

CLEVER FEAT WITH THE CAMERA.

The enterprise of the man with the camera is proverbial; and, although his zeal is not always sweetly tempered with discretion, it must be admitted that the picture-loving world would be the poorer were the click of the kodak no longer heard in the land.

The camera is apt to be a ruthless invader of privacy, and the indignant subject of an extemporized and unconscious sitting will have the sympathy of all well-minded people. Our readers will agree, however, that the intrusion which resulted in the accompanying photograph was eminently proper, although, if we may judge from the subjoined extract from the letter of our correspondent, E. W. Gaines, the mother partridge herewith pictured on her nest was of quite another mind: "The partridge nest was down in a ravine, about twenty feet below the traveled road, in the cemetery in Greenfield, Mass. The mother bird had made her home just at the foot of a tree, and there laid fourteen eggs, on which she was contentedly sitting when discovered. My camera was a Premo, 4 x 5, with a Darlot lens. I set it up about three feet from the nest when the mother bird was away; then, with the bulb in my hand, I lay down, covered myself with leaves, and waited. In about half an hour the bird returned with much spitting and scolding. As I kept perfectly still, she became convinced that her alarm was unnecessary, and settled herself on the nest. I opened my shutter and gave her just a bit of time; then closed it, and the deed was done."



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SNAPSHOTS OF A SITTING PARTRIDGE AND HER NEST.**Important to Poultry Raisers.**

The American Game Keeper, which from the name should be authority on the fowl subject, gives the following simple directions for protecting setting hens against lice and mites, which is their besetting annoyance: A cheap and easy method of destroying these pests and keeping them from the setting hens, it says, is to place one or two of the camphorated balls (such as those displayed in the windows of drug stores) in each nest. They cost very little and by putting them in the nest the work is done, a single ball lasting through the entire warm season.

Every time the hen goes on the nest she imparts heat to it, and a portion of the camphor ordorizes her body and also the material of the nest; lice giving it a wide berth. One of the balls, if placed in a vial of sweet oil, and applied to the heads of the fowls and chicks, on the shanks or under the wings, will also prove serviceable in preventing scaly-legs and destroying the large lice.

For chicks only use one or two drops of the mixture, as grease of any kind is injurious to chicks.

If preferred a mixture may be prepared by using 1 part lard oil, 1 part linseed oil, a few grains of camphor and 3 or 3 drops of oil of sassafras, shaking the mixture well before using.

Whitewash the top and sides of the hen house and use plenty of carbolic acid in the wash; put it on thick over the roosts, nests, and every board, to kill the insect eggs, lice, mites, and germs of contagious diseases, if there is any, and to purify and keep things healthy.

Chicks will commence to scratch when they are but a day old, no difference whether they see the old hen scratch or not. If they are hatched in an incubator and reared in a brooder, they will scratch just the same. This proves that scratching comes by intuition and is nature's plan whereby fowls may get their living. It is a sensible thing to believe that fowls should be made to scratch for nearly all they eat. Scratching will tend to make them vigorous and prolific.

Violet Scent.

One of the most interesting product of the chemist's ingenuity—the artificial violet scent that has reduced the price of sweet violets considerably, and caused them to be sold at all seasons, i. e., "ionon"—is the cause of a very complicated patent decision. The difficulty of establishing the identity of method has been clearly shown during the lawsuits. The true inventor of "ionon" was the German chemist Tieman. In the year 1888 some chemists succeeded in isolating from *beckhausia* an etheric oil, being characterized by a strong lemon scent; it was, therefore, called "citral." Three years later Semmler demonstrated the identity of citral with an aldehyde, previously discovered and named by him "geraniol." Citral may be obtained in various ways, and from it Tieman and Krüger derived a ketone, possessing a stale violet odor, which they named "pseudo-ionon." By intermolecular change from "pseudo-ionon," true "ionon" is developed, which possesses the true violet odor. Says *Fielden's Magazine*: There are, however, it appears prob-

ably three isomeric ketones having this scent. One of these is isolated from iris root, and they gave it the name of "irone," but in a subsequent experiment they obtained "ionon." At the same time, Messrs. Haarmann and Reimer, in conjunction with De Laire, had been working on a larger scale, starting from a decomposition of citral and employing a method by which they obtained "ionon," and which they patented." A manufacturer of essential oils, perfumes, etc., manufactured an artificial oil of violets, which he placed upon the market as his invention. The result has been a patent suit, in which there was the greatest possible difficulty in demonstrating the identity of the

products and the methods employed for their production.

A MUSICAL BICYCLE.

At this time when so many improvements are being made on bicycles, in the way of attachable motors, etc., the machine illustrated herewith will doubtless interest our readers. It is the invention of Mr. Samuel Goss, of Chicago, and was designed for the purpose of furnishing music for the rider of the wheel and his companions, in order to break the monotony and give divertisement during long and tedious runs.

The mechanism, which is quite simple, is mounted on an iron frame made to fit into that of the machine. On this frame are stretched piano wires, *B*, while on the cross-piece, *A*, are some small hammers operated by pins on the cylinder, *C*, and made to strike the wires. The cylinder is rotated by worm gears placed at its left-hand end and driven from the crank shaft by a cord and pulley.

The inventor has foreseen the case when the riders

**A MUSICAL BICYCLE**

should tire of the music, by providing a small lever for throwing out the gears and thus stopping the cylinder. The tune may be varied by putting in new cylinders, and the time of any air may be quickened by increasing the speed of the wheel.

A TRAIN on the Ulster and Delaware Railway was stopped recently on account of the caterpillars which collected on the tracks in sufficient numbers to stop the train by the lubrication of the rails, which resulted from the crushing of their bodies under the wheels. According to *The Railway Review*, it is necessary for men to sit upon the cow-catcher and sweep away the obstructions by holding brooms on the rails.

New Processes for Sulphuric Acid.

A number of improvements have been recently devised in the manufacture of sulphuric acid, which promise to be of great importance in that industry. The first of these is now being used in Germany, and consists in the substitution of cast iron recipients for concentrating the acid for those constructed of platinum; the high price of the latter metal has led the manufacturers to look for a substitute, and it has been found that the cast iron recipients answer very well in cases where it is not necessary to have an acid absolutely free from iron. The iron used should be free from impurities and as hard as possible. In the process used, the acid is first concentrated in lead recipients to 61° Baumé, then introduced into the cast iron vessels, where it is further concentrated to 64°; it finally passes into two other concentrators, where it reaches 97° to 98° Baumé. The smaller recipients last three or four months and the large concentrators from six months to one year, the loss being less than that of platinum and the cost comparatively small. The second process, which is still more important, has been devised in England; in this the lead chambers are entirely suppressed, and nitrous vapors are used as an oxydant, the process resembling that which is now used for producing the Nordhausen, or fuming sulphuric acid. The Baden Anilin and Soda Works have perfected the system and applied it on a large scale in the production of ordinary sulphuric acid. The process is especially advantageous in the production of concentrated acid directly, thus doing away with the concentrating process; it gives an acid which is very pure and especially free from arsenic.

Chemical Food.

The deplorable food waste in our daily life is justly criticized and chemical research and industry are doing their best in devising chemical foods. The last few years have seen a number of artificial foods produced, but most of them are of no value to the poor. Chemists are becoming more and more anxious to find sources of nitrogenous foods. The artificial food industry is chiefly developed among the large concerns that supply dye stuffs, and employ a number of research-chemists. "Tropon" consists of one-third animal and two-thirds vegetable albumin. Another concern makes "Somatose," which is an albuminose, and has also brought out the more economical "Tannin" and "Milk Somatose," which may become very important foods for the masses. A dye-works makes "Nutrose," other concerns make "Plasmon," "Eukasin," "Sanose," and "Sanatogen," the latter being caseine compounds with sodium or ammonium.

Organic Bases in Baku Petroleum.

To isolate the basic nitrogen compound described by Schestakow, an experiment was carried out by G. W. Chopin, in which 600 pounds of baku "masut" were agitated with 5 gallons of 15 per cent sulphuric acid for several weeks; from this was obtained, by supersaturation with alkali and extraction with ether, 0.005 per cent of a thick, oily, dark brown liquid, with a greenish fluorescence and an odor of pyridine. This basic product is sparingly soluble in water, but readily so in ether, benzene, alcohol, cold hydrochloric or sulphuric acid. It furnishes non-crystalline precipitates with the chlorides of platinum, palladium and cadmium, as well as with potassium ferrocyanide or bichromate; alcoholic solution of iodine gives a brownish precipitate. Analysis indicates a composition analogous to that of pyridine or quinoline, with 15 to 18 carbon atoms in the molecule. The examination of the platinum double salts revealed a series behaving like homologous members of a chemical group. Fine members have been isolated with molecular weights ranging from 104 to 309. Experiments on the toxic effect of the basic product on mammals, fish and bacteria lead the author to conclude that the poisonous action of crude petroleum is due to the hydrocarbons and allied derivatives rather than to the nitrogen bases present.

A New Comet.

Dr. William R. Brooks, director of the Smith Observatory, Geneva, N. Y., discovered a bright telescopic comet on the early morning of July 23. Its position was right ascension 2 hours 43 minutes 40 seconds; declination north, 12 degrees 30 minutes. It was in the constellation Aries, and has a northerly motion.

The comet is a beautiful telescopic object, resembling a great naked eye comet in miniature. It has a bright stellar nucleus and a broad tail. This is the twenty-second comet discovered by Dr. Brooks.