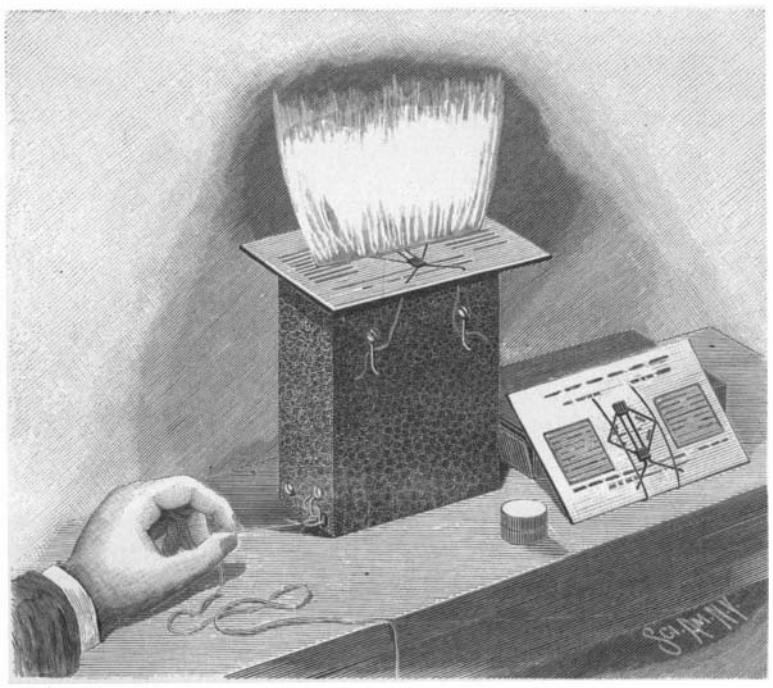
AN ELECTRIC FLASH-LIGHT DEVICE.

Various forms of lamps and devices for igniting flash-light magnesium compounds intended for photographic purposes have been invented during the past few years, several of which have been constructed in such a way as to promote the element of safety, for it is well known the setting off of a flash powder is accompanied with more or less danger, and usually more than ordinary care is required.

The object of the electric flash-lamp, shown in the accompanying engraving, is to provide a perfectly safe lamp and one that is also effective, convenient to operate, and light to carry about.

It consists of two cells of a powerful dry battery inclosed in a box suitably connected up in circuit, one part of the circuit being connected to two screws with spring fingers attached, as will be observed on the broad side, and similar screws at the bottom, at the narrow end. From one screw is a light spring wire, having a loop in its end, to which a string is attached. From the other screw projects a hook-shaped shorter rigid wire. When the spring wire is pulled forward by the string, it brings both terminals into electrical contact. To the right of the box is a flash-card, having two fine wires on the surface arranged in diamond form and having in their circuit a minute platinum fuse. The card is placed on the box, and the wire terminals are slipped under the two spring wires, which completes the electrical circuit. The flash powder, in a small, round box, is poured out on the card in the diamond-shaped space in such a way that some of it comes in contact with the platinum fuse. To ignite the powder it is only necessary to close the electrical circuit by pulling lightly on the string, which brings the two wire terminals at the bottom into contact, causing the electric current to heat the platinum fuse to redness and instantly fire the powder. The operation is extremely simple, and enables one to remain at some distance from the flash and even to be included in the picture, as it is evident that the length of the string can be adjusted to suit the circumstances.



A SIMPLE ELECTRIC FLASH-LIGHT LAMP.

With a light of this kind it is an easy matter to take instantaneous interior daylight photographs of children and infants. Placing them near a window, the camera is adjusted on a stand and focused. The flash-light may be located six or eight feet from the subject, arranged to illuminate the shadow side of the face. The shutter of the camera may be set at a very slow speed. Taking the operating bulb of the camera in one hand and the string of the flash lamp in the other, the photographer can set off both at the same time, compressing the shutter bulb with the right and pulling the string with the left hand. The intensity of the shadow side may be varied by the distance of the light from the subject. Very soft and pleasing children's portraits may be made in this way. But flash-light pictures at night can be made perfectly, and in large rooms duplicate sets of light can be arranged to flash at once and thereby give proper illumination. The device has also the merit of being inexpensive, which will commend it to many.

We are informed that Himmer & Potter, of No. 168 Greenwich Street, New York, are the manufacturers of this convenient article.

Repairs to the Crystal Palace.

Extensive repairs are in progress on the Crystal Palace, at Sydenham, near London. The glass in the whole of the Central Transept is being replaced, the area to be covered measuring nearly two acres. It is interesting to note that the proportions of the original structure were largely controlled by the size of the glass which it was possible to obtain in large quantities in the exhibition year, 1851. The maximum length then commercially practicable proved to be forty-nine inches. The glass originally used was a sixteen-ounce quality, and the strips were ten inches wide and fitted into grooves in wooden sash bars. It was originally intended to use putty, but the machine devised for puttying these sashes proved unworkable, and the plan was then adopted of passing the bars through a tank of thick paint. This paint was automatically scraped off the surface of the bars as they were removed, but the grooves into which the glass was to fit remained full, and, on drying, made a watertight joint between the glass and the sash bar. The joint was really too good from the point of view of the firm who took up the contract for moving the Exhibition building, for it was practically impossible to break the joint without at the same time smashing the glass. When re-erected at Sydenham a twenty-one ounce glass was substituted for the one originally used, but the methods of construction and the size of the sheet were unaltered. In the present repairs twenty-six and thirty-two ounce glass is being used. The sheets measure 51 × 18 inches. Steel sash bars are being substituted, and they are covered with a special section of tinned lead, and the glass put in place is secured by bending down long flaps of the alloy.

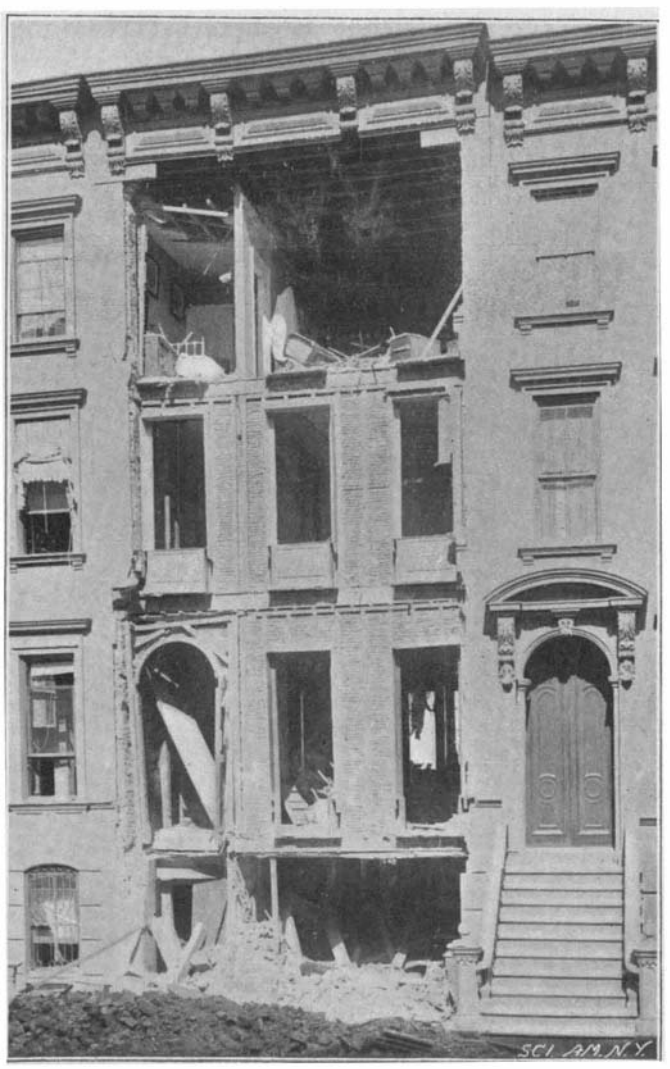
The Largest Patent Office Gazette.

The current issue of The Patent Office Gazette, Vol. 89, No. 8, bearing date Tuesday, November 21, 1899, is the largest ever issued. There are 321 pages of drawings and claims, which record 535 patents, 59 of which are in one classification, and all but 4 of these are granted to one applicant. The 59 patents alone contain 1,593 claims. The work of printing this number of the Gazette was so heavy that it required an extra force of men to allow of its being issued on schedule time.

A DESTRUCTIVE GAS EXPLOSION.

A terrible gas explosion, followed by a number of minor explosions, recently destroyed a three-story private house in East Fifty-sixth Street, New York city. One man lost his life, several persons were injured, and the adjacent and opposite dwellings damaged. The owner of the house and his family were traveling abroad, and during their absence the rooms were being renovated and redecorated.

The theory advanced to account for the terrible accident is that gas had escaped from the main and had found its way into the house through crevices in the earth. Every door and window being closed, an excellent opportunity was presented for the accumulation of a large volume of gas, which would explode on communication with the first flame. How destructive was the explosion and how great the havoc wrought is well shown by our illustration, reproduced from a photograph taken on the following day. The interior of the house was completely ruined. The front and rear portions were blown out; the floors and walls suffered terribly, and the windows in the opposite dwellings were shattered by the flying pieces of stone. After the explosion the street was rendered impassable by the debris.



GAS EXPLOSION IN A RESIDENCE IN NEW YORK CITY.

The condition of the ruined house and the fact that there were several explosions lead to the conclusion that the greatest volume of gas had accumulated in the cellar and basement. Here the main explosion probably occurred, followed by successive explosions in the upper stories and the collapse of the front and rear walls.

Permanganate of Potassium as an Antidote.

The powerful oxidizing properties of permanganate of potassium have rendered it valuable as an antiseptic and disinfectant, but its properties as an antidote for various poisons are not so generally known. It has been prescribed with success by Bokai and other physicians in the case of phosphorus, which it transforms into orthophosphoric acid. It has been used by Autail for oxalic and hydrocyanic acids and their salts as well as for strychnine and other vegetable alkaloids. Pyle Koemer has employed it in the case of poisoning by opium, and Lacerda for serpent bites and those of venomous insects, spiders, etc. Several years ago the physician Hugoneng showed its action against atropine, aconitine, caffeine, cocainine, etc. In a recent work, an Italian physician, Paratore, has remarked its effect upon the vegetable alkaloids such as nicotine and aconitine and also upon the vegetable poison curare. He has studied its action in cases of poisoning by strychnine, comparing it with the usual antidotes such as tannin and iodine. As a result of his researches he finds that the permanganate is superior to the others, whether employed in direct injection or in cleansing of the stomach.

A New Reproductive Process for Pictures.

An association has been formed in Germany called "The Union of Friends of Art for the Official Publication of the Royal National Galleries." As its name implies, the society is the vehicle for distributing among the educational and religious institutions of Germany and the people in general facsimile copies in colors of the great masterpieces and famous paintings in the royal galleries in Europe, thus planting the seeds of art education in the minds of the rising generation. The society enjoys great popularity, and success has crowned its efforts. The superiority of the prints is due in the main to the peculiar process which the society owns and which is employed by it alone. In time it will be introduced in the United States. It differs in its method from any heretofore employed, as it enables the reproducing artists not only to create true facsimiles of originals by means of photography and steel etching, but also to produce the depth of color and peculiarities of manner of each master. The process, while an intricate and costly one, is not patented, but the details are kept a strict secret. After the original paintings have been photographed with the aid of special cameras and plates, the photographs are transferred to steel plates, the surface of which by some peculiar treatment has been prepared to receive the impressions from the negative. The outline is thus obtained upon the steel with great exactitude. The colors, as true to the original painting in the distribution of light and shade as manipulation of the brushes of eminent artists can make them, have been reproduced on the photographic copy first obtained, and the complex color picture thus created is transferred to as many lithographic stones as there are colors represented in the picture, from which impressions are taken on presses worked by hand. The greatest care is used in the choice of subjects for reproduction.

THE Board of Health at Plainfield is considering the question of adopting a rule which will prohibit the burning of leaves within the city limits, as it is claimed that the practice is conducive to much ill health during the fall season. Several physicians have said that the smoke and smudge which comes from burning leaves is the cause of many of the ailments of the throat, lungs and eyes.