

PHOTOGRAPHIC NOTES.

**Brownish Purple Colored Blue Prints.**—The paper is floated on a bath until it lies quite flat, made as follows :

No. 1.

Water..... 2 oz.  
Red prussiate of potash ..... 120 grains.

No. 2.

Water..... 2 oz.  
Ammonio-citrate of iron..... 140 grains.

When dissolved mix the two solutions and filter into a clean bottle.

After draining slightly, hang up to dry, and then preserve paper in a tin case, so that it will be kept free from dampness.

The process of sensitizing and drying should be carried on in a dark place. The paper is now printed upon in the printing frame in the usual way, but somewhat longer and deeper than is ordinarily done. It is then washed well in water and put into the following bath :

Tannic acid..... 20 grains.  
Hydrochloric acid..... 3 drops.  
Water..... 1 oz.

and kept there for a few minutes. It is next well rinsed in water and treated to a solution composed of :

Water..... 2 oz.  
Saturated solution of potash..... 10 drops.

which turns the print to a rusty red color all over.

It is again rinsed well in water and immersed a few moments in a bath made of :

Water..... 1 oz.  
Hydrochloric acid..... 1 drop.

which transforms the red tone to a desirable brownish purple color. After a brief wash in water, the print is dried.

The details of the process were given by J. M. Craith, M.D., to the *British Journal of Photography*.

**To Prepare Ruby Colored Glass.**—We find reported in the *American Journal of Photography* the following formula given by Mr. Bell before a meeting of the Philadelphia Photographic Society:

Dissolve in

Water..... 6 oz.  
Heinrich's gelatine..... 150 grains.  
Chloride of ammonium..... 3 grains.

To the above solution is added the following solution :

Water..... ½ oz.  
Nitrate of silver ..... 30 grains.

The new solution thus made is warmed to a temperature of 100° F., and flowed on a glass plate, previously warmed. One ounce is sufficient to cover a 10 by 12 plate.

After coating, place the glass on a level marble slab or glass plate to set and dry. When dry expose to sunlight, and the color will change to a beautiful orange ruby exactly suitable for dark room illumination.

**Hydrokinone Developer.**—J. D. Cooper communicates to the *British Journal of Photography* the following formula :

Hydrokinone..... 6 grains.  
Bromide potassium ..... 1 grain.  
Citric acid..... ½ "  
Sulphite sodium (crystals)..... 20 grains.  
Water..... 1 oz.

The sulphite and other ingredients are first dissolved, then the hydrokinone is added.

An alkali solution of carbonate of soda (crystals) is made, 40 grains of soda to one ounce of water.

Equal quantities of the hydrokinone and soda solutions make up the developer for negatives.

The formula is somewhat strong for films rich in silver. If too much density is produced, the right amount may be obtained by dilution, which will adapt the developer perfectly for the production of opals or lantern slides.

Successful Women.

The number of women of our country who have undertaken and are carrying on business enterprises successfully are not a few, and they are increasing every year.

Of the great number of business women whose names we recall, the following may be mentioned as prominent for their success :

In financial circles Mrs. Hettie Green may be mentioned as one of the most prominent stock operators, and among the largest owners of railroad securities in this city. Her fortune is estimated to be over twenty million dollars. Among the publishers, Mrs. Frank Leslie has proved to be one of the most sagacious and enterprising publishers we have. She is a woman of superior ability and education, and possesses a business capacity equaled by few men. Her good management of her large printing establishment confirms that fact. Mrs. Leslie attends to both the editorial and mechanical departments of her printing establishment, and she is not only very clever for her sex, in all business affairs, but her example in the executive administration of her large establishment might be advantageously followed by a good many successful male

publishers in this city who are considered sagacious business men.

The West has a number of successful women cattle raisers. Miss Kitty C. Wilkins is called the cattle queen of Idaho, although she pronounces this a misnomer. While she does own a goodly number of cattle, horses are her specialty. She owns between seven and eight hundred, and she gives it as her experience that horses are much easier to take care of than cattle. They show more intelligence in pawing away the snow to get at the dead grass in the winter, and they bring better prices in the market. Miss Wilkins is twenty-three years of age, and is a fine horsewoman and a good shot. She thinks that life in Idaho is the most delightful in the world.

Mrs. Mary Edna Hill Gray Dow, president of the Dover (New Hampshire) horse car railroad, is the first woman in the world to hold such a position. She owns, it is said, the controlling stock of the road, which she bought up when she found that a syndicate of Boston men was trying to buy. Mrs. Dow, who is forty years of age, is said to be an unusually clever business woman. She is a graduate of the Boston High School, and was at one time teacher of French and German in a Western seminary. She made considerable money by lucky real estate transactions, and she hopes to make much more by the judicious management of her road.

An additional list of women who have been successful or gained fame from their business enterprises might be named, some from their patented inventions, some from raising fruits and vegetables for the markets, others from cultivating flowers, raising poultry, and a great variety of other things which is within a woman's province to do, and which, if followed up industriously, and with woman's pertinacity and knack, might result in a good many silver dollars, if not a fortune.

Long Distance Telephoning.

In considering the progress made in this country during the past ten years in introducing the telephone to commercial uses, an unprecedented development is at once apparent. Taken up in the beginning as an incomplete experiment, a wonderful toy, the telephone has developed into an indispensable adjunct of commercial business. No city or town of prominence is now without its telephone exchange, furnishing a quick and certain means of intercommunication to the business community, and its radial system of suburban lines connecting the surrounding territory with the commercial centers. Thousands of miles of wire connect the busy instruments, and more than a million "Hellos" sound the preludes to as many messages and their consequent replies transmitted daily by means of the telephone. Although of necessity a delicate and sensitive piece of apparatus, the telephone is probably used by one hundred times as many people as any other known electrical appliance. It is one of the wonderful features of the instrument that it has stood so successfully the test of such varied usage. During the earlier years of their introduction, the great and continued demand for telephones and exchange connections necessarily led to the introduction of operating appliances which, although representing the best knowledge of their time, proved inadequate to the growth of the business. Exchanges were built, reached their limits, and were rebuilt many times over in a space of a few years. Still the network of wires and cables increased, until to-day the large exchanges, representing in many respects the aggregations of past years, are clogged with inductive and retarding influences which experience only could have developed, and so labor along performing their local functions under a burden of intricate detail which can by no means be appreciated by the uninitiated.

One by one, however, the many difficulties have been met, and, by patient effort and extending experiments, the remedies have been discovered, until, at last, there have been developed means of providing a perfect telephone service, limited in extent only by the cost of suitable lines and equipment. The pioneer work in this new development has been undertaken by the American Telephone and Telegraph Company, of New York, whose lines now radiate in all directions from New York, reaching Philadelphia, Albany, Troy, New Haven, Springfield, Worcester, Providence, Boston, and all important intermediate points. Their construction has occupied nearly three years, and they represent to-day upward of 15,000 miles of undoubtedly the most perfect lines of electrical conductors in the world. White cedar or Norway pine poles, from 50 to 90 feet long, are erected along the most direct highways, there being between 40 and 50 poles to the mile, according to the character of the country. A No. 6 iron guard wire is first strung between the poles from the iron-bound pin in the top of each. White pine cross-arms each 10½ feet long, and provided with ten pins and insulators, are bolted to the poles, and held firmly in place by iron braces. The line wires are of No. 12 hard drawn copper wire, weighing 170 pounds per mile. Each lot of this wire is specially tested for tensile strength and conductivity before leaving the factory. An expert force of men is employed in stringing the

wire and in perfecting all the details of the construction work. The present lines of poles carry from 10 to 80 wires, the full capacity of the heavy lines being estimated at 100. Testing stations are located along the various routes from 30 to 30 miles apart, at each one of which a competent repairman is stationed. Rivers and bays are cabled by heavily insulated and armored conductors, terminating in snug cable houses on the banks. The experience in the operation and maintenance of these lines during the past year has been unprecedented. Days, weeks, and months have passed on a number of the main lines without marking a single interruption. All wires being tested at an early hour each morning, any portion of the system can be reached and repairs made before the opening of business hours. In hail and sleet, wind, rain and floods, the long distance lines have held their own and answered promptly to the call for service. No system of intercommunication heretofore devised has provided so perfect a means for the transaction of business between distant points as the long distance telephone. By means of it, conversation is readily carried on between the parties present at the instruments, and all the benefits of a personal interview are secured without travel or loss of time.

Appreciating the great benefits to be derived from the use of such valuable facilities, the public response to the tender of service has been most gratifying. Representative bankers, brokers, and manufacturers, and even great railway corporations, have found in the long distance telephone a service which has never before been approximated. Great factories are brought into the closest relationship with their city offices. Important business transactions, heretofore requiring hours or days of time, and dozens of telegrams or letters, are concluded definitely and satisfactorily in five minutes' conversation by telephone. It has been said, if we have no haste in our communication, we may write a letter; if a short or direct message only is to be sent, we may telegraph; but now, if we have urgent business to transact, and wish to secure the advantages to be derived only from personal conversation, we may telephone. Here, therefore, is the growing and fruitful field for the perfected service. Successful to-day over many hundreds, who can predict how many thousands of miles shall mark its limitations?—*Electrical Review*.

Life Saving Apparatus for Use at Fires.

A recent fire in this city, at which the life saving devices were employed, did much to prove their inefficacy. A number of the inmates of a burning building were driven by the flames to the windows. As there was no fire escape, but one alternative offered itself, that of jumping to the ground. The scaling ladders were useless on account of the flames issuing from the windows. Several persons took the leap. Some were caught in the life saving nets, but were not thereby saved from injury. The net is perfectly efficacious in catching a human being who leaps from the second story of an ordinary house, provided the jumper is an expert, as well as the men who hold the net. It is here that its weakness is manifest. When an untrained person is the jumper, it seems to be of comparatively little use.

The rush of flames from the windows of a burning house is the worst obstacle the scaling ladder has to contend with. This emphasizes its weak feature. Its operations are limited to the lines of windows. The dead wall of a building, which is secure from the flames, offers also a barrier to the climber. Could the ascent be made there, and could lateral deviations be made, a partial solution of the problem would be secured.

The truth is manifest. Adequate life saving apparatus is not used, and just as certainly would be used were it yet invented. The firemen of the cities of this country are every day performing heroic actions, the more heroic because of the inefficiency of the means at their command for saving life. There is no defect in the *personnel*. It is all in the apparatus. A field for invention is open here. The person who successfully grapples with the problem will be a benefactor of his race. Adequate scaling or ascending apparatus, and adequate devices for catching those who leap from windows, are imperative needs of the life saving service. The present means are not sufficient.

The Professional Inventor.

Under the heading of "A Hint to Inventors," the facetious editor of *Texas Siftings* gives the following dialogue, which is, in a measure, characteristic of a class of inventors :

First Yankee: "What puts you in such a good humor this morning?" Second Yankee: "I've just got my patent for my new patent ink eraser. I wouldn't take \$50,000 for it." "Did you get a patent last year for inventing an indelible ink?" "I did, and I sold it for \$30,000, and now I've invented an eraser that will even remove writing done with my own indelible ink." "What are you going at next?" "I'm going to invent another indelible ink that can't be erased with my new ink eraser. I tell you, there is money in this patent business if you go at it right."