Correspondence.

THE CHERRY MINE DISASTER.

To the Editor of the SCIENTIFIC AMERICAN:

In the SCIENTIFIC AMERICAN of December 4th, page 406, under the caption "The Cherry Mine Disaster," you say, among other things:

"On Saturday, one week after the accident, the miners who had walled themselves up in some of the galleries of the second vein were taken out after their long confinement, a living rebuke to the experts of the State Mining Commission and of the Technologic Branch of the United States Geological Survey, who had declared positively from the first that there were no living men in the mine, and that a day or two more or less made little difference."

It was with sincere regret that I read such a statement in a journal that has large influence among the intelligent people of the country. I fear that the statement you make will be largely believed, and that it will result in considerable injury to a movement which gives every promise of aiding materially in working out the causes of and of preventing mine disasters, as well as actually aiding in the rescue work following such disasters.

Whatever may have been the personal opinion of any of the government mining experts at the Cherry mine as to the probability of the entombed miners being alive in the mine at any time following the disaster, I am sure no such opinion was given out or in any way slackened their efforts—which were continued night and day—to reach the entombed miners, whether dead or alive. On the other hand, the mining engineers of the government and the members of the rescue corps were not only willing but insistent that the rescue work should go forward as rapidly as possible. Your correspondent's statement also does equal injustice to many State inspectors, who were doing everything possible to get into the mine with the same commendable purpose in view.

As you may know, the mining engineers of the government are entirely without authority for direct action in such rescue work. Their official work is that of investigations as to the causes of such disasters; but they were anxious to and did aid in every possible way in the work of opening up the mine with a view to saving life.

Their use of helmets for artificial breathing while penetrating suffocating mine gas was in several instances effective at this mine, as it has been in saving life at several other mine disasters. Such use of the oxygen helmets has on a number of occasions been of even greater service in preventing mine explosions, and extinguishing mine fires.

GEORGE OTIS SMITH, Director.

Washington, D. C. United States Geological Survey.

[It should be noted that our correspondent, who visited the Cherry mine, and informed himself fully in regard to the situation there, stated that experts of the departments made the statement referred to. Of course, such statements were entirely informal and unofficial, and it was far from the wish of the Editor to have it inferred that any negligence on the part of the departments had occurred. The admirable work of the Geological Survey is too well known to require any defense in our columns.—EDITOR.]

An Important English Patent Decision.

A patent decision which is of far-reaching importance to the mining world has been recently delivered in Great Britain by the House of Lords, which is the supreme legal tribunal. Mr. Alexander Stanley Elmore, of the United States, and the company exploiting his oil-acid process for the separation of ore by selective action, proceeded against Minerals Separation Limited, which he maintained were infringing his method. Both parties depended upon the selective action of oil for the success of their process, but Elmore contended that the pure use of oil did not achieve the desired result. In the course of experiments he claimed to have discovered that if a small quantity of acid were added to the liquid, the selective action of the oil was considerably enhanced, and in fact constituted the whole secret of the success of the process. This discovery he duly protected in a patent completed in 1901. Minerals Separation Limited, however, contended that the oil-acid process was not new, and furthermore argued that their own process was distinctly superior to Elmore's, inasmuch as instead of using from one to one and a half tons of thick oil per ton of ore treated, as advocated by Elmore, they only used from two to three pounds of thin oil for the same quantity of treated ore.

Elmore did not rigidly adhere to the patents he had secured prior to 1901, as it was ascertained that they lacked novelty; but he maintained that the addition of a small quantity of acid to the mixture of water, oil, and pulverized ore was a distinct discovery. Minerals Separation Limited also added acid to the solution. The first court decided that the 1901 patent was invalid and had not been infringed. Against this decision Elmore appealed, and the lower court's findings were reversed. Minerals Separation Limited consequently carried the matter to the House of Lords, and this supreme court has now pronounced definitely against the claims of the Elmore patent.

In the course of their judgment the Lord Chancellor stated that the 1901 patent specification was framed with great subtlety, narrative and claim being so closely interwoven as to render it difficult to decide how much of the narrative ought to be read into the claim. Disentangled, however, the specification turned upon the point that Elmore claimed the sole right to add any acid to the solution. No statement is made as to the proportion of this agent, this varying according to the character of the material treated. The Lord Chancellor stated that this latter factor is so wide that it sought to cover any known process of separating mineral substances by the selective action of oil and acid, and stated that he did not consider that Elmore had really discovered the enhanced effect produced by the addition of acid. For this reason he pronounced against the 1901 patent, and decided that no infringement had been made of Elmore's patent, in which decision the four other judges unequivocally concurred. This final decision has terminated a protracted litigation, and the Elmore claim cannot now be possibly sustained.

The Scientific American Aeroplane Trophy.

When the proprietors of this journal gave into the custody of the Aero Club of America their handsome aviation trophy nearly three years ago, it was with the belief that such a cup would help to create interest in the fascinating subject of human flight and would stimulate American inventors to renew their efforts toward its solution. It was at first thought advisable to hold contests upon a given date and at a stated place, and the first such contest was to have been held at the Jamestown Exhibition on September 14th, 1907, but as there was only one uncompleted aeroplane ready at that time, and as the announcement of future competitions did not meet with any response, it was decided to change the rules so that any experimenter could try for the trophy at any place provided he gave a few days' notice to the Aero Club so that the proper officials could be present to time and observe the flight. Under the new rules Glenn H. Curtiss made the required flight of a kilometer in a straight line at Hammondsport, N. Y., on July 4th, 1908, as a result of which he was declared the winner of the first leg of the trophy. Instead of requiring a specified distance for 1909, it was decided to award the trophy this year to the aviator who covered the greatest distance in excess of 25 kilometers over a closed-circuit course. On July 17th Mr. Curtiss made a new record of 24.94 miles in 52½ minutes above a triangular course at Mineola, L. I. This is the present record, and is the longest flight made in America by any aeroplane except the Wright. If it remains unbroken up to sunset on December 31st, Mr. Curtiss will have won the second leg of the trophy and will have to win it but one more year in order to hold it permanently.

As there are several new aviators who have been making successful though brief flights of late with their own aeroplanes, we believe that it would require but a little practise upon the part of some of these to enable them to surpass the present record. Flying an hour in December in the vicinity of New York should be no more arduous than automobiling for a like length of time, and when the prize to be won thereby is the first, the handsomest, and the most commemorative trophy ever offered in America, it is certainly well worth the attempt. We look for some budding aviator to send in his entry during the last days of the present year.

Nobel Prizes Awarded.

This year's Nobel prizes will be distributed as follows: For physics, divided between William Marconi and Prof. Ferdinand Braun of Strasburg; for chemistry, Prof. Wilhelm Ostwald of Leipsic; for physiology or medicine, Prof. Theodor Kocher of Berne; for literature, Selma Lagerlof, the Swedish authoress.

The Nobel prizes, which are worth about $40,000 each, are awarded annually to those persons who are considered to have conferred the greatest benefit on mankind during the preceding year in the fields specified in the cable dispatch, with the addition of one for the best effort toward the fraternity of nations and the promotion of peace.

Prof. Ferdinand Braun is Director of Physics at the University of Strasburg. He was born at Fulda, Germany, on June 6th, 1850, and was educated at the University of Berlin. From 1876 to 1883 he was professor at the University of Marburg.

Prof. Wilhelm Ostwald, who received the Nobel prize for chemistry, was born at Riga in 1853. In 1887 he became Professor of Chemistry at Leipsic. As an investigator in connection with physical chemistry and chemical affinity he has become particularly well known. His researches have concerned, among numerous subjects, the electric conductivity of organic acids, and the color of ions. He has published several volumes on this and other scientific subjects.

Prof. Emil Theodor Kocher, who will receive the Nobel prize for physiology and medicine, is a Swiss surgeon. He is a native of Berne, where he was born in 1841. He was educated there, and after studying at Berlin, Paris, and London became Professor of Surgery in the university of his native city and Director of the Surgical Clinic. His especial field is the thyroid gland.

The Current Supplement.

Mr. Robert M. Strong's admirable comparison of the gasoline and alcohol engines is continued in the current SUPPLEMENT, No. 1772. Mr. Vaughan H. Wilson contributes an excellent note on the future of aluminium as a substitute for copper wire. Mr. George S. Hodgins writes on time speed control signals, in which he explains how the New York Subway trains are automatically controlled. In view of the difficulty experienced by the New Theater in New York city with its acoustics, an article by Floyd R. Watson should be of interest. The wonderful wine-growing and wine-pressing establishments of Kempinski & Co., the largest in Germany, are fully described and illustrated. Our Paris correspondent writes on the new electric locomotives for the Simplon tunnel. Action at a distance produced by drying oils is the title of an article by Werner Schmidt. He shows that many substances apart from radio-active substances affect the photographic plate. Among these is a class of so-called drying oils, the best known of which is linseed oil varnish. Mr. William H. Ballou contributes a popular article on some of the showy mushrooms in nature. In view of the return of Halley's comet, Prof. E. E. Barnard's contribution on photographing comets is most valuable.

Daniel's Comet.

Zaccheus Daniel of the Princeton observatory discovered a great comet on December 6 d. 599 Gr. M. T., in R. A. 6d. 16m. 30s. Dec. + 33 deg. 50 min. with a slow northerly motion. At the time of its discovery the comet was visible in a small telescope.

Prof. E. E. Barnard of the Yerkes observatory observed Daniel's comet December 7 d. 6605 Greenwich Mean Time, in R. A. 6h. 16m. 42s. Dec. +34 deg. 44 min. 22 sec.

At Smith College observatory, Northampton, Mass., Daniel's comet was observed on December 8 d. 5870 Greenwich Mean Time, in R. A. 6h. 16m. 57.6s. Dec. +35 deg. 30 min. 53 sec.

Metcalf reports Daniel's comet December 8th, 1909, at G. M. T. 12h. 30m., R. A. 6h. 16m. 52.5s. Dec. +35 deg. 27.6 min.

Continued Ephemeris of Halley's Comet.

A letter has been received at Harvard Observatory from Father G. M. Searle, C.S.P., of New York, giving the following "Continued Ephemeris of Halley's Comet. T assumed to be Apr. 19 d. 692 G. M. T."

Gr. Mean Noon 1910.	R. A. (1910.0) h. m. s.	Dec. Deg. Min.	Log. Δ (Sept. 11=1.)	Br.
January 2.....	2 14 37	+ 11 23.3		
January 4.....	2 7 50	+ 11 5.2	0.154	18
January 6.....	2 1 21	+ 10 47.8		
January 8.....	1 55 11	+ 10 31.1	0.165	18
January 10.....	1 49 21	+ 10 15.3		
January 12.....	1 43 49	+ 10 0.4	0.176	18
January 14.....	1 38 35	+ 9 46.4		
January 16.....	1 33 39	+ 9 33.4	0.188	18
January 18.....	1 29 00	+ 9 21.3		
January 20.....	1 24 38	+ 9 10.2	0.200	19
January 22.....	1 20 31	+ 9 0.0		
January 24.....	1 16 38	+ 8 50.6	0.212	19
January 26.....	1 12 59	+ 8 42.1		
January 28.....	1 9 34	+ 8 34.5	0.223	19
January 30.....	1 6 21	+ 8 27.6		
February 1.....	1 3 18	+ 8 21.5	0.234	20

Official Meteorological Summary, New York, N. Y., November, 1909.

Atmospheric pressure: Highest, 30.72; lowest, 29.48; mean, 30.16. Temperature: Highest, 74; date, 12th; lowest, 30; date, 25th; mean of warmest day, 62; date, 12th; coolest day, 32; date, 25th; mean of maximum for the month, 54.1; mean of minimum, 41.3; absolute mean, 47.7; normal, 43.9; excess compared with the mean of 39 years, 3.8. Warmest mean temperature of November, 50, in 1902; coldest mean, 37, in 1873. Absolute maximum and minimum of November for 39 years, 74 and 7. Average daily excess since January 1st, 1.0. Precipitation: 1.58; greatest in 24 hours, 1.0; date, 24th and 25th; average for November for 39 years, 3.38. Accumulated deficiency since January 1st, 4.44. Greatest precipitation, 9.82, in 1889; least, 0.75, in 1908. Wind: Prevailing direction, northwest; total movement, 9,232 miles; average hourly velocity, 12.8; maximum velocity, 48 miles per hour. Weather: Clear days, 11; partly cloudy, 11; cloudy, 8; on which 0.01 or more of precipitation occurred, 6. Snowfall: 1.0. Sleet: 23rd, 24th, 25th. Mean temperature of the autumn, 55.50; normal, 55.27. Precipitation of the autumn, 4.98; normal, 10.57.