Miscellaneous Notes and Receipts.

To Utilize Old Crumbly India Ink and Aquarelle Piece Colors.—Assort the color fragments, reduce each variety into a fine powder, and after soaking for several hours grind this very fine upon a thick ground glass plate with a glass muller used for grinding colors. Then add enough dilute solution of isinglass or white rock candy or best pure gum arabic, so that the powder can be ground into a paste. The color is then rubbed into shells or porcelain dishes and is ready for use at once and also after drying. To keep it from cracking and peeling off, a little glycerine is added. The paint heaps of aquarelle tube colors dried on the palette may also be regenerated in this manner, leaving out the glycerine admixture. Too much glycerine prevents the color from drying. Prepared with gum arabic, the color becomes more brittle than if rock candy is used for binder.—Technische Mittheilungen für Malerei.

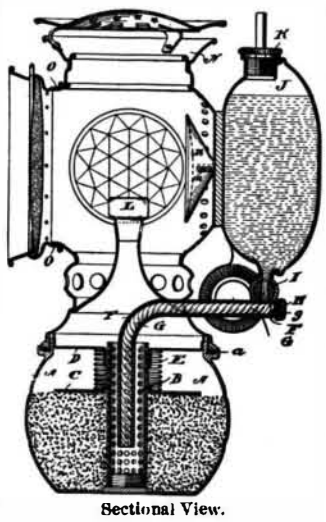
Restoration of Faded Photographs.—Place the picture without removing it from the cardboard in cold water, face downward; after a few hours renew the water, replacing it with lukewarm water. The picture will usually come off at once. When this is done, cleanse the back with a sponge of all adhering paste and lay it into the following solution: Mercuric chloride 2 grammes, kitchen salt 4 grammes, water 100 c. cm. By this treatment the picture will disappear almost entirely sometimes even becoming apparently negative if the ground of the paper is very much faded. When this is accomplished, after about 10 to 20 minutes, wash out thoroughly and blacken the photo. with diluted ammonia. This will cause the picture to reappear quickly with a brown to black tone, attaining considerable strength and deepness. It makes no difference if the picture does not entirely disappear in the quicksilver bath, which happens on account of the photo. being very strongly gilt. The copy is finally washed out for half an hour and remounted. If the prints were naturally feeble, the above operation will not be of much avail. — Dr. Adolf Miethe, Mittheilungen für Malerei.

To Nickel Plate Wood.—If one wants to electro-nickel wood, it is necessary to coat it previously with a thin layer of metal. For this purpose prepare the following three solutions: 1. In 10 grammes of carbon sulphide dissolve 1½ grammes of caoutchouc, adding 4 grammes of melted wax. In another flask prepare a mixture of 5 grammes of phosphorus, 60 grammes of carbon sulphide, 5 grammes of oil of turpentine, and 4 grammes of asphalt powder, and add this to the first solution while stirring. 2. Prepare a mixture of 2 grammes of silver nitrate in 600 grammes of water. 3. One of 10 grammes of gold chloride in 600 grammes of water. Now introduce the object to be nickeled, to which the conducting wires have been attached, into solution No. 1, and dry the whole on taking out. Next pour over it the second solution until the surface has assumed a dark metallic appearance. Rinse off with water and treat in the same manner with the third solution. Through this treatment the wood attains a yellowish color and is now sufficiently prepared for electro-nickeling. The nickel bath consists of 500 grammes of nickel ammonium sulphate, 50 grammes of ammonium sulphate, and 10 liters of water. The liquid must be neutral, which may be attained, if necessary, by adding ammonium chloride until litmus paper is very slightly reddened.—L'Union pharm., 1898, 23, from Le Génie Civil.

Mumiine or Mummy Brown. — Regarding mumiine (extrait de momie), G. Buchner writes in the Bayrisches Industrie und Gewerbeblatt: As is well known, the Egyptian mummies furnish an article called mumia, much in demand for preparing a color used in oil painting (mummy brown, mumiine). This article, which is also employed as a popular medicine, is becoming more and more scarce, so that it is difficult to supply the demand, for the excavations are now permitted only under official supervision; the good mummies found are preserved for museums, while fragments are covered up again. A few years ago I was occupied in preparing mummy brown for oil painting purposes, and will give my experience with it here. I received a considerable amount of pulverized mummy in the shape of a light chocolate colored powder. On heating the powder turns dark brown black, with a pleasant, resin-like odor of incense and myrrh, then throws out vapors with an odor of asphaltum; it leaves a black glossy coal which leaves behind when burnt 17 per cent of ash with a strongly alkaline reaction, evolving plenty of carbonic acid when sprinkled with acids. In the closed tube vapors of acid reaction are obtained. With hot water a yellow brown solution of neutral reaction is obtained which smells like glue and extract of meat when inspissated, and yields 17 per cent of a yellow brown extract. From the aqueous solution acids precipitate brown black flakes which behave like humus. Alkalies color the aqueous solution darker; alcohol, ether, benzole, oil of turpentine, take up comparatively little; carbon sulphide, chloroform and spirits of sal-ammoniac more; hence the mumia behaved exactly like genuine mumia. The latter (spirits of sal-ammoniac) was used for the purification of the raw product, i. e., for the preparation of mummy brown. For this purpose the mumia was digested with spirits of sal-ammoniac (0·91) and the filtrate dried on the water bath. In this manner I obtained a handsome black brown, glossy, mummy dyestuff, soluble in water, which could not be distinguished from the French mumiine. The yield amounted to 20 per cent of the mumia. In this manner this popular and permanent glazing color may be cheaply and conveniently produced.

THE '98 SOLAR ACETYLENE GAS BICYCLE LAMP.

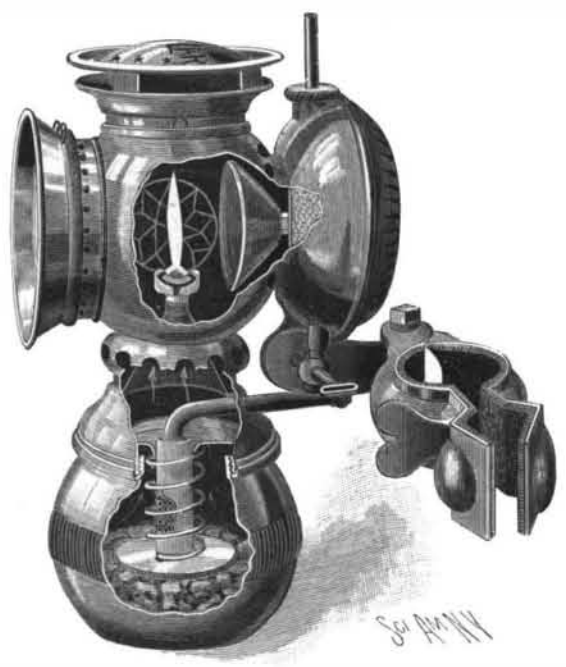
A lamp which cannot fail to attract the attention and secure the commendation of all bicycle riders is shown in the accompanying illustrations. It burns the new illuminant calcium carbide, which, as is now pretty generally understood, produces a light of the greatest brilliancy and steadiness, far exceeding that obtained from any other source, excepting electricity, with which alone it is to be compared. The possibilities of danger in the use of acetylene gas have undoubtedly retarded to some extent its more rapid introduction to general use, but this possibility seems to be entirely eliminated in the lamp herewith represented, and the cheapening of the price of calcium carbide renders the lamp extremely economical. It is manufactured by the Badger Brass Manufacturing Company, of Kenosha, Wis., and we are informed that, although it was not introduced until near the close of last season, many thousands of these lamps have been sold in England and on the Continent of Europe, as well as in this country. The company own and operate a complete, well-equipped factory devoted exclusively to the manufacture of acetylene gas lamps.



Sectional View.

ACETYLENE GAS LAMP.

As shown in the sectional view, the water tank, J, being filled, and the valve, I, being open, the water passes into the tube, F, which is filled with fiber, G, through which it percolates, vaporizing from the end into the screen tube, B, saturating the fiber in contact with the carbide in the tank, A, forming instantly gas which passes out of the tip, L. The amount of gas generated is due to the amount of water supplied. Should the lamp be so severely jarred that an excess of water is forced through the wick tube, thus generating an excess of gas for the moment (by excess is meant more pressure than the one-fourth foot tip, L, can consume), the result is the gas, having but one other outlet, viz., via the water tube, backs through the wick tube, stopping any further supply of water until the pressure ceases, when it is again required. The gas and water pressure being always in balance, we have an automatic water pressure feed generator, which, with the outlet at the top of the water tank, makes it absolutely inexplosive.



AN ACETYLENE GAS BICYCLE LAMP.

The burner is a lava tip with diagonally opposite orifices, producing a large and brilliant flame, known as the fishtail flame, of very high efficiency. With the carbide compartment two-thirds filled this lamp will burn six hours, the lamp being extinguished by simply turning off the water. The carbide compartment is readily taken off and put on, the grayish ash being thrown out and the lumps retained, and the screen tube being brushed off if necessary. It is a very simple matter to keep the lamp clean and in good working order, and the carbide is furnished in small airtight cylinders which may be carried without inconvenience, no specially prepared or packaged carbide being required. The lamp has a double convex lens, 2½ inches in diameter, 5½ inch focus, readily removable for cleaning, and the bracket employed is a special universal adjustable one, which will fit head, handle bar post, fork, or the dashboard or lamp irons of a carriage. In completeness of detail and beauty of finish the lamp leaves nothing to be desired.

Patents that Pay.

Many inventors complain that "there is no money in inventions nowadays." It is doubtless true that many inventions that are patented fail to return any money to their inventors, but this may be, first, because the patented article is of no commercial use and will not attract buyers, or second, because, while the article may possess very great commercial possibilities, the owner does not possess either the capital or the business tact to push it, or holds it at so high a figure that he drives away all possible purchasers. That patented articles do sell, and sell well, may be seen by all inventors who may look up the business in all its details.

In a recently published paper in Washington, D. C., a compilation of the latest sales of patents showed that one inventor has sold a patented dispensing can for $600, another sold a graining apparatus for $500, and another sold a patent on folding wall shelves for $1,000. The same list showed a patent for the ornamentation of metal surfaces sold for $800, a clamp sold for $5,000, an amalgamating machine sold for $30,000, a clover feeder for $5,000, a sleeping car for $5,000, a fireproof floor for $1,200, a weather strip for $1,000, a boot heel for $500 and another for $1,000, a wire fence machine for $1,200, an automatic ticket holder for $750, a dispensing can for $3,500, a dust pan for $1,082, a coffee-pot for $1,500, a can-filling machine for $600, a plow for $1,000, an auger for $1,000, a printing and card-cutting machine for $50,000, a graining stencil plate for $1,500, a key for $2,500, a machine joint for $1,000, a hydrocarbon burner for $1,700, a gas lamp for $20,000, and an expansion wheel for $1,000. Some other patents sold as low as $100.

Mechanics of the inventive turn of mind may see in such a list a good deal to encourage them. The sales cover only patents. Not one of these inventions had been worked. In each case the sum of money named is paid for the letters patent, and the purchasers make all the investments needed to manufacture and push the articles. One thing to be noted in all the sales is that in each case the article is a practical article. No perpetual motion or mysterious motor sale is recorded. Mechanics should note that it is only practical inventions that can have any commercial value in the estimation of observers. Mysteries do not sell. Fads are shunned. Cranks are avoided. Yet, with all the conservatism that characterizes business men, the investors who have attempted to solve practical problems and to supply practical needs can generally secure a hearing and a customer, provided always their ideas are well worked out and put into the concrete and attractive form of a working model.—The Iron Industry Gazette.

The "Maine" Supplement.

The current SUPPLEMENT, No. 1164, might appropriately be called the "Maine" SUPPLEMENT, as six pages are devoted to the description and illustration of the building of the ship, including its destruction and the official report of the Board of Inquiry. There are twenty illustrations, showing the great frames being lowered into position, the boat on the ways in the erecting shed, the castings for the ram bow and the stern post. The launching of the vessel, the completed battleship, and the awful scenes of wreckage after the explosion are given, followed by reproductions of the official drawings in the report of the "Maine." "The Navy of Spain" is the subject of an article with nine illustrations, taken from government sources. "The Home Modification of Milk," by William L. Baner, M.D., is a valuable article for all who are in any way interested in bringing up children. "Powerful Machinery for Working Structural Iron and Steel" is also illustrated. Among the articles on natural history are "Animals Underground" and "Mimicry in Insects." "The Psychology of Invention" is an article by Prof. Josiah Royce, of Harvard University. It is the first installment of a remarkable paper dealing with the scientific and psychological aspect of invention.

A Balloon for War Purposes.

A balloon for use in war has arrived at Fort Wadsworth, Staten Island, from Fort Logan, Colorado. It is in charge of Sergeant Baldwin, an experienced aeronaut, and will shortly have a trial, should the weather prove favorable. The balloon is made of silk and requires some 14,000 cubic feet of gas to inflate it. The plan is to fit it with search lights and a telephone.