dows of stained glass show out. It is an immense building of three stories, with many turrets and towers. Heavy stone columns uphold the wide portico in the front, and easy stone steps lead you to the front door. The portico is lighted by an opalescent globe which hangs over you as you pass it, and the mahogany-walled vestibule contains another diamond globe, whose rays bring out the contrast between the polished wood of San Domingo and the mosaic floor of a Roman pattern, which might have been transplanted from the tamed baths of Caracalla at Rome. As you look into the rooms beyond you note that, though it is night, everything is as bright as day. Mr. Brush has not invented the electric light to live in darkness, and his house is perhaps the best lighted palace in the world, and there is certainly no other that is lighted in such a curious way. It is provided with nearly 400 incandescent and a number of arc lights, and the electricity for these is furnished by storage batteries.

THE WINDMILL AND ITS DYNAMO.

There are, so he told me, ten tons of storage batteries in the house, and the power which charge these with electricity is an enormous windmill which he has erected in the rear. Every breeze that blows produces light for this house, and the batteries are so large that if there should be a dead calm for a whole week they would still contain enough electricity to run all the lights. The windwill itself is in large part the invention of Mr. Brush. It is the biggest windmill in the world, and it is operated by a wheel which has a sail surface of about 1,800 square feet. The tower of this windmill is as high as a six-story house. It is set in heavy masonry, and so made that it can turn with every wind that blows. Within it there is an enormous dynamo, connected with the tower by a system of belts and pulleys, and the whole machine is so automatic in its make-up that it needs only a little oil now and then to keep it perpetually at motion with the wind. It has been in operation now for more than seven years, but it is so made that it works as well as when it was built. It produces enough electricity to charge the hundreds of cells of these ten tons of storage batteries, and it furnishes the light for the house and gives power to run the machinery of Mr. Brush's laboratory, which is located in the basement. It costs him, Mr. Brush told me, much more than if he used the electric light furnished by the city, but he prefers to be independent, and the machinery is a pet invention of his own.

NEW FEATURES IN ELECTRIC LIGHTING.

The arrangement of the electric lights in the house is after the plan of Mr. Brush and his wife. Some of the rooms are lighted from the ceilings. Others have lights so shaded by opalescent globes and reflectors that only the softest rays surround you, and of the magnificent paintings which cover the walls, each has an electric flame in front of it, so covered by a green reflector that you do not see it and you know of its existence only through the rays which are thrown back by the work of art behind. In the top of the building there is a great hall in which Mr Brush has one of the finest magic lanterns in existence and this he operates through an electric light of three thousand candle power. The average calcium light, or that produced by oxygen-hydrogen gas for magic lantern use is, he tells me, 500 candle power. His electric light for this purpose is six times as strong and he has a dissolving apparatus of his own invention in which all his slides are registered. During my talk with him he referred to the wonderful work which the Japanese have been doing in coloring lantern slides, having seen some which I used in a lecture recently delivered in Cleveland on Japan, and I told him I could give him an address where he could get his slides colored. He replied, "I do not want any one else to color my slides. I would prefer to color them myself and I hope to have time to experiment in this way later on. I think there might be as much art shown in coloring slides as in painting pictures, and the artistic effects of the best lantern work are yet to come."

CHARLES F. BRUSH IN 1895.

But before I give you our conversation let me tell you how Mr. Brush looks. I met him in one of the large parlors on the ground floor of his house. He is a physical giant, but so well proportioned that his form commands your admiration. When Gambetta saw him at the Paris exposition of 1881, he said: "I don't know which to admire most in Mr. Brush, his mental attainments or his magnificent physique." Mr. Brush is about six feet two in his stockings. He is broad-shouldered and big-boned. His head is large, and it is fastened to his frame by a strong, well-shaped neck. He stands straight, with his shoulders well thrown back, and his chest is deep and full. He has a dark complexion and dark eyes, which show out from under heavy brows. His forehead is high and full, his mouth strong and characteristic, and his under jaw firm and indicative of strength. He is now forty-six years of age, and is in his intellectual and physical prime. He retired from active business several years ago, and at that time expected to devote five days out of every week to his laboratory work and one to his business. The demands of his large property, however, are so great that he has almost reversed the order and is now devoting about five days to business and one to his laboratory. He is working to get away from business, and he hopes in the future to devote more of his time to scientific investigation and experiment. The day of his laboring hard for the dollar has long since gone by and while in the future his good business brains will lead him to get all the money possible out of his future inventions, still his work will be more that of scientific experiment than money grubbing for new patents.

A BOY INVENTOR.

During my talk with him I asked him a number of questions about himself and his first experiments in the field of invention. He has been an experimenter all his life. His father was a farmer, who lived near Cleveland, and he gave his boy a good education. He showed a wonderful aptitude for chemistry, physics and engineering. Said he to me the other night, "I can't remember when I was not interested in physics. I began to study them when I was about twelve years old, long before I had reached them in my course of studies at school."

"I was always experimenting with something, and while I was in the High School in Cleveland I made microscopes and telescopes, grinding the lenses and turning out some very fair instruments.

HIS FIRST ELECTRIC MACHINE.

"When did you first become interested in electricity?"

"I can't tell when I was not," replied Mr. Brush. "When I was thirteen years old I had made a frictional machine to generate electricity. It was made out of a bottle, and I had it so fixed that I could charge a Leyden jar with it. I wish I had it today. I don't know what became of it. About this time I made some electro-magnets and had an electric battery or so. This was before I was in the High School, and I suppose my interest in electricity could be said to date as far back as the age of twelve."

"Had you any idea when you were a boy that you would be an inventor, and did you ever think at that time of being able to make money out of your inventions?"

"Yes," replied Mr. Brush, "I did." While I was in the High School I got up a plan for turning the gas off and on at the street lamps and of lighting it by electricity. The whole was to be done with an electrical machine, and it was to dispense with the lamplighters. I thought for a time that I might make some money out of it, but, thought it might operate today, at that time it was hardly commercially practical, and I gave it up.

PROPHESIES ELECTRIC LIGHT.

"What was your next electrical experiment?"

"I can't say as to that," replied Mr. Brush. "I was always working at electricity. I read all that I could find, and I watched the reports of experiments as they were given in the newspapers. While I was still in the high school I produced an electric are light, with a lamp and a battery of my own construction, and when I graduated from there it was a curious thing that my oration was on electric lighting, and I prophesied that electric lighting would be the light of the world, and that it would be generated by means of dynamos.

"Have you a copy of that oration?" I asked.

"I don't know," replied Mr. Brush. "I have looked for it, but I can't find it. You see, I delivered it twenty-eight years ago, and that is a long time."

"Where did you go to school after that?"

"I went to Ann Arbor to the University of Michigan, and graduated there with the degree of mining engineer in 1869. I then came back to Cleveland and established a laboratory here, doing the work of an analytical chemist, but still experimenting on electricity. I kept working on my dynamo and the electric light, but it was more as a toy and to amuse myself than with any idea of accomplishing anything of a commercial value.

THE SERIES ARC LIGHT.

"When did you first appreciate that your electric light might have a commercial value?"

"I think it was about 1876," replied Mr. Brush. "It was at this time that I completed my first dynamo electric machine. I showed this at Philadelphia the next year at the Franklin Institute, and it is a curious thing that Mr. Thompson and Mr. Houston, afterward of the Thompson-Houston electric system were present at the time. The first arc light-