochloric acid gas, which is the product of the combustion.



its old time prominence in this branch of business, would

The generator, less its firebox and smoke stack, fell, as we have

said, upon the pavement of Saint-Jean Alley. Its tubes and its jacket were as flattened and crushed as if they bad been the United States except Fall River. made of lead, while the pressure gauge and the glass tube of the water level were intact. The different parts of the firebox had been scattered in all directions, and the smoke stack had fallen at about seventy meters from the place of explosion, and in a northeast direction.

that we have thought it indispensable to call upon photo-



## BOILER EXPLOSION AT ORLEANS, FRANCE,

## Red Toning.

The following is the formula employed successfully by M. Balagny for the red toning so

of cotton spindles than Lowell now has, or any other city in much in vogue at present. Dissolve 1 gramme of chloride of gold in a liter of distilled water, then add 200 c. c. of a filtered solution, made at boiling point, of 30 grammes of borax and a liter of water. The toning bath is brought up to the temperature of 70° or 80° Centigrade, and then the prints are plunged into it for thirty or forty seconds only.

> They are afterward fixed in hypo containing one to two per cent of ammonia.

On the night of July 7, the steam tug H. C. Coleman exploded its boilers at Elliott's Landing, on the Missouri River, seven miles from Booneville, and all the crew, three white men and four negroes, excepting Captain Thompson, were These facts seem so improbable, as a whole and in detail, killed. The hoat was torn to pieces and the pilot house was blown two hundred yards away.