

ing machines had to have one dynamo to each light. My invention was the first that proposed a series of arc lights working from one dynamo, and it was upon this that all the street lighting and all the arc-lighting systems of the present are based. We first made two-light machines. Then we ran four lamps from a single dynamo, and this was considered a wonderful achievement. We soon had ten lights in a series. Then we found we could run sixteen, and it was not long before forty lights were supplied by one dynamo. At the present there are a number of dynamos which supply 120 arc-lights, and, though the electric current requisite for such a result is immense, the safeguards placed about the machinery are such that they are no more dangerous than a much less number of lights was in the past with the old machinery. It was in 1878 that I invented this, the modern series arc lamp with the shunt coil. This was the invention that really made arc lighting practicable and commercially possible."

"Where was it first used?" I asked.

"Some were first used for the lighting of stores and shops, and among those first to introduce the arc light was John Wanamaker of Philadelphia. One of the first instances of street lighting was here in Cleveland. We put up twelve lights in the park and the people came out in force to see them the first night. They had no idea of what the electric light was, and many of them wore smoked glasses for fear that they might be blinded by its rays. The street lighting soon spread, and our lights are now to be found, as you know, in nearly every city of the world."

#### ELECTRICITY DIRECTLY FROM COAL.

"Is there not a great loss in the production of electricity from coal for electric lights?"

"Yes," replied Mr. Brush. "We only get about ten per cent of the force from the coal in the production of electricity, but this is in the production of the mechanical energy. In the conversion of the mechanical energy into electrical energy by means of the dynamo only from five to ten per cent is lost, and the modern dynamo is probably the most perfect machine that the world has ever produced."

"Will we ever get electricity directly from coal?"

"I think so," replied Mr. Brush. "In fact, I have already gotten it, but not in such a way as to make the invention commercially profitable. It is now twenty years since I succeeded in getting electricity directly from coal. It was in 1874. I used carbon as the combustible element in a volcanic battery, the electrolyte being a fused salt, or oxide capable of fusing the oxygen and the combustion of the carbon. I tried fused caustic soda, bicarbonate of potash and oxide of lead and got a good electric current in each case. I have not pursued my experiments in this line of work because I thought I saw other lines which promised better and more immediate results. The fields of invention are vast. We stand just on the threshold, and there will be new inventions as long as man as mind to create and the will to investigate the great forces of nature and the possibilities of their combination."

#### THE POSSIBILITY OF NEW INVENTIONS.

"Do you anticipate many new inventions in electricity in the future?"

"Who can tell?" Was the reply. "The

electric force is still to a large extent a secret from us all. Of late years there have been few new fundamental inventions in electric lighting. There have been many improvements and modifications of the old ones. The light is steadily being made better, but it is the same light, just as, for instance, we have had locomotives drawing trains ever since we were born, but the locomotive of today is a far different machine from that of forty years ago. Still it embodies the same fundamental principles."

"Where is the chief work being done in electricity today?"

"It is in the field of thermo-electricity or heat electricity. It is now thought, you know, that all light and heat are produced by electrical force, and it is in these branches that the best work is now being done."

#### PATENTS AND HOW BRUSH PROTECTS THEM.

"How about patents, Mr. Brush. I once had an interview with Mr. Thomas Edison in which he said that he had spent \$600,000 in defending his inventions, but that he had not had one minute's protection. You have had considerable experience with the patent office. Does Uncle Sam run his business on the square?"

"Uncle Sam may be all right," was the reply. "I have no doubt that the heads of the patent office are honest, but I have had a number of experiences which lead me to believe that the subordinates sometimes allow important information to leak out. I have applied for patents again and again, only to find interferences filed before they were granted, and it is only through my great care in keeping records of my work that I have been able to secure a number of my inventions. Take the arc light. While I was working upon it and attempting to make it commercially profitable I kept a very full journal of all my experiments. I recorded everything from day to day, and dated it and had witnesses called in to sign the records. This I found of immense value to me in my patent suits. I had two hundred of them, and gained all except one. This I did not care to win, as there was little in it, and I practically let it go by default. I am very sorry now that I did so, as it broke the record."

#### THE STORAGE BATTERY.

"How about the storage battery?"

"I had a great fight in the patent office over it," said Mr. Brush. "The invention was fought over for four years in the United States courts, and it was finally decided in my favor. I was working on the storage battery and had completed my experiments at the time that Faure invented his storage battery in Europe. As soon as I heard of it I filed patent applications for everything I had in order to get my rights in America, before he could apply for American patents. In some way or, other my patents were held back and Faure's interferences kept me out of them for four years, but I finally conquered and showed that I was the first inventor. Now I get a royalty on all forms of storage batteries, and the storage battery of today is founded on my invention."

"Will storage batteries be the street car equipment of the future?"

"I don't know as to that," replied Mr. Brush. "I doubt it. You cannot run cars so cheaply by them as the trolley,

I should rather think it would be the underground trolley."

I next asked Mr. Brush as to his present experiments, but further than that he was working along scientific lines he preferred not to say. He is a man of great intellectual activity, and his chief pleasure is in his work. During our talk he told me he thought the greatest enjoyment a man could have come with the moment of making some new discovery in science or mechanics, and there is no doubt but that his experiments will be continued to the end of his life. He has done wonders in the past. What will he not do in the future?

*Frank G. Carpenter*

#### FARMINGTON NEWS.

FARMINGTON, Davis Co., Utah,  
June 14, 1895.

In the Farmington meeting house, at 2:30 p.m., 13th inst., the funeral service were held over the remains of the wife of Moses Cory, an old and respected member of this place, aged about 60 years. Nine sons have preceded her. She has two daughters, both married, and who survive her, and together with her husband mourn her absence.

Bishop Moroni Secrist presided at the meeting. Prayer was offered by Brother Wilford Richards and comforting remarks were made by Elders E. F. Clark, Edward Stevenson, James Smyth and Bishop Secrist. The reading of a portion of a revelation by Joseph Smith, the Prophet, was affecting and interesting. It is as follows (Doc. & Cov., sec. 101, 17-19):

"Zion shall not be moved out of her place, notwithstanding her children are scattered; they that remain and are pure in heart shall return, and come to their inheritances, they and their children, with songs of everlasting joy, to build up the waste places of Zion . . . and prepare for the revelation which is to come, when the veil of the covering of my temple, in my tabernacle which hideth the earth, shall be taken off, and all flesh shall see me together. And every corruptible thing, both of man or of the beasts of the field, or of the fowls of the heavens or of the fish of the sea, that dwell on all the face of the earth, shall be consumed; . . . And in that day the enmity of man, and the enmity of beasts, yea, the enmity of all flesh, shall cease from before my face. And in that day whatsoever man shall ask, it shall be given unto him. And in that day Satan shall not have power to tempt any man. And there shall be no sorrow because there is one death. In that day an infant shall not die until he is old and his life shall be as the age of a tree. And when he dies he shall not sleep (that is to say in the earth) but shall be changed in the twinkling of an eye, and shall be caught up, and his rest shall be glorious."

The creamery in Farmington which has a connection with the one in Kayville, is doing a good business. Cream is sent to Salt Lake City; the curds and whey is used for fattening hogs. One hundred hogs are owned by the company. Seventy cents per hundred weight is paid for the milk. The capacity of the factory is about 2,000 pounds per day. E. STEVENSON.